

# Application of Excel in Financial Management Teaching

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**Abstract.** This paper analyzes the advantages of Excel in the teaching of financial management courses, and elaborates on the specific application of Excel in financial analysis, operating capital management, financing management, investment management, etc., and discusses the problems that should be paid attention to during teaching, in order to improve the professional competence of students and promote teaching practice reform.

**Keywords:** Excel, financial management, teaching, application.

## 1. Introduction

At present, Office is the most widely used office software; Excel is its component and a software tool generally used by financial staffs today. Excel provides statistics, finance, engineering, mathematics and a large number of functions, which can conduct complex mathematical calculations, statistics, and financial analysis, and it is beneficial for financial managers to decompose and analyze data. Excel has powerful drawing functions as well, the drawing process is very simple, and it can generate various common and uncommon charts such as histogram, line chart, bar chart and bubble chart. The data is presented in the form of chart to the financial manager, which help the financial managers see the problem more intuitively and expand the thinking space. Excel also provides rich analytical tools and can help financial managers make the best decisions. Excel can improve the efficiency of financial management work, and provide powerful information analysis and decision support for financial managers to quickly and accurately make judgments in complex and changeable financial environments.

## 2. The Advantages and Status Quo of Application of Excel in Financial Management Teaching

### 2.1 Advantages of Application of Excel in Financial Management Teaching

Most enterprises and units have professional financial software that can solve the problems of accounting confirmation, measurement and record, and issue standard financial statements, namely it mainly solves the problem of accounting. However, financial software is difficult to meet the flexible needs of enterprise management. Flexibility and usability are important features of Excel; it better combines table preparation, data processing and graphic display, which is very suitable for the use of financial managers. Therefore, most enterprises require financial personnel to proficiently use financial software, but also require using Excel for personalized financial management work. All of these require universities to apply Excel to the teaching of financial management courses when training financial management talents, and achieve the combination of theoretical teaching and work needs. Moreover, there are many principles, formulas and methods in financial management, especially some complex financial problems, manual calculation is particularly tedious and waste time and energy. If the basic principles are clearly explained in the teaching process, the specific calculation process is completed by Excel, and the calculation results are visually reflected in the form of chart, which can also deepen the understanding of the students.

### 2.2 Status Quo of Application of Excel in Financial Management Teaching

At present, the mainstream financial management textbooks in our country basically do not involve the use of Excel; and the teaching of financial management generally do not involve Excel. Most schools set up a separate Excel-related course, such as the application of Excel in economic

management, the application of Excel in accounting, and the application of Excel in finance. However, there are two problems in this setting: first, this type of course of some school is not completely oriented to financial management; the explanation is not deep enough and not closely integrated with the major, second, even if there are this kind of course, they usually open later, most of them is behind the teaching of financial management courses, this has resulted in the current situation where the application of Excel is seldom involved in the teaching of financial management courses.

### **3. The Application of Excel in the Teaching of Financial Management Course**

#### **3.1 Application of Excel in Financial Analysis Teaching**

Financial management includes three working links: planning and budgeting, decision-making and control, analysis and assessment, financial analysis is an important part of it. Excel can help financial managers collect the data needed for financial analysis timely and accurately, studies and evaluates the financial activities of enterprises in accordance with ratio analysis models, trend analysis models, and comprehensive analysis models. There are a large number of formulas and calculations in financial analysis, the traditional teaching methods will make students feel boring and difficult to understand, and the teaching effect is not good. In the teaching process, teachers can make full use of Excel's functions and charting functions help students analyze and understand problems. The basic financial ratio analysis mainly uses formula function of Excel, according to the calculation formula of each financial ratio; the data is taken from the report data for calculation. The trend analysis model can use Excel to make the trend analysis chart and perform various trend analysis predictions including time series prediction method, curve trend prediction method, seasonal variation prediction method, and regression analysis prediction method. The comprehensive analysis method, whether the financial ratio comprehensive analysis or the DuPont analysis method, Excel can greatly improve the work efficiency. In addition, we can use the drawing function of Excel help analysis. Charts can make data clearer and more understandable, help financial managers find nuances of data, and explore new ideas for management. In addition, histograms, line charts, and pie charts reflect trends, changes, structures, etc., Excel also provides very professional charts such as radar charts, waterfall charts, and funnel charts. For example, the radar chart can be used to comprehensively analyze the financial status of the enterprise, and intuitively reflects the level of the enterprise's various indicators relative to the industry average, and is absolutely clear. The funnel chart can be used to vividly reflect how enterprise has profits step by step from sales revenue.

#### **3.2 Application of Excel in the Teaching of Operating Capital Management**

Taking an important problem economic batch decision in the operating capital management as an example, teachers can use Excel's planning and solving function help students understand and master this problem when explaining economic batch cases, moreover, we can calculate the economic batches of N kinds of stocks at one time with the help of Excel. Select the (solver) command on the (Data) tab, in the dialog box that appears, (target cell) input the cell where the total cost is located, select the minimum value in the (equal) option, input the order batch unit area of N stocks in (variable cell), select the (add) button and increase the constraint condition according to the actual situation (such as the supplier's request), click (solve) to get the result. We can also use Excel to reflect the relationship between the batch and the total cost of the project in a line chart, the relationship between the two can be dynamically reflected by changing the relevant variables, which can play a very good role in strengthening students' understanding and comprehension of the economic batch model.

