

**e-FM: A Project for the Introductory Financial Management Course Designed to Involve Students with Online Financial Information and Analytical Tools**

James B. Pettijohn¹, Gay A. Ragan², and Kent P. Ragan³

**Abstract**

Finance-related websites have proliferated, and students have become more Internet-savvy with increasing usage of the World Wide Web. Furthermore, finance professionals regularly use such finance-related websites (Association for Financial Professionals 2002). Given these facts, in this paper we demonstrate efficient and effective ways to use a semester-long, yet manageable, Internet-based research project designed to involve students with online financial information, data, and analytical tools, while reinforcing topics encountered in the typical introductory financial management course. We also suggest how to use pedagogically-sound practices to systematically alter the complexity of the project, and use a scoring guide to simplify grading.

Despite the well-publicized downturn in the technology sector over the past two years and the accompanying collapse of some big-name online companies, e-business revenues have continued to increase as usage of the World Wide Web has expanded. For example, the compound annual growth rate of online retail revenues was almost 68 percent between 1999 and 2002. While this rate is skewed to the high side by an astounding rate of growth in 1999 (257 percent), the fact that e-retailing revenues were projected to grow by 33.3 percent to $72 billion during 2002 demonstrates that the upward trend continues (Most 2001 top 10 e-retailers 2002). Projections of the absolute growth in business-to-business (B2B) revenues are even more impressive: to over $823 billion by the end of 2002 and to $2.4 trillion by 2004 (CyberAtlas 2002).

Use of the Internet in the financial management profession is both pervasive and impressive. For example, in a recent survey by the Association for Finance Professionals (Association for Financial Professionals 2002), 91% of treasury and finance professionals reported that Internet technology performs a role in their company’s use of financial services. Other findings of the Association for Financial Professionals (AFP) survey are as follows:

- Eighty percent of the companies responded to the AFP survey
- Sixty-four percent of companies that use the Internet to obtain information on financial services also use the Internet to communicate with service providers of financial products.
- Seventy percent of those companies responding use the Internet to transact business.

---

¹ Professor of Finance and e-Business, Department of Finance and General Business, Southwest Missouri State University, Springfield, MO, e-mail: JamesPettijohn@smsu.edu

² Assistant Professor of Education, School of Teacher Education, Southwest Missouri State University, Springfield, MO, e-mail: GayRagan@smsu.edu

³ (Corresponding Author) Assistant Professor of Finance, Department of Finance and General Business, Southwest Missouri State University, Springfield, MO, e-mail: KentRagan@smsu.edu
• Cash management is, by far, the service for which the Internet is most widely used, followed by investments and foreign exchange transactions.

• Ninety-three percent of respondents visit Web sites that contain treasury and finance-related information, and seventy percent visit at least one of these sites each day.

• Financial professionals expect to expand their use of the Internet in the future (Association for Financial Professionals 2002).

Added to the growth of e-business in general, and use of the Internet by financial professionals in particular, is the fact that students are becoming more comfortable with the use of technology and particularly with the use of the Internet. In combination, these two factors seem to mandate that instructors of finance (and business) courses incorporate the use of the Internet into their in-class presentations and out-of-class assignments. With the wide assortment of online resources, the problem is not one of locating such resources; instead, it is one of deciding on efficient and effective ways to use such resources to enhance student learning.

A variety of articles describing business-related websites have been published over the past several years. For example, Pettijohn (1996a and 1996b) and Ray (1996) outline the contents of several finance-related websites. Smith (1996) suggests how the SEC’s EDGAR database can be accessed for use in finance and business courses. That same article provides a suggested term project that employs EDGAR, but not other online resources. Cotter and Martin (2000) discuss a term project that primarily makes use of EDGAR (online), Market Guide (CD), and PC-Plus (CD) data to forecast quarterly earnings for an individual firm. None of these articles, however, deals with the integration of the sites into a comprehensive student exercise that integrates a variety of topics covered in the basic financial management course. It is the purpose of this paper, therefore, to illustrate how a particular selection of finance-related websites can be used in an introductory financial management course. In this paper, we discuss an Internet-based research project designed to familiarize students with online financial information and analytical tools, while reinforcing topics typically encountered in the introductory financial management course. We also include suggestions, based on well-known educational principles, for altering the project’s complexity, and employ a scoring guide to simplify grading.

