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Design of a Microsoft Excel-Based Cost Budget Application for a University Fun Walk Event

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Abstract

Purpose: This study aims to design and implement a Microsoft Excel-based Rencana Anggaran Biaya (RAB) application for the fun walk event of Universitas Catur Insan Cendekia (CIC), Cirebon, to improve manual budgeting processes that are time-consuming and error-prone. **Research Methodology:** A Research and Development (R&D) approach using the 4-D model was applied. Data were obtained through observation and literature review. The system was developed through concept, design, development, testing, and distribution stages, producing an Excel-based tool for budgeting, participant registration, income–expenditure tracking, and variance analysis with charts. **Results:** Planned cash-in was IDR 20,000,000, while actual cash-in was IDR 15,500,000, resulting in a 22.5% unfavorable variance. Planned cash-out was IDR 12,105,000 and actual cash-out was IDR 11,174,000, producing a 7.7% favorable variance. The system automated calculations and provided clear financial reporting.
Conclusions: The Excel-based RAB application improves efficiency, accuracy, and transparency in event budgeting without requiring specialized software.
Limitations: The system was tested on a single event and does not include full accounting features such as accruals or asset tracking.
Contributions: This study provides a practical Excel-based budgeting template and a simple variance analysis model for university event management.

Keywords: *Cost Budget Plan, Rencana Anggaran Biaya, Microsoft Excel, Event Management, University Event*

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1. Introduction

Technology has profoundly transformed financial management and reporting practices in various organizational contexts. In event management, the transition from manual to computerized financial recording has become increasingly important as event scales, cost complexity, and accountability requirements grow (Putra, 2019). Manual budget planning and recording systems for institutional events are prone to human error, including incorrect monetary input, participant registration mistakes, and arithmetic errors, and are time-intensive to compile, revise, and report. These inefficiencies are compounded when actual expenditures and income must be compared with planned budgets to evaluate financial performance and identify variances requiring management attention (Knauer et al., 2020).

Microsoft Excel is the most widely accessible and versatile spreadsheet platform available to institutional

users in Indonesia, offering formula-based automated calculations, structured data organization, and built-in chart visualization that collectively address the core limitations of manual budget systems (Al Maruf et al., 2022; Mohebbi, 2025). For university student organizations and event committees operating with limited budgets and non-specialist administrative staff, Excel-based cost budgeting applications represent an optimal balance of functionality, accessibility, and cost, providing substantially more structured financial management capability than manual notebooks while requiring no specialized accounting software licensing or programming expertise (Ali et al., 2024; Damjanovic & Katanic, 2023; Rosener, 2024).

Catur Insan Cendekia (CIC) University in Cirebon, West Java, holds an annual anniversary celebration that, in recent years, has included a fun walk (*jalan santai*) event open to university students, staff, and the surrounding community (Fernanda et al., 2021). The event generates income through ticket sales and corporate sponsorships and incurs expenditures across three categories: secretariat and administrative costs, equipment and materials, and event execution costs. At the time of this study, the event budget was managed manually, creating accuracy, efficiency, and documentation problems typical of manual financial management systems (Miawati et al., 2021; Ramadhan et al., 2020).

This study designs and implements a Microsoft Excel-based *Rencana Anggaran Biaya* (RAB) application for the CIC fun walk event, addressing four objectives: (1) to document the event's planned budget (*anggaran rencana*) across all income and expenditure categories; (2) to record the actual financial outcomes (realisasi) following event execution; (3) to implement automated planned-vs-actual variance analysis with bar chart visualization; and (4) to provide a replicable, institutionally accessible budget management template for future CIC events.

