BUDGET EASE 2.0

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ABSTRACT
Budget Ease 2.0 is an innovative open educational resource designed to simplify and enhance the learning process for students in preparing cash budgets. Built on Microsoft Excel, this upgraded tool retains its core functionality of streamlining cash flow budgeting while integrating an interactive gamification element to reinforce conceptual understanding. The tool automates calculations, reducing the time and effort required for manual processing, and provides a user-friendly experience tailored for accounting and finance students. The latest feature in Budget Ease 2.0 includes a dedicated game sheet developed using Flippity.net, designed to engage students in identifying transactions as cash receipts or cash payments. This interactive approach deepens students' understanding of cash flow components, allowing them to apply theoretical knowledge in a practical and enjoyable manner. By integrating this element, Budget Ease 2.0 enhances conceptual learning and decision-making skills, making cash budgeting more intuitive and accessible. The novelty of Budget Ease 2.0 lies in its dual functionality: providing accurate, automated cash budgeting solutions while incorporating game-based learning to improve engagement and retention. Unlike conventional spreadsheet-based tools, this version fosters active learning through an interactive, feedback-driven experience. As an open educational resource, it is adaptable for various learning environments, including both synchronous and asynchronous online classes. Future developments of Budget Ease aim to expand its capabilities further, including a comprehensive annual cash flow feature and AI-driven insights for enhanced financial analysis. By continuously refining its features and responding to user feedback, Budget Ease 2.0 bridges the gap between theoretical understanding and practical application, fostering financial literacy and decision-making proficiency among students.

KEYWORDS: *Budget Ease, Budgeted Cash Flow, Gamification, Financial Management, Microsoft Excel, Open Educational Resource (OER)*

PROBLEM AND OBJECTIVE

Accounting education often presents challenges in bridging theoretical concepts with practical applications. Cash budgeting, an essential financial management skill, requires students to distinguish between cash receipts and cash payments while preparing structured budgets. Traditional methods, which rely on manual calculations and textbook examples, often fail to provide the interactive engagement necessary for effective learning (Abdel-Rahim, 2021). Research suggests that digital tools improve comprehension and retention in accounting education by offering hands-on learning experiences (Tettamanzi et al., 2023; Apostolou et al., 2013). Another problem is the usage of conventional reference sources, namely textbooks, since extensive passages from textbooks quickly bore students. It is possible that even after reading the same explanation numerous times, students still fail to comprehend the essential ideas or recall the methods. According to Shahrzadi et al. (2024), passive exposure to a big volume of information over time causes attention loss and lowers learning desire. Following the misunderstanding, delayed feedback from instructors or peers exacerbates the problem, leading students to get stuck on simple categorisation tasks and unable to move confidently.

The objective of Budget Ease 2.0 is to enhance students' understanding of cash budgeting through an interactive Excel-based tool. It aims to simplify complex calculations, provide instant feedback, and integrate gamification to promote engagement. Additionally, the tool is designed to function in both online and offline learning environments, addressing accessibility issues in accounting education (Sugahara & Boland, 2014). The second objective is to increase student motivation while reducing cognitive load by breaking down the cash budgeting activity into real-time game-based tasks in a spreadsheet. The tool turns passive reading into engaging study by incorporating interactive exercises that push students to identify transactions in real time and get rapid corrective feedback. Similar work by Cheng & Tang (2023) proposes an Excel-VBA role-playing game that encourages students to identify data inputs as inflows or outflows and gives rapid feedback.

DESIGN DESCRIPTION

Budget Ease 2.0 is an Excel-based tool that automates cash budget preparation. Users input essential data such as company name, year, quarter, cash receipts, cash payments, and opening cash balance. The tool then generates a structured cash budget, eliminating the need for manual computations. The Excel begins with the Let's Play sheet, a Flippity.net integrated game that enables students to classify transactions into cash receipts or payments and get instant feedback. This icebreaker incorporates active classification methods straight into Excel, lowering barriers to interaction before moving on to the Data sheet to enter company data, period settings, and cash items, and finally to the Budget Statement sheet for finished output ready to review or print. The newly introduced game sheet, created using Flippity.net, presents students with interactive exercises where they classify transactions as either cash receipts or cash payments. Immediate feedback reinforces learning, making it easier for students to understand cash flow concepts. This design aligns with constructivist learning principles, emphasizing active engagement and experiential learning (Brink, 2023; Kolb, 1984).

