

Implementation Activity-Based Costing & Time-Driven Activity-Based Costing: A Systematic Literature Review

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ABSTRACT

This study aims to determine the implementation of ABC in the business sector and TDABC in the business and health company sectors. This research was conducted by reviewing the literature contained in various studies on the implementation of Activity-Based Costing (ABC), and namely Time-Driven Activity-Based Costing (TDABC). Based on the literature review conducted in this study, the implementation of Activity-Based Costing (ABC) in the business sector can increase profitability and competitiveness for companies, while the implementation of Time-Driven Activity-Based Costing (TDABC) in the business and health company sector can increase efficiency and make more accurate decisions and the application of TDABC also shows improvements in the weaknesses of the ABC system.

INTRODUCTION

The increasing development of the world means that every organisation has to keep up with the changes. The world of business and health cannot be separated from competition. The presence of such competition motivates organizations to strive for competitiveness, aiming to boost and optimize profits. This involves lowering product or service costs through the utilization of more affordable tools or materials, embracing new machines and technologies to enhance sales and revenue. This can be exemplified by targeting specific markets and implementing efficient marketing strategies.

One of the most inventive methods of management accounting in the twenty-first century is activity-based costing (ABC). Cooper and Kaplan first developed the idea in the late 1980s as a workaround for the drawbacks of conventional costing techniques. (Alsayegh, 2020; Gosselin, 2006). This is because traditional methods using the current single cost rate and can cause cost distortions if using volume-based allocation rates and higher product variations (Nikmah, 2023; Simbolon, 2015). Problems caused by the application of comprehensive costing calculations leading to extremely high selling prices are resolved using the ABC technique. The goal of ABC, a cost information system, is to give employees of the organization all the information they need to process tasks. The objectives of this information system include accurate cost estimation for goods and services, activity-based cost reduction, and both. (Popat et al., 2018; Suryanto et al., 2020).

Time-Driven Activity-Based Costing (TDABC), a process-based micro-costing technique, provides detailed cost information by means of process maps. TDABC is regarded as "time-driven" because it is useful when employee time is the main factor influencing costs. (Cidav et al., 2020). The TDABC approach finds application not only in the field of management accounting but also in the healthcare industry. The TDABC assignment methodology is advised for integrated care models as well. It computes costs for each care activity, pathology, and time, allowing for the accurate estimation of each activity's cost over the course of the whole provision cycle and the production of targeted health outcomes. (Ortet et al., 2023). The healthcare literature has documented TDABC as a suitable costing methodology for process enhancement and as a substitute for using costs rather than fees. (Popat et al., 2018).

The TDABC model is closely related to time calculations, whereas the ABC method is related to the computation of resource and activity costs. Compared to the ABC method, TDABC can simplify and improve the accuracy of the cost calculation process. The TDABC approach is very simple to maintain and doesn't need to be updated on a regular basis. Because the implementation process is so straightforward and easy, the cost of implementation is likewise less than that of ABC. (Ostadi et al., 2019). The complexity of ABC systems, the high cost of implementation and maintenance, and the challenge of gathering quantitative data on cost drivers through interviews are just a few of the

fundamental constraints that TDABC was designed to address. (Pashkevich et al., 2023). In contrast to more conventional models like ABC, TDABC bases its cost calculations on two primary considerations: (1) the cost per unit of time and (2) the total time required to finish each task or job. (Koolmees et al., 2021).

The main objective of this study is to determine the implementation of ABC in the business sector and TDABC in the business and health enterprise sectors. The novelty in this research is to compare and evaluate the application of TDABC that has been implemented by several fields of business and health services.

LITERATURE REVIEW

Activity-Based Costing

As per Kaplan and Anderson (2003), the challenges associated with implementing Activity-Based Costing (ABC) may stem from the manner in which individuals construct their ABC models. It has been recommended that organizations use activity-based costing (ABC) as a vital tool for more accurate costing, which has consequences for control planning and decision-making. Activity-based costing produces more accurate cost estimates, and its global adoption is demonstrated by the different degrees to which organizations can search for activities. (Alsayegh, 2020). Its inherent strategic orientation is made understandable by the ABC structure, and the relationship between strategic and operational management is realized by the pivotal role of the concept of cost drivers as variables that characterize the value chain and explain cost consumption. The ABC method's fundamental component is the process approach, and the organization is viewed as a network of flat, transverse, and horizontal structures whose operations are determined by the demands of the market. (Wegmann, 2019).

