

The Impact of Activity-Based Costing Implementation on Pricing Decision in Hospitality Industry

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Abstract

In recent years, the development of hospitality industry has increased incredibly due to the development of technology, especially internet, which allows price transparency and makes customer easier in choosing the best hotel for them. However, the competitiveness in the hospitality market become intense. Thus, firms in hospitality industry have to make realistic and competitive pricing decision to survive in the market. Thus, the question is what is the proper costing system to improve the pricing decision in hospitality industry. Due to the advantages over traditional costing system, activity-based costing is chosen. This thesis aims to examine whether the application of ABC in hospitality industry will improve the pricing decision. In achieving the aim, a review of prior literature on activity-based costing from management, accounting, and hospitality industry was conducted. The results indicate that many hotels found that the application of ABC leads to a more accurate and reliable cost information. They also found that the implementation of ABC allowed them to conduct customer profitability analysis and get better and proper results about the profitability of customers. However, the managers also found some challenges of ABC such as expensive, time-consuming, and complex. Despite the challenges, the managers claimed that the more accurate and proper cost information and CPA result produced by ABC to lead to improved pricing decision.

Keywords: activity-based costing; hospitality industry; cost information; customer profitability analysis; pricing decision

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1. Introduction

1.1. Background

During the last decades, the hospitality industry has developed considerably. The development of technologies has a huge effect on this phenomenon as they make traveling easier and more affordable to people. Another factor is the increase in personal income percentage which makes people have more money to be spent on travelling. Thus, the demand for accommodations such as hotel, motel, or even short-stay apartment has increased.

The development of internet also contributes to the increasing demand in this industry. In the past years, people have already used the internet to find their suitable accommodations whenever they want to travel. Before the era of internet, people have to call the hotel or go to travel agents to book the hotel. They also have little idea about the price of similar accommodations. However, today, as more people using the internet to find and book accommodations, more online travel intermediaries such as agoda.com, booking.com, or priceline.com show up to provide customers with convenience in finding suitable accommodations and comparing the prices.

The use of the internet for marketing and online selling in hospitality industry then provide more price transparency. The price becomes more transparent as customers now can compare different products and different prices via different marketing channels. Because of this, customers are increasingly enjoying an improved market position (Egger and Walters, 2008). Thus, in this increasingly fragmented marketplace, organizations in the hospitality industry should consider transparency when pricing their products. Transparency in this context meaning that organizations in the hospitality industry should be logical and rational when pricing their products and the customers have to be able to understand why they can get a discount and what they would be giving up in return (Nand, 2013).

Price transparency, however, leads to increasing competition in the marketplace. According to Egger and Walters (2008), this dynamic market created a field of tension since organizations in the hospitality industry have to compete with tour operators and online travel agencies who attract customers with best-rate guarantees. The pressure is also increasing from the customer's side as Nand (2013) stated that customers, having more knowledge about price in the market, can quickly convert to other hotels, motels, or platforms which offer the best prices. The easy access to price and value information about all the hotels in the market also leads to increasing pressure on hotels to understand and account for competitive dynamics (McGuire, 2015). Thus, to response to the pressure, organizations in the hospitality industry should improve their pricing decision to attract customers competitively and at the same time receive optimum profit margin.

Specifically, cost-based pricing is used in this thesis as one of the factors which could improve the decision in product pricing is an accurate cost information.

In order to achieve an accurate cost information, a proper costing method is needed. In this thesis, activity-based costing (ABC) will be used because according to Adams (1996), it provides managers more accurate product costing, more understanding about operational performance, and more relevant information for strategic decision making. In recent years, activity-based costing has become a popular costing technique as an alternative to traditional costing method (Innes and Mitchel, 1997). Traditionally, most of the application of ABC are found in manufacturing companies. However, nowadays activity-based costing applications also found to be useful in the service industry (Szychta, 2010). The ABC also deemed to be applicable in the hospitality industry, as Kock (1995) stated that ABC is suitable for market-oriented sectors such as the lodging industry.

1.2. Research Problem and Motivation

As the demand for price transparency and the competition increased in the market, organizations in the hospitality industry should respond to the tension by providing competitive and transparent price. However, a lot of hotels still have no knowledge about pricing in such climate (Nand, 2013). Thus, this thesis aims to help organizations in hospitality industry regarding improvement in pricing decision. There are a lot of factors in making the decision about product price, but the one which will be used in this thesis is cost accounting. The reason for this choice is because according to Vazakidis and Karagiannis (2011), costing method in service sector need more attention as bad cost information leads to a higher product price which could turn down customers' willingness to book the accommodation. Thus, to make an optimum pricing decision, an accurate cost information is essential. This thesis uses ABC as one of the benefits is more accurate information. Moreover, according to Tai (2000, as cited in Pavlatos and Paggios, 2009), the use of ABC in the hospitality industry is still limited because the personnel in hotels has low understanding about the application of ABC in organizations in the hospitality industry. Thus, this thesis tries to find out whether the adoption of activity-based costing can help organizations in the hospitality industry in improving the pricing decision to be able to compete in the current dynamic marketplace.

1.3. Research Objectives

The objective of this paper is to study the relationship between pricing decision and the implementation of ABC in the hospitality industry. In order to achieve the main objective, this paper will first review the implementation of traditional costing system and activity-based costing in the hospitality industry in chapter 2. Then a thorough explanation of how ABC related to pricing decision will be provided. Then, the result of

the explanation will provide explanations about elements of ABC which can lead to improved pricing decision. Next, in chapter 3, the methodology of the research will be explained. In chapter 4, there will be several arguments and case study from prior research regarding the adoption of ABC in the hospitality industry and the impact to the organization. Moreover, in chapter 5 the paper will assess whether implementation of ABC in the hospitality industry can improve pricing decision through cost information and customer profitability analysis.

1.4. Academic and Practitioner Relevance

Academic relevance

The objective of this thesis is to find out whether ABC helps organizations in responding to the pressure of price transparency in the hospitality industry. The result of the thesis may explain the questions rising after reviewing previous research, such as “is the application of ABC to improve cost information and pricing decision also applicable to hospitality industry?”. The proposition provided by this thesis after reviewing both conflicting and supporting views may also be used for future studies concerning the effectiveness of ABC in the hospitality industry.

Practitioner relevance

The result of this thesis may help managers in the hospitality industry in making the decision concerning the implementation of ABC to help their organizations in making the decision about product price to face the external pressure and at the same time optimize their profitability. The result may be taken into consideration by managers to decide whether to start, continue, or stop implementing the ABC in their organizations.

1.5. Research Questions

Central question:

“Does the adoption of activity-based costing improve the pricing decision of organizations in hospitality industry?”

Subquestions:

1. What are the differences of traditional costing system and ABC system in hospitality industry?
2. How do ABC affects pricing decision?
3. What are the impacts of implementation of ABC to organizations in hospitality industry according to prior case studies?