**Purposes of the Project**

The project described in this paper has three primary purposes, each of which is related to the subject matter of an introductory financial management course:

1. to acquaint students with finance-related information, data, and analytical tools available on the Internet;
2. to familiarize students with how financial markets operate;
3. to strengthen students’ abilities to analyze the financial strengths and weaknesses of a company.

We believe that this project expands the spectrum of learning opportunities available to students. In turn, this project provides students with hands-on experience working with real-world information and analytical tools that often are merely described in the pages of a typical introductory financial management textbook.

**The Project**

The project itself is divided into ten sections (in addition to section 0, which requires a professional appearance of the final project), each of which is designed to expose students to one or more aspects of online financial information and analysis. We provide students with an online version of the project assignment so that they may access hyperlinks to the appropriate websites. We encourage the reader of this manuscript to view the online version of this project and access those hyperlinks at the following URL: (http://courses.smsu.edu/jbp225f/ica/e-fm.htm) as they are presented below.

**Section 0 – Professionalism**
We require the report for this project to be well-organized and professional in appearance, similar to what might be circulated in the business environment. The specific guidelines require that the final report be spiral-bound, have a table of contents, and have easy-to-use tabs identifying each section of the report. A portion of each student’s grade for the project is dependent upon the appearance and organization of the report, and these specific guidelines must be met in order for the remaining sections (1 – 10) of the project to be evaluated.

Section 1 – Careers in Finance

A topic that appears in the first chapter of many introductory financial management textbooks is careers in finance. To bring this topic to life, students visit the Careers in Finance website (www.careers-in-finance.com), and they select one of the finance careers described therein. They print off the first page of the career’s description, and write a one-page summary of the career they have selected, including a brief overview of the career, job skills required, job opportunities in the field, and salary ranges.

Section 2 – Term Structure of Interest Rates and the Yield Curve

A discussion of interest rate theory is included early in most introductory financial management textbooks. Integral in this discussion are the concepts of the term structure of interest rates and the yield curve. This section of the project report requires students to investigate the present term structure of interest rates by going to the U.S. Treasury security yield section of Bloomberg.com (http://www.bloomberg.com/markets/C13.html?sid=nav=front). Using the information found on this site, students are required to chart the present yield curve using Microsoft Excel, and to discuss the current nature of the yield curve (i.e., up-sloping, down-sloping, or flat) and its potential implications for financial managers.

Section 3 - Federal Reserve System Policy

Because the financial environment affects a variety of financial management decisions, a typical financial management textbook includes a discussion of that environment. In the U.S., the monetary policy of the Federal Reserve System (Fed) is directly aimed at stimulating or slowing down the economy. This section of the project is designed to give students an idea of the types of topics that presently are important to the Fed. It accomplishes this by directing them to the “Speeches and Testimony” section of the Federal Reserve Board’s website (http://www.federalreserve.gov/s-t.htm). Students then select a speech or testimony by Federal Reserve officials and write a one-page summary of its content.

Section 4 – Corporate and Common Stock Information

Many introductory financial management textbooks are organized around the “primary goal of financial management” – maximization of shareholders’ wealth – which translates into common stock price maximization for publicly-owned corporations. It stands to reason, then, that financial managers need to understand the markets in which their stocks are traded. Sections Four and Five of this project are aimed at helping students understand stock markets and how they function.