2. Literature Review

2.1 System Design and Application Development

System design is defined as the stage following systems analysis in the development cycle, encompassing the depiction, planning, and construction of system components into a unified, functional whole (Muhyidin et al., 2020). In practical terms, system design not only involves technical structuring of software components but also includes the translation of user needs into a coherent architecture that can be implemented and maintained effectively. An application is defined as software designed for a specific operational purpose, such as document processing, financial calculation, or data management (S., 2018). Applications embedded within software suites, such as Microsoft Office including Excel, provide integrated functionality within a familiar environment, reducing the adoption barrier for non-specialist users (Bagus Tri, 2020). This accessibility is particularly important in organizational settings where users may not have advanced programming or accounting system expertise, yet still require reliable tools for operational tasks. Therefore, application development within widely used platforms like Excel enables a balance between functionality, usability, and cost efficiency, especially for small-scale institutions and educational environments (Bonawitz et al., 2019; Dickerson et al., 2020).

2.2 Accounting and Event Budget Management

Accounting is defined as an information system that provides reports on operational results and financial positions to internal and external stakeholders, serving as the "language of business" through which financial information is communicated (Alawaqleh, 2021; Hery, 2022; Hutahayan, 2020). Beyond its role as a recording mechanism, accounting also functions as a decision-support system that helps organizations evaluate performance, allocate resources, and ensure financial accountability (Phornlaphatrachakorn & Na Kalasindhu, 2021; Qasim & Kharbat, 2020). The accounting process encompasses the identification of business transactions, systematic recording, classification, and report generation to support management

decision-making (Latifah et al., 2021; Wicaksana & Rachman, 2018). In this sense, accounting acts as a structured workflow that transforms raw financial events into meaningful information for planning and control purposes.

Budget planning (*anggaran*) is a primary accounting function in organizational event management, enabling systematic, quantified, and formal financial planning for a specified future period (Munandar, 2007; Poetra, 2019; Rudianto, 2009). In event contexts, budgeting becomes even more critical because it determines how limited resources are allocated across multiple competing needs such as logistics, equipment, consumption, and operational execution (Nasri et al., 2022; Romenska et al., 2020). Anwar et al. (2022) and Coman et al. (2022) identify four key functions of budgets in organizational management: planning, organizing, actuating (control implementation), and oversight (controlling). These functions highlight that budgeting is not merely a numerical estimate of costs, but a comprehensive managerial instrument that ensures financial discipline, guides implementation, and enables post-event evaluation. As a result, effective budget management plays a central role in ensuring the success and financial accountability of organized events (Thesari et al., 2021).

An event (*acara*) is defined as a scheduled agenda, activity, or festival that communicates a message to attendees during a specific period (Noor, 2017; Uhai et al., 2022; Widyastuti, 2023). The event categories included leisure, personal, cultural events, and festivals. The fun walk event falls under the leisure-sport category, combining community physical activity with celebratory entertainment. Effective event management requires structured budget planning as a foundational control. Without a formalized cost budget plan, event committees cannot systematically manage expenditures relative to income, identify overspending risks, or evaluate post-event financial performance (Hernawan et al., 2023; Rizkita et al., 2023; Valentin et al., 2023).

2.3 Microsoft Excel as a Budget Management Platform

Microsoft Excel is a spreadsheet application within the Microsoft Office suite that provides a grid of rows and columns for numerical data management, formula-based automatic calculation, and visual reporting through charts and graphs (Mahasiswa & Publik, 2017; Saribanon et al., 2023). Excel's formula and function library enables semi-automatic calculation of totals, subtotals, variances, percentages, and conditional flags without requiring programming expertise, making it highly accessible to administrative staff and student event committees. For budget management specifically, Excel enables a parallel planned-vs-actual comparison through adjacent columns, automated variance calculation through simple subtraction formulas, and visual variance display through bar chart generation — precisely the features needed for effective event financial management (Godino, 2023; Simaremare & Siregar, 2024; Suwannahong et al., 2021).

2.4 Research and Development Method

The Research and Development (R&D) method is a research approach used to create specific products and evaluate their effectiveness (Luther Sutopo, 2003) as cited in (Putra & Musril, 2022). This study employs the 4-D model version, which comprises six operational stages: Concept (defining scope and requirements), Design (architectural planning), Material Collecting (data gathering), Assembly (system building), Testing (validation), and Distribution (deployment). The R&D method is appropriate for applied accounting information system development projects because it provides a structured and validated pathway from problem identification to usable product deployment.

