

# THESIS SAMPLE

Implementing Activity-Based  
Costing in the Service Industry:  
A Case Study of a Medium Size  
Indonesian Hotel



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## Abstract

Most Indonesian service firms still employ the traditional accounting systems that adversely affect their pricing strategies. However, the country's hospitality industry faces stiff competition from the neighboring Asian nations such as Malaysia, Singapore and Thailand. As such, this paper uses a medium-size hotel in Yogyakarta to demonstrate that using activity-based costing (ABC) technique and traditional costing enhances the businesses' strategic planning capabilities as well as enable the firms to deliver high returns on investment. The project uses the empirical inquiry method to explore the advantages, risks, costs, and challenges the firm experiences by transitioning from the conventional system to the ABC infrastructure. It conducts an in-depth analysis of the hotel's expenditure trends. It categorized the overheads into housekeeping, customer care, food service, and general administration. The researcher matched the expenses to the value they add to the hotel. It was found that the firm spends the highest resources in salaries and wages. Therefore, the hotel should take advantage of this to attract the most skilled and talented chefs and customer-service clients. The hotel should further train those workers to enable them to deliver superior services. Moreover, the ABC system provides an opportunity for the hotel to introduce more appealing promotions such as using price discounts to boost its sales.

## I. Introduction

Indonesia is one of the world's most popular tourist destinations. Based on World Bank data on number of arrival of international tourist, Over past decade number of tourists in Indonesia increased by 40%. More than 9 Million International tourist are arriving in Indonesia in 2014. The hotel industry also creates job opportunities. According to World and Tourism Council, more than 9% of the country's population work in the tourism sector. However, the hotels, especially the small and medium enterprises, face financial management problems that have hampered their growth.

Studies indicate that the Indonesian hotels are lagging behind their peers from developed countries as far as financial planning is concerned. Most of the firms still employ the traditional accounting systems that in turn affect their ability to develop strategies that can deliver value to their stakeholders. These costing systems includes operational costing, job order costing, process costing, and hybrid costing. The World's Tourism Competitiveness Report shows that Indonesian hotel industry is less profitable than Singaporean, Malaysian and Thailand's tourism sectors (Berry, Rodriguez, & Henry, 2010).

### I.1 Background

Activity-based costing (ABC) and traditional costing are two major costing technique in financial and accounting world. ABC is a cost and managerial accounting technique that can be used as decision support tool (Cardinaels, 2008). The concept introduced in 1988 as an alternative approach to providing the information needed to ensure efficiency



in production, financial management, and implementing pricing policies (Cooper & Kaplan, 1988). The traditional costing is mostly used in the manufacturing industry through assignment of unitary manufacturing overhead. However this system is based on some specific assumptions that the volume metric is regarded as the most significant underlying driver of the overall overhead cost. It reveals firms cost patterns such as the relationship between overhead expenditures and the activities that drive them and the minimum amount of resources required to manufacture a unit of a product [CITATION Co0911 \l 1033 ]. Moreover, ABC can help determining optimal product mix that enables an organization to accomplish its profit goals (Cooper & Kaplan, 1988). Cooper and Kaplan (1988) developed the ABC for the manufacturing firms. Based on prior literature the implementation of ABC most likely applied in manufacturing industry [CITATION And02 \l 1033 ][CITATION Ban \l 1033 ]. As Gupta, (1993) notes, studies in such cost accounting procedures have traditionally focused on the large manufacturing firms. The technique applies in multiple accounting areas such stock valuation, product and service pricing, output decision, cost reduction, value added analysis, budgeting, and cost modeling [ CITATION Inn95 \l 1033 ]. However, in the last decades the implementation of ABC is not only applied in manufacturing organization but also in wholesale, retail, and service organization [ CITATION Inn95 \l 1033 ]. Nevertheless, the Indonesian small and medium size tourism firms have limited access and knowledge to the activity based accounting system. It would be a good opportunity as a researcher to try and implement the ABC in a developing environment such as Indonesia hospitality industry.

## **I.2 Research Objectives**

The project's primary objective is to provide the hotel with a more accurate system for accounting for the resources it utilizes in delivering services to the clients and the degree of accuracy should be tested in this thesis. However, it also aims at increasing the efficiency of sharing the financial data among various departments thereby enhancing the strategic decision-making processes.

