



## Integration of time-driven activity-based costing and activity-based budgeting in preparing budgets for Iraqi economic units

**Asst. P. Dr Miaad Hameed Ali**

Accounting Department  
College of Administration and Economics  
University of Baghdad  
Email: [Miaad.h@coadec.uobaghdad.edu.iq](mailto:Miaad.h@coadec.uobaghdad.edu.iq)  
Iraq

**Dr. Lect Mushtaq Kamil Faraj**

Accounting Department  
College of Administration and Economics  
University of Baghdad  
Email: [mushtaq.k@coadec.uobaghdad.edu.iq](mailto:mushtaq.k@coadec.uobaghdad.edu.iq)  
Iraq

**Lect Nadia Shakir Hussein**

Accounting Department  
College of Administration and Economics  
University of Baghdad  
Email: [nadia@coadec.uobaghdad.edu.iq](mailto:nadia@coadec.uobaghdad.edu.iq)  
Iraq

### ABSTRACT

This research aims to demonstrate how integrating the time-driven activity-based costing (TDABC) approach with activity-based budgeting (ABB) can improve budget preparation. Both TDABC and ABB are designed to address the shortcomings of traditional cost measurement and budgeting methods. Additionally, this study seeks to provide information that enables economic units to better predict the resources needed for future periods, ultimately enhancing productivity.

It also aims to reduce deviations between budgets and actual costs, while enhancing transparency and accountability by clarifying resource expenditures for regulatory authorities.

Moreover, it provides greater accuracy in determining the costs of each activity, as it relies on the time element, which is the main factor affecting the activities in the research sample.

The research concluded that applying this integration contributes to improving the efficiency of resource allocation, since resources are directed to activities that consume more time and effort and create higher value, thereby reducing waste. It also helps improve the allocation of resources based on the time spent on each activity and can be used as an indicator to compare the performance of different departments and activities within the college.

The research recommends the adoption of this approach in higher education institutions to enhance their efficiency and achieve optimal resource utilization. A holistic approach was used to collect data related to academic and administrative activities in the college, both financial and non-financial, and link them with time rates and resource consumption.

**KEYWORDS:** Time driven activity-based costing, Activity Based Budgeting, Resource efficiency, colleges and universities, activity-based costing.

### 1. Introduction

The cost approach based on time-oriented activity is one of the modern approaches to cost management. It is designed to determine the cost of the product or service more accurately and clearly by linking costs to the actual time consumed, while excluding the remaining costs that are not related to the products or services (Al-Kishwan, 2018). This approach relies on time equations, making it an easy-to-design system based on the energy perspective. It provides more accurate information because it tracks

resources and assigns them to each activity. It also estimates the amount of resources and identifies the characteristics of activities by focusing on resources through specifying time equations (Salah, 2021).

Moreover, it serves as an entry point for managing and allocating indirect costs, where costs are translated into energies measured and expressed in units of time, and the final direct cost is consumed by multi-engine activities. Its role is limited to clarifying the manner and quantity of these energies consumed (Al-



Husseini, 2016). It has been defined as a system that provides a clear picture of the costs. In other words, it can be described as a cost accounting approach that is cheaper and simpler than activity-based costing (ABC), since it relies on resources when calculating their costs, based on the time consumed by each activity (Tatik et al., 2021).

The TDABC approach achieves a set of objectives, which can be summarized as follows.