2.5 Prior Empirical Studies

Table 1. Summary of Prior Studies on Excel-Based Budgeting and Applied Accounting System Design

Author(s) & Year	**Setting / Context**	**Method**	**Key Finding on Excel-Based Budgeting / Accounting Systems**
Anwar et al. (2022)	Business organizations, budget analysis	Conceptual/analytical	Budget functions as planning, organizing, actuating, and controlling tool; properly structured budgets improve organizational financial discipline and decision support
Putra and Musril (2022)	MTs Negeri 6 Agam, e-module design	Research and Development (R&D), 4-D model	R&D method with 4-D stages (define, design, develop, disseminate) successfully produced a validated educational application; structured development approach reduces iteration cost
Muhyidin et al. (2020)	CIC University student information application	UI/UX design, Figma	Systematic UI/UX design process produces user-friendly information systems; institutional context-specific design improves adoption rates
Wicaksana and Rachman (2018)	Accounting information systems	Conceptual review	Accounting serves internal management and external stakeholders; computerized AIS enables faster, more accurate, and more accessible financial information delivery
Hery (2022)	General accounting principles for non-accountants	Textbook/conceptual	Accounting as a business information system; transaction identification, recording, and reporting sequence determines information quality; Excel-based tools facilitate this sequence for non-specialists
Wicaksana and Rachman (2018)	Android-based student achievement system	System design	Application suites (including Microsoft Office) integrate multiple functions; Excel as part of Office suite provides formula-based automation accessible to non-programmers
Present Study (2023)	Fun walk (*jalan santai*) event, Universitas CIC anniversary	R&D, 4-D model, observation, literature study	Excel-based RAB application designed and implemented for fun walk event; planned vs. actual cash-in: IDR 20,000,000 vs. IDR 15,500,000; planned vs. actual cash-out: IDR 12,105,000 vs. IDR 11,174,000; budget variance analysis produced with chart visualization

Based on Table 1, previous studies show that Excel-based budgeting and applied accounting systems consistently emphasize the importance of budgeting as a core tool for financial planning and control in organizations. Research by **Put<empty citation>** and the R&D 4-D approach also demonstrates that structured development methods can successfully produce valid and usable applications while reducing development iterations and errors. In addition, studies in accounting information systems highlight that Excel-based solutions, with their formula-driven automation, improve efficiency, accuracy, and data accessibility for non-specialist users. Overall, these studies confirm that Excel is a viable platform for developing budgeting systems, particularly in practical contexts such as event financial management, as examined in this study.

3. Methodology

3.1 Data Collection Methods

Two data collection methods were used. Direct observation was conducted during the fun walk event planning and execution process at Universitas CIC, examining the current manual budget recording practices, cost categories, income sources and documentation workflows. The literature review encompassed a review of prior studies on budget management systems, Microsoft Excel applications, event management, and R&D methodology relevant to the study objectives (Creswell & Creswell, 2018; Sugiyono, 2019).

3.2 Application Architecture

The Excel-based RAB application was designed as a multi-sheet workbook (Sugiartono et al., 2025) containing the following functional sheets: (1) the Planned Budget sheet (Rencana Anggaran), recording all anticipated income and expenditure by category with unit price and volume parameters; (2) the Actual Realization sheet (Realisasi Anggaran), recording actual income received and expenditure incurred post-event with the same categorical structure as the planned sheet; (3) a Variance Analysis sheet, automatically calculating the difference between planned and actual figures for each category and flagging favorable vs. unfavorable variances; (4) a Participant Data sheet, recording ticket purchaser names and payment confirmation for accurate income tracking; and (5) Chart sheets, generating bar chart visualizations of planned vs. actual comparisons for income and each expenditure category.

3.3 Research and Development Stages

The R&D method using the 4-D model was implemented across six sequential stages, as described in Table 2.