## **I.3 Research Questions**

The project answers the following questions:

How will adopting ABC system add value to the Hotel's management, employees, clients and suppliers?

## **I.4 Research Structure**

The thesis will be undertaken in a structured manner and the paper will address or have the following aspects in its structure. The thesis is divided into five sections. The introduction part focuses on the background, objectives, and significance of the study. The second part reviews ABC theories and related past researches that facilitate on the analysis of this implication and comparison of the both the traditional costing and the ABC. The research methodology describes the techniques the researcher employed to collect data about the hotel. Findings and analysis section will present the results of the



data analysis in response to the research question in the first chapter. And the last part will be consisting of conclusion and recommendation.

#### **1.4 Motivation of the Study**

The academic context in this thesis focuses on cost accounting and ABC, Secondly, the research will analyze ABC as an alternative method to traditional costing in hotel industry. It will provide a deeper understanding of ABC's advantages and disadvantage over the traditional accounting system in the hotel industry. The thesis could also be used as an illustration how can ABC can be implemented in hotel industry to gathered information on activities and services for decision making support.

#### **1.5 The Project's Significance**

The study provides new and detailed information regarding the impacts of activity based costing systems on the essential accounting functions such as resource management, budgeting and forecasting. It provides step by step recommendations on how the management should use the findings to improve the financial competencies of the staff at all levels. The hotel targets to expand its operations, establish sustainable partnerships with the suppliers and consumers, and above all, create superior values to its stakeholders. Achieving such growth targets involves complex financial activities that require the hotel to acquire more comprehensive accounting infrastructures. The paper involves an in depth analysis of all the firms' production processes such as front office activities, housekeeping processes, room maintenance, food service and related customer care services. As a result, the study not only gives a clear picture on the interrelationships between these business operations but also identify the hotels' weak points. For example, by linking the resources consumed by each process with the end-products, the management will determine activities that consume resources but has insignificant effect on the final product or service.

### **2. Literature Review**

The objective of this literature review is to facilitate on the analysis of the implication and comparison of the both the traditional costing and the ABC. The literature review will be derived from various sources both primary and secondary sources and facilitates in using already documented information in facilitating the research and this helps basically in having a theoretically proven backup for the arguments to prove and disapprove both objective.

The objective of cost management system is to provide the user relevant and timely information[ CITATION Kap83 \l 1033 ]. It is expected to produce information for the decision-maker, and a system producing information leading to decisions or actions that maximize decision making process(Malmi, 1999; Ittner, Lannen, & Larcker, 2002). Prior study also suggest that revision of cost management system can support better decision-making within the organization[ CITATION Tho16 \l 1033 ]. Studies reveals



having an accurate cost systems is beneficial, many firms use their costing systems to help formulate a competitive strategy and can improve managerial decision making (Cooper & Kaplan, 1988; Merchant & Shields, 1993; Cardinaels, 2008). ABC are potentially beneficial to firm's owner to improved decision due to the information is provided better [CITATION MisOI \I 1033 ].

## **2.1 Activity Based Costing**

Prior study has documented the critical roles activity-based systems play in addressing the shortcomings of the conventional accounting systems [CITATION Coo91 \I 1033] [CITATION MisOI \I 1033]. Companies implement ABC due to various reasons, for instance to increase the product cost accuracy [CITATION And99 \I 1033]. With the used of multiple cost drivers to trace the cost of activities to the products associated with the resources consumed by the related activity ABC system can improve the accuracy in estimating cost [CITATION Bab93 \I 1033 ]. There are two ways to identify and assigning cost to the cost object, direct and driver tracing. The process of identifying and assessing cost to cost object that are specific to the cost object called direct tracing and in other hand driver tracing use cause-and effect reasoning to identify drivers that observable related to the cost object[ CITATION Han06 \I 1033 ]. In contrast with the traditional costing, ABC can address shortages of the traditional costing by using the two-stage method that attribute cost to production and business activities and then toward products based on resource usage (Cooper & Kaplan, 1992; Anderson S. W., 1995).

ABC considers the overheads and other organizational resource needed to generate the final commodities and services. On the other hand, as described in prior research traditional costing, the conventional systems use percentages to apportion the overheads or indirect costs. By contrast, ABC system associates each department's resources to its assigned activities or roles. Malmi (1999) explain that an accountant allocates the resources to the activities based on the amount required to undertake particular tasks. In this way, ABC infrastructure eliminates the weaknesses of the conventional systems. These include low-level accuracy as the traditional methods depend on arbitrary cost allocations. The ABC costing technique is a method that is necessary in your calculation of remedial services cost prices.