*1-It provides information about actual costs, the profitability of operations, and cost targets, and can easily identify and report complex operations, as well as support negotiations with customers and suppliers Al-Hakim, 2019).*

*2-It integrates with enterprise resource planning (ERP) systems and customer relationship management (CRM) systems to determine task costs by measuring time, identifying variables that affect ongoing activities, and assessing the impact of time (Deinega, 2011).*

*3-It adapts to changes in the structure of cost pools by using time equations, which enhance system flexibility - changing the process time leads to changes in cost allocation (Al-Debs, 2015).*

*4-It provides predictive information about required resources by developing time rates and highlighting differences in cost drivers. This flexibility allows modifications within a single time equation, as development and improvement are driven by the occurrence of events rather than their timing (Al-Sayyid & Al-Shafi, 2019).*

*5-It is more advanced, easier to update, and less costly to implement, maintain, and modify. It also distinguishes between utilized and unutilized capacity of resources (Omar & Hasan, 2019).*

*6-It helped integrate a set of activities into a single time-driven activity, thereby reducing the complexity of the ABC system by consolidating multiple activities into one (Gregory, 2019).*

*7-It identifies unused capacity, which must be recognized as period costs that reduce profits (Szychta, 2010)*

*8-It supports cost management by managing activities and enables more effective budgeting of project costs (Anna, 2010)*

Accordingly, researchers argue that the TDABC approach can be applied in both large and small economic units, helping to identify untapped capacity. Its costs of implementation are lower, making it a viable solution to the weaknesses of the traditional system.

Most economic units use budgets to manage their operations (Mohamad & Nengzih, 2021). Activity-based budgets (ABB) are considered a key tool for planning, as they provide accurate information about value drivers and the sources of imbalance within activities (Meg & Nengzih, 2023). Therefore, it serves as the foundation for control, planning, and performance

evaluation in both industrial and service units (Ziad, 2020). ABB preparation is based on identifying the activities to be implemented, while taking into account the available resources and the actual conditions of the economic unit (Khoirlyah & Elvia, 2018). In this sense, activity-based budgeting can be defined as the process of preparing budgets based on activities, since activities are the main sources of costs, and it serves as a method for predicting operational costs (Maydele & Heincer, 2023).

The process of planning and monitoring activities and their resources is considered the basis for preparing budgets according to the activity-based approach. This type of budget is prepared on the basis of workload expectations and in alignment with customer needs. The budgeting process begins by identifying the strategic objectives of the economic unit and then reflecting them in the activities through the optimal utilization of resources. (Surya & Nengzih 2020)

Activity-based budgeting (ABB) is an approach that focuses on activities in order to increase value for customers, enhance current profits, and reduce costs. Under this approach, activities are identified first, followed by determining the resources required to perform them based on future forecasts (Orhan & Kadir, 2020). ABB can also be defined as a plan that specifies performance indicators for the activities of the economic unit expressed either in monetary terms or in quantitative measures, with the aim of achieving the unit's objectives. This requires planning that considers market conditions, the quantity and quality of the products produced, and the product mix in a way that meets future market demands. It also involves specifying the resources to be used, production methods, technologies, Suppliers, potential buyers, and methods of product distribution to customers (Ramune, 2008).

Activity-based budgeting plays an important role in planning and control by setting out plans, goals, and procedures to be achieved. The budget serves as a quantitative expression of these plans in both material and financial terms and can also be employed as a control tool for establishing standards and taking the necessary corrective actions (Tantung & Huyhanh, 2013).

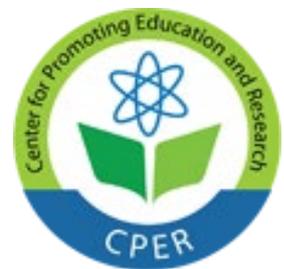
Accordingly, the integration between time-driven-activity-based costing (TDABC) and activity-based budgeting (ABB) provides an appropriate basis for preparing the budgets of economic unit budgets.

Principles of activity-based budgeting (ABB)

The principles on which activities-based budgeting is based can be summarized as follows: (Surya & Nengzih, 2020)

1- A strong focus on understanding activities and their relationship to achieving strategic goals.

2- Reliance on future workloads to meet customers' and departments' requirements (strategic objectives) for a new or modified product and services. This is done with the aim of increasing efficiency and effectiveness or introducing changes in work procedures, service levels, flexibility, quality, and time.



3- Directing all unit activities toward achieving value for the customer through value-based planning.