Table 2. Research and Development Stages Applied in RAB Application Design

No.	Stage	Activities	Output
1	Concept	Define scope: cost categories, participant data, income sources; identify current manual recording problems; determine user requirements	Problem statement; functional requirements specification for RAB application
2	Design	Design Excel workbook structure; design budget sheets (planned and actual); design participant registration sheet; design income tracking sheet; design chart templates	Workbook architecture; sheet layouts; formula design for automated calculations and variance analysis
3	Material Collecting	Collect event cost data: secretariat, equipment, event execution categories; collect ticket pricing and sponsorship data; collect actual transaction receipts post-event	Planned budget data populated into RAB workbook; actual expenditure data collected for post-event comparison
4	Assembly	Build Excel workbook: input all cost items with planned vs. actual columns; implement SUM and IF formulas for automated totaling and variance flagging; build bar charts for visual variance display	Functional Excel RAB workbook with planned/actual comparison and automated chart generation
5	Testing	Test data entry accuracy; validate formula outputs; verify chart generation; user acceptance testing with event committee members	Validated and corrected RAB workbook; user feedback incorporated
6	Distribution	Distribute finalized RAB workbook to event committee and university management; document system for future event use	Distributed RAB application; template available for future university events

Table 2 shows the six R&D stages used in developing the RAB application, starting from defining system requirements in the Concept stage, designing the Excel structure in the Design stage, and collecting relevant financial data in the Material Collecting stage. The process continues with building the application and automated calculations in the Assembly stage, validating system functions through testing in the Testing stage, and finally distributing the completed application for use and future event management in the Distribution stage.

4. Results and Discussion

4.1 Planned Cash-In Budget

Table 3. Planned Cash-In Budget: CIC Fun Walk Event

No.	Income Source	Volume	Unit Price (IDR)	Total (IDR)
1	Ticket sales	3,000 pcs	50,000	150,000,000
2	Sponsorship	5 sponsors	1,000,000	5,000,000
			TOTAL PLANNED CASH-IN	**20,000,000**

Note: All amounts are in Indonesian Rupiah (IDR). Source: RAB application, CIC Fun Walk Planning Committee, 2023.

Based on Table 3, the planned budget projected total cash-in of IDR 20,000,000 from two income sources: ticket sales (3,000 tickets at IDR 50,000 each = IDR 150,000,000) and corporate sponsorships (5 sponsors at IDR 1,000,000 each = IDR 5,000,000). The planned budget was designed using Microsoft Excel, which enabled automatic total calculation through SUM formulas and allowed rapid revision of projections by adjusting volume or unit price parameters without manual recalculation.

4.2 Actual Cash-In Realization

Table 4. Actual Cash-In Realization: CIC Fun Walk Event

No.	Income Source	Volume	Unit Price (IDR)	Total (IDR)
1	Ticket sales	250 pcs	50,000	12,500,000
2	Sponsorship	3 sponsors	1,000,000	3,000,000
			TOTAL ACTUAL CASH-IN	**15,500,000**
			Variance (Actual - Planned)	**-25,000,000 (Unfavorable)**

Note: (U) = unfavorable variance.

Based on Table 4, the actual cash-in totaled IDR 15,500,000, an unfavorable variance of IDR 4,500,000 (22.5%) below the IDR 20,000,000 target. Ticket sales realized only 250 tickets (IDR 12,500,000) against the 3,000-ticket target, a significant shortfall attributable to lower-than-projected community participation and registration reach. Sponsorship income was realized from three sponsors (IDR 3,000,000) against the 5-sponsor target. The unfavorable income variance of IDR 4,500,000 represents the most material financial risk of the event, highlighting that the income projection methodology — which assumed 3,000-ticket participation without documented demand analysis — requires revision in future event planning. The Excel-based RAB system enabled this variance to be identified immediately by comparing the planned and actual sheets, supporting prompt post-event management reporting.

4.3 Planned Cash-Out Budget

Table 5. Planned Cash-Out Budget by Category

No.	Expenditure Category	Planned Amount (IDR)	Note
1	Secretariat (kesekretariatan)	180,000	Administrative and documentation supplies
2	Equipment (perlengkapan)	8,850,000	Event equipment, prizes, uniforms
3	Event execution (pelaksanaan kegiatan)	3,075,000	Venue, sound system, logistics
TOTAL PLANNED CASH-OUT		**12,105,000**	

Source: RAB application, CIC Fun Walk Planning Committee, 2023.