Several challenges were faced by the ABC system during its implementation. First of all, because it was expensive to interview and survey employees to create the original ABC model, many organizations find it challenging to adopt ABC. The second step involves allocating employees' time to various tasks, which is accomplished by conducting surveys. These surveys frequently encounter issues because the activities were previously completed. Third, updating or maintaining ABC is challenging. (Antropov et al., 2021)

Time-Driven Activity-Based Costing

The time needed for each task is simply estimated using the TDABC approach. It avoids the need for lengthy surveys of employee time spent on different tasks by using this estimate in conjunction with the number of tasks and hourly costs. Moreover, TDABC does away with the laborious process of first assigning resources to activities and then assigning those resources to cost objects, which makes it simple to calculate how much time is spent on the

majority of resources, including personnel and equipment. (Al Amiri & El Khmidi, 2019; Kaplan et al., 2015).

Even so, TDABC is a cutting-edge costing technique that yields more precise costs than traditional techniques. A costing model that takes inducer time into account is called TDABC. Time-based activity costs for each activity are provided by the TDABC method. Healthcare has the highest TDABC percentage (66%), while information technology has the lowest percentage (2%). While the healthcare industry is well-known for using this technique, the manufacturing industry also uses it. (Kamil et al., 2020).

METHODOLOGY

This research is a qualitative study using the systematic literature review (SLR) method that examines the implementation of Activity-Based Costing and Time-Driven Activity-Based Costing in the field of management accounting. The purpose of the method itself is to find relevant previous research, evaluate and interpret the research with related research from several other studies, and to find answers or obtain learning materials from these studies. This systematic literature review is based on the following tools 'Publish or Perish' by producing 27 articles that match the keywords; Time-Driven Activity-Based Costing; Activity-Based Costing; Implementation.

RESEARCH RESULT

Research Questions (RQs)

Research Questions (RQs) are created based on the needs and topics chosen. The following are the questions in this research:

- 1) RQ1: How is Activity-Based Costing implemented in the business enterprise sector?
- 2) RQ2: How is Time-Driven Activity-Based Costing implemented in the business enterprise sector and Healthcare sector?

Search Process

Search process is used to obtain relevant sources in accordance with RQs and references related to the search. This literature search was conducted on Publish or Perish with Scopus and Google Scholar features, literature searches were also conducted on science direct. Keywords used in the search are:

- 1) Activity-Based Costing
- 2) Time-Driven Activity-Based Costing
- 3) Implementation

Study Identification and Selection

To determine the appropriate or relevant studies in this research, the Publish or Perish tool was used with the following criteria :

Table 1. Criteria Limitaions

Criteria	Limitations
Year of	2018
Year to	2023

Of the 332 articles available in the first stage, namely identification, were filtered into 42 articles in terms of article titles that match the topic of wetting. The next stage was filtered according to the eligibility of the article reviewed from the abstract to 32 articles. Furthermore, it was filtered again which was reviewed after reading most of the articles and being reviewed.

After conducting a literature search in accordance with the topic of discussion, we obtained a final result of 27 articles to be analysed. Below is a diagram illustrating the publication year of the articles obtained after the data search:

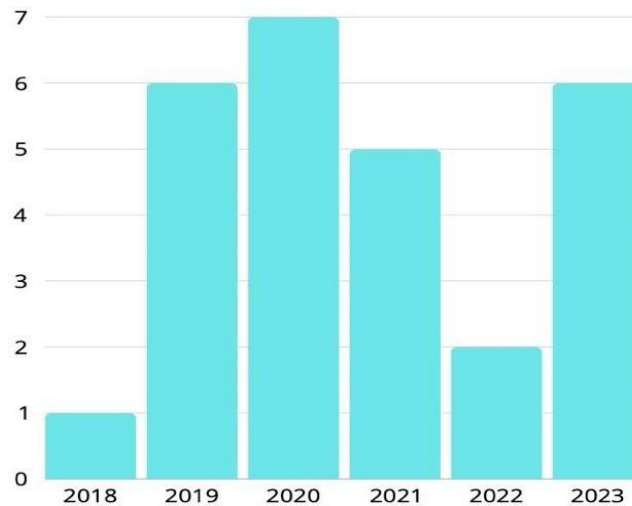


Figure 1. Number of Years the Article Was Published

From the figure above, it is classified that the number of literature related to activity-based costing and time-driven activity-based costing is 27 articles from 2018 to 2023. The most articles in 2020 with 7 articles, in 2019 and 2023 each with 6 articles, in 2021 with 5 articles, in 2022 with 2 articles and the least in 2018 with only 1 article obtained. As for the index level, it consists of:

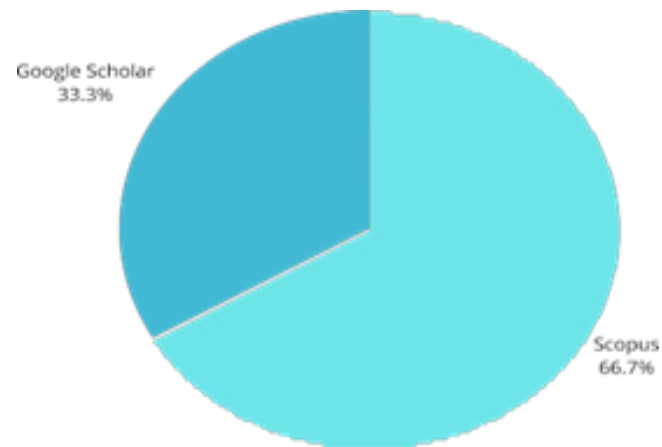


Figure 2. Distribution Based on Journal Index

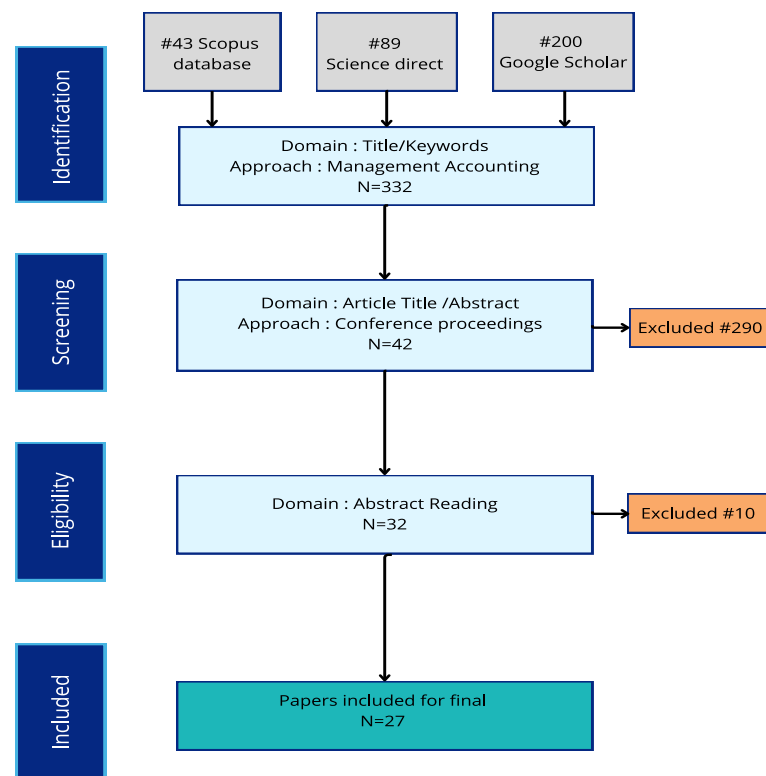


Figure 3. Methods Systematic Literature Review

Table 2. Classification Journal

No	Year	Author	Title	Journal/Index	Keyword
1	2019	Nabeel Al Amiri & Seham El Khmidi (Al Amiri & El Khmidi,	Implementing time-driven activity-based costing (TDABC) in out-patient	Management Science Letters/Scopus	Manajemen ilmiah, Activity Based Costing (ABC), Full-time Equivalent (FTE), Time-

