FRAMEWORK FOR AN INTEGRATIVE DECISION-MAKING MBA COURSE: FROM NO PREREQUISITES TO GRADUATE LEVEL IN ONE SEMESTER

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ABSTRACT

It is quite common to see a wide variety of student preparedness in an MBA core course. Some graduate business schools handle this with "levelling course" prerequisites and others handle it with requirements for a minimum number of years of experience. Both requirements may increase the preparedness of the students in general, but they also serve to restrict access to the program. Many students that will be able to learn graduate level knowledge and become strong graduates and leaders in the business world may not choose an MBA program that requires many months of preparatory classes.

An accounting core course in an MBA program without prerequisites must include the introduction of the basic concepts, provide a great deal of practice and use the advantages of the cohort model to bring the students to a graduate level of understanding of managerial decision making using accounting and economic information.

This paper describes the structure of an MBA course called Accounting for Decision Making in a cohort MBA program without levelling courses.

INTRODUCTION

This paper covers the structure of an MBA course called Accounting for Decision Making in a cohort MBA program. This course has no prerequisites and covers financial accounting, managerial accounting, microeconomic concepts, statistics, risk and uncertainty and audit reports. This paper discusses the structure of a course that our school used successfully in two cohort groups. First, I cover the needs of my school and how we designed this program to fit those needs. Next, the MBA program itself is summarized and then contents of the course discussed. The nature of the assessments used in the course follows.

MOTIVATION FOR A CHANGE TO THE MBA PROGRAM

When a school decides to redesign a graduate program, it must carefully look at the needs of its constituents (Betchoo, 2017). Our school of business' mission statement includes a commitment to provide future leaders with a business education grounded in faith, values and service. We strive to produce graduates who are skilled, ethical, professional, globally aware and prepared for careers of meaning and purpose. A traditional part-time MBA program did not build the sense of community we believed was needed to have a program fit our mission.

A task force investigated cohort-based education and determined that the cohort model might help us best meet our mission. There was not very much research about the cohort model in business education, but Sathe (2009) found that the cohort program used in an MBA program in the United States helped students build the teamwork and soft skills needed in professional careers. Our school was interested in building strong, values-based leaders. Barnett & Caffarella

(1992) determined that the cohort model of education helped develop leadership traits and built student cohesion.

It was important to our mission that we admitted a wide range of people with different backgrounds, work and educational experiences and personalities to broaden the MBA experience for all students. This would include students without undergraduate business degrees and we determined that the series of 8-10 undergraduate levelling courses we had required for entering students in the past was a significant barrier. So, does the completion of prerequisite levelling courses make a difference in student achievement? Christensen & Nance (2012) studied the performance of 491 MBA students and found that the students without business prerequisite courses outperformed those who had these prerequisite courses. Three other studies found that students with undergraduate degrees in business did less well in MBA programs than those without undergraduate degrees in business (Braunstein, 2006; Adams & Hancock, 2000 and Gump, 2003).

DESCRIPTION OF THE COHORT

Seventy-eight students were admitted in the 2 cohorts since we dropped the prerequisite course requirements. Of these 78, 51 did not major in business as undergraduates, but 8 voluntarily did some levelling course work before entering the program. This leaves 43 out of 78 students (55%) that came to the program without any prior coursework. Five students did leave the program prior to completion, but three of these departures were for personal or professional reasons and not due to academic performance.

Seventy-three students completed the accounting course described in this paper. Only 26 entered with an undergraduate major in business and 47 majored in other fields. For example, we had students enter the program with undergraduate degrees in acting, music, animal science, forensic science, biology, film appreciation, philosophy, psychology, kinesiology, theology and other fields. The 26 students with undergraduate business majors had a course average 3.68% higher than the students with majors in non-business fields. This is a small difference in course average, but it is statistically significant at the 5% level.

In a comparison of the non-business students who took the prerequisite coursework versus those who did not, the students without the prerequisites scored 1.63% higher than those without the prerequisites. However, this difference was not statistically significant and the sample sizes too small to make definite conclusions. Anecdotally, I saw the more-prepared students assisting the others and believe that the non-accounting skills developed in this interaction outweigh the difference in the students' understanding about using accounting information for decision making. A longer-term study may be able to provide this evidence.

SUMMARY OF THE MBA PROGRAM

Our MBA program is a 16 months, cohort-based program that begins in the fall semester. There are no specific prerequisite (or levelling) courses, but there is a minimum GMAT score required for admission. The program includes 11 courses, all of which are required. Six of the courses meet one evening per week for three hours and three of the courses (called Advanced Business Skills (ABS) labs) are taught in 15 all-day Saturday sessions over the course of the program. One of these 15 ABS labs is attached to the program's accounting course and one of them is attached to the program's finance course. These two Saturday sessions help provide the levelling work for accounting and finance that is needed due to the lack of program prerequisites. Other topics covered in the ABS labs include Communication and Team Dynamics, Data

Analytics and Values-based Leadership. The remaining two program courses are in the summer semester and include a social innovation workshop and an international field study. The degree plan for this MBA program is in Table 1.