4-Focusing on creating value by enhancing the customer's ability to use the product or service, which is reflected in the following: -

A-Growth or increased market share by introducing new products or services, opening new markets, or developing joint operations with other companies.

B-Increasing profit margins by increasing revenues and reducing costs.

C-Enhancing sales growth rates through new offerings or continuous improvement of products and services delivered to customers.

D-Improving asset productivity by achieving the maximum output with the same level of input.

E-Reducing the cost of capital by reducing the costs of acquiring assets in all their forms

The activity-based budgeting (ABB) process is considered a specialized approach for preparing effective budgets for forecasted activities and achieving strategic goals. It works by accurately estimating resources through the evaluation of required activities using cost vectors and resource vectors. The use of the activity-based costing (ABC) system provides the necessary information for preparing activity-based budgets, starting with determining the expected level of sales and production. This enables forecasting the demand for activities, which in turn makes it possible to determine the resources required according to activity needs, and then identify the actual demand for resources based on activity capacity (Boutelibi, 2020) In view of the limitations that hinder the application of the ABC system such as its high implementation costs, the need for skilled labor, and the large volume of information required, which makes it difficult to apply in large units—researchers have replaced it with the TDABC system. The TDABC system addresses the shortcomings of ABC while adding another advantage, namely, the possibility of applying it in service units.

The ABB system relies on the outputs generated from applying the TDABC system. It begins by identifying resources and their revenues, then managing the activities that utilize these resources, and finally determining the costs of the products and services provided to customers. At this stage, ABB's role begins by forecasting the products and services to be offered to customers, identifying the activities included in the budget at all management levels, and determining the resources required for each of these activities (Sultan, 2017).

The time-driven activity-based costing system enhances activity-based budgeting and makes the analysis of products and services more accurate. By integrating the two systems, the economic unit can create a plan that adds value to activity-based budgeting, translating business strategy into core activities that focus on resource utilization. While TDABC focuses on the expected competencies of workers, cost analysis provides feedback on the ability of workers within the economic unit to achieve its strategic objectives.

The application of budgeting follows a bottom-up approach. To achieve effective budgeting, a cost model must first be prepared based on time-driven activities. This model should be sufficiently accurate to determine the financial impact of each production line and then calculate production costs. The following figure illustrates the integration between the time-driven activity-based costing system and activity-based budgeting (Rashid, 2020).

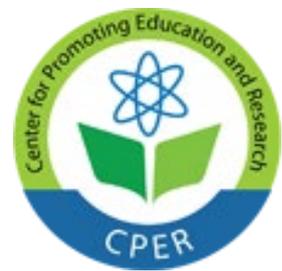
After this introduction, Section Two provides a review of the development of prior studies. Section Three presents the research methodology and outlines the approach adopted to define the research problem and achieve its objectives. The subsequent sections delve into the literature review, practical analysis, and research findings.

## 2. Literature review

Many studies have addressed the topic of time-driven activity-based costing (TDABC), which represents the first variable of the current study. For example, Hamadi and Kazem (2024) applied budgeting based on time-driven activity in a service unit with the aim of providing accurate information and identifying the cost of unused capacity. Similarly, Sangitha, Sangita, and others (2025) examined TDABC in a health center, aiming to highlight the advantages of this approach and evaluate compliance with reporting frameworks. Bassam and Mostafa (2023) linked TDABC to the lean manufacturing system to calculate unit costs more accurately and strengthen the competitive position of manufacturing; their study was applied in an Egyptian industrial company.

Other studies examined the second variable of the current research, namely activity-based budgeting (ABB). For instance, Nuhasafi Abd (2023) emphasized ABB as a modern method for preparing budgets, since it links the quantity of produced units with the activities required to produce them. Orhan and Kadir (2020) explored the integration of ABB with the balanced scorecard, aiming to build cause-and-effect relationships between strategies in planning processes and to exclude strategies that do not contribute to achieving organizational goals. This integration was found to enhance performance efficiency and support strategic expectations, although the study was descriptive in nature. Similarly, Salah and others (2023) addressed budgeting based on time-driven activities and its integration with target costing to provide appropriate information in light of developments in the competitive business environment. Their study was applied in one of the laboratories of the General Company for Textile Industries in Iraq. While this study is closest to the current research, its integration with target costing led to a focus on comparing target costs with budget-prepared costs, which differs from the approach of the present study.

