



FINANCIAL INSTRUMENTS DECISION TREE SIMULATOR

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ABSTRACT

The accounting treatment of financial instruments remains one of the most conceptually challenging topics in financial reporting due to the complexity of classification, measurement, and professional judgment required under MFRS 9 Financial Instruments. Traditional lecture-based teaching often causes students to memorise rules without fully understanding the decision-making logic behind classification. This study introduces the Financial Instruments Decision Tree Simulator, an interactive teaching innovation designed to strengthen students' conceptual understanding and analytical skills in applying MFRS 9. The simulator converts the classification framework into a structured decision tree that guides students through logical steps to determine the appropriate measurement category. It begins by identifying whether the instrument is a debt instrument or an equity instrument. For debt instruments, students proceed through the business model test and the Solely Payments of Principal and Interest (SPPI) test. For equity instruments, the simulator guides students in deciding whether the investment should be measured at FVTPL or through an irrevocable FVOCI election. The tool also visually demonstrates the effects of classification on profit or loss, other comprehensive income, and equity. By integrating interactive technology, immediate feedback, and practical scenarios, the simulator promotes active learning, critical thinking, and professional judgment in financial reporting education.

KEYWORDS: Decision Tree Learning, Financial Instruments Classification, Interactive Accounting Education, MFRS 9

INTRODUCTION

Financial instruments are an important component of financial reporting because they affect how entities recognise, measure, and present financial assets in the financial statements. Under MFRS 9 / IFRS 9 Financial Instruments, the classification of financial assets is determined based on the entity's business model for managing the asset and the contractual cash flow characteristics of the instrument (Grant Thornton Malaysia, 2018), particularly whether the cash flows represent solely payments of principal and interest (SPPI). These requirements make the topic technically demanding and highly dependent on professional judgement.



PROBLEM STATEMENT

Financial instruments is one of the most technically challenging topics in financial reporting courses because students are required to apply judgement rather than merely recall definitions. Under MFRS 9, the classification of financial assets depends on a sequence of decisions, including identifying whether the instrument is debt or equity in nature, assessing the business model, and applying the SPPI test. Students often struggle to follow this sequence systematically.

In many cases, students are often confused by the classification categories of amortised cost, fair value through other comprehensive income (FVOCI), and fair value through profit or loss (FVTPL). They may also fail to understand why a particular instrument falls into a specific category and how the classification affects profit or loss, other comprehensive income (OCI), and the statement of financial position. Traditional teaching methods, which usually rely on static notes, textbook explanations, and lecturer-led examples, may not fully address this issue because students remain passive recipients rather than active decision-makers (Amirova,2025).

The difficulty becomes greater when students are presented with applied scenarios involving government bonds, corporate bonds, and equity investments. Although students may remember isolated rules, they often find it difficult to integrate those rules into a coherent decision-making process. This results in weak conceptual understanding, low confidence, and poor performance in assessments. Research in accounting education has shown that interactive, active, and simulation-based learning approaches can strengthen engagement, critical thinking, and application skills compared with passive learning methods

OBJECTIVE

The Financial Instruments Decision Tree Simulator was developed to address these challenges through a structured and interactive learning approach. The primary objectives of the innovation are:

1. To help students classify financial instruments systematically under MFRS 9.
2. To improve students' conceptual understanding of debt instruments, equity instruments, business model assessment, and the SPPI test.
3. To provide immediate feedback so students can recognise and correct misconceptions.
4. To increase student engagement, confidence, and critical thinking through simulation-based learning

DESIGN DESCRIPTION

The Financial Instruments Decision Tree Simulator is an interactive educational design developed to support the teaching and learning of financial asset classification under MFRS 9. Its purpose is to convert a complex accounting topic into a guided pathway that is easier for students to follow, understand, and apply.

The simulator begins with the first decision point: identifying whether the financial instrument is a debt instrument or an equity instrument. For debt instruments, students are then guided through the business model test, where they determine whether the asset is held to collect contractual cash flows, held to collect and sell, or held for trading or other strategies. After that, students apply the SPPI test to determine whether the contractual cash flows consist solely of principal and interest. Based on these



decisions, the simulator leads students to the correct classification outcome: amortised cost, FVOCI, or FVTPL.

For equity instruments, the simulator guides students to determine whether the shares are held for trading or whether an irrevocable FVOCI election is applicable for non-trading investments. It also reinforces a key rule that equity instruments cannot be measured at amortised cost.

VISUALS



Full video presentation: https://youtu.be/qITN1FdIW2A?si=mivly_RJDsLkErPo

NOVELTY AND UNIQUENESS

The novelty of the Financial Instruments Decision Tree Simulator lies in the way it transforms a highly technical accounting standard into a structured interactive learning experience. While financial instruments classification is usually taught through lectures, worked examples, and written notes, this innovation introduces a decision-tree simulation approach that requires students to actively make and justify each classification decision.

Unlike ordinary revision aids, the innovation combines technical accounting content, visual flowchart design, interactive simulation logic, and case-based application in a single teaching tool. This makes it both academically meaningful and practically useful. The design is also flexible, as it can be developed in poster form, PowerPoint format, web-based simulation, or branching video format, expanding its value beyond a single classroom setting

BENEFITS TO MANKIND

The Financial Instruments Decision Tree Simulator benefits learners by simplifying a complex accounting topic into a clear and engaging decision process. It improves understanding, reduces confusion, and strengthens students' confidence in applying MFRS 9 classification rules. By

promoting active learning and immediate correction of misconceptions, the design supports better educational outcomes and more meaningful accounting knowledge.

COMMERCIAL POTENTIAL

This innovation has strong commercial potential as a scalable teaching and learning product for universities, colleges, tuition providers, and professional accounting training centres. It can be developed into multiple formats such as printed learning posters, interactive classroom slides, web-based simulation tools, or subscription-based digital learning modules.

CONCLUSION

The Financial Instruments Decision Tree Simulator is an innovative teaching and learning design developed to address student difficulty in classifying financial assets under MFRS 9. By converting technical accounting requirements into a visual and interactive decision-making pathway, the innovation promotes stronger conceptual understanding, greater engagement, and better application of classification rules. Its value lies not only in helping students obtain the correct answer, but also in helping them understand the reasoning and financial statement implications behind each decision. Moving forward, the innovation can be expanded into digital simulation tools, interactive videos, and broader classroom applications. It has strong potential to support accounting education innovation while also offering practical and commercial value.

ACHIEVEMENTS

This innovation has received Gold Award, the Best of Category B Award, and the Diamond Award in Global Accounting Innovation Showcase (GAIS) 2026.

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