Specifically in Section Four, students are instructed to select a corporation whose common stock is publicly-traded either on a major exchange or over-the-counter. In an effort to prevent “conspiracy” among students (i.e., two or three students choosing the same company, and then dividing the work effort), the assignment specifies that the name of each student’s corporation must begin with the first letter of his/her last name. During classroom discussion of this project, the instructor suggests a variety of sources, both on-and offline, to assist students in locating their companies. For this section of the report, students should include the following information for their company: legal name, URL of its Internet homepage, ticker symbol for the company’s common stock, and the firm’s primary business(es). Project guidelines refer students to Yahoo! Finance (http://finance.yahoo.com) as a likely source of this information.
Section 5 – Portfolio Tracking

This section instructs students to assume that on a specified date they have purchased 100 shares of the common stock of their company. Given this assumption, participants are directed to go to MSN Money (http://www.money.msn.com) and use its portfolio feature to construct a one-stock “portfolio” for the project. To assure that students are aware of how to use the portfolio tool, we suggest that it be demonstrated in class. Next, each individual is required to check the value of his/her portfolio each Friday for a six-week period and to print out the resulting report. All six printouts along with a one-page discussion of the portfolio’s performance over the six-week period must be included in Section Five of the final project report. (Note: To increase interest in the project, we sometimes award one bonus point for each percentage point that a student’s portfolio increases in value during the duration of the project. When we do this, we place a limit on the maximum number of bonus points that an individual can receive.)

Section 6 – Financial Analysis

A typical introductory financial management textbook devotes an entire chapter to the topic of financial analysis, particularly to ratio analysis. Because of the number-intensive nature of ratio analysis, students sometimes question whether it is really used in the “real world.” This section of the project is designed to provide students with practical exposure to ratio analysis and to provide a clear answer to questions about its practicality.

Students are instructed to go to the Yahoo! Finance site (http://finance.yahoo.com) and obtain a price quote for the company they selected in Section Four. Students are instructed to follow the “Profile” link, and then the “Ratio Comparisons” link for their company, which provides approximately 50 key ratios for the company, its industry, its industry sector, and the S&P 500, in an easy-to-compare tabular format. Market Guide, Inc. provides the data. Among the reported ratios are most, if not all, ratios discussed in introductory financial management courses. This section ordinarily proves to be the most demanding and lengthy section in the project because students must provide a written analysis for their company, and comment on how each of the ratios (and their respective groupings) discussed in their textbook compares to the industry average, and the implications of that comparison to current and potential investors and creditors.

Section 7 – Bond Valuation

Virtually every introductory financial management textbook discusses corporate bonds and their valuation. Integral to this discussion is how the prices of existing bonds are affected by changes in the market rate of interest. This section of the project requires students to use an online financial calculator to see the relationship between the going rate of interest and the price for a fictitious bond. The following information on the bond must be used by each student: face value = $1000; purchase price = 98% of face value; coupon interest rate = 7.75% paid annually; current market rate of interest = 6.00%. To assure that each student works a unique problem, we assign each individual a unique number ranging from 24 to 240 at the beginning of the project. The student uses his/her unique number as the number of months remaining until maturity for the assigned analysis. We direct students to the USA Today “Financial Calculator” website (http://www.usatoday.com/money/calculat/mcfront.htm). This site includes approximately 100 calculators organized by category (stocks, bonds, budgeting, etc.), and designed to work a variety of finance-related problems. Under the “Bond” category is a calculator designed to answer the question, “How will rate changes affect my bond’s value?” Students are required to perform this analysis on the bond described above. They are instructed to print out the “Inputs,” “Results,” and “Chart” views provided by the calculator, and then to write a paragraph summarizing their findings.