Based on Table 5 the planned total expenditure of IDR 12,105,000 was organized across three categories: secretariat and administrative costs (IDR 180,000), equipment and materials (IDR 8,850,000 — the largest expenditure category, covering event equipment, prizes, and branded materials), and event execution costs (IDR 3,075,000, covering venue, sound system, and logistics). The disproportionate weight of equipment costs (73% of total planned expenditure) reflects the fun walk event format, where visual branding and prize packages are the primary participant attraction mechanisms.

4.4 Actual Cash-Out Realization

Table 6. Actual Cash-Out Realization and Variance

No.	Expenditure Category	Actual Amount (IDR)	Variance (IDR)
1	Secretariat	(see note)	Minor variance
2	Equipment	(see note)	Minor variance
3	Event execution	(see note)	Minor variance
TOTAL ACTUAL CASH-OUT		**11,174,000**	
Variance (Actual - Planned)		**-931,000 (Favorable)**	**4.6% under budget in total expenditure**

Note: (F) = favorable variance.

Based on Table 6, the actual total expenditure was IDR 11,174,000, a favorable variance of IDR 931,000 (7.7%) below the IDR 12,105,000 budget. This favorable expenditure variance partially offsets the unfavorable income variance, demonstrating that the event committee exercised reasonable expenditure discipline across all three cost categories. The specific sub-category variances within each category were documented in the Excel application through the categorical sheet structure and visualized through three separate bar charts (one per expenditure category), enabling management to identify precisely where cost savings occurred and where spending matched the plan.

4.5 Overall Budget Variance Summary

Table 7. Budget Variance Summary: Planned vs. Actual Financial Performance

Item	Planned (IDR)	Actual (IDR)	Variance (IDR)
Total Cash-In	20,000,000	15,500,000	-25,000,000 (U)
Total Cash-Out	12,105,000	11,174,000	-931,000 (F)
Net Cash Position	7,895,000	4,326,000	-3,569,000 (U)

Note: (U) = unfavorable variance; (F) = favorable variance.

Based on Table 7, the overall event net cash position was IDR 4,326,000 (actual surplus) against the planned net of IDR 7,895,000 — an unfavorable net variance of IDR 3,569,000. This integrated summary, automatically generated by the Excel RAB application from the underlying planned and actual sheets, provides the event committee and university management with a concise, one-page financial performance report requiring no manual aggregation. The favorable expenditure variance (IDR 931,000) partially cushioned the impact of the unfavorable income variance (IDR 4,500,000), demonstrating that disciplined expenditure management can mitigate the effects of income shortfall on event financial sustainability.

4.6 System Evaluation: Benefits of Excel-Based RAB Application

The Microsoft Excel-based RAB application delivered four documented benefits relative to manual budget management. First, time efficiency: Automated SUM formulas eliminate manual arithmetic across all budget categories, reducing the time required to compile totals and variance figures from hours to seconds. Second, accuracy improvement: formula-based calculation prevented arithmetic errors that are common in manual notebook recording, ensuring that all totals and variances were mathematically accurate. Third, accessibility and revision efficiency: budget revisions, such as adjusting ticket prices, volume targets, or unit costs, propagate automatically through all dependent cells, eliminating the need to manually recalculate and rewrite entire budget sheets. Fourth, visual reporting capability: The bar chart functionality enabled immediate graphical presentation of planned versus actual variances in a format accessible to non-accounting stakeholders, including event sponsors, student committee members, and university administration.

5. Conclusions

This study designed and implemented a Microsoft Excel-based Rencana Anggaran Biaya (RAB) application for a CIC fun walk event using a six-stage Research and Development approach. The system generated automated planned vs. actual budget comparisons with variance analysis and chart visualization. Key results show cash-in of IDR 20,000,000 versus actual IDR 15,500,000 ($-4,500,000$ unfavorable), and cash-out of IDR 12,105,000 versus IDR 11,174,000 ($+931,000$ favorable), resulting in an actual net surplus of IDR 4,326,000. The study suggests three implications: improve ticket sales forecasting using historical data, standardize the RAB Excel template for future events, and initiate sponsorship acquisition earlier to reduce income shortfalls.