Despite the contributions of these studies, several shortcomings remain. Most previous research focused on either TDABC or ABB separately, without integrating the two systems in a comprehensive and practical framework. The applications that did exist were often limited to industrial and health sectors,



leaving the education sector which relies heavily on time as the primary driver of activities largely unexplored, despite the fact that this sector consumes substantial resources and requires transparency in its allocation. Moreover, prior studies often overlooked the distribution of indirect costs across products or services, even though such costs typically represent the largest portion of total expenditures. This neglect undermines the accuracy of cost estimation and budget preparation. Another limitation lies in the descriptive nature of many of these studies, which either relied on questionnaires and statistical analysis or remained purely conceptual, without offering practical models supported by actual operational data. Furthermore, research in this field has been predominantly conducted in advanced industrial environments, with limited attention to developing countries where resource constraints, managerial practices, and operational challenges differ significantly.

In contrast, the current study addresses these gaps by integrating TDABC with ABB in a unified framework and applying it in the education sector, using actual data collected from all departments and branches of the research sample. This approach makes it possible to prepare a realistic budget for the upcoming period based on the actual time consumed by each activity, thereby enhancing accuracy, improving the allocation of indirect costs, and ensuring that the budgeting process reflects both strategic objectives and operational realities.

### 3. Methodology

This study aims to enhance the accuracy of budget preparation by adopting time as a basis for calculating costs and linking them to activities. Unlike traditional approaches, this method supports the preparation of more realistic budgets and improves the efficiency of resource allocation by directing financial, human, and material resources toward activities that require greater time and effort. In addition, the study seeks to strengthen transparency and accountability by determining the costs of each college activity, thereby clarifying resource distribution for regulatory and administrative bodies.

Moreover, integrating activity-based budgeting with time-driven activity-based costing enables the measurement and analysis of performance deviations, providing an indicator for

comparing the performance of departments and activities within the college. This approach also reduces deviations between planned budgets and actual outcomes, narrowing the gap between them. By delivering detailed activity-based information, the study supports decision-making by the college deanship, particularly regarding resource allocation and decisions to expand, reduce, or modify certain activities. Ultimately, the study contributes to enhancing the efficiency of core academic activities such as teaching and scientific research.

The empirical part of the study relied on financial and non-financial data collected from academic departments, divisions, and administrative units within the College of Administration and Economics at the University of Baghdad. The data covered the period from January 1 to December 31, 2024, representing a full fiscal year. These data were then used to prepare budgets of expected revenues and expenditures for the year 2025, while taking into account potential future changes.

### 4. Results

#### *In the first step, the budget is applied based on activities.*

The initial practical stage commences with the estimation of revenues for the forthcoming period, which serves as a fundamental basis for effective budget planning and resource allocation.

According to Hatim (2019), the preparation of time-driven activity-based budgets involves a systematic process that includes several sequential steps: identifying the relevant activities, determining the resources required for each activity, estimating the time necessary to perform them, calculating the average cost per hour, assessing the cost of each activity, and ultimately formulating the budgets. This approach enhances the accuracy of cost estimation, facilitates the efficient allocation of resources, and improves transparency and accountability in the budgeting process.

The college comprises six scientific departments, and Table 1 illustrates the projected number of students for the academic year 2025, providing essential data for forecasting and financial decision-making.