		2019)	nursing departement: A case from UAE		Driven activity-based costing, Nursing, Health care
2	2019	Sri Nur Areena Binti Mohd Zaini & Mohd Yazid Abu (Zaini & Abu, 2019)	A Reivew on time-driven activity-based costing system in various sector	Journal of modern manufacturing systems and technology/Google Scholar	Perkebunan kelapa sawit, time-driven activity based costing, peta proses, tingkat biaya kapasitas, persamaan waktu, peramalan
3	2020	Maha Faisal Alsayegh (Alsayegh, 2020)	A based costing around the wolds: adoption, implementation, outcomes and criticism	Journal of accounting and finance in emerging economies/Google scholar	Activity Based Costing, Literatur review, Adopsi ABC, Implementasi ABC, hasil ABC, kritik ABC
4	2020	Zuley Cidav, David Mandell, Jeffrey Pyne, Rinad Beidas, Geoffrey Curran & Steven Marcus (Cidav et al., 2020)	A pragmatic method for costing implementation strategis using time-driven activity-based costing	Implementation sciece/ google scholar	Penetapan biaya, evaluasi ekonomi, strategi implementasi, time-driven activity based costing
5	2020	Chih-Hao Yang, Kuen-Chang Lee, Shin-En Li (Yang et al., 2020)	A mixed activity-based costing and resource constraint optimal decision model for IoT-oriented intelligent building management system portfolios	Sustainable cities and society/ scopus	Internet of things (IoT), Intelligent building management system (IBMS), Multiple-criteria decision making (MCDM), Mathematical programming, Activity-based costing (ABC)
6	2019	Grogory Wegmann (Wegmann, 2019)	A typology of cost accounting practices based on activity-based costing-A strategic cost mnagement approach	Asia-pacific management accounting journal/ google scholar	manajemen biaya strategis, activity-based costing, typology
7	2020	Robert Rankin (Rankin, 2020)	The predictive impact of contextual factors on activity-based costing adoption	journal of accounting and finance/ google scholar	activity-based costing, ABC, faktor kontekstual, ABC adopsi
8	2022	Daniyal Mansoor Ali, Md, Adam Leibold,Md, James Harrop,Md,Ashwini Sharan, Md, Alexander R. Vaccaro, Md, Phd, MBA, & Ahlian Sivaganesan, Md (Ali et al., 2023)	A multi-disciplinary reviw of time-driven activity-based costing: Practical considerations for spine surgery	Global spine journal/scopus	Time-driven activity based costing, activity based costing, cost-to-charge ratio, costing strategies, spine surgery, neurosurgery, orthopedic surgery
9	2019	Bakhtiar Ostadi, Reza Mokhtarian Daloie, Mohammad Mehdi Sepehri (Ostadi et al., 2019)	A combined modelling of fuzzy logic and time-driven activity-based costing (TDABC) for hospital services costing under uncertainty	Journal of biomedical informatics/scopus	Time-driven activity-based costing, Fuzzy logic, Hospital services, Uncertainty
10	2021	Dedy antropov, Iskandar muda, nisrul irawati (Antropov et al., 2021)	Analysis of Time Driven Activity Based Costing Implementation in Calculation of Cost Efficiency Level Capacity	International Journal of Research and Review/Google Scholar	Manajemen, Time-Driven Activity-Based Costing (TDABC)