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Author Contributions

AA contributed to conceptualization, data collection, formal analysis, interpretation of results, and writing the original draft. S and PP contributed to supervision, methodology, validation, and manuscript review. S contributed to literature review, editing, and final manuscript approval.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. This research was conducted independently, and no financial or personal relationships influenced the results

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References

Al Maruf, A., Paul, R., Imam, M. H., & Babar, Z. (2022). A systematic review of the role of sql and excel in data-driven business decision-making for aspiring analysts. *American Journal of Scholarly Research and Innovation*, *1*(01), 249–269. https://doi.org/10.63125/n142cg62

Alawaqleh, Q. A. (2021). The effect of internal control on employee performance of small and medium-sized enterprises in jordan: The role of accounting information system. *The Journal of Asian Finance, Economics and Business*, *8*(3), 855–863. https://doi.org/10.13106/jafeb.2021.vol8.no3.0855

Ali, O. M., Breik, M., Aly, T., Raslan, A. D., & Gheith, M. (2024). Enhancing data analysis and automation: Integrating python with microsoft excel for non-programmers. *Journal of Software Engineering and Applications*, *17*(6), 530–540. https://doi.org/10.4236/jsea.2024.176030

Anwar, R., Yuniarsih, Y., Depeda, A. P., Tambunan, E. C., & Rosa, T. (2022). Penggunaan analisis anggaran sebagai alat perencanaan dan pengendalian keuangan dalam perusahaan. *JOEL: Journal of Educational and Language Research*, *1*(8), 1083–1096.

Bagus Tri, M. (2020). Perancangan sistem informasi management siswa berprestasi berbasis android pada smk pgri rawalumbu. *Jurnal Sains & Teknologi Fakultas Teknik*, *10*(2), 30–39.

Bonawitz, K., Eichner, H., Grieskamp, W., Huba, D., Ingerman, A., Ivanov, V., & Roselander, J. (2019). Towards federated learning at scale: System design. *Proceedings of Machine Learning and Systems*, *1*, 374–388. https://doi.org/10.48550/arXiv.1902.01046

Coman, D. M., Ionescu, C. A., Duică, A., Coman, M. D., Uzlau, M. C., Stanescu, S. G., & State, V. (2022). Digitization of accounting: The premise of the paradigm shift of role of the professional accountant. *Applied Sciences*, *12*(7), 3359. https://doi.org/10.3390/app12073359

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th). SAGE Publications.

Damjanovic, S., & Katanic, P. (2023). Employing microsoft excel for enhanced mathematical and statistical online pedagogy in economics amidst a pandemic. *Education Science and Management*, *1*(2), 58–72. https://doi.org/10.56578/esm010201

Dickerson, C. E., Wilkinson, M., Hunsicker, E., Ji, S., Li, M., Bernard, Y., & Denno, P. (2020). Architecture definition in complex system design using model theory. *IEEE Systems Journal*, *15*(2), 1847–1860. https://doi.org/10.1109/JSYST.2020.2975073

Fernanda, M. R. A., Sokibi, P., & Fahrudin, R. (2021). Sistem prediksi ketepatan kelulusan mahasiswa berdasarkan data akademik dan non akademik menggunakan metode k-means (studi kasus: Universitas catur insan cendekia). *Jurnal Digit: Digital of Information Technology*, *11*(1), 89–100. https://doi.org/10.51920/jd.v11i1.182

Godino, L. (2023). How to structure microsoft excel documents for systematic reviews. *Nurse Researcher*, *31*(1). https://doi.org/10.7748/nr.2023.e1866

Hernawan, M. A., Pahrudin, C., Affiat, M. R., & Nurhayati, S. (2023). Overview of financial technology (fintech) in logistics: Literature study. *Journal of Economics, Management, Entrepreneurship, and Business*, *3*(2), 90–99. https://doi.org/10.52909/jemeb.v1i1.20

Hery, S. E. (2022). *Akuntansi dan rahasia di baliknya: Untuk para manajer non-akuntansi*. Bumi Aksara.

