



MANAGING YIELD MANAGEMENT (YM) TO ACHIEVE CUSTOMER  
PROFITABILITY FOR HOTEL BUSINESS IN BANGKOK:  
CASE STUDY HOLIDAY INN BANGKOK SUKHUMVIT

BY

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INDEPENDENT STUDY

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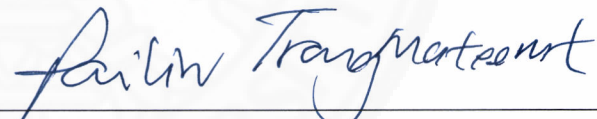
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## ABSTRACT

Numerous studies have dedicated a move towards integrating Yield Management (YM) with profitability in hotel business. However, little attention has been focused on the implications of integrating YM and profitability in the context of the actual hotel environment. This paper examines the relationship between YM and profitability in Hotel Business, given an actual case of Holiday Inn Bangkok Sukhumvit. By means of profitability, this paper approaches concept propose by Noone and Griffin (1997) which shows the relationship between the Activity Based Costing and YM, then moves on to a model for Customer Profitability Analysis. Findings of this paper suggest that the impact of YM on business processes associates with customer segmentation and that demand forecasting is likely to improve the financial performance in term of customer profitability to the hotel.

**Key Words:** Yield Management, Activity Based Costing, Customer Profitability Analysis

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To my mother, the achievement of this thesis is solely dedicated for you. I would not have been where I am today without your wisdom and guidance. Wherever you are, you will live forever in my heart.

Miss Pattra Chaimahawong

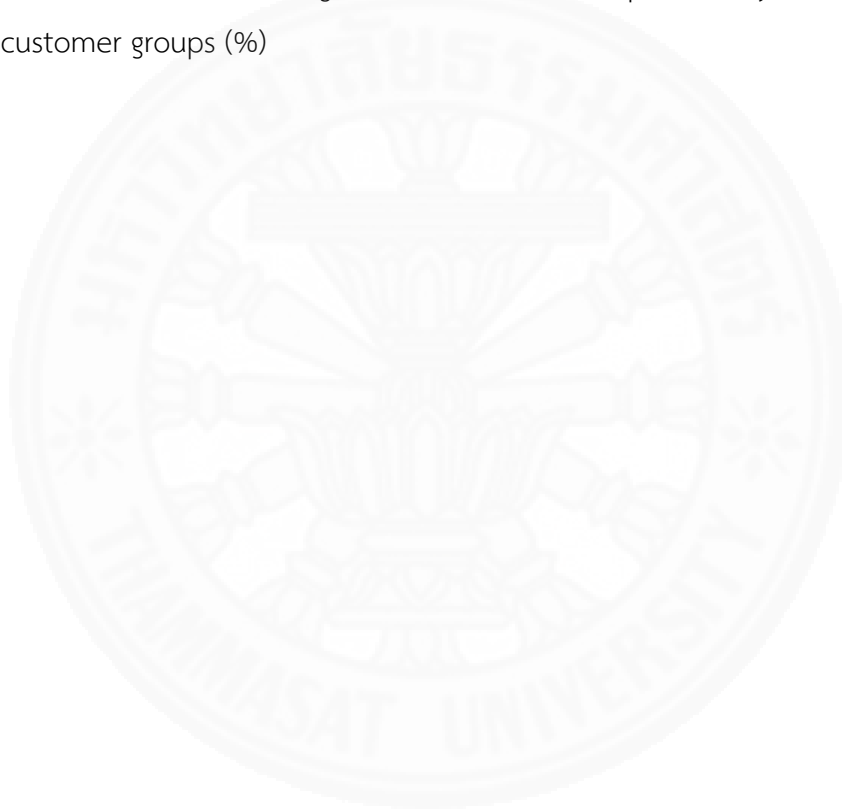
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## CHAPTER 1

### INTRODUCTION

Bangkok is ranked as no. 1 for 2017 most visited city around the world by the website Businessinsider.com. The hotel industry in Bangkok is expected to be rapidly grown by 20% in 2021. Hotel industry has always been attractive to investors. Although, the profits from the investment appear to be high, the market is very competitive. Despite many articles and research help investors and hotel managers to make better decision to achieve maximum profit, there are rarely focused on how Yield Management (YM) can create customer profitability of Hotel Business.

The purpose of this study is to examine how Yield Management creates customer profitability of hotel business by conducting case study research of Holiday Inn Bangkok Sukhumvit. The paper begins with review of key components of Yield Management and discussion of relationship between YM and customer profitability. The profitability will be narrowed down to focus on how YM key components e.g. pricing, revenue projections (forecasting), customer segmentation supports the hotel to achieve higher profit. In managing higher profitability, the basic understanding of the concept and framework of Yield Management in the hotel industry is required. Then, the way YM can affect activity-based costing and help increase overall profitability through customer profitability are discussed.

## CHAPTER 2

### REVIEW OF LITERATURE

#### 2.1 Yield Management (YM)

*Yield Management* (YM) is a strategic tool first implemented in the airline industry in the 1970s. The hotel industry then begins to adopt the principles of YM as one of their tools for profit maximization in the later years. The main goal of YM in hotel industry is to increase net yield through the forecast allocation of available room capacity in pre-determined market segments at best price (Huyton and Peters, 1997). In other words, YM is a process which is used to maximize room revenue through analysis and constant changes of rates in response to forecast patterns of demand (Jauncey, Mitchell and Slamety, 1995; Lee-Ross and Johns, 1997).

To make this simpler, YM is about selling the right room to the right customer at the right time. In practice it requires management team to forecast demand by each market segment and to understand the pricing sensitivity of these segments, then adjust prices and control according to each room types and categories (Kimes and Anderson, 2011). Kimes (1989) also explains that to use YM, a hotel must know its market segments and customer requirements and develop appropriate marketing strategies accordingly. Market segment of customers can be typically as follows:

1. Purpose of travelling,
2. Booking Channel
3. Length and pattern of stay
4. Nationality
5. Willingness to pay or price sensitivity
6. Special Preferences E.g. Room Type, Food and Beverage Spending

Noone, Enz and Glassmire (2017) states that, with deep understanding of each market segment and customer value, the hotel management would be able to develop appropriate strategies to meet the needs of each market segment and place increase focus of the cost dimension on each customer value.