2. Theoretical Framework

The theoretical framework chapter will first give a brief introduction of two costing systems: traditional costing and activity-based costing. The explanation includes the reason why companies nowadays prefer the ABC system than traditional costing system. Next, there will be an explanation about how activity-based costing is related to pricing decision by defining the elements of ABC which are deemed by prior theories can help managers in improving the quality of decision-making regarding the product price. The chapter will produce a theoretical framework as a base to answer the central question by answering the first and second subquestions and conclude the theories.

2.1. Traditional costing system

Traditionally, companies (especially manufacturing companies) use a simple costing system or now it is called as traditional costing system. In traditional costing system, direct costs are traced directly to products and the remaining costs (indirect cost) are allocated to products by using a two-stage process. First, the indirect costs are collected into pools, then the costs in each pool are allocated to products based on production volumes such as direct labour cost or direct labour hours (Brignall et al., 1991). Many companies used this method because historically, products produced by companies are limited and there were a relatively small amount of indirect costs compared to total costs. Due to this condition, traditional costing system was deemed as a simple, easy, and inexpensive way to allocate costs.

However, now product diversity have increased and so are indirect costs. Thus, the use of traditional costing system could lead to inaccuracy of product cost (Horngren, 2009). Moreover, traditional costing system could lead to miscosting if the overheads are not volume driven. Many businesses have realized that rather than output volume, activity levels are significant determinants of overhead. If production volume was used as a base to allocate cost in this condition, then it will lead to miscosting, inaccuracy, and unreliable information (Innes and Mitchel, 1997). A new refined costing system, therefore, was needed to solve this problem.

2.2. Activity-based costing

Activity-based costing (ABC) was introduced in the 1980s through several cases and articles from Harvard Business School. The case studies shared one similar characteristic: the common resource expenses in firms were assigned to each activity (Kaplan & Anderson, 2003). Thus, according to Turney (1996), “activity-based costing is a method of measuring the cost and performance of activities, products, and costumers.” In refining the simple costing system, ABC is one of the best tools as it uses

activities as fundamental cost objects (Horngren, 2009). According to Cooper (1990, cited in Dalci et al., 2010), there are two stages of the allocation process in ABC. The costs of resources are first allocated to the activities using first-stage cost drivers. Next, the costs of activities are assigned to cost objects by using volume and non-volume related drivers. In this stage, the activity costs are assigned based on relevant cost drivers to the cost objects.

One of the major benefits of ABC which also solve the problem in traditional costing is that it reflects more accurately the economics behind the production process, especially in firms with high complexity and variations concerning products and output (Adams, 1996). Moreover, ABC reveals the relationship between performing particular activities and the demands on the organization's resources resulted from performing the activities. This way, managers can get a clear picture of how products, brands, customers, facilities, regions, or distribution channels generate revenues and consume resources (Cooper and Kaplan, 1991).

However, ABC also has some disadvantages. The major one, it is so complex that organizations who adopt it have to put a lot of effort and cost during a long period of time. It is also costly to maintain the ABC system. Thus, many ABC systems are infrequently updated, leading to inaccurate cost information (Kaplan and Anderson, 2003). This argument was supported by Brierley et al. (2001) who suggest that ABC is costly and a lot of time needed to implement it. Despite the disadvantages, Brierley found a lot of benefits of ABC, with more accurate cost information being the major one. Another benefit found are improved cost control, decision making regarding product costing and pricing, more accurate allocation of indirect costs, and improvement in efficiency.

2.3. Activity-based costing and pricing decision

It is known that in complex pricing decision process, product costs play an important role (Brignall et al., 1991). There are a variety of product costs which firms used in the pricing decision. The most popular choice was total cost (Drury et al., 1993). However, total cost is distorting as some part of the costs are not traceable, which lead to inaccurate allocation of cost. The inaccuracy of cost allocation is bad for pricing decision as Blocher (2002) stated that accurate costing is important because distorted product costing lead to unrealistic pricing. Thus, ABC deemed as a solution to this problem as it provides more accurate cost information.

The use of ABC in determining price has been studied for years. Several prior research (Noone and Griffin, 1999; Pavlatos and Paggios, 2009; Brierley et al., 2001; Innes and Mitchel, 1997; Innes, 2000; Friedman and Lyne, 1995) stated that most firms initially implement ABC in purpose to reduce cost, improve performance, or product pricing. Their statement was supported by Roodhooft (1997) which stated that the firm

in this case study applied ABC techniques to support new approaches to pricing decision. The main reason why ABC is used to help managers in making decision about product pricing is that ABC provides more accurate costing and can be used to identify underutilized resources as well as associated costs that can be reduced (Dowless, 1997).

Moreover, Cardinaels et al. (2004), stated that ABC allows better price differentiation among products, customers, and markets which lead to a value-enhancing effect on pricing decisions and profit performance. In their case study, they found that optimal pricing decisions produce accounting losses under volume-based costing, but not under ABC. A strong benefit over biased traditional cost data also found in ABC as it enables decision-makers to filter out less relevant competitor prices from the decision process.

Kock (1995) also provide an example of the usefulness of ABC in pricing decision. In his case study, after the implementation of ABC, the firms realized that some activities have been more expensive than the management's estimation. Because of this, some services have been priced too high or too low. Using ABC, as the firm get the more accurate product cost, it can price its product in accordance with cost of activities carried out in producing the services. Thus, the product will not be overpriced or underpriced anymore.

There are three factors which influences pricing decision: customers, competitors, and costs (Horngren, 2009). Those factors have to be controlled to reach a profound pricing decision. In the introduction part, it is stated that competition in hospitality industry are one of the reason why improving pricing decision is necessary. Moreover, several prior research (Friedman and Lyne, 1995; Lukka and Granlund, 1996; Brierley et al., 2001) suggest that in making decision about pricing, firms perceived that the use of more accurate cost information is important. Making price decision without having an accurate product cost information will lead to poor pricing. Thus, by using ABC, a more accurate cost information can be reached so a profound pricing decision can be made. From customer perspective, other than giving the range of price which can be accepted by customers, knowing customer profitability is also important. Besides providing cost information, ABC also provides customer profitability analysis (CPA). One of the benefits of CPA is that managements are able to make price adjustments as it is a basis for well-informed pricing decision (Noone and Griffin, 1997; Cardos and Cardos, 2014).

2.4. Activity-based costing and cost information

Cost information, specifically in hospitality industry, is important as bad cost information leads to a poor decision in product pricing (Vazakidis and Karagiannis, 2011). The traditional costing system proved to distort product costs due to the use of one single cost driver to allocate the overhead cost, which has a significant portion of product cost (Wang et al., 2010). In traditional costing system, allocation of overhead costs should be proportional to volume of products or number of services, meaning that

products and services directly consume resources. The idea of ABC is in contrary with this statement. In ABC, products and services consume activities and activities consume resources (Dowless 1997). Even in the service industries, provision of information about costs of activities and services for decision-making was ensured by ABC while this was not possible if firms used traditional costing system (Szychta, 2010). This is possible for ABC because it requires that activity costs are attributed to the specific products or services that drive them — not included in some general overhead and apportioned to all products (Baines, 1992).

