

## Implementation Of Activity Based Costing (ABC) Method For Industry In Indonesia: Literature Review

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### Abstrak

Activity Based Costing (ABC) adalah sebuah metode akuntansi yang mengidentifikasi dan menetapkan biaya untuk aktivitas overhead dan kemudian menetapkan biaya tersebut untuk produk. Tujuan dari makalah ini adalah untuk mengidentifikasi terhadap 20 artikel tentang biaya berbasis aktivitas di kawasan Indonesia yang diterbitkan selama periode 2017 sampai 2020. Model ABC ini digunakan untuk mengalokasikan semua biaya, berdasarkan sumber daya yang digunakan untuk menjalankan aktivitas yang berkaitan dengan produk dan jasa yang disediakan bagi pelanggan. Makalah ini memuat hasil dari berbagai aspek yang berbeda. Aspek itu meliputi fokus industri, fokus jumlah distribusi dan fokus tahun publikasi. Makalah ini bermanfaat bagi semua jenis sektor industri untuk mengidentifikasi dan menetapkan biaya untuk semua aktivitas perusahaan. Makalah ini juga memberikan keuntungan bagi peneliti selanjutnya untuk menambah wawasan dan referensi untuk studi terkait metode ABC.

**Kata Kunci:** *Activity Based Costing, Finansial, Industri*

### Abstract

Activity Based Costing (ABC) is an accounting method that identifies and assigns costs to overhead activities and then assigns these costs to products. The purpose of this paper is to provide an assessment of 20 articles on ABC method in the Indonesian region published during the period 2017 to 2020. This ABC model is used to allocate all costs, based on the resources used to carry out product-related activities, and services provided to customers. This paper contains the results of many different aspects. These aspects include industry focus, total distribution focus and publication year focus. This paper is useful for all types of industrial sectors to identify and determine costs for all company activities. This paper also provides benefits for future researchers to add insight and reference for studies related to ABC method.

**Keywords:** *Activity Based Costing, Financial, Industry*

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### 1. Introduction

Business development in Indonesia in the last decade has grown rapidly. The result of this business development is increasing business competition between companies. Every company must have a strategy and innovation so that it is not drowned in the flow of business. Therefore we need

company strategies that can win the company over the competition. According to Indah & H.Sabijono (2014), the strategy used to win in the competition is to emphasize the selling price of the product, because the selling price is getting lower, the level of product sales will be high. ABC based costing is a technique for assigning direct and indirect organizational costs to activities that consume the organization's resources, and then tracing the costs of carrying out these activities to products, customers or distribution channels.

The activity-based costing system has been developed in organizations as a solution to problems that traditional systems cannot solve properly. This activity based costing system is a new thing so the concept is still developing, so that there are various definitions that explain activity based costing. The definition of Activity Based Costing system according to Supriyono (2002) is "an activity based costing system activity based costing system is a system consisting of two stages, first tracking costs on various activities, and then to various products". In addition, that the definition of activity based costing is defined as a cost calculation system in which more than one storage area for overhead costs is allocated using a basis that includes one or more factors that are not related to volume.

There are 4 levels of activity in the ABC method, namely: Unit Level, Batch Level, Product Level and Facility Level. Activity based costing system has been recognized as a cost management system that replaces the old cost accounting system, namely the Traditional System. This is because the activity based costing system has many benefits. Benefits of an activity based costing system as follows: 1) Can reduce market economic instability caused by the allocation of traditional costs contained in companies, 2) Can describe company expenses in an informative, clear, and detailed manner, 3) Can assisting management in determining and managing future company strategies, 4) Can get the right and accurate cost of goods sold by using the activity based costing method in calculating company costs, 5) The company has the opportunity to compete globally with other companies at a price that is competitive in the market, 6) Can carry out a more structured and systematic cost mapping of company activities and resources, 7) Companies can use funds efficiently with clear financial mapping.