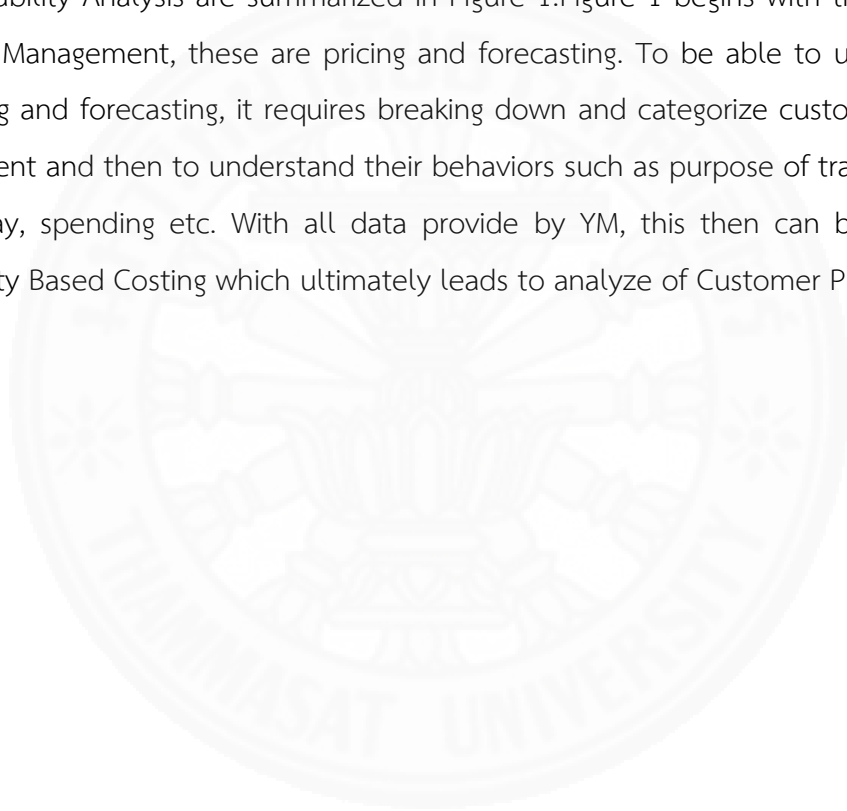
## 2.2 Yield Management to Activity Based Costing and Customer Profitability Analysis

There has been reasonable number of studies on the importance of YM and hotel performance. Vinod (2004) defines the value of implementing Yield management in the hotel industry as the key to optimize pricing and selling strategies. Schwartz and Hiemstra (1997), and Weatherford, Kimes and Scott (2001) examine the importance YM principles that can be used in forecasting future demand. Noone and Griffin (1997) shows the relationship between the *Activity Based Costing* and YM and propose to propose a model for *Customer Profitability Analysis*. They define the basic definition of Customer Profitability Analysis (CPA) as the revenues costs and profit which are driven by activities of customer rather than through the product itself. CPA shifts its focus from product-mix to customer mix. To do this, it depends on the use of appropriate method to match cost with customer groups. That is to achieve best result of CPA YM should provide better analysis for revenue generation and consumption related to each group of customers. Companies that are able to understand and identify whether a customer is profitable customers will enable managers to make better managerial decision to improve overall organization profitability (Kucha 2007). Noone and Griffin (1997) clarify further that once the profitable customer can be identified through YM, Activity Based Costing (ABC) can be used to develop model to determine profitability by customer groups. In both short term and long term, ABC helps provides better decision for each customer.

According to Kaplan and Cooper (1998), implementing activity-based costing (ABC) helps enhance the traditional costing system approach. The key theory of ABC believes that each customer or product consumes different level of activities and resources. Therefore, rather than merely align all the cost factors and evenly allocating them to all customers or products, ABC measures cost of work activities and the uses of its resources then link to the customers or products itself (Terungwa 2013). Briedley Cowton and Druly (2001) outline benefits of ABC as: better cost

control; cost reduction; more accurate cost information for product costing; more accurate allocation of indirect costs; improved insight into identification of cost activities; and improvement of operational efficiency. Seppanen and Lyly-Yrjanainen (2002) supports the term of ABC that once activities performed for each customer is known, the real customer costs can be calculated.

The relationship of Yield Management to Activity Based Costing and Customer Profitability Analysis are summarized in Figure 1. Figure 1 begins with the principle of Yield Management, these are pricing and forecasting. To be able to understand the pricing and forecasting, it requires breaking down and categorize customer into each segment and then to understand their behaviors such as purpose of travelling, length of stay, spending etc. With all data provide by YM, this then can be used to do Activity Based Costing which ultimately leads to analyze of Customer Profitability.