			in Government Agencies (Case Study of KPP Pratama Binjai)		
11	2020	Neringa Stonciuvienė, Ruta Usaite- Duonieliene, Danute Zinkeviciene (Stonciuvienė et al., 2020)	Integration of Activity- Based Costing Modifications and LEAN Accounting into Full Cost Calculation	Inzinerine Ekonomika- Engineering Economics/Scopus	Teknik dan Ekonomi, Activity- Based Costing (TDABC) dan LEAN
12	2020	Haesam Al-Momani, Osama T. Al Meanazel, Abdullah Al-Alaween, Ahmad Quamer (Almomani & Al Meanazel, 2020)	Implementation of Time- Driven Activity-Based Costing in University Campus Food Services	Research Gate/Scopus	Manajemen, Time-Driven Activity-Based Costing (TDABC)
13	2023	Yasmara Ortet, Joana Seringa & Rui Santana (Ortet et al., 2023)	Application of the time- driven activity-based costing methodology to a complex patient case management program in Portugal	BMC Health Services Research/Scopus	Manajemen, Time-Driven Activity-Based Costing (TDABC)
14	2023	Sri Nur Arena Mohd Zaini & Mohd Yazid Abu (Mohd Zaini & Abu, 2023)	Implementing Time- Driven Activity-Based Costing for Unused Capacity Measurement in Local University	MDPI Sustainability/Scopus	Time-Driven Activity-Based Costing (TDABC)
15	2019	Nik Nurharyantie Nik Mohd Kamil, Mohd Yazid Abu, Nurul Farahin Zamrud, & Filzah Lina Mohd Safeiee (Kamil et al., 2020)	Analysis of Magnetic Component Manufacturing Cost Through the Application of Time- Driven Activity-Based Costing	Springer Nature/Scopus	Teknik, Time-Driven Activity- Based Costing (TDABC)
16	2020	Junaaid Nabi, MD,MPH, LCDR Austin J. Haag, Phd, MHA,Mecon, Med, MSC,USN, Quoc- Dien Trinh, MD (Nabi et al., 2020)	Accounting for Readiness—Integrating Time-Driven Activity- Based Costing (TDABC) into the Military Health System	Military Medicine/Scopus	Kesehatan Militer, Time- Driven Activity-Based Costing (TDABC)
17	2023	Richardo Bertoglio Cardoso, Miriam Allein Zago Marcolino, Milena Soriano Marcolino, Camila Felix Fortis, Leila Beltrami Moreira, Ana Paula Coutinho, Nadine Oliveira Clausell, Junaaid Nabi, Robert S. Kaplan, Ana Paula Beck Da Silva Etges, & Carisi Anne Polanczyk (Cardoso et al., 2023)	Comparison of COVID-19 hospitalization costs across care pathways: a patient- level time-driven activity- based costing analysis in a Brazilian hospital	BMC Health Services Research/Scopus	Manajemen dan Kesehatan, Time-Driven Activity-Based Costing (TDABC)

18	2023	Natallia Pashkevich, Fabian Von Schéele, Darek M. Haftor (Pashkevich et al., 2023)	Accounting for cognitive time in activity-based costing: A technology for the management of digital economy	Technological Forecasting & Social Change/Scopus	Teknologi dan Akuntansi, Time-Driven Activity-Based Costing (TDABC)
19	2019	Park Yonpae, Jung Sungwoo, Jahmani Yousef(Park et al., 2019)	Time-Driven Activity Based Costing System For Marketing Decisions	Studies In Business And Economics	Time-driven activity based costing (TDABC), marketing cost, accounting
20	2023	Fiona Koster, Marc R. Kok, Jaco Van Der Kooij, Geeke Waverijn, Angelique E. A. M. Weel-Koenders, Delirisa Lopes Barreto (Koster et al., 2023)	Dealing with Time Estimates in Hospital Cost Accounting: Integrating Fuzzy Logic into Time- Driven Activity- Based Costing	Original Research Article	Micro-cost accounting, FL-TDABC
21	2021	J. Chirenda, B. Nhlema Simwaka, C. Sandy, K. Bodnar, S. Corbin, P.Desai, T. Mapako, S. Shamu, C. Timire, E. Antonio, A. Makone, A. Birikorang, T. Mapuranga, M. Ngwenya, T. Masunda, M.Dube, E. Wandwalo, L. Morrison & R. Kaplan (Chirenda et al., 2021)	A feasibility study using time-driven activity-based costing as a management tool for provider cost estimation: lessons from the national TB control program in Zimbabwe in 2018	BMC Health Services Research/Scopus	Tuberculosis, Pathway to care cycles, Provider cost, Time driven activity-based costing
22	2021	Yi Ding, Kaimin Chen, Xujun Wei, Yang Yang (Ding et al., 2021)	A Novel Cost-Management System for Container Terminals Using a Time-Driven Activity-Based Costing Approach	Ocean & Coastal Management/Scopus	Container terminal, operating cost, Time-Driven Activity Based Costing, non-value-added cost, cost management
23	2021	Dylan Koolmees, B.S, Prem N. Ramkumar, M.D.,M.B.A., Luke Hessburg, B.S., Eric Guo, B.S., David N. Bernstein, M.D., M.B.A., M.A., & Eric C. Makhni, M.D.,M.B.A (Koolmees et al., 2021)	Time-Driven Activity-based Costing for Anterior Cruciate Ligament Reconstruction: A Comparison to Traditional Accounting Methods	Arthroscopy, Sports Medicine, and Rehabilitation/ Scopus	TDABC, ACLR, ABC
24	2022	Noémie Defourny, Sophie Hoozée, Jean-François Daisne, Yolande Lievens (Defourny et al., 2023)	Developing time-driven activity-based costing at the national level to support policy recommendations for	J. Account. Public Policy/ Scopus	Cost allocation Health care Reimbursement Time-driven activity-based costing