**Table 1.** Projected Number of Students for the Academic Year 2025 by College Department

department stage	Accounting	Business Administration	Public Administration	Finance and banking	Economics	Statistics	Industrial management	Total
first	112	138	84	70	-	-	-	404
Second	189	196	52	130	-	-	-	567
third	146	121	102	90	58	5	-	522
four	134	135	128	84	55	8	-	544
total	581	590	366	374	113	13	-	2092

Table 1 presents the number of students expected to be admitted to all departments in the college for the year 2025. This data serves as the basis for estimating the anticipated revenues for the college in the same year, as illustrated in Table 2.

One of the main drawbacks of the current budgeting approach is that it assigns equal costs to all activities, regardless of the differences in their revenues and the time required for their implementation. To address this issue, non-revenue-generating activities, such as those in the Industrial Management department,



should be eliminated, while activities that generate minimal revenue, such as those in the Economics and Statistics departments, could be reduced. Conversely, greater support should be directed towards departments that contribute the highest revenue, such as Accounting and Business Administration.

The application of time-driven activity-based budgeting significantly enhances the objectivity of cost determination, as it

allows for the identification of activities that do not add value to the organization (Al-Nasrawi & Al-Kawaz, 2023). This approach not only improves resource allocation but also promotes more informed financial planning and decision-making within the college.

**Table 2.** Projected Revenues for the Academic Year 2025

stage	Number of students	Rate of Study per student	Revenue
first	404	\$1200000	\$484800000
Second	567	\$1200000	\$680400000
third	532	\$1200000	\$638400000
four	589	\$1200000	\$706800000
total	2092	\$1200000	\$2510400000

Table 1 presents the projected number of students for the academic year 2025 by department, which directly affects the expected revenues shown in Table 2. The distribution of students across departments indicates significant variation in revenue generation potential. For example, departments such as Accounting and Business Administration attract a larger number of students, thereby contributing proportionally higher revenues. This differential highlights the need for resource allocation that reflects actual departmental contributions rather than treating all departments equally, as in traditional budgeting. By analyzing the expected student numbers and corresponding revenue, decision-makers can prioritize activities and resources to maximize institutional efficiency.

Table 2 was prepared based on the number of students for all departments from Table 1 and the tuition fees at the college for each student.

The second stage is to predict the activities that the unit will need and the operational energy for each activity.

The economic unit needs two types of service activities: supportive and productive, represented by scientific departments.

**Table 3.** Estimated Time Required for Each Activity by College Department

Activities	Operating energy is measured in hours			
	Head of Department	Rapporteurs and staff	Teaching staff	Total
Productive activities represented by academic departments				
Accounting	960 hour	1680=2× 840 hour	638 hour	3278 hour
Business Administration	960	1680	447	3087
Public Administration	960	1680	393	3033
Finance and banking	960	1680	258	2898
Economics	960	1680	384	3024
Statistics	960	1680	232	2872
Total Hour	5760	10080	2352	18192
Service activities	Operating capacities are measured in hour			
Dean and Associate Dean	4 hour × 5 day × 4 week × 12 month = 960 × 4 = 3840 hour			3840
Managers, division officials and employees	128 = 61440 × 12 month = 480 × 4 week × 5 day × 2 hour			61440
total employee hours				65280
Total				68152

The third stage is to determine the necessary resources to implement the activities. In order to implement the activities that were identified in the previous step, the necessary resources are determined to implement the main and supporting activities. Since the sample is an educational institution, the resources that must be available are represented by professors to implement the main activities and employees to implement the supporting activities.

The fourth stage is determining the actual resources, which are represented by teaching staff in departments and employees in supporting activities.

**5. The second step is to use time driver activities-based costing.**

Bassam and Mostafa (2023) demonstrated that traditional activity-based costing fails to provide an effective and sustainable solution for cost management. In contrast, time-driven activity-based costing relies on a more robust factor—operating time rather than merely the number of times an activity is performed.

The first step in applying this approach is to identify the activities for each department. The second step involves estimating the time required to perform each activity, as presented in Table 3.