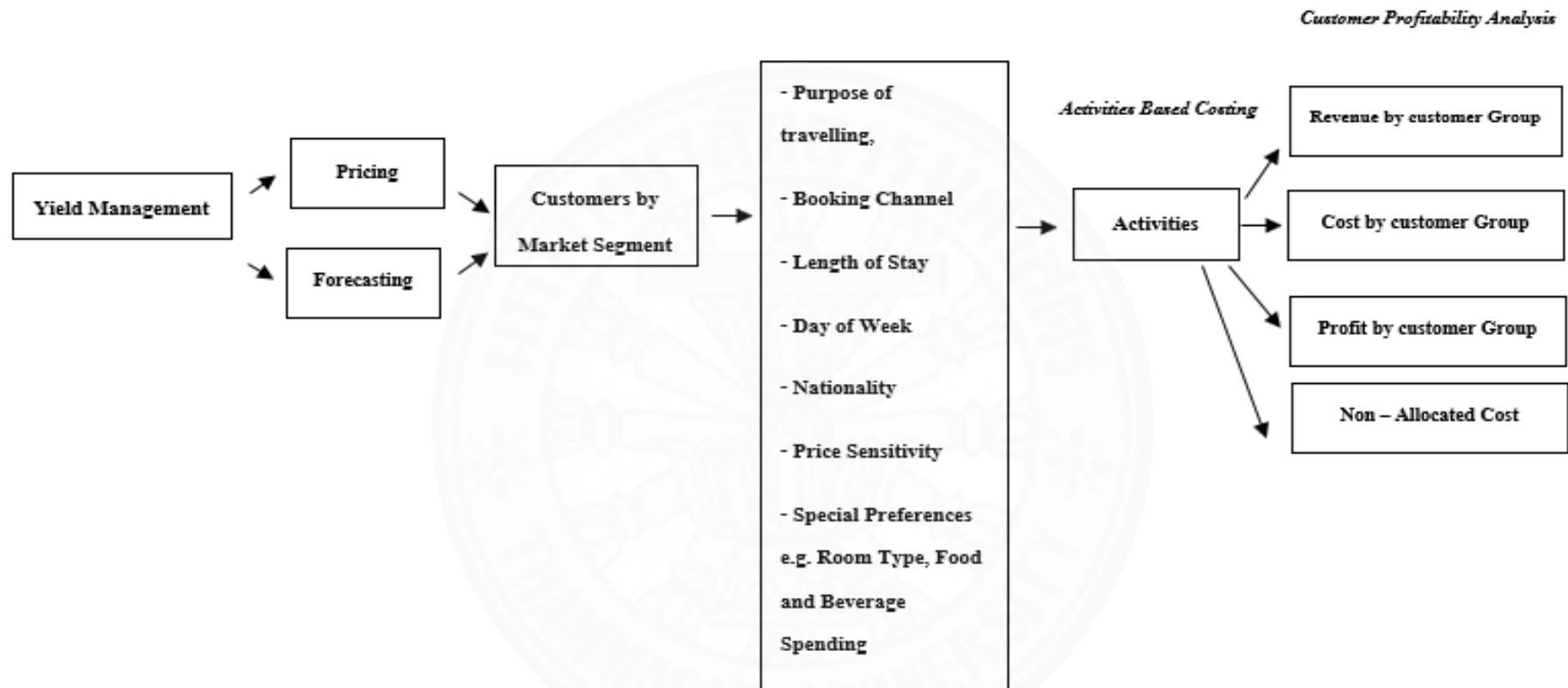


Figure 2.1 The relationship of Yield Management to Activity Based Costing and Customer Profitability Analysis

## CHAPTER 3

### RESEARCH METHODOLOGY

The author chose Holiday Inn Bangkok Sukhumvit as the main hotel to conduct the study as this hotel has Yield Management system in place and is operate under international branded hotel known as Intercontinental Hotels Group.

Holiday Inn Bangkok Sukhumvit is a four-star hotel operating in Bangkok in Thailand, located in one of the best areas in the center of the city known as Sukhumvit Soi 22. Hotel is currently manages by Holiday Inn brand which is well known hotel brand since 1952. It offers affordable and enjoyable hotel experiences. It is currently one of the world largest hotel chains, with 1,163 active hotels around the world and operates under subsidiary brand of Intercontinental Hotels Group. (Source: lhgplc.com)

For this study, three main methodologies based on exploratory case study are used. These methodologies are as follows:

**Field Research:** This phase of research is using techniques described below:

- *Observation:* Observations are made to observe evidences that can have key impact on the result by visiting and spending time at hotel regularly
- *Interview:* Data is collected through in depth interview with executive members in the hotel e.g. General Manager, Director of Finance and Business Development, Director of Sale & Marketing, Revenue Manager, Director of Operations, Director of Food & Beverage and Director of Human Resources who play key roles in overall hotel's performance of financial statement. The executive members hold by the study's participants enable to provide useful information and recommendation as the hotel has already implemented strategic initiatives surrounding Yield Management practices and solutions. With the mix of interviewers, this sample allow us to have different perspective of YM efforts by duties and departments

The lists of all study participants and some numerical information remain anonymous and confidential. The observation time at the hotel is at least one month with one maximum one hour interview management team. The interviews comprise a set of questions designed to capture:

- 1) management team understanding on the scope of YM;
- 2) competencies that YM are currently in place to support Activity Based Costing;
- 3) current relationship of YM in place to support a Customer Profitability Analysis;
- 4) current relationship of YM to overall profitability of the hotel
- 5) obstacles in prosecution of current initiative; and
- 6) Support system to help support initiative including technical system, manpower resources.

All Interviews are recorded, compile in text and given to management team for their review and approve. Once this is approved, we then analyze and summarize into different points and subjects and identify the link to each point base on our finding identified by participants.

**Documentation:** This method is carried out to collect internal company documents including data which is used as the basis for the cost calculation. Examples of data collect are as below.

1. Basic hotel's information's e.g. no. of rooms, restaurants, meeting spaces and other facilities.
2. Organizational structure of the hotel e.g. Departments, Management Team, Non-Management Team
3. Current customer's market segmentation and customer's behavior through revenue analysis
4. Lists of the hotel direct and indirect expense e.g. fixed cost and variable cost

### 3.1 Background of the hotel and Traditional Costing

The hotel was opened in 2013 with 300 rooms including Deluxe, Premier, Executive Suite and Junior Suite. In addition to room services the hotel also offers two outlets known as all-day dining restaurant and Indian restaurant, meeting room, business center facilities and various other services which met four-star hotel standards.

Current accounting information is communicated in profit and loss account, illustrated in Table 1. The hotel has used this format and layout to communicate both budget and actual performance figures. The tradition costing system currently used by hotel is through marginal cost in which price is based on variable cost. The price is set just above their cost of product or services. Their main cost contribution comprises of operation departments e.g. Room and Food & Beverage. All direct labor and direct expense known as cost of sales are being deducted from revenue to derive at gross profit from operation. For other non-operation departments e.g., Administration and Sale & Marketing the cost incurred are used to deduct against gross profit from operations to reach the net profit.

The management team provides reasons on why the hotel has chosen this method as these are the easiest and quickest approach to meet expectation of their unexpected and uncontrollable demands. Other reasons provide by the team is that the hotel usually stocks their resources in advance, therefore, they do not see that changes in the usage and activity resources by customers will have much impact on their spending of the supply resources. As a result, the management team does not see the important of how profitability analysis can be helpful for decision making. They continue to believe that cost increase can just be absorbed through increase the price.