Moreover, Ray and Gupta (1992) supported the previous argument by stating that the implementation of ABC makes it possible to generate multiple overhead allocation rates. Due to this system, a huge proportion of costs which previously treated as indirect and non-allocable become direct and allocable overhead costs which now can be traced to product or non-production activities. Thus, the true cost of products or activities could be revealed and improve the overall cost information. Then, after having a more accurate cost information, quality of decision making in product pricing could be increased. Another example comes from Gietzmann (1991, cited in Brierley et al., 2001). In his case study, he found that after the implementation of ABC, the low volume products had a higher cost and high volume products had lower costs than previously calculated. This example shows that ABC helps improving cost information by showing the true product costs.

This means that activity-based costing proved to provide more accurate cost information for more precise cost allocation (Sheu et al., 2003). Several prior research also supports the idea that one of the attractions of ABC is the more accurate cost information to use them in decision making (Innes and Mitchel, 1997; Lukka and Granlund, 1996).

2.5. Activity-based costing and customer profitability analysis

Another essential information for managerial decision making such as product pricing is customer cost. Especially in service companies, customer cost information is important because the cost of providing a service is generally determined by customer behavior. Thus, it is important to understand true costs of serving specific customers by conducting a Customers Profitability Analysis (Dalci et al, 2010).

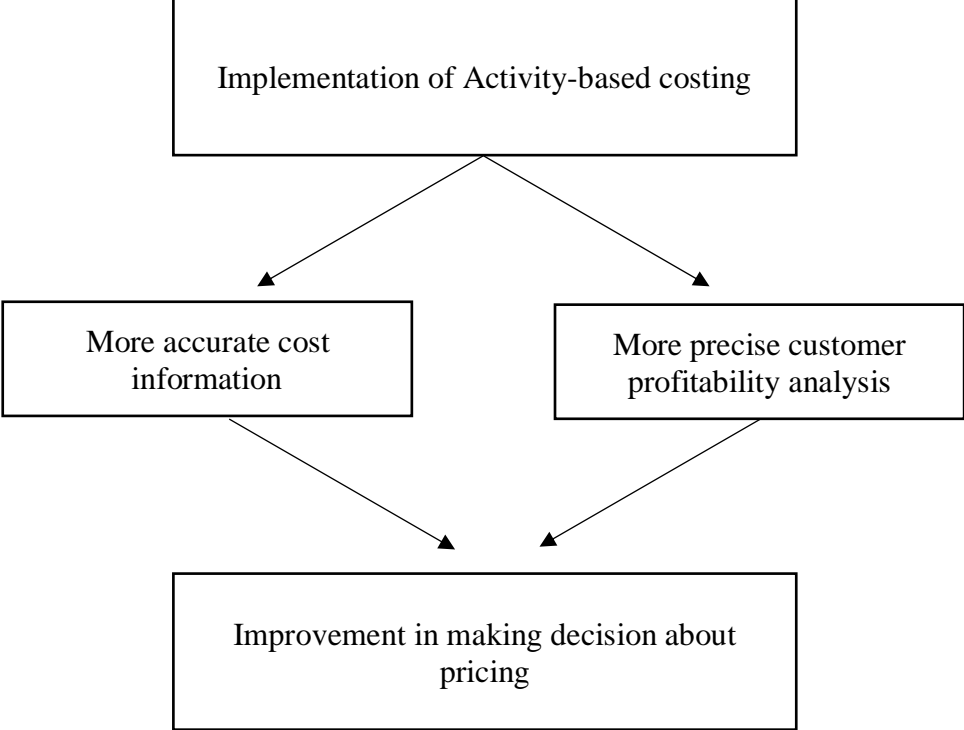
Customer profitability is proved to lead firms in increasing profitability. This is because 20% of customers are actually making more than 120% of total profit of organizations. Thus, if managers are able to decide what to do with unprofitable customers (the rest 80%), they are able to increase organization's profitability (Cardos and Cardos, 2014). Customer profitability analysis itself provided a tool to review the profile of customer profitability and providing a prompt for strategic decisions on pricing, service, distribution, or financing policies (Innes and Mitchel, 1997). According to

Blocher et al. (2002), to conduct the analysis, firms must identify customer service activities and cost drivers and determine the profitability of each customer or customer group. Customer profitability analysis combines customer revenues and customer cost analyses to assess customer profitability and helps identify actions to improve customer profitability.

One way to conduct cost analysis is using ABC because traditionally the costs to service customers are hidden in the customer support, marketing, and sales function. Using ABC, then it is possible to trace those costs to each customer (Blocher et al, 2002). The accurate information on product costs resulted from the use of ABC also makes firm possible to analyze the profitability of products, customers, groups of customers, and also markets. This is because the accurate allocation of costs to customers allows firms to identify the different profitability of each individual customer or groups of customers. The ABC system then provides managers with information for measurement of costs and profitability at the customer level (Szychta, 2010). Cooper and Kaplan (1991) gives insight about how to conduct CPA using ABC. First, contribution margin of products sold to individual customers should be calculated. Then, subtract the expenses of sustaining the customers, which are costs that are traceable to individual customers but independent to the volume and mix of purchases. The remaining number is the profitability of customers. Moreover, with ABC, general ledger are dissected, which makes the costs assignment to customers easier. A more accurate ABC model is also more likely to cause fewer distortions in customer costs, compare to other models (Smith and Dikolli, 1995).

A conclusion then can be made from the compiled theories. Traditional costing system is not a good tool to provide accurate information for managers to make a profound decision regarding price determination. Activity-based costing, solve this problem by using its major benefit, a more accurate cost, and product information, along with the ability to conduct customer profitability analysis. Using a more accurate cost information and customer profitability analysis which provides an understanding of customers cost, managers are perceived to be able to make well-informed and realistic pricing. Thus, the implementation of ABC believed to improve the decision regarding pricing determination if it improves cost information and allows customer profitability analysis.

Figure 1: Theoretical Framework



3. Research Methodology

In answering the research questions and achieving the objective of the research, the thesis will look through and analyze prior research. More specifically, literature review will be used to answer the research question. The thesis will first build a theoretical framework, consists of the use of traditional costing system and ABC system in hospitality industry and how ABC can affect the price determination, as a basis for the literature review. Then, a literature review will be conducted. Using this method, the thesis will review literature which provides evidence supporting or opposing the theory about the improvement of pricing decision after the adoption of ABC. A concept matrix from Webster and Watson (2002) will be used to provide a clearer picture of the review. Then, conclusion and discussion will be made from the findings of the literature review.