VISUALS

Figure 1 depicts the basic setup and startup of Budget Ease 2.0. When users download the file "Budget Ease 2.0.xlsm", Windows will prompt users to right-click it, choose Properties, check Unblock, and then apply changes. The user will get a security alert as soon as they open the worksheet in Excel. Users just need to click Enable Content to activate the integrated macros and VBA functions.

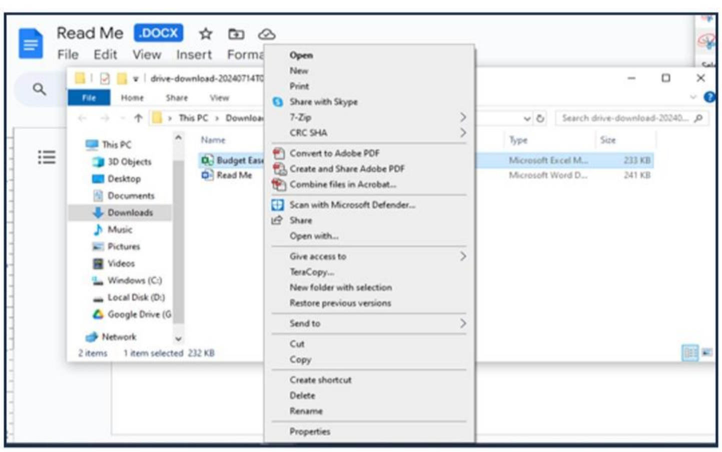


Figure 1: Basic setup and startup of Budget Ease 2.0

The "Let's Play" sheet serves as the starting point for Budget Ease 2.0, initiating students into an interactive categorisation task. To begin the Flippity.net game, students must first identify whether each transaction is a cash receipt or a cash payment. They proceed to press the big blue "▶" button. The Excel tab bar at the bottom of the screen shows the three main sheets namely Let's Play, Data, and Budget Statement - ensuring students always know where they are in the workflow.

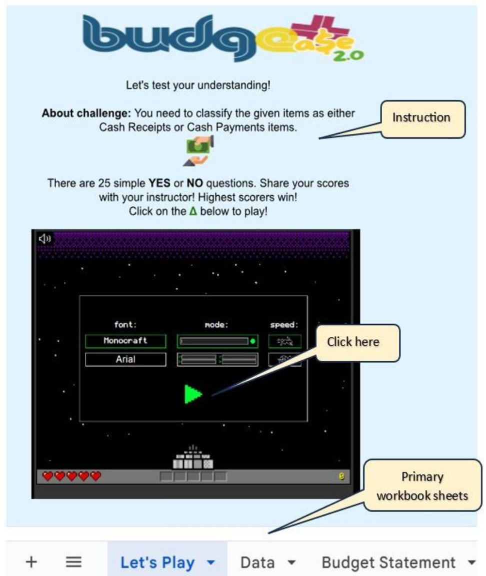


Figure 2: Let’s Play Interactive Game Sheet depicts the interface.

Figure 3 displays the Data sheet, which is positioned on the workbook's second tab and serves as the primary data input interface for Budget Ease 2.0. This sheet includes clearly labelled input sections on how to enter all cash budget data, such as business information, period settings, opening balances, and monthly cash receipts and payments. The use of colour-coded zones and clear prompts ensures that students enter data properly and independently.

