



BREAKEVEN BUDDY 2: ENHANCING CVP ANALYSIS THROUGH VISUAL INFOGRAPHIC LEARNING

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ABSTRACT

Cost-Volume-Profit (CVP) analysis is a core topic in management accounting, yet many students struggle to master it due to the reliance on multiple formulas and the challenge of linking theoretical notes with practical application. This often results in confusion when calculating crucial metrics such as the Break-Even Point, Margin of Safety, Target Profit, or Contribution/Sales Ratio. To address this pedagogical gap, we introduce an enhanced iteration of BreakEven Buddy 2, an innovative hybrid tool designed to simplify CVP learning and help students capture its key concepts more effectively. The core enhancement of this current innovation lies in its visual transformation. While the previous version relied on wordy, text-heavy key takeout notes, the upgraded BreakEven Buddy 2 translates these complex concepts into clear, engaging, and highly visual infographic information. What makes BreakEven Buddy 2 unique is its dual function: it serves as both a comprehensive learning resource and a practical guide. Unlike conventional descriptive notes or purely functional worksheets, this tool seamlessly integrates visual explanations with a structured calculation template in one compact format. Students are guided step by step through key areas such as Break-Even analysis (in units and value), targeted profit planning, contribution margin analysis, margin of safety calculations, and multi-product CVP scenarios. The new simple, color-coded infographic design enables quick reference and immediate application, making it exceptionally suitable for lectures, revision, and independent learning. The potential benefits of the newly enhanced BreakEven Buddy 2 are significant. The shift to infographic learning helps students gain greater clarity and confidence in applying CVP concepts, while lecturers save valuable time by reducing repetitive explanations. Furthermore, the template remains highly versatile, with the potential to be developed as a digital resource or app, and its visual framework is adaptable to other complex areas of accounting education. In sum, BreakEven Buddy 2 transforms CVP analysis into an accessible, engaging, and visually impactful learning experience.

KEYWORDS: Accounting Education, Break-Even Point (BEP), Cost-Volume-Profit (CVP) Analysis, Teaching Innovation, Student-Centered Learning.



PROBLEM STATEMENT & OBJECTIVES

Cost-Volume-Profit (CVP) analysis is a core topic in management accounting. It serves as an essential framework for managerial decision-making, allowing businesses to analyze the financial impact of varying production levels and cost structures on overall profitability (Garrison et al., 2021). Yet, many students struggle to master it due to the reliance on multiple formulas and the challenge of linking theoretical notes with practical application. Research in accounting education indicates that students frequently experience cognitive overload when attempting to bridge abstract financial theories with complex numerical applications (Halabi et al., 2005).

This cognitive overload often results in confusion when calculating crucial metrics such as the Break-Even Point, Margin of Safety, Target Profit, or Contribution/Sales Ratio. To make matters worse, previous learning aids often relied on wordy, text-heavy key takeaway notes. According to (Mayer, 2014) Cognitive Theory of Multimedia Learning, presenting complex, quantitative concepts purely through dense text can severely hinder a learner's information processing and retention. Unlike conventional descriptive notes or purely functional worksheets, effective pedagogical tools require a balance of visual and textual cues. The absence of this balance in traditional CVP education creates a significant pedagogical gap.

In addressing this pedagogical gap, we introduce an enhanced iteration of BreakEven Buddy 2, an innovative hybrid tool designed to simplify CVP learning and help students capture its key concepts more effectively. The specific objectives of this project are:

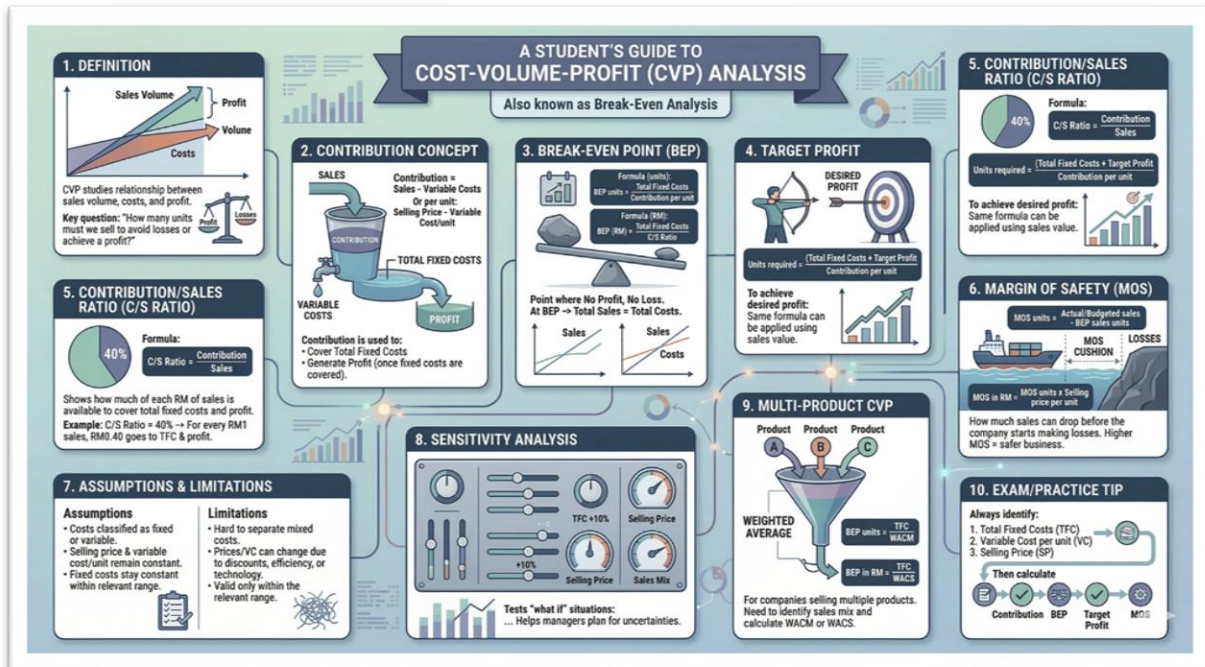
1. To translate complex, text-heavy concepts into clear, engaging, and highly visual infographic information, leveraging the proven educational benefits of visual learning to reduce cognitive strain (Yildirim, 2016).
2. To seamlessly integrate visual explanations with a structured calculation template in one compact format.
3. To guide students' step by step through key areas such as Break-Even analysis (in units and value), targeted profit planning, contribution margin analysis, margin of safety calculations, and multi-product CVP scenarios.

DESIGN DESCRIPTION

BreakEven Buddy 2 is designed as an innovative hybrid educational tool aimed at simplifying management accounting education. Its primary feature is a newly developed, simple, and color-coded infographic design. Functionally, it provides step-by-step guidance through comprehensive CVP domains, including Break-Even analysis (in units and value), targeted profit planning, contribution margin analysis, margin of safety calculations, and multi-product CVP scenarios.



VISUALS



BreakEven Buddy²

Instruction for use: Fill in the **YELLOW** colored box only. The rest of the sheet is already formularized.

BREAK EVEN POINT

Step 1: Find your total fixed cost (TFC)

How much is it? **RM 50,000**

Step 2: Find your contribution margin per unit (CM/u)

SP/unit	40.00
VC/unit	20.00
CM/unit	20.00

NOVELTY & UNIQUENESS

The tool's unique selling point lies in its dual function: it acts as both a comprehensive learning resource and a practical guide. Unlike conventional descriptive notes or purely functional worksheets, this tool seamlessly integrates visual explanations with a structured calculation template in one



compact format. This design aligns closely with Paivio's (1986) Dual Coding Theory, which posits that human cognition processes visual and verbal information through distinct channels, and combining both significantly enhances memory retention. Furthermore, by moving beyond passive, text-heavy notes, the structured calculation template requires active application from the user. Research consistently shows that active learning approaches where students apply concepts immediately rather than just reading about them yield significantly higher academic achievement (Freeman et al., 2014). Because of this design, the tool is exceptionally suitable for diverse target audiences, including management accounting students for independent learning and revision, as well as educators facilitating classroom sessions.

BENEFITS TO MANKIND

1. Empowering Students

The shift to an infographic-based learning model significantly boosts student clarity and confidence when studying and applying complex CVP concepts. It ultimately transforms a traditionally difficult subject into an accessible, engaging, and visually impactful learning experience.