ABC merit Goektuerk (2005), found that the benefits included cost modeling (reduction and management); enhancing internal production processes; modernizing the cost accounting systems; ensuring accurate allocation of overheads, and achieving high accuracy in conducting customer profit analysis.

### **ABC demerit**

ABC has its own fair share of disadvantages such as it is complex and expensive because of associated numerous cost drivers and multiple cost pools. This costing method associated with difficulty in cost drivers selections such as common costs assignments, selection of varying cost drivers, and the overall cost drivers. Therefore, the method is



not regarded as an accurate costing method because of these associated difficulties. Some studies support the argument above, Gupta (1993) noted that ABC not always giving a more accurate product cost even though it came with more cost pool yet a better specification further many believe that cost of the implementation of ABC outweigh its benefits [CITATION Pat94 \I 1033]. Prior research also noted the refinements of costing method may lead to error in product costing [CITATION Dat94 \I 1033 ].

### **2.1.1 History of Activity Based Costing**

Cooper and Kaplan invented the approach in 1988 to address the challenges that slowed down the manufacturing firms' growth (Kaplan, 1992). The researchers discovered that the companies employed single cost system to satisfy diverse needs that included financial reporting, inventory valuation, and forecasting. However, Swenson (1995) observed that the complex manufacturing environment was characterized by diversified product and manufacturing practices that made it difficult to create an efficient accounting system. Therefore, the theorists developed a more comprehensive framework that integrated the operational processes to the reporting system. The technique used highly accurate data to facilitate overhead cost analysis and determining prices that will attract the targeted profit levels. Since then, a lot of firms throughout the globe have implemented ABC.

ABC gained popularity in the 1990s, and so far most of the companies (manufacturing and nonmanufacturing) that have implemented it have achieved their intended goals [ CITATION Inn95 \I 1033 ]. Thomas, (2016) argued that the implementation rates were higher in the developed countries than their developing counterparts between the 1900s and 1994. For example, activity-based costing application rates has be used significantly in New Zealand, the United States, the United Kingdom, and Canada. The ABC's success in such economies has prompted firms throughout the globe to follow suit. In fact, managerial accounting expert considers activity based costing system as an essential requirement for excelling in the highly competitive business environment (Vogel, 2014).

### **2.1.2 Factors Influencing the Success of ABC System**

Studies have found that the technical challenges and organizational variables determine the success of ABC systems. Many firms struggle to select cost drivers and accumulate cost data that are relevant to their operations (Mishra & Vaysman, 2001). Organizational factors such as management support, employees' attitude, and training may hinder or promote ABC's implementation success. The business perceived shifting to activity based costing to be more of a technical innovation than an administrative development process. On the other hand, the ABC has failed because of the difficulty associated with the method in determination and selection of the cost drivers

#### **2.1.2 Traditional-costing**

This type of costing is mostly used in the manufacturing industry through assignment of unitary manufacturing overhead. However this system is based on some specific assumptions that the volume metric is regarded as the most significant underlying driver of the overall overhead cost which is Kaplan (1983) argues that the system is not



relevant to the new environment. Based on prior research information that offered by the traditional costing are insufficient to explain the demands placed on overhead resources by products or services (Ittner, Lanen, & Larcker, 2002; Mishra & Vaysman, 2001). Although it is easier to implement and less expensive, Mishra and Vaysman (2001) stated that the system makes a distorted product costing that generates inaccurate pricing, cost control and other decisions.

## **2.2 Hotel Industry's Cost Structure**

Maintaining hotels involves high fixed costs [CITATION Sucl2 \l 1033]. Fixed costs most likely occur from rent for building, provision, electricity, wage and salary. More likely firms that have high fixed costs, make an operating change to reduce them [CITATION Unc05 \l 1033]. The fixed cost in hotel also can be influenced by season at low volume (low season), fixed costs per-unit of volume are high vice-versa.

## **3.1 Research Approach**

Traditional costing uses qualitative data enabled the researcher to prioritize the firm's workers' concerns and design the most efficient solutions to various accounting problems affecting the hotel's performance. For example, interviewing the employees and consulting the finance managers provided significant insights on the interdependence between the accounting department and all the other business units.

