

Developments in Business Simulation & Experiential Exercises, Volume 16, 1989

HYPERCARD AS A CONSTRUCTION TOOL FOR SHORT INSTRUCTIONAL EXERCISES

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ABSTRACT

This paper presents a description of a computer-based tutorial developed using the HyperCard software package on an Apple Macintosh microcomputer. HyperCard's features are described and then applied in the development of a tutorial on foreign exchange management.

INTRODUCTION

Short instructional computer exercises can be valuable learning tools. While comprehensive business simulations are useful in reinforcing integrative concepts, short exercises can be used to highlight specific topics. Business faculty may feel themselves to be limited in using these exercises because of the perceived difficulty of constructing a computer-based tutorial.

Apple Computer offers the software product HyperCard for its Macintosh line of computers (HyperCard is now included with the purchase of every Macintosh). HyperCard provides a set of design tools that enable a professor to develop a graphically-oriented exercise in a reasonable timeframe. HyperCard's powerful branching options allow a single exercise to be made flexible enough to address the learning needs of a variety of students.

HYPERCARD FEATURES

HyperCard uses as its method of organization the concept of a stack of cards. A card is essentially a screenful of textual, numerical or graphical information. Each card can be unique in its format or can share common traits with other cards in the stack. Card design uses tools to construct graphics (which can depict a variety of objects including maps and organizational charts), fields (which act as containers of textual information), and buttons (which allow the user to respond to queries or to control the order of presentation). Graphics, fields and buttons can be readily copied, moved and altered, making the development of related items very simple (Goodman 1987, 1988).

The basic premise of HyperCard is the provision for the ease of movement through cards (within one stack or across different stacks) by the selection of a particular button or the meeting of a specified criterion. A student can move through a stack of cards by selecting a button leading to the next card in the sequence. She can conclude her tutorial by selecting a "STOP" button or by answering correctly the minimum number of questions on that topic.

One powerful feature of HyperCard is that buttons do not have to correspond only to controlling activities (such as STOP, GO or PRINT), but can also be used in other ways to direct the flow of presentation. A textual description of a subject can itself contain buttons that, when selected, will

cause a desired action. For example, a HyperCard tutorial stack on marketing may include a card describing the various influences on market share (direct sales promotions, advertising, retailer incentives, etc.). This card might have buttons tied to specific terms in this description, so that the user can select a word (such as rebates) about which he is uncertain and be led directly to another card that describes this particular topic in greater detail (such as reviewing the advantages and disadvantages of a rebate program). The sequencing through the material depends upon the individual user's selections, allowing the user to select the rate of progression through the subject matter that best meets his background or previous exposure to the topic area.

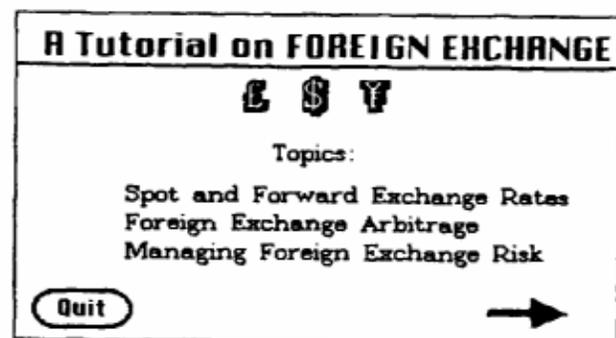
A TUTORIAL ON FOREIGN EXCHANGE

A tutorial on foreign exchange risk management was constructed to illustrate the use of HyperCard in creating short instructional exercises. This tutorial has three major goals: 1) To explain the terminology of foreign exchange transactions; 2) to illustrate key concepts with examples; and 3) To offer sample problems for the students to solve. HyperCard is an appropriate tool for accomplishing these goals because it offers rapid prototyping and great flexibility of design.

The tutorial opens with a title screen (Figure 1) that presents a list of the topics covered. The student can proceed to the next card by selecting the right arrow button or can move directly to a topic of choice by selecting its name in the list.

If the student moves in sequence, she will proceed through cards describing the basic foreign exchange terminology (Figure 2). If she wants clarification on a key term (e.g., forward exchange rate), she can select that term and be led to a card with more information (Figure 3). The student can proceed at her own pace through this material, electing to have terms further explained as her needs dictate. If she is having no problems, she can proceed directly from card to card through the material.

FIGURE 1
TITLE CARD



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FIGURE 2
BASIC TERMINOLOGY

FOREIGN EXCHANGE Terminology

Spot Exchange Rate:
Price paid for immediate delivery of a currency.

Forward Exchange Rate:
Price paid for the delivery of a currency at some future date.

← →

FIGURE 3
FORWARD EXCHANGE RATES

FORWARD EXCHANGE RATE

This is a rate that is set today for the delivery on a specified future date of a particular currency.

Example:
If today's 30-day forward rate is \$1.6/£, then you could contract to receive \$1.60 for each £ delivered 30 days from now.

← →

The tutorial uses examples to illustrate major concepts in the determination of foreign exchange rates and the management of foreign exchange risks. Here a student can choose to see additional examples that illustrate a given point that may remain unclear to her. For example, a student looking at the material on foreign exchange arbitrage can move directly from the original example (Figure 4) to a different example on the same topic (Figure 5). Then, she can work a problem based on this material or can move on to the discussion of the next topic. This flexibility of design can be easily built into even the most basic HyperCard instructional stack.

FIGURE 4
FIRST ARBITRAGE EXAMPLE

FOREIGN EXCHANGE ARBITRAGE

If you had that:
1£ = 1.80 US\$ and 1DM = .60 US\$, then the implied exchange rate is 1£ = 3 DM.

If the actual exchange rate is 1£ = 2.7 DM, an investor would convert pounds to marks indirectly and then directly reconvert marks to pounds to make a profit.

Another example ← →

FIGURE 5
SECOND ARBITRAGE EXAMPLE

FOREIGN EXCHANGE ARBITRAGE

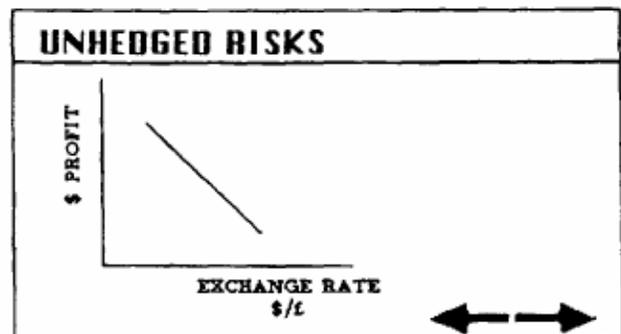
If you had that:
1£ = 1.70 US\$ and 1DM = .50 US\$, then the implied exchange rate is 1£ = 3.4 DM.

If the actual exchange rate is 1£ = 3.6 DM, an investor would convert pounds to marks directly and then indirectly reconvert marks to pounds to make a profit.

Another example ← →

The tutorials last section considers the tools available for managing foreign exchange risk. Here the graphical capability of HyperCard is used to show the effect of this risk in an international transaction that has not been hedged (Figure 6). HyperCard offers a variety of graphics tools that allow for several ways to visually display information.

FIGURE 6
RISK GRAPH



EXTENSIONS

This tutorial illustrates HyperCard's use in creating a short instructional exercise. HyperCard can be extended to include the use of sound, animation and video images, and to provide access to CD-ROM storage devices. While the focus of this tutorial has been on the sort of exercise that an individual instructor might develop in a limited timeframe, HyperCard can also be used on projects of much larger scale (Beck and Spicer, 1988; Chignell and Lacy, 1988).

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