			radiation oncology in Belgium		
25	2018	Keyuri Popat, MD, Kelly Ann Gracia, Alexis B. Guzman, Thomas W. Feeley, MD (Popat et al., 2018)	Using Time-Driven Activity-Based Costing to Model the Costs of Various ProcessImprovement Strategies in Acute Pain Management	the American College of Healthcare Executives/Scopus	TDABC, Cost Of Various, Acute Pain Management
26	2023	Irem Kefe, Veyis Naci Tanis (Kefe & Taniş, 2023)	The Integration of the Theory of Constraints and the Time-Driven ActivityBased Costing System for the Improvement of Production Processes in an SME	Spanish Accounting Review/ Scopus	Time-Driven Activity-Based Costing Theory of Constraints Capacity Constraints Manufacturing
27	2019	Erik Sigcha, Villie Morochó & Lorena Siguenza-Guzman (Sigcha et al., 2019)	Towards the Implementation of a Software Platform Based on BPMN and TDABC for Strategic Management	Intrenational Conference on Technology Trends/ Scopus	BPMN,TDABC, Strategic management,Management Costs

DISCUSSION

RQ1: How is Activity Based Costing Implemented in the Business Enterprise Sector?

In the study, we assessed the literature from a management accounting point of view to find out the implementation of Activity Based Costing (ABC) in the business enterprise sector is implemented as a solution in the changing environment. Many studies have stated that the positive relationship towards ABC implementation in organisational and company performance. According to research, using ABC is a way to adapt to a changing environment. The data that traditional costing systems provide is insufficient for management in a competitive environment. In order to achieve more favorable pricing and product costs, many companies have moved from traditional costing systems to activity-based costing systems. Businesses that employ activity-based costing demonstrate improved competitiveness and profitability. Because ABC offers a variety of advantages, many ABC users are more satisfied, particularly when it comes to improved performance measurement, accurate product costing, increased profitability, and increased competitiveness. cost management, long-term company growth, and higher profitability as competitive advantages. A complementary cost accounting system that can be customized to meet the desired goals is the ABC method. (Alsayegh, 2020; Rankin, 2020; Wegmann, 2019; Yang et al., 2020).

The application of the system that does not involve the classification of activities into production and administrative activities is the weakness of ABC, even though it is typically found that administrative activities include a significant number of non-value-creating activities. Furthermore, this investigation discovered that the examination of ABC modifications revealed

three primary avenues for improvement: (1) Efforts to utilize mathematical models, such as Fuzzy ABC, Monte Carlo ABC, and G-ABC, for data allocation and accounting. (2) An attempt to use and expedite procedures like TDABC, G-ABC, and DBC for data collection and interpretation. (3) Efforts to enhance the technique used in particular operational domains, like DBC (Stonciuviene et al., 2020). As the expenses will be more precise than the sum acquired from ABC, further investigation and execution are required. (Koolmees et al., 2021). The relationship between indirect costs and the processes of production, sales, and administration is not considered in ABC's methodical justification for allocating these costs to each manufactured product. (Stonciuviene et al., 2020).

RQ2: How is Time-Driven Activity-Based Costing Implemented in the Business Enterprise Sector and Healthcare Sector?

In our research, we assessed the literature from a management accounting perspective to determine the implementation of Team-Driven Activity-Based Costing (TDABC) in the business enterprise sector and Health was implemented that TDABC is a novel system that enhances workflow at each workstation and saves time on each task or subtask related to a product in various settings. Giving service providers a clear starting point for cost accounting is one advantage of TDABC. Another characteristic that sets TDABC apart is the use of time as the denominator. (Antropov et al., 2021; Pashkevich et al., 2023; Zaini & Abu, 2019). Applying TDABC to organizational settings has demonstrated that it is less labor-intensive to determine activity frequency and assign average length than it is to have staff members track time and assign tasks. (Cidav et al., 2020). TDABC is a precise method for estimating total real costs that may be used to services to enhance cost control and the pricing of food services. It mainly uses TDABC's time equation to determine how long an order will take to fulfill. (Kefe & Taniş, 2023; Mohd Zaini & Abu, 2023). The purpose of this TDABC is to lessen the shortcomings of ABC. (Ding et al., 2021; Mohd Zaini & Abu, 2023). There will be seven phases to the development of TDABC: time equation setup, cost estimation of all resources provided, practical capacity estimation, capacity cost rates calculation, resource group and service process identification for all activities and sub-activities, cost estimation of required capacity, and cost estimation of all necessary capacity. (Kamil et al., 2020).