The study period begins at 2:00 PM and ends at 6:00 PM, with the presence of workers in productive activities varying according to the specific tasks assigned to each of them. This is represented by the following equations. For instance, the working hours of the department head during the evening study sessions are calculated as 4 hours per day × 5 days per week × 4 weeks per month × 12 months per year.

Al-Kawaz and Al-Dumai (2021) emphasized that economic units can achieve effective time and cost management while enhancing their competitive advantage. Similarly, Kemal and Levent (2024) highlighted that the application of time-driven activity-based costing requires a thorough understanding of costs as well as production capacity, in order to accurately determine wage costs based on the time spent by workers producing goods or services.

The Industrial Management Department was excluded from the analysis because it does not generate revenue due to the absence of enrolled students. This decision reflects a cost-benefit evaluation, in which maintaining a department with no student intake leads to unnecessary salary expenditures for the department head and supporting staff. The removal of this department reduces the total cost of evening studies and reallocates resources to departments

with higher revenue potential, thereby increasing overall budget efficiency and aligning resource utilization with institutional priorities.

However, in the traditional budgeting approach, such considerations were not considered, as salaries continued to be paid to the department head and employees in the Industrial Management Department, despite the absence of students.

The working hours of rapporteurs and employees are calculated as 3.5 hours per day × 5 days per week × 4 weeks per month × 12 months per year. Each department employs one rapporteur and one additional staff member. Teaching hours are determined according to the official lecture schedule.

For administrative positions, the total number of directors and officials involved in all service activities includes the Dean and three assistant deans, totaling four, with an overall total of 128 personnel across all service activities.

The third step in applying time-driven activity-based budgeting is to determine the cost calculation rates. This process begins with identifying the costs, which are calculated according to the guidelines provided by the Higher Education Fund. Specific cost allocation percentages are applied, as illustrated in Table 4.

**Table 4.** Determination of Evening Study Costs According to Allocation Rates

85% of the revenue is distributed according to the following percentages		
Revenue from Table (2) $\$2510400000 \times 85\% = \$2133840000$		
Ratio	Type Cost	Amount
%10	Maintenance of buildings and other assets	\$213384000
%60	Lecture fees and workers' salaries	\$1280304000
%15	Incentives for employees	\$320076000

Table 4 (shows the percentage disposed of by the college, which represents 85% of the total revenue from Table 2), which is distributed among the expense items according to the specified percentages shown in Table 4 Wage per hour=  $\$1280304000$  from Table (4) /68152 hours from Table (3)= $\$18786$  per hour

Accordingly, the budget in the year 2025 academic year can be prepared in Table (5) Salah & other (2023) emphasized that time-driven activity-based budgeting can be used to prepare a future plan by identifying activities in line with time rates.

**Table 5.** Budget for the college in the year 2025

the details	Amount
Revenues from Table (2)	\$2510400000
Maintenance of buildings and other assets	\$213384000
Lecture fees $18786 \times 18192$	\$341754912
Employee salaries $18786 \times 65280$	\$1226350080
Incentives	\$320076000

The integration of TDABC and ABB provides a clear framework for enhancing budgeting accuracy and cost transparency. For instance, time-driven analysis allows the identification of activities that consume significant resources but generate minimal revenue, such as certain lectures or administrative tasks in low-enrollment departments. Conversely, high-impact activities, such as courses in Accounting and Business Administration, can be prioritized for resource allocation. Comparative studies indicate that integrating time as a cost driver reduces overestimation or

underestimation of departmental budgets, thereby improving operational alignment and supporting strategic decision-making.

The integration of time-driven activity-based costing (TDABC) with activity-based budgeting (ABB) has demonstrated several significant advantages.

First, it enhances budgeting accuracy by relying on a precise criterion, namely, time, rather than generalized estimates. Second, it increases cost transparency by accurately identifying activities and their resource consumption through the direct linkage of time spent on each activity.



Third, this integration improves the ability of the research sample to align operational plans with budgets, as activities are directly connected to strategic objectives.