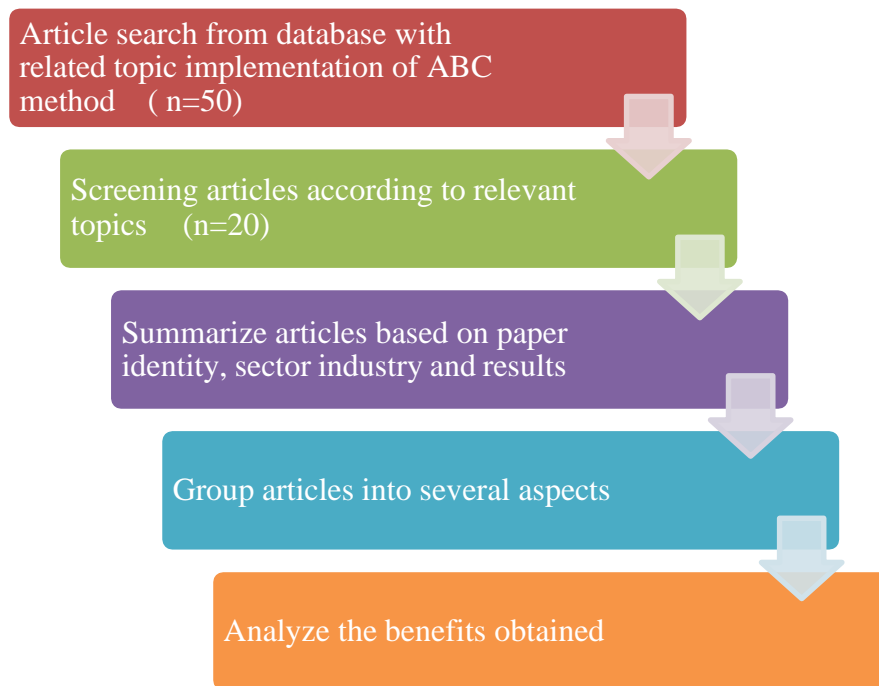
The purpose of this paper is to provide an assessment of 20 articles on Activity Based Costing method in the Indonesian region published during the period 2017 to 2020. In addition, it is hoped that this paper can provide an overview and evaluation related to the implementation of Activity Based Costing, especially in the industrial sector. Provides benefits that can be obtained and plans for further research related to this Activity Based Costing.

## 2. Methods

This paper presents the best steps for studying and analyzing Activity Based Costing for application in various industrial sectors. This paper also informs the usefulness of Activity Based Costing in determining production costs. This study paper begins with the collection of various papers from 2017 to 2020. The study was conducted using the database from **Google Scholar** and **Research Gate**. The keyword in the search for the paper used is "**Activity Based Costing**". In order for this paper to be structured specifically, clearly and with direction, it is necessary to carry out the following stages:

- **The first step: Searching of articles from database:** There were 50 articles that were successfully collected using the keyword "Activity Based Costing" from database
- **Second step: Screening:** Screening and mapping several articles into 20 articles according to the relevant topic or theme.
- **Third step: Article Summary:** Summarize all relevant articles based on the identity of the article, sector industry and research results.

- **Fourth step: Focus several aspects:** Group all articles into several aspects, namely focus industry, focus area of publication, focus year of publication.
  - **Fifth step: Benefit analysis:** Analyze the benefits of each article.
- For more details on the literature review stages in this paper, see Figure 1



**Fig. 1** Research Framework

### 3. Result and Discussion

#### 3.1. Paper Summary

Based on Table 1, it can be seen that this paper summarizes 20 articles related to the application of activity based costing in various industrial sectors and is summarized based on the identity of the articles, industrial sector and the research results obtained.

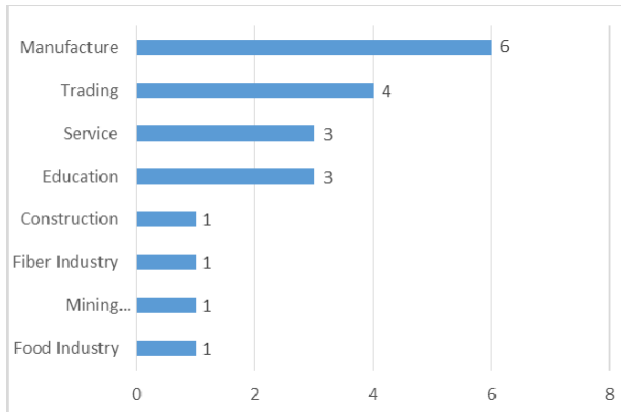
**Table 1** Existing Literature review of Activity Based Costing in industries

No	Paper Identity	Sector Industry	Result
1	(Kurniawansyah, 2020)	Trading	Increase in sales by 5%
2	(Supriadi & Sapriyadi, 2020)	Food Industry	ABC-based costing can save an inventory cost of Rp.520,413, - / year.
3	(Sari, 2020)	Trading	The existence of overhead costs generated by making tempeh and conventional methods
4	(Sambodo & Rosleli, 2020)	Fiber Industry	Helping managers in making the right decisions and is useful as a tool for controlling production costs The cost of goods manufactured using