Table 1
COHORT MBA PROGRAM DEGREE PLAN

First fall semester
1. Marketing core
2. Accounting core (Accounting for Decision Making)
3. ABS labs I: Five all-day Saturday sessions, one of which is attached to the accounting core course

Spring semester
1. Finance core
2. International business core
3. ABS labs II: Five all-day Saturday sessions, one of which is attached to the finance core course

Summer semester
1. Social innovation workshop: Students develop a product that benefits society, pitch the idea to potential investors and create a business plan
2. International field study: This course includes a study abroad component

Final fall semester
1. Management of information technology core
2. Capstone course
3. ABS labs III: Five all-day Saturday sessions

There is not much research about the efficacy of learning and/or skill development in a cohort-based MBA program, but Boyatzis, Stubbs & Taylor (2002) found that certain competencies are more effectively built in a cohort MBA program. In 2013, Boyatzis, Passarelli & Wei (2013) told us that most of these advantages of a cohort-based MBA program have held up over time. Anecdotally, however, we have seen that the students in our cohort program students build strong bonds and help each other learn the material. Quantitatively strong students help weaker students in accounting and finance, for example and students who are strong at more qualitative subjects return the favour.

COURSE DESCRIPTION AND LEARNING OBJECTIVES

The name of this course is "Accounting for Decision Making," but it is not a typical graduate accounting course. There are no prerequisites for this course, so the course itself must include the levelling work. There are 16 evening class meetings (3 h each), including the class meeting during finals week. In addition, there is an all-day Saturday session for the course. Because of the large amount of course content, there is a graduate student employed as a tutor. The tutor works with the professor to determine the coverage of the optional review sessions, which are available about 8 h/week.

This course covers a wide range of material, including financial accounting, managerial accounting, topics from microeconomics and statistics and audit reports for both public and non-public companies. The objectives of the course are to:

1. Provide students sufficient grounding in the basics of financial accounting that they can create and interpret financial statements.
2. Instruct students in managerial accounting and show them how to use this information in decision making.
3. Show students how to estimate linear and nonlinear revenue and cost relationships using Microsoft Excel.
4. Introduce students to microeconomic concepts, such as supply and demand and the price elasticity of demand, that can help managers price products for the long- and short-term.

5. Teach students the various types of audit opinions (financial statement and internal control) that an auditor might issue for both public and non-public companies.

The course material is broken into six modules. Table 2 shows the content in the each of the modules and the number of class sessions devoted to each module.

Table 2
COURSE MODULES AND EXAMINATIONS

MODULE 1: Financial accounting (Saturday session plus class #1) 1. Financial statement elements 2. Creating the income statement, statement of retained earnings and balance sheet 3. Understanding transactions in long-term liabilities 4. Understanding equity transactions 5. Creating and interpreting the statement of cash flows
MODULE 2: Managerial accounting overview and linear cost behaviour (class #2) 1. Financial versus managerial accounting 2. Cost concepts (product vs. period, direct vs. indirect, relevant vs. irrelevant, etc.) 3. Linear cost behaviour, including estimation using regression 4. Contribution format income statement 5. Cost-volume-profit analysis for linear cost and revenue behaviour
EXAM 1: First ½ of class #3. Covers modules 1 and 2
MODULE 3: Non-linear estimation and cost assignment issues (last ½ of class #3 plus classes #4-7) 1. Examples of nonlinear cost and revenue relationships 2. Estimating costs with multiple cost drivers 3. Job order costing 4. Activity-based costing 5. Segment reporting
EXAM 2: First ½ of class #8. Covers module 3
MODULE 4: Budgeting and performance analysis (last ½ of class #8 plus classes #9-11) 1. Static and flexible budgets 2. Variance analysis 3. Performance measurement in decentralized organizations 4. Transfer pricing
EXAM 3: First ½ of class #12. Covers module 4
MODULE 5: Microeconomic principles and decision making (last ½ of class #12 plus classes #13-14) 1. Supply and demand 2. Price elasticity of demand 3. Product pricing 4. Economic costs of production 5. Differential analysis 6. Decision making under uncertainty
MODULE 6: Audit reports for public and non-public companies (class #15) 1. Sarbanes-Oxley's effect on audit reports 2. Types of financial statement audit reports for both public and non-public companies 3. Types of internal control audit reports for public companies
EXAM 4: Class #16. Covers modules 5 and 6