In finding the relevant literature about the topics discussed in the thesis, Webster and Watson (2002) proposed structure are used. As the major contributions are in leading journals, the search starts with them. In determining the leading journals, a rank of accounting journals developed by Lowe and Locke (2006) are used. Lowe and Locke (2006) developed the rank by measuring the efficiency of journals. They used mean quality score or ranking and also considering a measure of variance to define whether a journal is efficient or not. Other than the articles from the leading journal, several relevant articles about hospitality management also used. The thesis applies backward and forward searches to find those other relevant articles. The backward search was conducted by reviewing the citations for articles found in leading journals to determine prior articles that should be considered. Forward search, on the other hand, was conducted by identifying articles citing the main articles identified from the backward search.

4. Literature Review

In this chapter, existing literature regarding the implementation of activity-based costing in hospitality industry will be reviewed. The literature mostly provide arguments obtained from case study. This chapter will start by first explain the use of traditional costing and ABC system in hospitality industry. The explanation includes several reasons why traditional costing could not optimally improve the pricing decision of the organization in hospitality industry and how ABC solve the problem. Next, literature which are about the effect of implementation of ABC to the quantity and quality of cost information in hospitality organizations will be reviewed. Then, the next section will provide a review of literature which suggest arguments about the effect of ABC to the applicability of customer profitability analysis in hospitality industry and how ABC contribute to the result of the analysis. The section about pricing decision will consist of a review of literature which add arguments about the quality of pricing decision after the implementation of ABC in hospitality organizations. A section regarding challenges in implementing ABC in hospitality industry will also be provided. This chapter also came up with tables to summarize the findings in all section.

4.1. Traditional costing vs activity-based costing in hospitality industry

According to Pellinen (2003), the knowledge of management accounting in tourism enterprises is very few due to the lack of research in that field. Nevertheless, managers of organizations in hospitality industry perceived that knowledge in accounting methods, such as budgeting, variance analysis, or pricing, is important (Damitio and Schimdgall, 1990).

In hospitality industry, cost accounting consists of concepts and techniques designed to facilitate the accumulation, analysis, and utilization of past and forecasted unit cost to be used in management decision making (Fay et al., 2001). The hospitality industry uses USALI (Uniform System of Accounts for the Lodging Industry) to be the industry standard. The concept was based upon conventional cost-oriented accounting methods. In keeping up with the changing business environment, revisions were regularly made (Harris and Brown, 1998). However, in providing cost data, traditional cost accounting techniques are still used (Pavlatos and Paggios, 2009).

In the case study of Brignall et al. (1991) regarding product cost in hotels in the hotel chain, it was stated that costs in the hotel chain were not directly traced to individual products or customers within each department. In allocating the overhead costs, the hotel used cost drivers such as time for leasing and depreciation, marketing activity for advertising and promotion, or occupancy levels for a proportion of utilities and maintenance. However, in the case study, there is no attempt to allocate non-traceable costs to departments or individual products because it would involve arbitrary allocation

of a high proportion of costs. Moreover, since the costs are not accurately traced to batches, many hotel managers do not precisely know the profit they make on a product.

The case study was supported by Pavlatos and Paggios (2009). They stated that most of the cost in service organizations such as hotels are direct and traceable. Moreover, most of the resources in hotels are supplied in advance, and the supply was not influenced by the usage of activity resources. Those costs, in traditional costing systems, are treated as fixed and irrelevant for decision making. Little attention was given to developing cost systems that accurately measured the costs and profitability of individual services. Thus, the problem of traditional costing system in hospitality industry is the same just like in manufacturing industry: the traditional costing system could not provide more accurate and reliable information regarding product cost.

The solution to this problem is activity-based costing. Even though the use of ABC is dominated by manufacturing companies, the ABC concept also improves the cost allocation and measurement of service department in those companies, which means that service firms could apply ABC too (Pirrong, 1993). This proposition was also supported by Brignall et al. (1991) who believe that the ideas of ABC may prove useful in product costing in some service industries where complexity is a problem. In the hospitality industry itself, ABC has been proved applicable according to several case studies and prior research of ABC in hospitality industry (Pavlatos and Paggios, 2009; Vazakidis and Karagiannis, 2011; Chen et al., n.d., etc.).

As most of service firms are labour-intensive, wages are considered the main cost in this industry. The activities in hospitality industry are varied and plenty. For instance, in a one-week stay at a resort require more or less 40 activities, from the planning, during the stay, until following up the customers after the stay. Moreover, those activities used for producing different services are not easily traced. Many organizations in hospitality industry also produce both services and goods. Thus, the ABC systems in hospitality industry are more complex (Kock, 1995). Moreover, in hospitality industry, the ABC systems are not excessively detailed. They include a small number of cost drivers and calculate the cost of a rather small number of activities, such as housekeeping, check-in, reservation, food production/service, marketing, and general administration (Pavlatos and Paggios, 2009).

The method of implementing ABC in hospitality industry is more or less the same with other service firms. Noone and Griffin (1999), Dunn and Brooks (1990) and Kock (1995) explained the steps of ABC in hospitality industry. The first step is to identify all the activities such as checking-in guest, serving meals, or cleaning the bedroom. Next, the total expenses are assigned to the cost centers. Cost centers support specific activity centers. Then, organization should identify the measurement of the quantity of activity used, or better known as activity or cost driver. The examples for cost driver in hospitality industry are number of stays per customer group, or time spends in cleaning the bedroom.

Finally, the total cost in the cost centers should be allocated to each activity using the cost drivers.

Besides the use of ABC, some firms in hospitality industry also use the alternative method of ABC, which is Time-driven activity-based costing (TDABC). In TDABC, the method is the same with conventional ABC, but all the cost drivers are measured using time. Some of the case studies stated that TDABC is also applicable in hospitality industry. (Noone and Griffin, 1997; Dalci et al., 2010; Basuki and Riediansyaf, 2014; Ardiansyah et al., 2017)

4.2. Activity-based costing and cost information in hospitality industry

One of the benefits of the adoption ABC obtained in several industries is a more accurate and reliable cost information. This benefit seemed to be applicable to all industries as it is also found in hospitality industry. Several works of literature proved this by conducted case studies and compare the product cost in hospitality firms calculated under traditional costing and ABC system. The result from the analysis showed that there are significant differences of product costs calculated under traditional costing and ABC (Vazakidis and Karagiannis, 2011; Tsai and Hsu, 2004; Chen, Lu, and Chen, n.d.).

Vazakidis and Karagiannis (2011) conducted a case study about the implementation of ABC in hotels in Greece. The case study result argued that cost information became more accurate after the implementation of ABC. The case study was based on an argument that inaccurate cost information could lead to a poor decision making. Hence, a cost system which can improve cost information is needed. Vazakidis and Karagiannis (2011) focused on the use of activity-based management (ABM) which is based on the cost information resulted from ABC.