Section 8 – Credit Lines

Borrowing is an essential part of the financial lives of most, if not all, businesses. For many firms, an essential element in managing day-to-day cash inflows and outflows is the establishment of a credit line that can be accessed on a temporary basis when funds are flowing out of the business more rapidly than
they are coming in. This section of the project requires students to use and explore a credit line estimation tool that is available on the chief financial officer website of one of the world’s largest commercial credit-granting institutions, GE Capital: www.gecfosolutions.com/afp.html. Once students have reached this site, they are asked to follow the link to the “GE Credit Line Calculator.” This calculator allows corporate financial executives to estimate a credit line that their company may be able to borrow based upon their financial data and industry averages. Students are told to use their unique number (previously described in Section Seven) in place of the words, “MyNumber,” in the instructions below, and complete the following:

1. Complete an initial estimation using the GE Credit Line Calculator using the following values: “My annual revenue amount” = MyNumber x $10 million; “Loan amount I’m looking for” = MyNumber x $2 million; “My principal business location” = U.S.A.; “My business industry is” = (select any industry listed); and “My inventory is tracked by” = Automated Perpetual System. Print out the result. What information, in addition to your inputs, does the calculator use to compute the estimate?
2. Repeat the estimation, changing “My inventory is tracked by” to Physical Counts. Print out the results. Does the size of the estimated credit line differ from that calculated in item 1 above? If so, why do you think it differs?
3. Change “My inventory is tracked by” back to Automated Perpetual System, and then repeat the estimate using all the values from item 1 above, changing “My business industry is” to another industry. Print out the results. Does the size of the estimated credit line differ from that calculated in item 1 above? If so, why do you think it differs?

Section 9 – Online Banking

The typical introductory financial management textbook devotes a significant portion of a chapter, if not an entire chapter, to the subject of cash management. Integral parts of any cash-management system are the banking relationships and services the firm employs. This section of the project gives students the opportunity to become familiar with the online corporate banking services offered by a large, well-known financial institution and how those services relate to the materials covered in their financial management textbook. To accomplish this, students are directed to the corporate online banking site of CitiBank: http://www.citibank.com/e-business/homepage/?ProspectID=1C7F19D052A2499CAF9835F88E877C63.

This site lists the online cash management services offered by the bank, including payments and reporting, multicurrency transactions, trade, collections, liquidity, netting, and insurance lines of credit. We ask students to select any two of these services and then answer the following two questions for each service:

1. What activities and/or functions does the service include?
2. How are this service and its activities/functions related to the cash management materials discussed in this class?

Section 10 – Exchange Rates

This section allows students to explore the topic of exchange rates, a topic that is discussed in some detail in the international finance chapter of most introductory financial management textbooks. Students are instructed to navigate to the Bloomberg.com currency page (http://www.bloomberg.com/markets/currency.html?sidenuv=front), and then click the “Key Currency Cross Rates” link. This will bring up that day’s currency cross rates table. They are asked to use rates from this table to work two problems. Here again, to assure that each student works a unique problem, they are asked to make use of the unique number assigned in Section Seven above. They must insert this number, referred to as “MyNumber,” in the following problems to obtain their answers. In addition, they are asked to show their calculations.

1. How many Euros can be purchased with MyNumber x 1,000 U.S. Dollars?
2. How many Japanese Yen can be purchased with MyNumber x 1,000 British Pounds?
Once students have worked these problems, they return to the Bloomberg.com currency page, and then click the “Currency Calculator” link. This takes them to an online calculator that can be used to re-work problems 1 and 2. Students must print out the results of these calculations and compare them to the answers they obtained when performing the conversions with the cross rates table. Although not disclosed to the students, we expect the answers obtained in the first part of this section to be identical to those computed in the second part (with some allowance for rounding errors). Thus, a subtle goal of this activity is to see if students are logically evaluating their answers.

A Pedagogically Sound Approach for Changing the Complexity of the Project

This project is detailed and requires a significant time commitment on the part of the student. It results in a report that is of reasonable length for an introductory financial management class. An instructor wanting to condense the project could omit two or three sections and still have a project with substantial educational benefits. On the other hand, there are a number of ways that even more detail could be added to the project. For example, most introductory financial management textbooks, as well as their companion websites, include a listing of links to online resources related to the topics being covered. One or more of these resources could be selected and additional sections based on these resources could be designed and added to the project.