TDABC offers more in-depth data in the healthcare industry that nurses may utilize to enhance their working conditions and make better use of their time. TDABC can also assist managers in making more precise judgments about the cost management of human resources. (Al Amiri & El Khmidi, 2019). Case management programs create a regular flow of complicated patients, and TDABC is used to assess direct expenses. (Cardoso et al., 2023; Ortet et al., 2023). Numerous healthcare systems have shared how TDABC has helped them save expenses and enhance patient outcomes. These systems include cancer

centers, which have more institutional capacity to serve patients while using less infrastructure and human resources. (Nabi et al., 2020). TDABC is especially helpful for more intricate health treatments when delivering patient-specific delivery interventions. (Cidav et al., 2020). TDABC is a workable management technique for analyzing and pricing care processes in public health initiatives with limited funding. (Chirenda et al., 2021; Defourny et al., 2023). When used to focus improvement possibilities on patient care pathways, TDABC users demonstrate that this approach is always satisfying, resulting in cost savings and occasionally better treatment designs. (Popat et al., 2018).

The TDABC system's drawback is that it requires more time than the FTE approach. Thus, it is essential to take into account the benefits of having precise data that may be acquired by using TDABC. (Al Amiri & El Khmidi, 2019). The numerous resource types utilized in the healthcare industry contribute to TDABC's difficulties; these resources are frequently a part of several, separate departments or specializations inside hospitals, which complicates the process mapping. (Ali et al., 2023). FL-TDABC is recommended as a workable substitute for TDABC estimates for cost allocation in healthcare as TDABC estimates for the care cycle are typically difficult to produce and do not account for variations in the amount of time that healthcare personnel spend with patients. (Koolmees et al., 2021; Koster et al., 2023).

CONCLUSIONS AND RECOMENDATIONS

The main objective of this study is to determine the implementation of ABC in the business sector and TDABC in the corporate and health sectors. The conclusion of the research conducted, (1) It has been demonstrated that Activity Based Costing (ABC) implementation improves organizational performance and increases business profitability in the enterprise sector. ABC is considered an effective solution in the face of changes in the competitive environment. Companies that switch from traditional costing systems to ABC show increased profitability and competitiveness. However, there are weaknesses in the application of ABC, mainly related to the classification of administrative activities that include a large number of non-value-creating activities. In addition, there are efforts to speed up the data collection and interpretation process, and improve the method of application in certain areas of operation. Although ABC methodically allocates indirect costs to each product, there are challenges in linking them to production, sales, and administrative processes. As a result, ongoing study and implementation are required to raise the precision of indirect cost allocation. All things considered, ABC can be an additional cost accounting system that is customized to meet organizational goals. (2) Team-Driven Activity-Based Costing (TDABC) implementation in the business enterprise and healthcare sectors. TDABC is proven to provide significant advantages, such as providing an accurate cost accounting starting

point and improving efficiency at each workstation and activity time. The uniqueness of TDABC lies in the use of time as the denominator. (3) In a business context, TDABC helps companies improve cost management and service pricing, with accurate calculation of actual real costs. The application of TDABC also shows improvements in the weaknesses of ABC. The development stages of TDABC, such as resource group identification, capacity cost rate calculation, and time estimation, strengthen its accuracy. (4) In the healthcare sector, TDABC gives managers and nurses comprehensive data so they can manage human resource costs more accurately and more efficiently.. TDABC has also proven to be beneficial in improving patient outcomes and reducing the burden on human resources and infrastructure in cancer centres. However, TDABC has some disadvantages, including longer time compared to FTE systems, and complexity in mapping healthcare processes due to the many types of resources used. Alternatives such as FL-TDABC are suggested as viable options in healthcare cost allocation. Therefore, careful consideration is needed to understand and overcome the obstacles that may arise during TDABC implementation.

ADVANCED RESEARCH

This research still has limitations, so further research needs to be done related to the topic "Implementation of Activity-Based Costing & Time-Driven Activity-Based Costing: A Systematic Literature Review". Future research can use different Literature Review objects to add insight for readers.

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