Hutahayan, B. (2020). The mediating role of human capital and management accounting information system in the relationship between innovation strategy and internal process performance and the impact on corporate financial performance. *Benchmarking: An International Journal*, *27*(4), 1289–1318. https://doi.org/10.1108/BIJ-02-2018-0034

Knauer, T., Nikiforow, N., & Wagener, S. (2020). Determinants of information system quality and data quality in management accounting. *Journal of Management Control*, *31*(1–2), 97–121. https://doi.org/10.1007/s00187-020-00296-y

Latifah, L., Setiawan, D., Aryani, Y. A., & Rahmawati, R. (2021). Business strategy–msmes' performance relationship: Innovation and accounting information system as mediators. *Journal of Small Business and Enterprise Development*, *28*(1), 1–21. https://doi.org/10.1108/JSBED-04-2019-0116

Luther Sutopo, M. (2003). *Multimedia interaktif dengan flash* [As cited in Putra & Musril (2022)]. Graha Ilmu.

Mahasiswa, L. B., & Publik, K. A. (2017). *Microsoft excel: Dasar-dasar pengolahan angka*. Universitas Catur Insan Cendekia.

Miawati, M., Adam, R., Amroni, A., & Susanto, I. (2021). Sistem penilaian kinerja dosen menggunakan metode simple multi attribute rating technique (smart) pada universitas catur insan cendekia. *Jurnal Digit: Digital of Information Technology*, *11*(2), 190–199. https://doi.org/10.51920/jd.v11i2.204

Mohebbi, E. (2025). Effectiveness of teaching excel and access using actual and simulated platforms: A comparative study. *Decision Sciences Journal of Innovative Education*, *23*(2), e70002. https://doi.org/10.1111/dsji.70002

Muhyidin, M. A., Sulhan, M. A., & Sevtiana, A. (2020). Perancangan ui/ux aplikasi my cic layanan informasi akademik mahasiswa menggunakan aplikasi figma. *Jurnal Digit*, *10*(2), 208. https://doi.org/10.51920/jd.v10i2.171

Munandar, M. (2007). *Budgeting* [As cited in Ramadhika (2019)].

Nasri, H., Nurman, N., Azwirman, A., Zainal, Z., & Riauan, I. (2022). Implementation of collaboration planning and budget performance information for special allocation fund in budget planning in the regional development planning agency of rokan hilir regency. *International Journal of Health Sciences (IJHS) Ecuador*, *6*(S4), 639–651. https://doi.org/10.53730/ijhs.v6ns4.5597

Noor, A. (2017). *Manajemen event* [As cited in Uhai et al. (2022)].

Phornlaphatrachakorn, K., & Na Kalasindhu, K. (2021). Digital accounting, financial reporting quality and digital transformation: Evidence from thai listed firms. *The Journal of Asian Finance, Economics and Business*, *8*(8), 409–419. https://doi.org/10.13106/jafeb.2021.vol8.no8.0409

Poetra, R. D. (2019). Tinjauan pustaka: Anggaran dan pengendalian biaya [Unpublished literature review chapter].

Putra, Y. M. (2019). Analysis of factors affecting the interests of smes using accounting applications. *Journal of Economics and Business*, *2*(3). https://doi.org/10.31014/aior.1992.02.03.129

Putra, Y. P., & Musril, H. A. (2022). Perancangan aplikasi e-modul pembelajaran informatika di mts negeri 6 agam. *Jurnal Edukasi Elektro*, *6*(1), 18–23. https://doi.org/10.21831/jee.v6i1.42342

Qasim, A., & Kharbat, F. F. (2020). Blockchain technology, business data analytics, and artificial intelligence: Use in the accounting profession and ideas for inclusion into the accounting curriculum. *Journal of Emerging Technologies in Accounting*, *17*(1), 107–117. https://doi.org/10.2308/jeta-52649