After conducting an analysis of costs of the hotels using both traditional costing and ABM, they found that cost per room has a different amount under each method. Compare to ABM, cost of three types of room tend to be underestimated, and one type of room is overestimated if traditional costing were used. Moreover, costs of all type of room are more various under the calculation of traditional costing but are more homogenous under the calculation of ABM. Vazakidis and Karagiannis (2011) explained that the difference of the results was because when ABM was used, parameters in allocating costs were better evaluated.

Another supporting argument comes from Tsai and Hsu (2004) organized a case study in a traditional inn in Taiwan. They made an analysis of unit cost per customer using traditional costing and ABC. The results were compared to see what difference does the adoption of ABC makes. The result of the analysis shows that there are significant differences in unit cost per customer of each product (lodging, hot spring, and dining). The unit cost of dining was overestimated using traditional costing. On the other side, the unit cost of lodging and hot spring turns out to be significantly underestimated

using traditional costing. The difference of the unit cost comes from the more detailed analysis of the cost of each activity. Tsai and Hsu (2004) suggest that the use of ABC does not only result in a more accurate product cost, but also a clearer and more reliable relevant information such as the proportion of activities cost in every product and which activities consume the greatest cost.

However, there is also a case study which showed that the implementation of ABC does not produce significant difference in cost of product than if traditional costing were used. Chen, Lu, and Chen (n.d.) organized an ABC cost analysis in a motel in Taiwan. The motel previously used finance-oriented traditional cost system. It started to adopt ABC in pursuance of a more accurate cost analysis to help lower expenses. They supported this reason by claiming that the adoption of ABC helps firm in developing a new method of cost analysis which could enhance the competitiveness of the motel in the current environment of the industry.

The result of the study shows that the costs of 6 types of room are different under each method (ABC and traditional costing). Out of 6 room, two rooms were underestimated if traditional costing were used. The underestimation happened because the rooms have small area compare to the total area which means that the lower the proportion of cost-sharing. The underestimation also implies that costs were consumed higher by this room compare to other rooms. However, the cost of one type of room has small and insignificant differences under each method (ABC and traditional costing). Nevertheless, Chen, Lu, and Chen (n.d.) concluded that the adoption of ABC leads to a more accurate cost information.

Besides the implementation of ABC, several literatures also analyze the implementation of the by-product of ABC, which is Time-driven activity-based costing in hospitality industry. Several justifications for choosing TDABC than traditional ABC is because TDABC is more simplified and less expensive. The result of the case studies, however, were similar with the literatures using ABC: there are significant differences in costs of products or customers in hospitality organizations calculated under traditional costing and TDABC system (Ardiansyah, Tjahjadi, and Soewarno, 2017; Basuki and Riediansyaf, 2014).

Ardiansyah et al. (2017) conducted a case study of the use of Time-driven activity-based costing (TDABC) for customer profitability analysis in a hotel in Indonesia. In calculating the total cost consumed by each customer group, Ardiansyah calculated the time required to do each activity and then multiply it by the capacity rate. The result of the case study implies that the traditional costing system is inaccurate in terms of cost of customers. It also implies that TDABC was proven to provide more accurate information about total costs consumed by each group of customers. Out of four groups, there was an overestimate of total costs consumed by one group of customers while the other group total costs were found underestimated using the traditional costing system. The differences arise because, under TDABC, the costs are allocated more

precisely using time equation. Moreover, Ardiansyah found that TDABC not only result in more accurate product cost but also provide more accurate information of unused capacity in every main activity.

Another case study about the use of TDABC in a hotel in Indonesia to produce better cost information was organized by Basuki and Riediansyaf (2014). The result of the study shows that the costs of all room type are significantly overestimated under the use of traditional costing. The big differences also found in two room type (more than 40% differences). The differences arise because, under traditional costing, some activities absorb more indirect labour than it should be.

Based on the result of the case study, Basuki and Riediansyaf (2014) claimed that under TDABC method, cost calculation and allocation using unit time and capacity cost rate is more accurate than the traditional costing method. Moreover, under traditional costing method, the cost calculation was based on target revenue per room. The rate was adjusted for each type of room based on management judgment. But, the TDABC method produces a more accurate basis for cost calculation, which is cost driver rate.

Moreover, there are several literatures which do not state explicitly but implicitly implied that ABC provides more accurate cost information in hospitality industry. Some result of case study shows that the information of costs produced by ABC is more accurate and reliable to be used for profitability analysis or any other strategic decision making (Dalci, Tanis, and Kosan, 2010; Hajiha and Alishah, 2011; Noone and Griffin, 1999). Some literatures supported this argument by providing managers opinion that ABC information is needed for strategic decision making (Noone and Griffin, 1997; Pavlatos and Paggios, 2009).

4.3. Activity-based costing and customer profitability analysis in hospitality industry

Another perceived benefit of ABC is the applicability and a better improvement of customer-profitability analysis (CPA). The accurate cost information produced by ABC believed to lead to a better conduct of CPA. This benefit also found in hospitality industry. Some prior research confirm that managers in hospitality industry know that customer profitability analysis is important for strategic decision making and the implementation of ABC can improve the analysis.

Pavlatos and Paggios (2009) conducted a survey regarding the application of ABC in hotels in Greece. The survey showed that 80% of the hotels used ABC for customer profitability analysis. The managements of the hotels also stated that they are able to conduct CPA using ABC successfully. Another evidence comes from the case study of Tsai and Hsu (2004) which also suggests that the information obtained from ABC implementation was used by managers for profitability analysis. This is because ABC provides more accurate and relevant information than traditional costing.

In order to prove whether ABC can improve the customer profitability analysis in hospitality industry, several prior research organized case study by comparing

customer profitability analysis using traditional costing and ABC. These literature chose to use TDABC in their case study because of several reasons such as simplicity, less costly, or accuracy. The results of the case study show that the profitability level of customers is significantly different under traditional costing and ABC method (Ardiansyah, Tjahjadi, and Soewarno, 2017; Dalci, Tanis, and Kosan (2010); Hajiha and Alishah, 2011).

Ardiansyah, Tjahjadi, and Soewarno (2017) proved that the adoption of ABC in hospitality industry allow CPA to be conducted precisely. The reason ABC can support CPA is that a more accurate information was produced under ABC system. Thus, the result of the analysis can be more accurate and more useful for managers to make decision. In the case study, they use both Time-driven activity-based costing (TDABC) and the hotel's traditional costing system to conduct a CPA and make a comparison of the results.