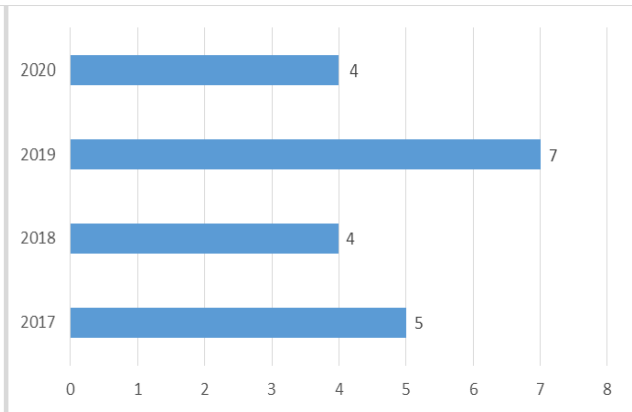
**Tabl 1. (Cont.)**

No	Paper Identity	Sector Industry	Result
6.	(Nugraha, 2019)	Manufacture	Determination of costs and selling prices
7.	(Hakim, 2019)	Food Industry	Hold a safety stock to make the sales process easier
8.	(Kambey, 2019)	Service	Determination of the cost of hotel rooms and the cost components therein
9.	(Reza Putri, 2019)	Manufacture	Cost of production has a significant effect on selling prices.
10.	(Nisworo et al., 2019)	Manufacture	The calculation of the cost of production will be lower
11	(Purwanto, 2019)	Manufacture	The profit obtained by the Company is higher than that involving convenience stores.
12	(Fauzan et al., 2018)	Trading	Strategic decision models in determining the selling price for MSMEs engaged in convection.
13	(Rachmawulan & Yuni, 2018)	Manufacture	Provides less yield compared to traditional methods
14	(Prima & Sangatta, 2018)	Mining Industry	Provide a more accurate product cost price
15	(Popang et al., 2018)	Education	Resulting in a class cost of that more accurate than conventional systems,
16	(Nugroho et al., 2017)	Service	Determine the price of wood services and raw materials
17	(Evi Apriyani, 2017)	Construction	The Activity Based Costing System provides lower results when compared to the results of calculations using traditional systems
18	(Marlina, 2017)	Education	Activity Based Costing has an effect on competitive advantage in the education sector
19	(Suwirmayanti & Yudiastra, 2017)	Trading	Assist in making decisions in allocating costs and product selling prices
20	(Wiguna, 2017)	Service	Application of inpatient service rates has a positive effect on hospital inpatient income.

In this paper, Activity-Based Costing articles are most predominantly implemented in the manufacturing industry (can be seen Figure 2) which is traced from publications from 2017 to 2020 (can be seen Figure 3).



**Fig. 2** Focus of Industry Sector



**Fig. 3** Focus of year of publication

### 3.2. Analysis Benefits of Activity Based Costing

This paper identifies the distribution of activity-based costing implementation publications in various industrial sectors in the Indonesian region. Activity based costing is considered as an accounting method that identifies and assigns costs to overhead activities and then assigns these costs to products. The success of activity based costing in various industrial sectors has benefited significantly after applying this technique. When applied in the Manufacturing industry, activity based costing can determine the Cost of Production (Supriadi & Sapriyadi, 2020), determine the highest cost component so that business actors must ensure that its use is effective and efficient (Fauzan et al., 2018). When applied in the service sector, activity based costing can show the application of inpatient service rates and have a positive effect on hospital inpatient income (Wiguna, 2017). When applied in the service sector, activity based costing can calculate the cost of production for road maintenance activities for coal haulage (Prima & Sangatta, 2018).

Based on Table 1, the benefits obtained by an industrial sector can be grouped when implementing Activity-Based Costing. This grouping can be seen in Table 2.