100 people were interviewed and the interview and sampling took approximately two weeks. These interviewees were sampled from 10 restaurants in the three major cities in Indonesia and the interview was undertaken by myself with two assistants. The first section addressed two research questions: (1) will tracing the hotel overhead costs through the activity centers generate new information that will deliver sustainable value to the stakeholders; and (2) To what extent will the new technique support the hotels' strategic functions such as budgeting, revenue and demand forecasting, and customer relationship management. While the last part of the project addressed the remaining three research questions. The researcher modified Cooper's ABC model to fit the firm's needs to achieve the project's goals by determining related activities into different room types that may have a different task or time consumed.

Our main service is giving accommodation to guests, we give clean rooms and breakfast to the guests. Housekeeping, front desk, and food service are the core departments in our business.

(Hotel Owner)

Activities and tasks are different between room types, due to their size, number of beds and difficulties of cleaning the room. The bigger the room usually the harder to clean due to the big room is preferred by families.

(Housekeeping Supervisor)



Business Unit	Nubers
Administration	4
Front Office	6
Kitchen	9
House Keeping	10
Technicians	4
Security	3
Gardeners	5
Laundry	4
Drivers	5

Table I: Number of Workers

The case study employs empirical inquiry technique to explore the benefits, risks and challenges the hotel will experience by shifting from the traditional system to ABC infrastructure.

### 3.3 Data Collection

The study was done using interpretive methodology and the data collection used was through stratified sampling that was done through semi-structured interview structure (Yin, 2002). As such, the project involved collection and analysis of quantitative, qualitative, primary and secondary data. The researcher liaised with the Hotel's manager who provided him with the financial and operational data such as occupancy rates, staff's salaries, time spent in essential tasks (housekeeping and front office (checking visits in and out of the firm) between 1st January 2015 to 31st December 2015. The information helped to illustrate the procedures the hotel should follow in ensuring a seamless transition to the new system. The statistics on the customers who visited the hotel over the period also helped in matching these costs with the revenues generated.



The first step involved identifying the hotel's main activities. The data reveals that these included housekeeping, food and beverage (F&B), office, and marketing.

Determining the cost drivers was also important in calculating the production overheads. Like other hospitality organizations, the business' cost drivers are number of rooms, beds, tasks involved in providing accommodation services and the rooms' capacity. Number of Rooms; - the hotel had 60 rooms. This represents the product levels since the firm specializes in accommodation services. According to the occupancy statistics 95% of the guests who visit the hotel stay for at least two days. At the same time, the rooms' maintenance expenditures accounted for over 70% of the overall production costs. Therefore, assigning the expenses to each room will enable the management to make informed decisions. Furthermore, the business' profitability depends on the number of rooms sold. For example, it attracted the highest sales revenues in May when the occupancy rate was 1,213. This was because the number of rooms sold increased by 63% from 740 in April.

Number of Beds; - each of the rooms have between one and three beds. For example, SidoMulyo, Luhur, and Mukti have two beds while Truntum, and ParangKencono have three beds each. The resources such as time consumed in housekeeping and laundry depends on the number of beds. The data also helped in forecasting the optimum occupancy rates that will deliver particular profit targets.

The Hotel Capacity; - This refers to the size of each room. All the rooms are 24m<sup>2</sup> except Truntum and ParangKencono that are 32m<sup>2</sup>. This cost driver helped in assigning the fixed overhead costs.

### **3.2 Research Setting**

The project concentrates on a medium size Hotel located in Yogyakarta. Given that the city ranks among Indonesia's most popular tourist destinations, the hotel face intense rivalry from its peers as well as multinational tourist organizations (Mahadevan, Amir & Nugroho, 2016). For example, Yogyakarta boasts of five star hotel chains such as the IGI, Ibis, Grand Zuri, NEO, Pop and others. The hotel is a family owned business that was founded in 1994.

The hotel has 60 rooms that are divided into five categories (SidoMulyo, SidoLuhur, SidoMukti, Truntum, and ParangKencono). All the rooms have two beds and are about 24m<sup>2</sup> except Truntum and ParangKencono that have 3 beds and are 32m<sup>2</sup> in size. The firm has 50 workers serving in various business departments as indicated in the table below.



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