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Application of Activity-Based Costing and Time-Driven Activity-Based Costing for Kitchen Cabin

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Abstract

Kitchen cabinets started to have a big historical impact on Malaysia in the nineteenth century. The drawback with traditional costing methods is that they fail to offer enough information that are crucial to customers, such quality and service. Activity-based costing (ABC) was created to address traditional costing’s limitations in complex product environments. However, it is not universally accepted as it overlooks unused capacity for forecasting. This work compares ABC and time-driven ABC (TDABC) to assess cost sustainability in kitchen cabinet production by determining the cost driver rate and analyzing unused capacity of time and cost, respectively. Data from a Johor-based furniture manufacturer was collected. The work successfully compares both methodologies, considering various factors. Ultimately, the forecast cost and capacity utilization in kitchen cabinet production have been determined. By applying ABC method, a single unit of kitchen cabinets is predicted to cost as much as MYR 3426.32. Whereas in TDABC, the unused capacity of time and cost are –5208.80 min and MYR –2838.32, accordingly. It concludes that both have strengths based on industry needs, but proving TDABC’s efficiency is essential as it is simpler, cheaper, and more powerful than ABC. Nonetheless, neither ABC nor TDABC is well-suited for kitchen cabinets manufacturing. The process of building kitchen cabinets involves inherent complexity, such as variations in measurements, material availability, and design specifications. Based on the given factors, such as higher uncertainties, biases in assumptions and inaccurate data collection, it will draw limitations in obtaining accurate and reliable data for ABC and TDABC.

Keywords

[Kitchen cabinet](#) [Activity-based costing](#) [Time-driven activity-based costing](#)

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References

1. Kitchen cabinets market—Growth, trends, COVID-19 impact, and forecasts (2023–2028). Retrieved from <https://www.mordorintelligence.com/industry-reports/kitchen-cabinets-market>. Accessed on 25 June 2023
 2. Tsai WH (1996) Activity-based costing model for joint products. *Comput Ind Eng* 31(3):725–729
 3. Mahal I, Hossain A (2015) Activity-based costing (ABC)—an effective tool for better management. *Res J Finan Account* 6(4):66–74
 4. Shihab WK, Prasad S (2022) Activity based costing system. *Int J Scien Res* 8(7):18288–18306
 5. The disadvantages and advantages of activity-based costing. Retrieved from <https://smallbusiness.chron.com/disadvantages-advantages-activitybased-costing-45096.html>. Accessed on 25 June 2023
 6. Cidav Z, Mandell D, Pyne J et al (2020) A pragmatic method for costing implementation strategies using time-driven activity-based costing. *Implement Sci* 15(1):28
 7. Kaplan RS, Anderson SR (2007) *Time-driven activity-based costing, a simpler and more powerful path to higher profits*. Harvard Business School Press
 8. Barros RS, Ferreira AMDSC (2017) Time-driven activity-based costing: designing a model in a Portuguese production environment. *Qual Res Account Manage* 14(1):2–20
 9. Pashkevich N, von Schéele F, Haftor DM (2023) Accounting for cognitive tie in activity-based costing: a technology for the management of digital economy. *Technol Forecast Soc Change* 186
 10. Ganorkar AB, Lakhe RR, Agrawal KN (2019) Methodology for application of maynard operation sequence technique (MOST) for time-driven activity-based costing (TDABC). *Int J Product Perform Manag* 68(1):2–25
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