Table 3.1 Current Profit and Loss Account for year ended 2015-2017

	2015	2016	2017	Total
<b>Rooms</b>				
<b>Total Revenue</b>	<b>211,545,332</b>	<b>234,969,953</b>	<b>247,595,010</b>	<b>694,110,295</b>
Payroll & Other Related Expenses	15,100,960	16,671,731	16,674,042	48,446,733
Cleaning Supplies/Guest Supplies	6,122,077	6,651,231	6,003,464	18,776,772
Other Expenses	17,574,493	19,462,243	17,890,176	54,926,912
<b>Dept Profit/(Loss) Rooms</b>	<b>172,747,802</b>	<b>192,184,749</b>	<b>207,027,328</b>	<b>571,959,879</b>
	<b>81.7%</b>	<b>81.8%</b>	<b>83.6%</b>	<b>82.4%</b>
<b>Food &amp; Beverage</b>				0
<b>Total Revenue</b>	<b>43,964,150</b>	<b>46,075,805</b>	<b>42,964,480</b>	<b>133,004,435</b>
Payroll & Other Related Expenses	27,452,213	28,447,254	28,546,510	84,445,976
Cost of Food & Beverage	14,499,427	15,737,327	14,294,104	44,530,857
Cleaning Supplies/Guest Supplies	857,726	1,122,598	1,022,875	3,003,199
Other Expenses	9,473,899	9,324,455	8,619,795	27,418,149
<b>Dept Profit/(Loss) F&amp;B</b>	<b>(8,319,114)</b>	<b>(8,555,828)</b>	<b>(9,518,803)</b>	<b>(26,393,745)</b>
	<b>(18.9%)</b>	<b>(18.6%)</b>	<b>(22.2%)</b>	<b>(19.8%)</b>
<b>Admin&amp;IT&amp;POME</b>				-
Admin & HR & Accounting	29,512,323	31,219,510	29,945,998	90,677,830
IT & Telephone	5,439,739	6,072,107	6,181,400	17,693,247
POME (Maintenance)	10,838,938	10,978,110	11,663,497	33,480,545
Sale & Marketing	23,458,156	25,825,107	26,005,153	75,288,415
<b>Dept Profit/(Loss)</b>	<b>(69,249,156)</b>	<b>(74,094,834)</b>	<b>(73,796,048)</b>	<b>(217,140,037)</b>
<b>Utilities</b>	20,208,448	19,013,569	18,839,445	58,061,461
<b>Insurance</b>	1,115,896	883,901	802,356	2,802,152
<b>Utilities</b>	<b>(21,324,344)</b>	<b>(19,897,469)</b>	<b>(19,641,801)</b>	<b>(60,863,614)</b>
<b>Total Revenue</b>	<b>255,509,482</b>	<b>281,045,758</b>	<b>290,559,490</b>	<b>827,114,730</b>
<b>Gross Operation Profit</b>	<b>73,855,188</b>	<b>89,636,618</b>	<b>104,070,676</b>	<b>267,562,483</b>
	<b>28.9%</b>	<b>31.9%</b>	<b>35.8%</b>	<b>32.3%</b>

### 3.2 Market Segmentation

In today's hotel operation, it is important to understand which customer groups' hotel should be targeted. Kimes and Anderson (2011) defined segmentation as groups of guests who have certain bookings in common. Guests may have similar needs or may behave in similar ways e.g. buying behaviors. By knowing the relevant information of the consumer groups, the hotel can use this information to target segments through market initiatives and will be able to keep an eye on cost effectiveness of each market segment in the best possible way. To define market segmentation at Holiday Inn Bangkok Sukhumvit, this has been summarized as below.

Market Segmentation	Description
<b>Transient</b>	
Benchmark	Non-Restricted Rates that are available to all customers
Discount & Package	Included Restricted Rates (advance purchase, length of stay, available period, special services, cancellation Fee) that come with discount from the Benchmark level the hotel is selling
<b>Corporate</b>	Contracted business rate that hotel agreed with company for a period of time and can only be booked by guests who works for the company
<b>Wholesale</b>	Contracted rate with Wholesaler and Tour Operator in which the rate remains confidential to customers

Market Segmentation	Description
<b>Groups</b>	Bookings minimum of 10 Room Nights promised for special rate at longer lead time and strict cancellation policy. Groups can be both Meeting (having with Meeting in hotel) or Leisure group ( 10 or more rooms negotiated by Wholesale and Tour Operator)
<b>Aircrew</b>	Airline employees or airline crew requires rooms for proper rest between flights. Typically very short stay with package of round trip transportation to airport.

### 3.3 Activity Based Costing (Driver Analysis)

The key definition of ABC is to know that the activities taking place in the organization consume resources and cost (Adamu, 2010). ABC is also known as activity as time and resources spent to create output of the process (Berliner and Brimson 1980). For example, activities in hotel include cleaning room, checking-in a guest, serving food and beverage and preparing for meetings and conferences. Santarelli (1996) proposed the first step is identify key activities happening at the hotel organization, measure the resources used by each activity and assign the cost of activities to customer based on consumption. The cost of resources consumed by activities based on measurement of the quantity is known as cost driver. For example, in completing the full process of guests staying at the hotel, the wages cost for Rooms Department (Front Office and Housekeeping) and Food & Beverage Department are allocated to activities which are carried out by them. If 70% of Front Office staff is spent checking guests in and out, 70% of wages cost will be assigned to check-in/out activity.

Noone and Griffin (1997) and Dunn and Brooks (1990) also share similar procedures involved on implementation of ABC systems in hotels. These are

1. Identifying activities and measuring resources consume by each activity (cost drivers)
2. Assigning each cost drivers to specific cost of activities and cost objects
3. Applying the cost of the activities to services and to customers

By interview with management team at Holiday Inn Bangkok Sukhumvit, hotel's key activities are defined as follows:

1. Check-in/ Checkout
2. Cleaning the room
3. Food & Beverage Productive Services
4. Meeting & Events Room

Each key activity has been reflected by revenue contribution by the guests to various activities being assigned accordingly. McBride (1993) states that activities should be between 20 and 30 which is consistency with the activities chosen as above. Once activities are chosen, the author have discussed with management team to analyze on their time contribution to various activities. For the case of non-operation department such as Administration, Security, Human Resources and Accounting, their time is equally assign across all activities as there are no direct relationship with customer activities. The result has been shown in Table 2.