Fourth, it facilitates the identification of non-value-adding activities that do not generate revenue, allowing for their reduction or elimination.

Fifth, preparing budgets based on a quantitative database enables management to make more informed decisions regarding resource allocation, energy utilization, and expenditure control.

Sixth, budgets prepared using time-driven activity-based methods possess the flexibility to adjust quickly to changing circumstances, since they are measured in time units that can be easily modified.

Seventh, traditional budgeting methods fail to achieve equitable resource distribution among departments; for example, the Industrial Management Department does not generate revenue, while the Statistics and Economics Departments generate relatively low revenue, yet all are treated similarly under conventional approaches.

## 6. Conclusion

The study concluded that the integration of TDABC with ABB enhances both accuracy and transparency in budgeting by linking resource consumption to actual activity times. The practical application demonstrates how non-value-adding activities can be identified and either eliminated or optimized, leading to more efficient resource utilization. For example, removing the Industrial Management Department reduced unnecessary expenditures, while prioritizing high-revenue departments ensured better alignment of resources with institutional goals. The study recommends adopting this integrated approach in educational institutions, investing in staff development, and implementing advanced information systems. Future research could expand the application to multiple institutions, explore the impact on financial performance

## References

- Al-Sayyid, Ali Mujahid Ahmed, & Al-Shafi'i (2019) Using a costing system based on time-oriented activity to improve measuring the cost of health services (a field study) *Journal of Contemporary Business Studies*, Issue 7.
- Al-Debs, Muhammad Haitham (2015) Raising the competitiveness of an establishment by detecting untapped production capacity using the (TDABC) system. Master's thesis in Accounting / University of Damascus.
- Al-Husseini, Ahmed Muhammad (2016) Using a cost accounting system based on time-oriented activities in managing the environmental costs of business companies, Port Said University / Faculty of Commerce, *Journal of Financial and Commercial Research*, Volume 17, Issue 4, Part 1
- Al-Kishwan, Ali Muhammad Hassan Muhammad, (2018), Employing the cost approach based on time-directed activities (TD-ABC) in improving product value, Master's thesis, College of Administration and Economics, University of Karbala
- Al-Kawaz Salah Mahdi Jawad and Al-Dumaimi Ahmed Nasser Abbas 2021 The role of budgeting technology based on time-driven activity in managing time and cost as competitive priorities - an applied study in the men's clothing factory in Najaf, *Warith scientific journal*
- Al-Nasrawi, Salam Adel & Al-Kawaz Salah Mahdi (2023) The role of the budgeting technique based on time-oriented activity in reducing costs: an applied study, *Al-Riyadah Journal of Finance and Business*, Volume Four, Issue Two.
- Anna, Szychta (2010) Time-Driven Activity-Based costing in service industries, *Social Sciences, Socialiniai mokslai N.1*
- Bassam, baroma & Mostafa I. Elfeky, (2023) the integration of time driver activity based costing (TD-ABC) in a lean manufacturing system for accurate product unit cost A cost study in Egypt, *Journal of Commerce and Finance / Faculty of Commerce* –