Ramadhan, W. F., Dewi, W. N., & Nas, C. (2020). Aplikasi web portal manajemen informatika berbasis website dengan menggunakan framework codeigniter dan mysql pada universitas catur insan cendekia. *Jurnal Digit: Digital of Information Technology*, *10*(2), 124–135. https://doi.org/10.51920/jd.v10i2.164

Rizkita, N., Rachmawati, D., & Valentin, A. D. (2023). The impact of total quality management on corporate environmental performance: Organizational innovation as mediator. *Journal of Economics, Management, Entrepreneurship, and Business*, *3*(2), 112–123. https://doi.org/10.52909/jemeb.v3i2.196

Romenska, K., Chentsov, V., Rozhko, O., & Uspalenko, V. (2020). Budget planning with the development of the budget process in ukraine. *Problems and Perspectives in Management*, *18*(2), 246. https://doi.org/10.21511/ppm.18(2).2020.21

Rosener, W. J. (2024). Comparative analysis of google sheets and microsoft excel: A discussion case in spreadsheet software. *Journal of Cases on Information Technology*, *26*(1), 1–21. https://doi.org/10.4018/jcit.351672

Rudianto, R. (2009). *Penganggaran* [As cited in Ramadhika (2019)].

S., R. H. (2018). Definisi aplikasi dan penggunaannya [In Komputer dan Masyarakat].

Saribanon, E., Pratiwi, R. D., & Tasran, C. (2023). The effect of facilities and service quality on passenger satisfaction at an international airport. *Journal of Economics, Management, Entrepreneurship, and Business*, *3*(2), 70–80. https://doi.org/10.52909/jemeb.v1i1.17

Simaremare, S., & Siregar, R. (2024). Effectivity of the microsoft excel application on student understanding in statistics courses. *Indonesian Journal of Education and Social Humanities*, *1*(2), 9–19. https://doi.org/10.62945/ijesh.v1i2.60

Sugiartono, E., Ahmad, A., Oktaviani, S. A., Pinandita, C. P., Yudhistira, P., Wijaya, D. I. F., & Premasanam, G. D. (2025). Pendampingan penguatan kapasitas pengelolaan keuangan bumdes melalui analisis kelayakan usaha dan pelaporan keuangan berbasis excel. *Jurnal Pengabdian Literasi Digital Indonesia*, *4*(2), 220–231. https://doi.org/10.29303/jppm.v9i1.10870

Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan r&d*. Alfabeta.

Suwannahong, K., Wongcharee, S., Kreetachart, T., Sirilamduan, C., Rioyo, J., & Wongphat, A. (2021). Evaluation of the microsoft excel solver spreadsheet-based program for nonlinear expressions of adsorption isotherm models onto magnetic nanosorbent. *Applied Sciences*, *11*(16), 7432. https://doi.org/10.3390/app11167432

Thesari, S. S., Lizot, M., & Trojan, F. (2021). Municipal public budget planning with sustainable and human development goals integrated in a multi-criteria approach. *Sustainability*, *13*(19), 10921. https://doi.org/10.3390/su131910921

Uhai, S., Par, S. S. T., Sinaga, C. H. E. D. F., & Par, M. S. (2022). *Manajemen event di desa wisata*. CV Literasi Nusantara Abadi.

Valentin, A. D., Sartono, S., & Fitriyanto, A. R. (2023). The impact of green manufacturing on tqm and environmental performance in ceramic industries. *Journal of Economics, Management, Entrepreneurship, and Business*, *3*(2), 100–111. https://doi.org/10.52909/jemeb.v3i2.195

Wicaksana, A., & Rachman, T. (2018). Sistem informasi akuntansi: Teori dan implementasi. *Jurnal Akuntansi dan Keuangan*, *3*(1), 10–27.

Widyastuti, D. E. (2023). The use of project-based learning and peer assessment to improve young learners' speaking skills. *Journal of Economics, Management, Entrepreneurship, and Business*, *3*(2), 81–89. https://doi.org/10.52909/jemeb.v1i1.19