Table 3.2 Result of Activity Analysis

Department Involved	Activity Name	Check-in/ Checkout	Housekeeping	Meeting Room	F&B Production/Service	Total
		%	%	%	%	
	Payroll & Other Related Expenses	18.3	18.1	16.5	47.1	<b>100</b>
	Cleaning Supplies/Guest Supplies	0.0	86.2	5.6	8.1	<b>100</b>
	Cost of Food/Beverage	0.0	0.0	16.6	83.4	<b>100</b>
	Other Expenses	25.2	33.3	15.0	26.5	<b>100</b>
	F&B Commission	0.0	0.0	3.3	96.7	<b>100</b>
	Internet & Telephone	25.0	25.0	25.0	25.0	<b>100</b>
	Utilities	4.6	80.2	5.7	9.5	<b>100</b>
	Insurance	4.6	80.2	5.7	9.5	<b>100</b>
	System Expense (Opr)	34.1	34.1	15.9	15.9	<b>100</b>
	System Expense (Admin)	25.0	25.0	25.0	25.0	<b>100</b>
	Admin & HR & Accounting	25.0	25.0	25.0	25.0	<b>100</b>
	IT & Telephone	25.0	25.0	25.0	25.0	<b>100</b>
	POMEK (Maitenance)	25.0	25.0	25.0	25.0	<b>100</b>

As states by Noone and Griffin (1997), the next steps to design ABC after identifying activities are to specify the resources and activities drivers. With field research, the decision has been reached by Management Team and illustrated on Table 3. In all possible cases, all activities are directly assigned with resource costs. For example, payroll in operation departments known as Front Office, Housekeeping and Food & Beverage and other expenses known as guests supplies, cleaning, laundry costs and printing stationary are direct from invoice base on activities perform. However, for resources supported several activities e.g. electricity, insurance and commissions, the resources drivers need to establish as the basis for the assignment.

Base on the study of the accounting system record at the hotel, there is less focus on recording with the actual usage of the resources. For example, the utility expense and insurance which is recorded all under non-operating expense. It is argued that the utility cost is not associated with the servicing of customer groups. However, with the purpose of ABC and discussion with the management team, the management team has decided that the utility and insurance cost should be absorbed by the customer individual activities. The author then decides that both insurance and electricity costs should be assigned to activity using Square Meter, with weighting be given base on each activity.

Table 3.3 Identifying activities to specify the resources and activities drivers

Activity Name Resource	Resource Drivers/Amount	Check-in/ Checkout	Housekeeping	Meeting Room	F&B Production/Service	Total
Payroll & Other Related Exp (Operation-Direct)		8,729,152	7,944,890	7,882,632	20,663,877	<b>45,220,552</b>
Cleaning Supplies/Guest Sup (Direct)			6,003,464	417,434	605,441	<b>7,026,339</b>
Cost of Food/Beverage (Direct)				2,687,739	11,606,365	<b>14,294,104</b>
Other Expenses (Direct)		4,301,161	6,077,786	3,126,137	4,075,632	<b>17,580,716</b>
F&B Commission (Direct)				37,513	1,380,513	<b>1,418,026</b>
Internet & Telephone (Equally distributed)		485,471	485,471	485,471	485,471	<b>1,941,885</b>
Utilities (Base on Sqt Meter)		866,614	15,109,235	1,073,848	1,789,747	<b>18,839,445</b>
Insurance (Base on Sqt Meter)		36,908	643,489	45,734	76,224	<b>802,356</b>
System Expense (Opr) (Base on usage)		259,840	259,840	118,505	118,505	<b>756,688</b>
System Expense (Admin) (Base on usage)		408,300	408,300	408,300	408,300	<b>1,633,199</b>
Admin & HR & Accounting (Equally distributed)		7,486,499	7,486,499	7,486,499	7,486,499	<b>29,945,998</b>
IT & Telephone (Equally distributed)		462,407	462,407	462,407	462,407	<b>1,849,627</b>
POMECE (Maitenance) (Equally distributed)		2,915,874	2,915,874	2,915,874	2,915,874	<b>11,663,497</b>
<b>Total</b>		<b>25,952,227</b>	<b>47,797,255</b>	<b>27,148,094</b>	<b>52,074,855</b>	<b>152,972,432</b>

Once the management team decides on identifying activities and resources driver as suggested by on Noone and Griffin (1997) and Dunn and Brooks (1990), next we will look at the activity driver to apply the cost of the activities to service and to customers. Activity drivers use in this study are illustrated in Table 4. For example, number of stays where used to assign cost of check in/out to activity group as guest normally check in or out once per stay. This is different to housekeeping activities which we have use no. of bed nights occupied by guests due to housekeeping needed to clean the room on daily basis during guest stay. However, for the case of Meeting Room and F&B Production & Services, the management team decides to use percentage of food revenue instead of number of covers served. The reasons behind this are that management team agrees that there is cost of sales related with every food/ beverage sale generated at the hotel. Other F&B operating supply costs labor and laundry is also consumed based on proportion to the revenue generated. Kock (1995) argues that this can happen especially in a service business where cost measurements are different base on day to day operation. Santarelli (1996) also supports that this activity driver can be substitute to alternative drivers that are more suitable and applicable for the experiment.