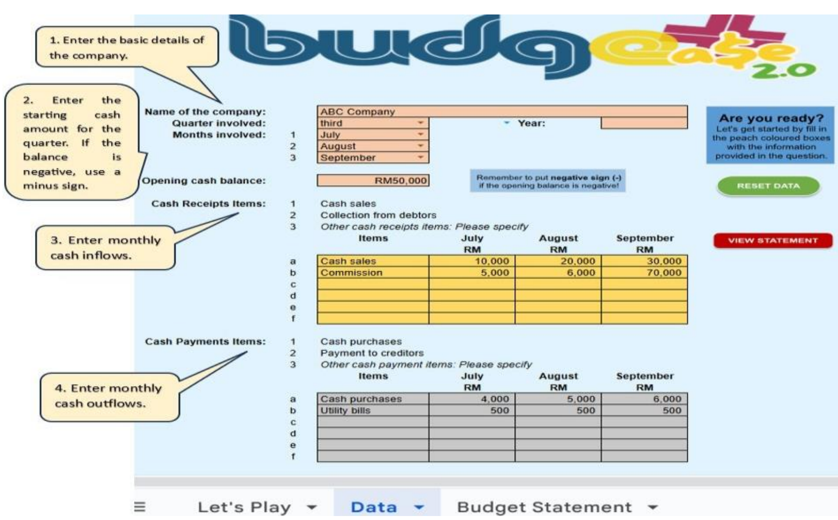
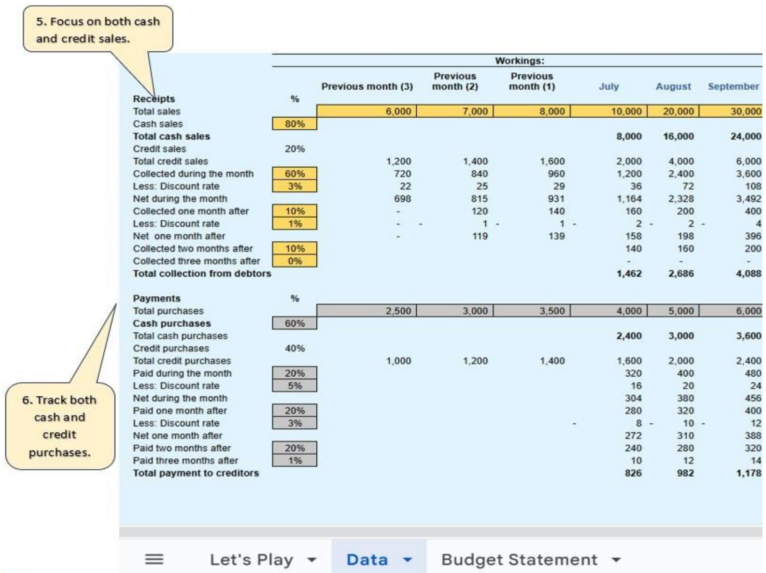


Figure 3: Cash-Budget Data Entry Interface

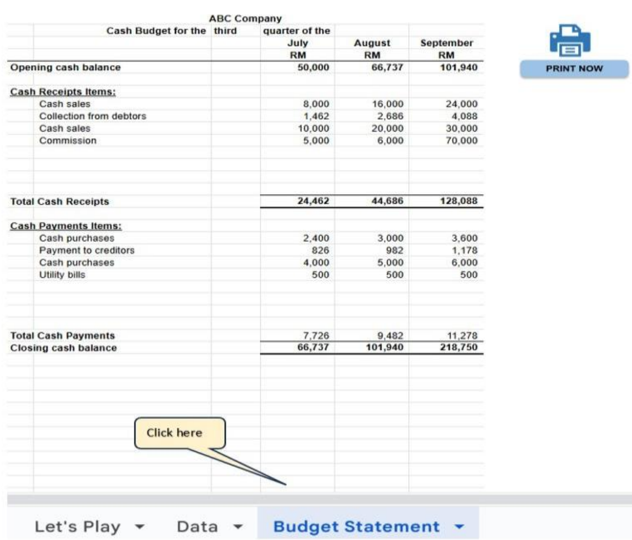
As a continuation of Figure 3, the Work section of the same Data sheet categorises both cash and credit sales as well as purchases by month. Students simply need to input the percentage and amount in the highlighted boxes, and the sheet will compute the net collections and payments for July, August, and September. The instruction box reminds students to consider the time rate and discounts, to ensure that the effect of credit terms is clear without the need for further manual computations.