Course Materials

There is not a traditional text that covers the range of topics in this course, so we use a custom text from a major publisher. It is important that the text have assignments available in an online homework management system. This is possible if the custom text uses chapters from the same publisher. For the financial and managerial accounting chapters, the text should not focus

on journal entries but only on the big picture. For an accounting teacher, it is a big change to minimize emphasis on journal entries, but it does stop many students from getting lost in the weeds. For the financial accounting chapters, we used chapters from the eighth edition of Financial Accounting: Information for Decisions, by Wild (2017). This is a McGraw-Hill text and assignments were available via the Connect online homework manager. We took managerial accounting chapters from Managerial Accounting for Managers (fourth edition), by Noreen, Brewer & Garrison (2017).

For nonlinear estimation, decision making under risk and uncertainty, microeconomic principles and statistics, we have used chapters from Managerial Economics: Fundamentals of Business Analysis and Strategy (twelfth edition), by Thomas & Maurice (2016), as well as Business Statistics: Communicating with Numbers (second edition), by Jaggia & Kelly (2016). We have used chapters about audit reports from Auditing and Assurance Services: A Systematic Approach (10^{th} edn), by Messier, Glover & Prawitt (2017) or from Principles of Auditing and Other Assurance Services (20^{th} edn), by Whittington & Pany (2016).

Course Modules

Module 1: Financial accounting

Most of the topics in Module 1 are covered on the first class meeting day, which a Saturday class. We meet from 9 a.m. to noon and again from 1 p.m. to 5 p.m. In this module, we do discuss journal entries and basic bookkeeping, but only briefly. The emphasis is on the five categories of accounts and which are temporary accounts and which are permanent accounts. We do several short exercises in class and by noon, students can summarize the transactions for an example month and create an income statement, a statement of retained earnings and a balance sheet.

In the afternoon, we talk briefly about adjusting entries, but only in the context of cash-basis versus accrual-basis accounting. We cover the basics underlying long-term bonds but focus mainly on the amortization of bond discount or premium as a difference between cash and accrual accounting. Cash dividends, stock dividends, stock splits, preferred stock, stock options as executive compensation and treasury stock transactions are covered, but we emphasize the effects on the financial statements and not the journal entries. We briefly cover basic versus diluted earnings per share and book value per share. There are several short exercises for students to work on in groups.

We spend the last two hours or so of the full-day session on the statement of cash flows. We cover only the indirect method for the cash flows from operating activities section. Students work in groups on brief examples for each of the three sections of the statement of cash flows and a longer complete problem is introduced at the end of the class. Students learn the basics about using a worksheet to complete a statement of cash flows and flows and leave the day with instructions to work on this worksheet before our first evening class meeting.

Because the Saturday session is so intense and packed with information, the first evening session is basically a review of the material with more examples. Students form groups for the evening and work to complete the statement of cash flows example introduced at the end of the Saturday session before we review it as a class. Then these groups look at the financial statements of a large corporation to answer a list of questions about the financial statements. These questions include many topics from the intensive financial accounting Saturday session and help to link the Saturday discussion to a set or "real" financial statements.

Module 2: Managerial Accounting Overview and Linear Cost Behaviour

This module can be completed in one evening and contains traditional managerial accounting topics, but from a manager's view point. When we discuss the difference between financial and managerial accounting, we emphasize that the quality of information affects the quality of the decision. Financial accounting information is usually more objective, since it summarizes past information, but not always. Students new to accounting concepts often do not realize how often the financial statements rely partially upon management's estimates that are shared with external parties. If these estimates are biased, financial statement users can usually predict the direction of the bias. Managerial accounting information is often based on estimates about the future, but these estimates are for internal use. The potential biases in this information therefore depend on the motivations of the estimator. For example, a sales manager may intentionally underestimate or overestimate next quarter's sales, depending on how his supervisor evaluates his performance.

We cover the definitions of product versus period costs, direct versus indirect costs and relevant versus irrelevant costs with examples. Linear cost behaviour and cost-volume-profit analysis is covered in a traditional way, except that we add a discussion about using Excel to estimate linear cost relationships. We use screen shots of Excel to show how to interpret the output.

Module 3: Non-Linear Estimation and Cost Assignment Issues

This module starts at the end of class #3, after students have taken an exam. It is difficult to get their attention after this, but I tell them we will only cover something they need to do their group projects. I then walk the students through regression in Excel. We cover simple issues like using column labels and labels and running simple and multiple linear regressions. We talk about interpreting line fit plots and looking at the patterns in residual plots. Students are shown how to do simple transformations of the data. For example, I create a column that contains the squared values of the original independent variable values and run a regression of the dependent variable on both the X variable and the X-squared variable. Students can see from the X variable's line fit plot that we've used the linear regression tool in Excel to estimate a nonlinear relationship.