**Table 2.** Classification of paper identity based on benefits

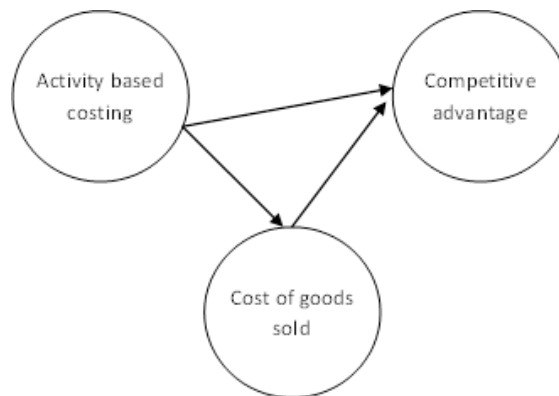
Number of paper identity	Benefits
3,4,5,8,9,10,12,14,15,1,19	Set the cost of production
20	Set service price rates
17,18	Activity based costing affects competitive advantage
1,2,6,13,16	Lower cost calculation than before
11	The profit earned by the company is higher
7	Holding a safety stock to memeperlancara sales process

The advantages of the ABC method compared to traditional costing are:

- ABC helps companies in the world become more efficient and effective.
- ABC provides a clear picture of the use of resources owned by the company, the creation of customer satisfaction and the company makes a profit or suffers a loss.
- ABC provides better options for managing labor costs that are included in production costs.
- ABC can identify activities that have added value
- ABC can eliminate or reduce activities that do not add value or cause cost distortion.

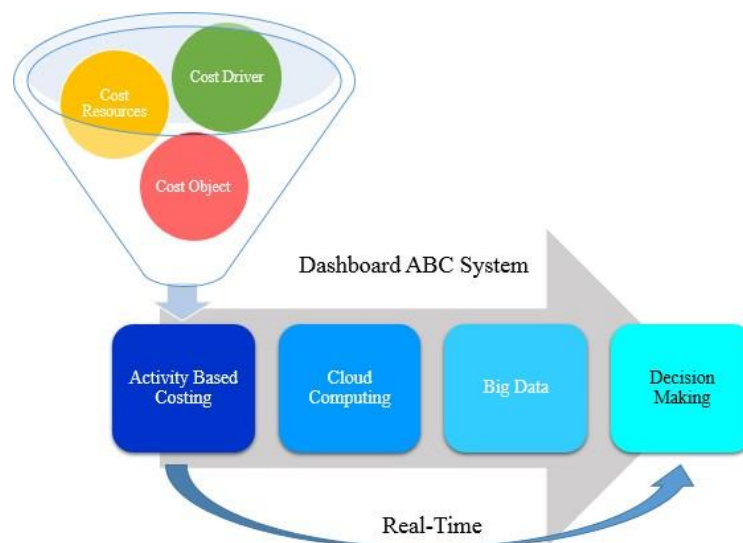
### 3.3. Gaps and development for future research

For now, the implementation of Activity Based Costing is dominated by the manufacturing, construction and service industries. In addition, the most widely used methods are fuzzy, Economic Order Quantity (EOQ), and traditional based costing. For further research, the implementation of activity based costing can be developed using a statistical approach. Activity based costing statistics are more to determine the relationship between indicators of activity based costing on the company's financial performance. Actions taken will be based on the indicator which has a higher score to prioritize. This statistical approach uses Structural Equation Modeling (SEM) or regression with many statistical software such as Smart PLS, Amos, Lisrel, IBM Statistics etc. The causality model between activity based costing and financial performance can be seen in Figure 4



**Fig. 4** Statistic modeling for Activity Based Costing

In its development Activity based costing can focus on activities undertaken to produce products or services. Provides information regarding the activities and resources required to carry out events or transactions which are cost drivers that act as causal factors in costing the organization. These activities become the point of aggregation of costs. In the ABC system, costs are traced to activities and then to products. The ABC system assumes that activities consume resources rather than products. Activities that enter will be connected to cloud computing and then stored in the form of big data. In real time this data will be accumulated and then can produce decisions. Besides that, it can also be used as a Key Performance Indicators (KPIs) for performance measurement. The combination of ABC and industry 4.0 for further research can be seen in Figure 5



**Fig. 5** Future research framework with industry 4.0

#### 4. Conclusion

The main focus of the activity based costing method in a process or product is to determine production costs. In other words, activity based costing can describe company expenses in an informative, clear, and detailed manner. In addition, the benefits that can be obtained from the application of activity based costing include being able to map costs that are more structured and systematic, being able to get the right and accurate cost of goods sold and the company being able to use funds efficiently with clear financial mapping.

Suggestions in this paper for further research, it is better that the implementation of Activity Based Costing can focus on development by using a statistical approach of Structural Equation Modeling (SEM) and linking Activity Based Costing with industrial trends 4.0

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