Table 3.4 Activity costs to customer groups using activity drivers

Customer Group		Transient	Corporate	Wholesale	Group	Aircrew
Activity	Activity Driver/ Amount					
Check-in/CheckOut	No. of stays	39,539	27,344	17,209	15,255	20,488
	%	33.0%	22.8%	14.4%	12.7%	17.1%
	76,647,807	25,289,871	17,489,538	11,006,884	9,757,291	13,104,224
Housekeeping	No. of bed-night	94,123	78,833	42,960	39,206	23,498
	%	33.8%	28.3%	15.4%	14.1%	8.4%
	145,670,413	49,210,165	41,216,121	22,460,703	20,498,005	12,285,419
Meeting Room	%Revenue	454,283	740,815	11,215	23,402,760	5,947
	%	1.8%	3.0%	0.0%	95.1%	0.0%
	77,645,669	1,432,992	2,336,827	35,376	73,821,713	18,760
F&B Production/Service	%Revenue	38,380,502	19,081,195	22,075,268	17,745,275	11,107,176
	%	35.4%	17.6%	20.4%	16.4%	10.2%
	161,554,130	57,206,034	28,440,469	32,903,127	26,449,285	16,555,215

### 3.4 Yield Management (Revenue Analysis)

Kimes and Anderson (2011) defines the main function of Yield Management as hotel's ability to maximize revenue through segmentation their customers, room inventory and price all across these segments. With Yield Management in place, the hotel needs to understand each market segment, forecast demand and adjust prices base on price sensitivity of these segments and control access to rooms. Noone and Griffin (1997) argue that yield management should go beyond then just maximize room sales through occupancy and average room rate. Since each market segmentation is not all similar and requires different needs and buying behaviors. Hotel should recognize this differences and market and trying to meet the need of the most profitable customers. To be able to truly yield from the sale of accommodation, the management team should not only focus on net revenue generated but also understand the costs incurred for whole activity and this should be addressed as profit as final result. Emeksiz, Gursoy and Icoz, O. (2006) also support this that for overall profit to be maximized, other cost activities must be considered base on given sale of accommodation.

To provide consistent recognition and understanding the differential customer's behavior requires continuous data collection and access to customer information. For this study, the author then decides to collect data from the hotel using Yield Management data as the system keep recorded all of revenue data analysis through its current market segment. This paper then uses the hotel's current market segmentation to categorize customer segmentation and revenue analysis to ensure that there is consistency within the data. The data is collected back dated three years from 2015-2017 as the hotel opened its door in 2013 and take about two years to operate as its full potential.

### 3.5 Customer Profitability (Outcome)

Customer profitability analysis (CPA) involves allocation of revenues and costs to specific customers or customer groups that the profitability of individual customers can be calculated (Dalci, Tanis and Kosan 2009). Kaplan and Narayanan (2001) state that understanding CPA is important for service business in which cost of providing service is mainly determined by customer behavior. Cotton (2005) supports that successful implementation of CPA will enable service company to increase customer satisfaction and profitability in the long term.

From the interview, the fact above is widely acknowledged by the management team but there is little information available about the profitability of customer. Most accounting system in the hotel is designed to analyze product profitability such as Food & Beverage Cost. The management team agrees that by combing both revenue and cost data, CPA will provide information to help the team making the better decision in the long term regarding to their customer base which yield management is not able to address such as:

1. Which market segmentations generate most profit? Should we stay in this market?
2. Are we spending the right time and right resources in the most profit market segment?
3. Are we giving to much discount on particular market segment that we fail to meet our own profit objectives?
4. What are the benchmark criteria and under what negotiations we prepared to walk away?
5. If this market segment greatest profit contribution, what can we do to attract them more and protect them?

Table 5 illustrates the final outcome of Total revenues, total assigned costs and relative profitability of customer groups (%) which will help the hotel to answer all questions above and making the right customer mix decision.

Table 3.5 Total revenues, total assigned costs and relative profitability of customer groups (%)

	Total	Transient	Corporate	Wholesale	Group	Aircrew
Room Revenue	694,110,295	252,211,142	236,576,913	83,837,927	84,337,996	37,146,316
F&B Revenue	108,389,415	38,380,502	19,081,195	22,075,268	17,745,275	11,107,176
Meeting Revenue	24,615,021	454,283	740,815	11,215	23,402,760	5,947
<b>Total Revenue</b>	<b>827,114,730</b>	<b>291,045,927</b>	<b>256,398,922</b>	<b>105,924,410</b>	<b>125,486,032</b>	<b>48,259,439</b>
<b>Direct Assigned costs</b>						
Commission (Direct)		15,380,493	0	215,614	121,956	11,800
Guest Transportation (Direct)		0	0	0	0	7,015,950
Sale & Marketing Expense (Base on % Total Revenue)		26,465,542	23,333,564	9,649,005	11,417,743	4,422,562
<b>Total Direct Assigned Cost</b>	<b>98,034,228</b>	<b>41,846,034</b>	<b>23,333,564</b>	<b>9,864,619</b>	<b>11,539,699</b>	<b>11,450,312</b>
<b>Activity Assigned Cost</b>	<b>461,518,020</b>	<b>133,139,062</b>	<b>89,482,956</b>	<b>66,406,089</b>	<b>130,526,294</b>	<b>41,963,618</b>
Relatively Profitability	267,562,483	116,060,831	143,582,402	29,653,701	(16,579,962)	(5,154,490)
<b>%</b>	<b>32.3%</b>	<b>39.9%</b>	<b>56.0%</b>	<b>28.0%</b>	<b>(13.2%)</b>	<b>(10.7%)</b>

## CHAPTER 4

### RESULTS AND DISCUSSION

All data input is formulated to link between excel to summarize total finding in Table 6 which able to generate reports including spending of customer groups, direct cost by customer group, activity cost result, total cost and profit by customer group. The final results demonstrate total revenues, costs and profits associated through number and percentage by each customer group.

Revenue are earned base at the point of sale not base only on cash payment. All costs are based on actual data of resources drivers then assign the cost using activity driver data e.g. number of stays and bed nights collected from 2015-2017 in Table 5.

Once the final report is finished, a meeting is held with the management team in order to analyses the profitability results. Management team is very excited and surprised with the result as previously they were able to understand only three types of profit which are Rooms, F&B and GOP shown in Figure 1 but now with the new results they are able to understand the profit by each customer group. There are a lot discussions on the profitability on each customer group as some management team member has long believed that this customer group is the best type of customer group for the hotel e.g. Transient as it contributes 35% of total revenue. Despite highest revenue contribution, the result has indicates that once all the driver and direct cost are allocated corporate group is the most highest profitable group of customers which generated 17% more profit than the Transient group.

Management Team then decides to categorize each customer group base on profitability and they have come up with three categories as: high profit, marginal profit and loss makers. Corporate and Transient group are categorized as high profit contributors mainly due to the fact that they have contribute 66% of total revenue and 51% of total assigned cost resulting in 95.9% to total profits. This finding is consistence with finding of Cokins, Stratton and Helbling (1993) state that through

implementing ABC it shows that 60% of customers can contribute more than two times total profit. For the remaining 40%, it is expected to consume more resources than it generates revenues and should be considered as loss to company.