The rest of this module requires four evening class periods. This is a slower pace than the students have seen so far in this course. We first met on a Saturday for an intense day that covered most of the topics in an undergraduate financial accounting course and then had two more evening classes to practice financial accounting topics and learn the basics of managerial accounting. Then, students had an exam and a workshop about using Excel to map nonlinear relationships, so it is time for a slightly slower pace! We cover examples of non-linear relationships so that students can recognize them. For example, a function that has a positive Y-intercept and a positive, but decreasing, slope could be a cost curve. A function that has a zero Y-intercept and a positive, but decreasing, slope could be a revenue function. Students intuitively understand this discussion even if they have never heard about demand curves or economies of scale.

We cover job order costing and activity-based-costing over two evenings and include examples of manager decisions using information under each costing system. In the last evening course of this module, we cover absorption costing (which follows generally accepted accounting principles - GAAP) and variable costing (which does not) and the decisions that

managers might make using information from each of these two costing methods. We use variable costing to create income statements for business segments.

Module 4: Budgeting and Performance Analysis

This module starts at the end of class #8, after students have taken their second exam. Once again, the information covered during this time slot should not be too complicated, as they just want to go home! An easy topic here is using the linear cost behaviour concepts that they already learned to create flexible budgets. We do a couple of easy examples of these before they leave.

During the ninth through the eleventh class meetings, we cover variance analysis (including standard costs) and the decisions these analyses may help managers make. We also talk about performance measurement in decentralized organizations, including return on investment and residual income; we discuss how these two different performance measurements can influence the decisions of segment managers. Students learn to interpret a balanced scorecard and compute transfer prices between business segments using various methods.

Module 5: Microeconomic Principles and Decision Making

Once again, this module starts after students have taken an exam (their third), so we only cover an overview of supply and demand concepts for normal goods. In the next two full class meetings, we talk about economic production costs, using differential analysis for decision-making, product pricing issues and decision making under risk and uncertainty. The differential analysis segment covers the traditional topics (make versus buy, accept or reject a special project, keep or eliminate a business segment, etc.). The decision-making under uncertainty segment covers expected value, the difference between risk and uncertainty, the coefficient of variation, the minimax decision rule and expected utility theory.

Module 6: Audit Reports for Public and Non-Public Companies

We complete this module in one evening class. It is a non-quantitative module, which is a relief for some students. We cover the effects of Sarbanes-Oxley on audit reports for publicly traded companies and the law's effect on auditors. Students learn the difference between standard unqualified audit reports on financial statements and unqualified audit reports with modified language or with an explanatory paragraph. We talk about audit reports that are qualified because of scope limitations and those that are qualified because of a problem in the financial statements (GAAP problems). Students practice reading scenarios and choosing the type of audit report the auditor likely issued. We also talk about adverse opinions on financial statements and disclaimers of opinions.

We also briefly discuss the differences between financial statement audit reports for publicly traded companies and those for private companies. Students also learn about the categories of internal control deficiencies so that we can review the types of audit opinions on internal controls over financial reporting that an auditor might issue.

ASSESSMENTS IN THE COURSE

This course relies heavily upon online homework assignments. Most of these are algorithmic and students are encouraged to work together on these assignments, even though

each student has different given information. Students do sufficient reasonably difficult homework, which allows for easier, less comprehensive in-class exams. The exams are worth 15% each towards the course grade and the homework is worth 20%.

The final 20% of the course grade is based on group projects. Groups complete two or three projects about linear and nonlinear relationships. For example, in one project the cost data has costs that increase as the number of units produced increase, but increase at a decreasing rate. The groups need to run a series of regressions to estimate the nonlinear relationship in Excel and then write up their analyses. In another project, students estimate the best linear cost function using multiple regressions. The write up must describe the process by which the group determined the final relevant cost drivers (independent variables) and interpret the regression results. The interpretation must describe how managers might use this information in decisions. Another project used data that came from a quadratic profit function. The groups had to figure this out, however and then describe why this functional form made sense, compute the break-even points for this profit function and determine the optimal number of units the company should produce and sell.

CONCLUSION

A single course about accounting and decision making in an MBA program must provide students with a lot of knowledge about a wide range of topics. The course should also give the students a lot of practice making decisions that use the results of the analyses they learned. The demands on this course are even greater if there are no prerequisites, but the cohort model makes it all possible. This paper presented the course we created for our cohort-based MBA program.

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