The result of the analysis apparently showed that under traditional costing system, all group of customers contribute loss to the firm and have a range profitability of -4% to -35%. However, the result of CPA conducted using TDABC showed that apparently there is one group which generate profit to the firm while under traditional costing, this group of customer have negative profitability. Moreover, under TDABC, the other group of customers apparently generate loss more than what traditional costing predicted. The results above show that the use of traditional costing system which produces inaccurate cost of customers would lead to inaccurate profitability level of customers. Furthermore, TDABC application in CPA which result in higher profitability and information of unused capacity in every activity had been proven to be more accurate and precise. (Ardiansyah, Tjahjadi, and Soewarno, 2017)

The conclusion achieved by Ardiansyah, Tjahjadi, and Soewarno (2017) was supported by Hajiha and Alishah (2011). The case study which conducted by them in a hotel in Iran suggested that the implementation of ABC lead to a more accurate result of CPA. Similar to Ardiansyah e. (2017), Hajiha and Alishah use TDABC to conduct a CPA analysis. The reason why they choose TDABC is that it accounts for the capacities of resources, which could lead to a more accurate calculation of cost. To compare the results, they calculate and allocate costs to customers using both traditional costing system and TDABC. The result of the study shows that there is a significant difference of profitability level between CPA conducted using traditional costing and TDABC system. Some group of customer which viewed as unprofitable under traditional costing system turns out to be highly profitable under TDABC.

However, the result also shows that a group of customers have the same profitability under both methods. Moreover, another group of customers also viewed as less profitable under TDABC while it is viewed as profitable under traditional costing system, but the difference is insignificant. Nevertheless, Hajiha and Alishah (2011) concluded that the traditional costing system implemented by the hotel is not suitable to

analyze customer profitability. TDABC, on the other side, is suitable to analyze customer profitability. It also allows managers to distinguish between profitable and non-profitable customers.

Besides comparing traditional costing and ABC, one literature compares the profitability level resulted from traditional ABC and TDABC. Dalci, Tanis, and Kosan (2010) supported the idea that in hospitality industry, the use of ABC allow firms to conduct CPA. They conducted a case study in a hotel in Turkey which has been implemented the concept of ABC through the use of TDABC. The hotel also has been using TDABC to conduct CPA. In the case study, they conducted a CPA analysis using traditional ABC and TDABC and compare the results.

The result of the analysis shows that under traditional ABC, some of the customer groups generate loss to the firm. However, after conducting a CPA using TDABC, all of the customer groups are apparently profitable. Overall, the difference of cost of customers and profitability level between CPA conducted using traditional ABC and TDABC are not as significant as if we compare to traditional costing system. The difference resulted from this comparison arise from the analysis of unused capacity. According to Dalci, TDABC makes the unused capacity visible because ABC assumes that the firm works at full capacity. In all, Dalci, Tanis, and Kosan (2010) suggest that the implementation of ABC concept (in this case is TDABC) to conduct CPA allow firms in hospitality industry to know the profitability of customers precisely.

Another supporting evidence comes from Noone and Griffin (1999) who use traditional ABC to conduct CPA in hospitality industry. They conducted a case study of the applicability of CPA by using ABC in a hotel in Ireland. The study was done by calculating customer groups profitability using ABC and CPA and compare it with management assumptions about customers profitability. The results show that there is significant difference between customer profitability under the combination of ABC and CPA and management assumptions. A group of customer was assumed by management to have approximately 30% profitability, while under ABC and CPA, the profitability was 66.2%. Moreover, another group of customer was perceived by management to be the highest contributor to profit to the firm.

However, under ABC and CPA, it was shown that that group of customer have a negative contribution to the profitability of the firm. Based on the results, the management stated that their existing accounting and information system was inadequate to make a strategic decision regarding customers because the information provided was insufficient. Thus, the case study implies that the implementation of ABC allow firms in hospitality industry to conduct CPA and produce sufficient and accurate information regarding customers cost information and profitability.

4.4. Cost information and pricing decision in hospitality industry

One of the factors which influence the decision making about pricing in hospitality industry is cost. The availability and the accuracy of cost information seemed important for firms to make decision about pricing. Several prior research confirm that even in hospitality industry, the better the accuracy of cost information, the better the pricing decision (Chen, Lu, & Chen, n.d.; Dalci, Tanis, & Kosan, 2010; Ardiansyah, Tjahjadi, & Soewarno, 2017; Basuki & Riediansyaf, 2014; Vazakidis & Karagiannis, 2011; Hajiha & Alishah, 2011; Pavlatos & Paggios, 2009).

Chen, Lu, and Chen (n.d.), for example, provide arguments about how cost information related to pricing decision from their case study. They stated that the cost information of each type of room provided by ABC, whether it is overestimated or underestimated, and also the unit yields, can be used for managerial decision making. Managers in the motel can use the information to judge whether the price applied to each type of room is unreasonable and whether they need to develop a new pricing strategy. This argument was supported by Dalci, Tanis, and Kosan (2010) who found in their case study that managers of the hotels use the cost information to see whether the price already cover the cost of serving customers. The managers also tend to adjust the price of service and room based on the cost information.

In addition, Ardiansyah, Tjahjadi, and Soewarno (2017) stated that in running service businesses, the development of cost information is important in order to be the base of creating strategic decisions and determining a proper price of service. Hence, hotels have to provide information about assigned cost to products or services because it would be used for pricing determination and performance evaluation. Tsai and Hsu (2004) confirmed this by arguing that managers of traditional inns can use the information produced under costing system for decisions on pricing. The managers believed that the information deemed as extremely useful to the managers for marketing, cost-volume-profit analysis, and decision making such as price determination.

Moreover, Basuki and Riediansyaf (2014), claimed that in order to run their operational activities efficiently and effectively, hotels need to consider all of the costs so later they can cover it with the services provided. Hence, inaccurate cost calculations might lead to overpricing or underpricing which could affect the competitiveness and profitability of the hotel. This argument is supported by Vazakidis and Karagiannis (2011) who stated that bad cost information could lead to poor pricing decision. Hence, proper cost information is necessary for hotel to provide proper pricing decision (Hajiha and Alishah, 2011). Pavlatos and Paggios (2009) confirmed this argument as their case study found that hotel managers' intention to implement ABC are to gain better cost information for better pricing decision.

4.5. Customer profitability analysis and pricing decision in hospitality industry

The other factor which influencing pricing decision in hospitality industry is customer. As every customer is different, the customer cost information could be analysed to obtain the profitability of each customer or customer group. Several prior research supported the argument that using the profitability, managers can decide pricing policy for each customer or customer group (Ardiansyah, Tjahjadi, & Soewarno, 2017; Hajiha & Alishah, 2011; Dalci, Tanis & Kosan, 2010; Noone & Griffin, 1999).

According to Ardiansyah, Tjahjadi, and Soewarno (2017), customer cost information, especially in hospitality industry, is one of an essential element in managerial decision making. Managers can understand what services that customers want and how much is the cost to provide those services by knowing the customer cost information using customer profitability analysis (CPA). Thus, information obtained from CPA can be used as consideration in future pricing policy of managers of firms in hospitality industry.