Wholesale is classified as marginal profit as this is the third highest contribution to overall profit at 28%. Management team agrees that this group might not be the best option but it can help the hotel to fill the room during low season while generate reasonably profit. The loss maker includes Group and Aircrew. It is interesting to see that while Group is the third highest revenue at 15% of total revenue more than the Wholesale, it is the highest loss maker produce profit performance at -13.2%. The main reason to the poor profit performance of this customer group is that there are allocate with huge proportion of the food and beverage production cost and serviced activity. These activities are considered to be high resources costs including direct labor cost and food and beverages production costs. This scenario is similar to Aircrew group which produces only 6% of total revenue whilst the hotel needs to absorb huge direct limousine cost to airport which result in negative profit of -10.7%

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

After having a significant involvement to the decisions during the development of the CPA systems, management team is happy with the overall results generated by the analysis. With this study, it makes the team realizes the usefulness of what Yield Management can do and how it can have so much impact in making customer-related decisions. The management team has been thankful as they have mentioned that CPA has always been their main strategy but believes that to implement this would require a lot of investment in money and time consuming processes.

To finalize the result generated by CPA, the management team has identified several key areas that can have impact in making better decision making in the future including:

- Development of appropriate marketing strategy to capture high profit contributors through new business and increase guest loyalty
- Cost analysis e.g. review ways to reduce cost associated with food/beverage service and productions.
- Target on activities that create or add value to the service package offered to different customer groups whilst help increase overall profit


For future improvement of this study, it is necessary for the researcher to find user-friendly way to assist the hotel team during the input of the data e.g. revenue, cost since most of the data are manually enter. Other area to be considered is that this research only use market mix from Yield Management extracted from room revenue, however, there are other criteria to define level of customer especially through their membership status. In this case, the hotel can use membership status to analysis customer's behavior which can have impact in analyzing the overall profit of the hotel.

## REFERENCES

1. Adamu, A. (2010). "The practicability of activity based costing system in hospitality industry" *Journal of Accounting. Nasarawa State University*. Vol. 20 No. 14 pp. 36-49
2. Berliner, C., Brimson, J.A., (1980)." Cost Accounting Standards Board, Cost Accounting Standards." *In Code of Federal Regulations, 4-Accounts. US Government Printing Office, Washington D.C.*
3. Briedley, J., Cowton, C., & Drury, C. (2001). "Research into product costing practices: a European perspective." *European Accounting Review*, 10, 215-256.
4. Cokins, G.C., Stratton, A., Helbling, J., (1993). "An ABC Manager's Primer." *Irwin Publishing, Chicago.*
5. Cotton, B. (2005). "Relevance Redux – Management Accounting Today." *Chartered accountants Journal*: 6-12
6. Dalci I., Tanis V., Kosan L., (2010) "Customer profitability analysis with time driven activity based costing: a case study in a hotel", *International Journal of Contemporary Hospitality Management*, Vol.22 Issue: 5, pp.609-637
7. Dunn, K. D. & Brooks, D. E. (1990). "Profit analysis: Beyond yield management." *The Cornell H.R.A. Quarterly*, 31(3), 80-90.
8. Emeksiz, M., Gursoy, D. and Icoz, O. (2006). A yield management model for five star hotels. Computerized and non-computerized implementation. *International Journal of Hospitality Management*, 25(4), 536-551.
9. Huyton, J. R., & Peters, S. D. (1997). "Application of yield management to the hotel industry." In Ian Yeoman & Anthony Ingold, (Eds.), *Yield management: Strategies for the Service Industries*. (pp. 202-217). London: Cassell.

10. Jauncey, S., Mitchell, I., & Slamet, P. (1995). "The meaning and management of yield in hotels." *International Journal of Contemporary Hospitality Management*, 7 (4), 23-26.
11. Kaplan, R. S., & Cooper, R. (1998). "Cost & effect: Using integrated systems to drive profitability and performance." *Boston: Harvard Business School Press*.
12. Kaplan, R. and Narayanan, V.G. (2001). "Customer Profitability Measurement and Management." *Harvard Business School Press, Boston, MA, May*, pp. 1-12
13. Kimes, S. E. (1989). "Yield management: A tool for capacity-constrained service firms." *Journal of Operations Management*, 8 (4), 348-363.
14. Kimes, S., & Anderson, C. K. (2011). "Revenue management for enhanced profitability: An introduction for hotel owners and asset managers" [Electronic version]. Retrieved from *Cornell University, School of Hospitality Administration* site: <http://scholarship.sha.cornell.edu/articles/25>
15. Kock, S., (1995). "Implementation considerations for activity-based costing systems in service firms." *Management Decisions*, 33 (6), 57}63.
16. Kucha, T. (2007). "Activity based costing and customer profitability." *Journal of Cost Management*. vol.23. no.4. pp.28-35.
17. Lee-Ross, D., & Johns, N. (1997). "Yield management in hospitality SMEs." *International Journal of Contemporary Hospitality Management*, 9 (2), 66-69.
18. McBride, T., (1993). "Practical ABC." *Accountancy Ireland*, October, 6-8.
19. Noone, B. M., Enz, C. A., & Glassmire, J. (2017). "Total hotel revenue management: a strategic profit perspective." *Cornell Hospitality Report*, 17(8), 3-15.
20. Noone, B. M., & Griffin, P. (1997). "Enhancing yield management with Customer Profitability Analysis." *International Journal of Contemporary Hospitality Management*, 9 (2), 75-79.

21. Santarelli, P.J., (1996). "Industry-want more profits? Learn your ABC's." *Pennsylvania CPA Journal* 67 (3), 7.
22. Schwartz, Z., & Hiemstra, S. (1997). "Improving the accuracy of hotel reservations forecasting: Curves similarity approach." *Journal of Travel Research*, 36 (1), 3-14.
23. Seppanen, M. and Lyly-Yrjanainen (2002). "Vague boundaries of product and customer costs", *AACE International Transactions*, EBSCO Publishing, 2002, pp. RISK12.1-12.6.
24. Terungwa, A. (2013). "Time-Driven Activity-Based Costing and Effective Business Management: Evidence from Benue State, Nigeria." *International Journal of Finance and Accounting* 2013, 2(6): 297-306
25. Vinod, B. (2004). "Unlocking the value of revenue management in the hotel industry." *Journal of Revenue and Pricing Management*, 3 (2), 178-190.
26. Weatherford L. R., Kimes, S. E. & Scott, D. A. (2001). "Forecasting for hotel revenue management." *The Cornell H.R.A. Quarterly*, 42 (4), 53-64.