Table 1. Illustrative Action Verbs for Defining LOSs

<table>
<thead>
<tr>
<th>Cognitive level</th>
<th>Sample verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Identify, name, define, describe, list, match, select, outline</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Classify, explain, summarize, convert, predict, distinguish</td>
</tr>
<tr>
<td>Application</td>
<td>Demonstrate, calculate, solve, modify, arrange, operate</td>
</tr>
<tr>
<td>Analysis</td>
<td>Differentiate, diagram, estimate, separate, infer, order</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Combine, create, formulate, design, compose, construct</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Judge, criticize, compare, justify, conclude, discriminate</td>
</tr>
</tbody>
</table>

Notes: From N.E. Gronlund How to Construct Achievement Tests, 4/e
Published by Allyn and Bacon, Boston, MA. Copyright (c) 1988 by Pearson Education.
Adapted by permission of the publisher.

In addition, the instructor could change the level of rigor by adjusting the specific requirements for each section of the project. Linn and Gronlund (2000) suggest that one way to do this is through the careful selection of the action verbs used in the project assignment statements. Table 1, an adaptation from Gronlund (1988), depicts an illustrative list of action verbs and the typical level of cognition associated with them, in increasing order of complexity based on Bloom’s Taxonomy (Bloom 1956). This cognition ranges from mere knowledge (exemplified through verbs such as identify, name, define, etc.) to evaluation (exemplified through verbs such as judge, criticize, compare, etc.).

In the case of this project, the instructions for each section of the report can be adjusted to reflect the level of cognition deemed appropriate by the professor. For example, as it appears earlier in this paper, Section 3 – Federal Reserve Policy requires students to select and summarize a transcript of a speech or testimony given by a Fed official. Table 1 shows that the verb, “summarize,” invokes a relatively low level of cognition – “Comprehension.” An instructor wanting to motivate students to a higher cognitive level, “Evaluation” for example, might restate the assignment using various action verbs from higher cognitive levels such as:

- Select and summarize a transcript of a speech or testimony given by a Fed official from the aforementioned website. With what area of Fed policy and/or the economy does this item deal? What can you conclude will be the result(s) of the information covered in presentation on the U.S. economy? Justify your conclusion(s).
Evaluation of the Project

Because this project includes such a variety of tasks, we make use of a scoring guide when we evaluate each student's report. An online version of this scoring guide can be found at the following address:


We suggest that the scoring guide be provided and explained to students at the time the project is assigned. This assures that the students have a clear understanding of the specific requirements and how the project will be evaluated.

Summary

The Internet-based project discussed in this paper is designed to familiarize students with online financial information, and analytical tools, and reinforce topics encountered in a typical introductory financial management course. Using pedagogically sound educational practices we suggest how the complexity of the project can be adjusted through careful selection of the action verbs used in the instructions for each section. While we know that this project is not the only way to expose students to the information in question, we believe that it does an excellent job of accomplishing this task. Anecdotal evidence, based on comments from past students who have completed this, or similar, projects seem to support this contention:

- One of the author’s past students wrote (after graduation) that he took his graded e-FM project report to an interview with a leading, national full-service brokerage firm. He attributed a job offer from that firm to the fact that his interviewers were so impressed with the report’s contents.

- “When I had investments in the market, even though they were not real, I started paying more attention to what was going on. Paying attention to the market is important to do throughout your life.”

- “This assignment has made me realize that while once in a while gambling on a stock will get you a goldmine, it can also get you a landmine. This has also taught me to watch the news and to examine it for what effect it will have on my holdings.”

- “I have learned a great deal from this assignment. I think this project was fun. This assignment, along with our class work, has helped to give me a better understanding of the stock market and what some of the information associated with it means. I have also learned how to better interpret the information given on the stocks and how to use it to understand a little about stocks on the market.”

- “Before this assignment, I knew nothing about investing in the stock market. Now I know how to analyze a portfolio with the help of Moneycentral.com. I am now confident that I am now prepared to make my own investments in the stock market.”

References


*Most 2001 top 10 e-retailers are multi-channel.* 1 August 2002. <www.emarketer.com>(1 August 2002).