Moreover, according to Hajiha and Alishah (2011), CPA allows managers of the hotels to distinguish between profitable and non-profitable customer so managers can focus on the most profitable group to maximize profitability by making strategic decisions such as pricing policy. Dalci, Tanis, and Kosan (2010) confirmed the previous argument by using their case study result. It shows that by using CPA, managers of the hotel know which groups are unprofitable and which are not. After managers know which groups are unprofitable, they tend to raise the price for those particular groups to change them into the profitable ones so it will increase the profitability of the firm.

The case study conducted by Noone and Griffin (1999) also found that one of the three key decision made by organizations in hospitality industry relating to their customers is pricing decision. They also found that managers intend to apply the information generated by CPA in several key areas. One of the key areas is organizations' overall marketing strategy including pricing.

4.6. Activity-based costing and pricing decision in hospitality industry

Despite the different concept and implementation of ABC to obtain more accurate cost information or conduct CPA, most prior research confirm that the implementation of ABC in hospitality industry has an impact on the strategic decision-making, especially price determination. Case studies which use ABC and compare it to traditional costing system in hospitality industry found that ABC information can be used to improve pricing decision as it is more accurate and reliable. (Pavlatos and Paggios, 2009; Tsai and Hsu, 2004; Vazakidis and Karagiannis, 2011; Basuki and Riediansyaf, 2014; Chen, Lu, and Chen, n.d.)

Pavlatos and Paggios (2009) who conducted a survey suggest that ABC has a practical impact on the core of management accounting such as service pricing. The

survey shows that managers of the hotels who applied ABC consider that the application is successful. They also consider that the overall success of ABC was associated with several things including service pricing. Moreover, Tsai and Hsu (2004) support this by claiming that managers of the traditional inn can use the information obtained from the application of ABC for decisions on pricing. The result of their case study confirms this by implying that ABC provides more accurate information for cost management and pricing decision. The same proposition was offered by Chen, Lu, and Chen (n.d.). who argued that the implementation of ABC in motel provides more accurate cost information. Their case study shows that after the implementation, overestimation and underestimation of each room cost and yields of each unit of room were found. That information can be used by the managers of the motel for consideration in judging whether the price of each room is unreasonable and whether the motel needs to develop a new pricing strategy.

Furthermore, Vazakidis and Karagiannis (2011) suggests that the outcome of ABM in hotels helps accountants and managers in deciding about the expenses and how its price policy should be. Although they did not state it explicitly, their cost analysis result implicitly shows that ABM provides more accurate information than traditional costing and thus the result helps improve the decision-making process regarding price policy. Moreover, Basuki and Riediansyaf (2014) in their case study found that in determining room price, using traditional cost system will lead to inflexibility and the price does not reflect the changing circumstances. Moreover, the traditional cost calculation was based on management judgment, and the price set was adjusting with other hotel prices. Thus, the excessively high cost leads to excessively high-profit margin. However, this is not good as it could affect the occupancy of the room as competitors offer the similar room and services with lower price. Thus, by using the information produced by TDABC, managers would consider lowering the price to increase the occupancy rate.

On the other side, several prior research suggest that ABC can improve the pricing decision in hospitality industry through customer profitability analysis. The result of the analysis is used to be the base of price determination (Ardiansyah, Tjahjadi, and Soewarno, 2017; Noone and Griffin, 1999; Dalci, Tanis, and Kosan, 2010; Hajiha and Alishah, 2011).

The case study conducted by Noone and Griffin (1999), for example, show that after the implementation of ABC, the hotel managers use the information obtained from CPA to be considered in the organization's overall marketing strategy which includes pricing. For example, the managers increasing the rates of services and rooms to several groups of customer based on the result of analysis which implied that those group of customers are less profitable than the others.

Moreover, Ardiansyah, Tjahjadi, and Soewarno (2017) claimed that the information produced by CPA using ABC can be used as a consideration for hotel

managers in determining pricing policy and making strategic decision to distinguish profitable and unprofitable customers. This proposition was confirmed by the case study of Dalci, Tanis, and Kosan (2010) which stated that the hotel which used traditional ABC obtained the information about customer profitability. When they found that there are unprofitable customers, they tempted to consider raising prices of the services to turn the unprofitable customers into profitable. However, there was a counter evidence after they used time-driven activity based costing. They found that despite that particular customer groups are unprofitable, the price of services for these group truly reflect and cover the costs of the services. Hajiha and Alishah (2011) also found the same result. From their case study, they find that the application of TDABC in a hotel to conduct CPA result in a more accurate cost information and customer profitability. So, managers can distinguish profitable and non-profitable customer and encounter a better situation to maximize the company's profit by determining appropriate price of services for each group of customer.

4.7. Challenges and limitations

Despite the successfulness of adoption of ABC in hospitality industry in providing more accurate cost information, allowing the conduct of CPA, and improving pricing decision, there are some challenges and limitations of ABC which were addressed by the literature. First of all, ABC can be very complex and time-consuming. Tsui and Hsu (2004) stated that some hotels in Taiwan reject the idea of implementing ABC. They complain that the administrative and technical complexity and excessive time needed to generate activity data continuously exceed the benefits reaped from the implementation of ABC. This proposition was supported by Dalci, Tanis, and Kosan (2010) who stated that ABC might take excessive time to be implemented due to the complexity of the activities performed within an organization, especially in a hotel. Moreover, Hajiha and Alishah (2011) and Ardiansyah, Tjahjadi, and Soewarno (2017) also stated that the process of interviewing, survey, and polling staff to assign resources to activities before they are assigned to cost objects are time-consuming. Second, the complexity and time-consuming nature of ABC sometimes lead to costly implementation. This proposition was confirmed by Pavlatos and Paggios (2009). According to the result of the survey organized by them, hotel managers who do not have the intention to implement ABC perceived that doing so would incur an excessive cost. The third issue is ABC ignores the importance of unused resources cost which should be assigned to different cost objects (Dalci, Tanis, and Kosan, 2010). By measuring unused capacity, hotel managers can decide necessary actions to moderate those unused capacities (Hajiha and Alishah, 2011). Moreover, due to the diversity in the use of resources by different type of customers, tracing the cost of some activities to customers in hospitality industry may not be feasible using traditional ABC (Dalci, Tanis, and Kosan, 2010).