#### **3.3 Application of Excel in Financing Management Teaching**

The various theories, formulas and calculations are involved in funding demand forecast in financing management, calculation of capital cost, analysis of lever action, financing decision-making methods, etc., it is difficult for students to master, Teachers can use Excel's calculation and charting functions to help students understand and master during the teaching process. For example, when the teacher explains the difference in earnings per share of the financing decision, we can use the (data

tools) in (data) tab, click (analog analysis), and then select the (solver) function from the pull-down menu, the result is obtained. At the same time, the teacher can select relevant data, select (line chart) in the (chart) function group of (insert) tab, and select (line chart with data mark) in the (2 line chart) area in the pull-down list, so that students can intuitively see the whole process of decision-making, changing parameters can also dynamically reflect the change in the difference of earnings per share, students can clearly see what factors affect the earnings per share, How each factor influence. After calculating the difference in earnings per share, how to make decisions is also very intuitive on the charts, which plan should be selected in the corresponding area, students are easier to understand, and it is easier for teachers to teach.

### **3.4 Application of Excel in Investment Management Teaching**

Most of the indicators used in investment management decisions; Excel has a corresponding function to solve. When the teacher teaches this part, on the one hand, after explaining the principles and methods of various indicators, the teachers teaches students how to use Excel to calculate efficiently and conveniently. For example, the internal rate of return: traditional manual calculation method is very tedious, especially if you need to test it; it takes a lot of time, we can use the IRR function to calculate it in one step in Excel. The teacher should not only teach the efficient method to the students, but also teach the basic principles how the function is calculated. On the other hand, there are some differences between the functions in Excel and the definitions of related concepts in our financial management, the teachers can guide students to find out these differences through examples and prevent misuse in future practice. Such as net present value: a function in Excel is called NPV, which uses the discount rate and a series of future expenditures (negative values) and returns (positive values) to calculate the net present value of an investment. We can look carefully at the function's parameter Value1; it is 1 to 254 parameters representing expenditure and income, the first parameter represents the end of the first period, so if the first cash flow occurs at the beginning of the first period, then the first cash must be added to the NPV results and should not be included in the value parameter. After calculating the value of the NPV function, the first cash flow at the beginning of the first period is added, and the net present value in our financial management is obtained. Through this comparative analysis, students can further deepen their understanding and comprehension of the net present value.

## **4. Problems that Should be Paid Attention to When Introducing Excel in Financial Management Teaching**

### **4.1 Reasonable Arrangements for Teaching Hours**

The financial management courses set up by most schools have limited class hours in, most are 48 class hours, and the class hours were very tense. If Excel content is added, it has too many problems to tackle. The general schools open a computer-based course in the freshman year, and recommend that students have a basic knowledge of the Excel, such as the basic operations of the table, functions, charts, and so on. In this way, in the teaching of financial management, there is no need to spend time on basic operations, so that the key point is on the application of Excel in financial management. Although the content of Excel will take up a certain amount of class time, as mentioned above, the introduction of Excel software will also greatly promote the financial management teaching.

### **4.2 The Flipped Classroom is Used to Improve the Efficiency and Quality of Classroom Teaching**

Under the conditions of limited class hours, the teachers can use the flipped classroom to improve the efficiency and quality of classroom teaching. Flipped classroom as an emerging teaching model, it advocates students' self-learning knowledge outside class, and explore problems in class. Students become from passively accept knowledge to actively explore knowledge, thus truly mobilizing students' learning enthusiasm.

### 4.2.1 Before Class

Teachers should prepare relevant materials before class and issue them to students for self-learning through the online teaching platform. Taking the time value of money as an example, first the knowledge points involved in this lesson is summarized, what functions are used, use cases close to students to attract students' attention and produce corresponding courseware. At the same time, the corresponding teaching micro-course video is recorded. Since the video is mainly the use of Excel, so it is easy to record the video of teaching micro-lesson by using video recording software, it is convenient for teachers to record by themselves and lowers the threshold of flipped classroom. The courseware and video will be issued to the students for self-learning. At the same time, test questions can be produced to test the mastery of the students after self-learning. It is recommended to use the rain classroom platform to issue data, because the rain class can count relevant data: whether the students read the courseware and micro-course video, the completion condition of the test questions, which students have better mastery, and which students have poor mastery. Therefore, the task before flipped class is to help the teacher understand the problems of the students and provide important support for the subsequent teaching.

### 4.2.2 in Class

Since students have completed learning basic knowledge points, teachers and students answer questions and discuss in the classroom, and complete the internalization of knowledge. Teachers no longer talk about new knowledge in class; otherwise, the students will feel that there is no need to watch before class, as long as listen to the teacher in class, in this way, flipped classroom is impossible. Teachers can use the examples of the students' exercises to teach and attract students' attention. Then, students are given more difficult experimental content than the pre-study, the purpose is to consolidate and improve. When students encounter problems, they can discuss and solve problems with their classmates and try to complete them. If it still cannot be solved, the teachers can help and guide students, and provide timely feedback on the student's questions.

### 4.2.3 After Class

In the after-school link, students can summarize and reflect on the content of this class. After a period of time, the students will have different degrees of forgetting, the teachers issue the after-school tests through the rain classroom to help the students consolidate their knowledge. Students submit examination after completion and are graded by the teachers.

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