The image features a large, faint watermark of the Thammasat University logo in the center. The logo is circular and contains the university's name in Thai script at the top and "THAMMASAT UNIVERSITY" in English at the bottom. In the center of the logo is a traditional Thai emblem, a Chakrasimukh, which is a five-lobed lotus flower with a crown on top. The word "APPENDICES" is printed in a bold, black, sans-serif font, centered over the watermark.

APPENDICES

## APPENDIX A

## Total Revenues, total assigned costs and relative profitability of customer groups (%) 2015

2015	Total	Transient	Corporate	Wholesale	Group	Aircrew
Room Revenue	211,545,332	65,137,688	72,960,547	30,473,884	23,707,749	19,265,464
F&B Revenue	36,936,007	10,266,563	6,014,268	8,677,541	5,599,452	6,378,183
Meeting Revenue	7,028,143	313,564	581,923	3,738	6,128,917	0
<b>Total Revenue</b>	<b>255,509,482</b>	<b>75,717,816</b>	<b>79,556,739</b>	<b>39,155,163</b>	<b>35,436,118</b>	<b>25,643,647</b>
<b>Direct Assigned costs</b>						
Commission	(Direct)	4,024,398		45,514	59,813	
Guest Transportation	(Direct)					3,000,413
	(Base on % Total					
Sale & Marketing Expense	Revenue)	6,951,602	7,304,051	3,594,809	3,253,366	2,354,326
<b>Total Direct Assigned Co</b>	<b>30,588,294</b>	<b>10,976,000</b>	<b>7,304,051</b>	<b>3,640,323</b>	<b>3,313,179</b>	<b>5,354,739</b>
<b>Activity Assigned Cost</b>	<b>151,066,000</b>	<b>35,934,490</b>	<b>29,368,953</b>	<b>25,399,842</b>	<b>38,130,763</b>	<b>22,231,952</b>
Relatively Profitability	73,855,188	28,807,326	42,883,734	10,114,998	(6,007,825)	(1,943,044)
<b>%</b>	<b>28.9%</b>	<b>38.0%</b>	<b>53.9%</b>	<b>25.8%</b>	<b>(17.0%)</b>	<b>(7.6%)</b>

## APPENDIX B

## Total Revenues, total assigned costs and relative profitability of customer groups (%) 2016

2016	Total	Transient	Corporate	Wholesale	Group	Aircrew
Room Revenue	234,969,953	87,988,544	77,712,140	25,881,825	29,067,230	14,320,215
F&B Revenue	37,457,026	13,271,367	6,781,265	6,905,102	6,359,641	4,139,652
Meeting Revenue	8,618,779	41,426	96,076	0	8,475,330	5,947
<b>Total Revenue</b>	<b>281,045,758</b>	<b>101,301,336</b>	<b>84,589,481</b>	<b>32,786,927</b>	<b>43,902,200</b>	<b>18,465,814</b>
<b>Direct Assigned costs</b>						
Commission (Direct)		5,157,205			49,064	10,800
Guest Transportation (Direct)						2,887,377
Sale & Marketing Expense (Base on % Total Revenue)		9,308,512	7,772,871	3,012,769	4,034,144	1,696,811
<b>Total Direct Assigned Costs</b>	<b>33,929,552</b>	<b>14,465,717</b>	<b>7,772,871</b>	<b>3,012,769</b>	<b>4,083,208</b>	<b>4,594,988</b>
<b>Activity Assigned Cost</b>	<b>157,479,588</b>	<b>45,562,842</b>	<b>29,341,643</b>	<b>20,177,217</b>	<b>45,801,494</b>	<b>16,596,391</b>
Relatively Profitability	89,636,618	41,272,777	47,474,967	9,596,941	(5,982,502)	(2,725,566)
<b>%</b>	<b>31.9%</b>	<b>40.7%</b>	<b>56.1%</b>	<b>29.3%</b>	<b>(13.6%)</b>	<b>(14.8%)</b>

## APPENDIX C

## Total Revenues, total assigned costs and relative profitability of customer groups (%) 2017

2017	Total	Transient	Corporate	Wholesale	Group	Aircrew
Room Revenue	247,595,010	99,084,911	85,904,226	27,482,218	31,563,018	3,560,637
F&B Revenue	33,996,382	14,842,572	6,285,662	6,492,625	5,786,182	589,341
Meeting Revenue	8,968,099	99,293	62,815	7,477	8,798,514	0
<b>Total Revenue</b>	<b>290,559,490</b>	<b>114,026,776</b>	<b>92,252,702</b>	<b>33,982,320</b>	<b>46,147,714</b>	<b>4,149,978</b>
<b>Direct Assigned costs</b>						
Commission	(Direct)	6,198,890		170,100	13,079	1,000
Guest Transportation	(Direct)					1,128,160
	(Base on % Total					
Sale & Marketing Expense	Revenue)	10,205,427	8,256,642	3,041,427	4,130,233	371,424
<b>Total Direct Assigned Co</b>	<b>33,516,382</b>	<b>16,404,317</b>	<b>8,256,642</b>	<b>3,211,527</b>	<b>4,143,312</b>	<b>1,500,584</b>
<b>Activity Assigned Cost</b>	<b>152,972,432</b>	<b>51,876,908</b>	<b>30,981,776</b>	<b>20,903,225</b>	<b>46,398,389</b>	<b>2,812,133</b>
Relatively Profitability	104,070,676	45,745,551	53,014,284	9,867,568	(4,393,987)	(162,740)
<b>%</b>	<b>35.8%</b>	<b>40.1%</b>	<b>57.5%</b>	<b>29.0%</b>	<b>(9.5%)</b>	<b>(3.9%)</b>

**BIOGRAPHY**

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