		Workings:					
		Previous month (3)	Previous month (2)	Previous month (1)	July	August	September
Receipts	%						
Total sales		6,000	7,000	8,000	10,000	20,000	30,000
Cash sales	80%						
Total cash sales					**8,000**	**16,000**	**24,000**
Credit sales	20%						
Total credit sales		1,200	1,400	1,600	2,000	4,000	6,000
Collected during the month	60%	720	840	960	1,200	2,400	3,600
Less: Discount rate	3%	22	25	29	36	72	108
Net during the month		698	815	931	1,164	2,328	3,492
Collected one month after	10%	-	120	140	160	200	400
Less: Discount rate	1%	-	- 1	- 1	- 2	- 2	- 4
Net one month after		-	119	139	158	198	396
Collected two months after	10%				140	160	200
Collected three months after	0%				-	-	-
Total collection from debtors					**1,462**	**2,686**	**4,088**
Payments	%						
Total purchases		2,500	3,000	3,500	4,000	5,000	6,000
Cash purchases	60%						
Total cash purchases					**2,400**	**3,000**	**3,600**
Credit purchases	40%						
Total credit purchases		1,000	1,200	1,400	1,600	2,000	2,400
Paid during the month	20%				320	400	480
Less: Discount rate	5%				16	20	24
Net during the month					304	380	456
Paid one month after	20%				280	320	400
Less: Discount rate	3%				- 8	- 10	- 12
Net one month after					272	310	388
Paid two months after	20%				240	280	320
Paid three months after	1%				10	12	14
Total payment to creditors					**826**	**982**	**1,178**

Figure 4: Monthly Cash and Credit Workings Section

Figure 5 displays the Budget Statement page (included on the last tab), where all inputs and work are directed towards a properly structured cash budget. The opening balance, computed cash receipts, and monthly payment flows are used to generate total receipts, total payments, and a closing balance. The noticeable "Print Now" button allows students or instructors to produce a printed copy. This structure provides students a clear, end-to-end picture of their budget findings without requiring further manual processing.



ABC Company

Cash Budget for the third quarter of the

	July RM	August RM	September RM
Opening cash balance	50,000	66,737	101,940
Cash Receipts Items:			
Cash sales	8,000	16,000	24,000
Collection from debtors	1,462	2,686	4,088
Cash sales	10,000	20,000	30,000
Commission	5,000	6,000	70,000
Total Cash Receipts	24,462	44,686	128,088
Cash Payments Items:			
Cash purchases	2,400	3,000	3,600
Payment to creditors	826	982	1,178
Cash purchases	4,000	5,000	6,000
Utility bills	500	500	500
Total Cash Payments	7,726	9,482	11,278
Closing cash balance	66,737	101,940	218,750

Figure 5: Final Cash Budget Statement

NOVELTY AND UNIQUENESS

Budget Ease 2.0 differentiates itself by integrating gamification into an Excel-based budgeting tool. Unlike standard spreadsheet templates, which focus solely on calculations, this tool incorporates an interactive element to reinforce conceptual understanding. Studies indicate that gamification enhances student motivation and engagement in learning (Alshurafat et al., 2021; Hamari et al., 2014). The inclusion of game-based exercises helps bridge the gap between theoretical knowledge and real-world application, making accounting education more effective and enjoyable.

BENEFITS TO MANKIND

This innovation addresses a fundamental gap in accounting education by making cash budgeting more accessible and interactive. It promotes financial literacy among students, preparing them for real-world financial management (Jackling et al., 2012). Additionally, by reducing reliance on printed materials and manual computations, Budget Ease 2.0 aligns with sustainable education practices, contributing to environmental conservation (Thottoli, 2021; UNESCO, 2019).

COMMERCIAL POTENTIAL

Budget Ease 2.0 has strong commercial viability as an educational tool. It can be adopted by universities, accounting training programs, and financial literacy initiatives. Potential monetization strategies include institutional licensing, premium versions with additional features, and integration with online learning platforms. Given the increasing demand for digital learning solutions in accounting education, Budget Ease 2.0 presents a compelling value proposition (Watty et al., 2016).

CONCLUSION

Budget Ease 2.0 revolutionizes cash budgeting education by combining automation with interactive learning. Its Excel-based framework ensures ease of use, while the integrated game feature enhances student engagement and comprehension. Future developments will further refine the tool’s capabilities, incorporating AI-driven insights and expanded reporting functions. By addressing key challenges in accounting education, Budget Ease 2.0 supports the development of essential financial skills, contributing to students’ academic and professional success.

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