Tanta University, Issue 2

- Damar Wanto & Nengzih Nengzi, (2020) Analysis Implementation of Activity –Based Budget for planning and control of Direct labor costs on the inpatient department (cost study at XYZ Hospital) Saudi journal of economics and finance.
- Deinega,O.(2011) Method time Driven Activity Based costing –Litevature Review. Accounting Horizons.vol 6 Iss:1, NO15.
- Mega Novita Sarl and Nengzih, Nengzih (2023) Design of using the activity based budgeting method to control employee overtime costs, Journal of world science
- Gregory Wegmann, (2019) A typology of cost Accounting Practices Based on Activity Based costing Astrategic cost management Approach,Asia- pacific management accounting journal , v 14 Issue 2
- Hatim, Kadh, (2019) the role of time driver activity based costing in rationalizing the preparation of planning budgets, journal of engineering and applied sciences V14 N.15
- Hamadi, Nermin Moeen and Kazem,Ezz El-Din Hassan (2024) Implementation of time-driven activity-based budgeting at Al-Hakim General Hospital, Journal of accounting and financial studies (JAFS) special Issue.
- Kemal.Enes and Levent ,Koson (2024) Using time –driven activity –based costing inrestaurant business: levelled application of a case study. Journal homepage.
- Khoirlyah, Mayla and Elvia R. Shauki (2018) Fvaluation of budgeting system using activity based budgeting Acase study at PTX, Advances in economics, business and management research, V 89
- Mohamad, Nur Amin and Nengzih Nengzih (2021) Proposed Application of the use of Activity – based budgeting (ABC) method for cost control of daily and casual workers (Acas study at PT XYZ) Saudi journal of Economics and finance.
- Maydeleine, Binilang , Heincer , N Wokas and Christion V. Datu (2023)Implementation of activity based budgeting (ABB) in the operational budget of the education department of north Sulawesi province, Journal riset akuntansi V. 18, N 4
- Nuha Safi Abd (2023) The role of the activity –based budgeting approach in preparing planning budget and costs control: An applied study in SDI company, American journal of economics and business management
- Omar,fikrat fatch and Hasan Ozyaplcl , (2019) The impact of the magnitude of overhead cost on the dipference between ABC and TDABC systems, foundations of management vol 11
- Orhan Elmac and Kadir Tutkavul (2020) Activity Based Budgeting Model integrated with balanced scorecard As Cycle of increasing corporate per formance Journal of Academic Value Studies ISSN 2149-8598 Volume 6 No 3.
- Rashid, Sumaya Abdullah (2020) Integration between zero-based budgeting and activity-based budgeting and its impact on achieving the strategic goals of economic unity, Master’s thesis at the College of Administration and Economics, University of Karbala.
- Ramune Pockeviciute (2008) Case Study: Activity based Budgeting At Agricu Ltural Holdings in Lithuania Economic and Rural Development,Volume 4 No 2 ISSN1822-3346 .
- Ramune Pockeviciute (2020) The theoretical model of Activity- Based Budgeting in Agricultural Enterprises.
- Salah, Mahdi Jawad, Ahmed, Naser Abbas & Ali, Abdulhassan(2023) the role of integration between target costing and time drive activity based budgeting technigues in managing time and cost and its reflection in achieving competitive advantage, Foundations of management; Vol. 15
- Sangita shakga , Suzanne robinson & sean randall (2025) time driven activity based costing and its use in health economic analysis a systematic literature review, APPLIED HEALTH ECONOMICS AND HEALTH POLICY.
- Surya, Hadi kurniawan & Nengzih , Nengzih(2020) proposed Application of Activity Based Budgeting (ABB)Method in Nataral Cas usage cost management on frits production (case study PTXYZ) Saudi Journal of bushes and mangment studies ISSN 2415-6671(online).
- Sultan, Qaddouri Houda (2017) Integration between cost management systems and activity-based budgeting (ABC, ABM, ABB), Faculty of Economic Sciences, Commercial Sciences and Management Sciences, University of Al-Baladah, National Forum on Management Control and an Agency for Institutional Governance and Activating Creativity.
- Tandung Huynh, Huyhanh Huynh & Guangming Gong (2013) Integration of activity-based budgeting and activity – based management, International Journal of economics, finance and management sciences Volume 1, No 4 p181-187
- Tatik Amani, Khusnik Hudzafidah, HanifahIndah Wulandari , (2021) Utilization of the Time Driven Activity Based Costing Method in Determining the Cost of Room Rent at Hotel Tampiaro Probolinggo International Journal of Social Science and Business Volume 5, Number 4
- Ziad. Odeh AL-Aamaedeh, (2020) Reaquirements and obstacles of activity – based budgeting (ABC) implement a tion in Jordanian public- sharing pharmaceutical companies.