2. Assisting Educators

By providing clear, step-by-step visual guidance, the tool assists educators by saving lecturers valuable instructional time by drastically reducing the need for repetitive conceptual explanations.

3. Promoting Accessible Education and Reducing Academic Anxiety

Beyond traditional classroom benefits, BreakEven Buddy 2 contributes to a broader societal goal of making financial and accounting education more inclusive. The heavy reliance on complex formulas often triggers "math anxiety" or cognitive blocks in learners, which can derail their educational progress. By transforming CVP analysis into an accessible and visually impactful learning experience, the tool helps demystify daunting quantitative metrics. Academic research indicates that integrating visual aids and structured scaffolding can significantly alleviate academic anxiety and improve self-efficacy in mathematics and accounting (Ramirez, Shaw, & Maloney, 2018). Consequently, this innovation lowers the barrier to entry for mastering financial knowledge, empowering not only accounting students but also future entrepreneurs and small business owners who critically need to understand break-even points for sustainable business planning.

COMMERCIAL POTENTIAL

The template remains highly versatile, possessing significant potential to be developed as a digital resource or mobile application in the future. The commercial viability of educational technology (EdTech) is rapidly expanding, with mobile learning (m-learning) tools showing massive adoption rates among university students who increasingly demand flexible, on-the-go study aids (Crompton, 2013). Transitioning BreakEven Buddy 2 into a digital app would perfectly align with these modern consumer learning habits.

Furthermore, the visual framework of BreakEven Buddy 2 is highly adaptable to other complex areas of accounting education. This cross-disciplinary adaptability drastically increases its market appeal, allowing the foundational design to be franchised or expanded into a suite of accounting tools. Because the tool is exceptionally suitable for lectures, revision, and independent learning, it has broad commercial applicability across diverse academic institutions and tutoring centers. As higher



education institutions increasingly invest in digital transformation and student-centered learning resources (Henderson, Selwyn, & Aston, 2017), tools that empower students while helping lecturers save valuable instructional time by reducing repetitive explanations hold a highly competitive edge in the academic marketplace.

CONCLUSION

In conclusion, BreakEven Buddy 2 successfully addresses the persistent pedagogical challenges associated with teaching and learning Cost-Volume-Profit (CVP) analysis. By moving away from wordy, text-heavy notes and replacing them with clear, engaging, and highly visual infographics, this innovative hybrid tool effectively bridges the gap between accounting theory and practical application. Its unique dual function seamlessly integrates visual explanations with a structured calculation template within a single compact format. This visual transformation not only empowers students to gain greater clarity and confidence in mastering crucial metrics, but it also significantly assists educators by reducing repetitive explanations and saving valuable instructional time. With its high versatility, adaptability to other complex accounting domains, and strong potential for future development into a digital app or digital resource, BreakEven Buddy 2 proves to be a highly viable commercial product. Ultimately, it successfully transforms CVP analysis into an accessible, engaging, and visually impactful educational experience.

REFERENCES

- Crompton, H. (2013). A historical overview of mobile learning: Toward learner-centered education. In Z. L. Berge & L. Y. Muilenburg (Eds.), *Handbook of mobile learning* (pp. 3–14). Routledge.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415.
- Garrison, R. H., Noreen, E. W., & Brewer, P. C. (2021). *Managerial accounting* (17th ed.). McGraw-Hill Education.
- Halabi, A. K., Tuovinen, J. E., & Farley, A. A. (2005). Empirical testing of cognitive load theory in accounting education. *Accounting & Finance*, 45(3), 485-502.
- Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of ‘useful’ digital technology in university teaching and learning. *Studies in Higher Education*, 42(8), 1567-1579.
- Mayer, R. E. (2014). *The Cambridge handbook of multimedia learning* (2nd ed.). Cambridge University Press.
- Paivio, A. (1986). *Mental representations: A dual coding approach*. Oxford University Press.
- Ramirez, G., Shaw, S. T., & Maloney, E. A. (2018). Math anxiety: Past research, promising interventions, and a new interpretation framework. *Educational Psychologist*, 53(3), 145-164.



Yildirim, S. (2016). Infographics for educational purposes: Their structure, properties and reader approaches. Turkish Online Journal of Educational Technology, 15(3), 98-110.