Table 1: Conclusion of Literature Review

Author (Year)	Sample	Method	Results
Ardiansyah, Tjahjadi, & Soewarno (2017)	Hotel in Yogyakarta, Indonesia	Case study	<ul style="list-style-type: none"> • More accurate information about total costs consumed by group of customers • CPA can be conducted more accurately and precisely • Information from CPA can be used as a consideration for managers in determining pricing policy and making strategic decision
Basuki & Riediansyaf (2014)	Hotel in Malang, Indonesia	Exploratory case study	<ul style="list-style-type: none"> • More accurate cost allocation and calculation • Flexibility in pricing • Price reflect changing circumstances
Chen, Lu, & Chen (n.d.)	Motel in Taipei, Taiwan	Case study	<ul style="list-style-type: none"> • More accurate cost information useful for strategic decision making • Cost information produced are used as consideration in judging and developing the price policy
Dalci, Tanis, & Kosan (2010)	Hotel in Mersin, Turkey	Case study	<ul style="list-style-type: none"> • CPA can be conducted more precisely which produce better-informed managerial decisions
Hajiha & Alishah (2011)	Hotel in Iran	Case study	<ul style="list-style-type: none"> • CPA information allow managers to distinguish profitable and unprofitable customers more accurately • Helps manager in encounter a better situation to maximize the company's profit by determining appropriate price of services for each group of customer.
Noone & Griffin (1997)		Literature review	<ul style="list-style-type: none"> • More accurate information of cost

Noone & Griffin (1999)	Hotel in Dublin, Ireland	Case study	<ul style="list-style-type: none"> • CPA produce sufficient and accurate information regarding customers cost information and profitability • Information produced from CPA to be considered in the organization's overall marketing strategy
Pavlatos & Paggios (2009)	Hotels in Greece	Empirical study using survey	<ul style="list-style-type: none"> • CPA was conducted successfully • ABC have practical impact on service pricing
Tsai & Hsu (2004)	Traditional inn in Taiwan	Case study	<ul style="list-style-type: none"> • More accurate product cost useful for several managerial activities • CPA can be conducted • Better pricing decision made based on cost information produced
Vazakidis & Karagiannis (2011)	Hotel in Greece	Case study	<ul style="list-style-type: none"> • Cost information become more accurate for strategic decision making • Helps deciding about the expenses and how its price policy should be

5. Discussions and Conclusion

5.1. Discussions

The aim of this thesis is to know the impact of the implementation of ABC on the pricing decision in organizations in hospitality industry. In order to conclude whether the implementation of ABC improves the pricing decision, several key factors influencing pricing decision were identified: cost information and customer profitability analysis. Prior research were reviewed to gain information whether the use of ABC in hospitality industry produce a more accurate cost information, allow CPA to be conducted more precisely, and improving the price determination process.

In obtaining the conclusion whether ABC does provide more accurate information in hospitality industry, most prior research conduct a cost analysis. The analysis was about a comparison of product costs calculation using traditional costing system and ABC in hotels, motels, or traditional inns. The result of the analysis is various. Some of the results found that product costs were underestimated using traditional costing system. This is not always the case as some literature also found that product costs were overestimated using traditional costing system. Despite the different results, most prior research found that the product costs under traditional costing and ABC are significantly different. All literature which conduct the analysis stated that the difference arose because by using ABC, firms identified activities precisely and analyze it in detail. Thus, cost allocation becomes more detailed and precise as the cost driver used as the base for calculation is more precise. Moreover, several prior research who use TDABC found that TDABC can identify unused capacity. The cost of the unused resource then allocated to the cost objects to gain more accurate product cost. From the result of the analysis, the managers in the hospitality industry confirm and agree that the implementation ABC can produce more accurate and proper cost information in their lodgings.

Similar to the previous section, in the review of the use of ABC to conduct CPA, most prior research conduct a comparative analysis between CPA calculated under ABC and traditional costing in hotels, motels, or traditional inns. However, literature which conduct this analysis mostly use Time-driven activity-based costing as a comparison to traditional costing. Based on the review, TDABC is chosen because they are perceived as an appropriate system for conducting CPA in hotels. The justification of this choice is because TDABC is more simplified to be applied in a complex situation such as in hospitality industry. Moreover, they choose TDABC than conventional ABC because it assumes the organization working not at full capacity, so unused capacity were identified and can be allocated to customer groups. Most of results of the analysis indicate that there is a significant difference of profitability level calculated under ABC and traditional costing. Most of the results show that unprofitable customers under traditional costing

turns out to be profitable and even contribute high profitability under ABC. The result also shows that small amount of prior research found that profitable customers under traditional costing turn out to be the unprofitable ones under ABC. However, a prior research also suggests that there are no differences in profitability level between ABC and traditional costing. Despite the different results of the analysis, the managers of the hotels claimed that ABC is an appropriate measurement tool to be applied in CPA. The result of the analysis also allows them to distinguish between profitable and unprofitable customers so they can consider how to treat each customer group.

However, there are some limitations of ABC that were found during the review. First of all, the implementation of ABC in hospitality industry seemed as too complex, time-consuming, and costly. ABC also assumed that the firm works at full capacity, so it ignores the allocation of unused resource cost to cost object. Based on these limitations, several prior research prefer to implement TDABC to overcome the limitations of ABC.

Despite the limitations, all prior research provides evidence that ABC affects the pricing decision by directly affecting the cost information or customer profitability analysis which are key factors in pricing decision. Then, the results of the case studies show that in hospitality industry, the cost information or profitability of customers are used to set their pricing policy or to decide strategic move in pricing. All of the prior research proved this as their case studies results indicate that the pricing decision process of managers of the hotels become better as they are now more well-informed about the cost and profitability.

5.2. Conclusion

Besides all of the limitations that ABC has, ABC still perceived as an appropriate costing system in hospitality industry. The implementation of ABC in hospitality industry proven to provide an accurate and reliable cost information which can be used for strategic decision making. Moreover, the accuracy of ABC in producing cost information allow firms to conduct CPA more accurate and precise. The information obtained from the result of the analysis, which is the profitability of customers, can also be used for strategic decision making. In conclusion, the implementation of ABC in hospitality industry proved to helps managers to be better-informed to make a sound, reasonable, and realistic decision about pricing which could help organization compete in a more competitive market. Thus, to answer the central research question, the implementation of ABC does improve the pricing decision in hospitality industry.

5.3. Limitations and suggestion for future research

Although the aim was achieved, there are several limitations to this thesis. First, since the methodology of this thesis is literature review, the research only reviewing prior

research without observing in the real world. Thus, this thesis can not provide empirical evidence. Second, the literature used in this thesis are limited to a few numbers. This is due to the limited amount of prior research concerning the implementation of ABC in hospitality industry. Moreover, only certain literature which are appropriate to be used in review are included. Thus, there is a possibility that other evidence regarding the implementation of ABC in hospitality industry is not discussed. Last, the factors influencing pricing decision discussed in this thesis only focus on cost information and customers profitability analysis. There might be other factors which could improve pricing decision through the implementation of ABC but are not discussed in this thesis. Therefore, further research is necessary to investigate the effect of ABC to other factors than cost information and customer profitability analysis which could improve the pricing decision in hospitality industry. Moreover, this thesis considers that the implementation of ABC improves the performance of firms in hospitality industry by improving the pricing decision. Further study should consider other benefits of ABC implementation in hospitality industry to improve the overall performance of the organization.

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