

1-1-1983

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Recommended Citation

Parker, Alan J. (1983) "Microcomputers and the Hotel Executive," *Hospitality Review*: Vol. 1 : Iss. 2 , Article 2.

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Abstract

Microcomputers are emerging as a potent source for decision- making for hotel management. This article provides the hotel executive with a short course on the possibilities of microcomputers in his or her everyday work.

Keywords

Parker, VisiCalc, Microcomputer, Personal computer, PC, Word Processing, Computer Graphics, FIU

Microcomputers and the Hotel Executive

by

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Microcomputers are emerging as a potent source for decision-making for hotel management. This article provides the hotel executive with a short course on the possibilities of microcomputers in his or her everyday work.

One cannot read a newspaper or periodical today without seeing prominent articles about microcomputers. In the hotel field, computerization is taking place at the property level at a faster and faster rate. For small properties, microcomputers are available at a reasonable cost, providing complete front and back office systems. However, the major impact of microcomputers on the hotel executive is in the areas of decision-making and budgeting. Before examining these areas it is important to have some background as to what constitutes a microcomputer.

Terminology of the Field

Since the field is new, there has been no standardization of terms regarding microcomputers. Those referred to here are called by different names, depending on the manufacturer. IBM calls its microcomputer the PC—personal computer. Other manufacturers use the terms executive computer, desk-top computer, and business computer. There are also a number of portable models.

All of these microcomputers are useful to executives. Those that are labelled home computers or game computers are not suitable for executives. Today, the retail price of a microcomputer for executive use ranges from \$3,500 to \$5,000. The range is a function of the add-ons. The current best-selling microcomputer for executive use is the IBM PC.

Microcomputer Hardware

Hardware is the computer term that refers to the nuts and bolts of a computer. All of the electronic circuitry and attachments (such as a printer) are considered in this terminology.

The “engine” of the computer, the central processing unit (CPU),

contains the chips and circuitry that actually process the data. There are different power capacities, as in automobile engines. The power of a CPU is synonymous with its speed, and discussions of this power are usually phrased in terms of 8-bit, 16-bit, 32-bit, and 64-bit machines. The first microcomputers produced by Apple and Radio Shack were 8-bit CPUs.. All things being equal, a 16-bit CPU will be twice as fast in processing data as an 8-bit, etc. Currently, almost all of the newer microcomputers are 16-bit.

The size of memory in a computer is as important as the CPU. There are two kinds of memory. Main memory is associated with the CPU and housed in the same enclosure. It is usually referred to as RAM (random access memory). Memory is measured in thousands of "bytes." One byte is the amount of memory required to store a single character. Most microcomputers have 64,000 bytes, abbreviated in computer terms as 64K or 64KB. The "K" stands for kilo (one thousand). The "B" stands for bytes. Therefore, in a 64KB memory you could store the letter "A" 64,000 times.

Most microcomputers can have additional main memory in 64K increments up to 256K. Depending upon the applications you wish to have on your computer, you select the appropriately-sized memory. All applications usually state the amount of main memory that is required.

The other kind of memory associated with microcomputers, disk memory, uses disk drives for storing information on floppy disks which can be reused and can store 160KB or 320KB, depending on whether they are single-sided, double density or double-sided, double density. The most common floppy disks are 5¼ inches and are encased in a black cardboard protective cover. It is important that a microcomputer for executive use have two disk drives, so that disks may be easily copied.

Another type of disk, called a hard disk, can store millions of characters; the common sizes are 5 and 10MB. The "MB" is an abbreviation for megabytes (millions of bytes).

All microcomputers use screen displays. None of the inexpensive game or home computers are purchased with screens, while all microcomputers for executive use have screens. A screen is a television set without a channel selector. If a screen cannot display 80 characters across a line, it is unacceptable for executive purposes. There are two types of screens-monochrome and color. A monochrome screen is a single color screen. With a color screen, which is more than twice as expensive, certain figures and shapes may be displayed in color.

All microcomputers have a keyboard which is used to enter instructions and data into the computer. Besides a standard typewriter keyboard, a useful keyboard has a numeric pad, cursor controls, and special function keys. A numeric pad, which looks like a standard calculator keyboard, is usually found to the right of the

typewriter keyboard and has keys that have arrows on them pointing left, right, up, and down. Finally, there should be special function keys that are labelled F1 through F10, or 1 through 12, or may have words on them. These are found above or to the left of the typewriter keyboard. There should be at least 10 special function keys. In general, the more keys on the keyboard, the easier the microcomputer can be operated.

The last piece of hardware that is of importance is the printer. There are two types of printers--matrix-dot and letter-quality. A matrix-dot printer makes characters on paper as a series of small dots. A letter-quality printer produces printing that is the same as produced by a typewriter. One can change the typeface of a letter-quality printer as easily as a IBM Selectric typewriter. One cannot change the characters produced by a matrix-dot printer. Regardless of the type of printer, one must be sure to buy one that has a wide carriage and can print 120 or 132 standard size characters on a line; an 80 character per line printer is unacceptable.

Software for the Microcomputer

Electronic spreadsheets. Computer software refers to the programs that allow a computer to operate and perform useful functions. It is not necessary for executives to learn how to program; however, it is important for them to know how to run programs that they buy. The most popular is VisiCalc, an electronic spreadsheet program which revolutionized the microcomputer field and made microcomputers useful for executives. There are currently many other electronic spreadsheet programs on the market.

In order to use a computer which would perform the types of functions available with VisiCalc, one would have to invest tens of thousands of dollars in computer software and need a large computer. With VisiCalc one can computerize operational reports, perform comparative analyses, and make projections (both manpower and financial).

The days are long gone when a particular computer was purchased because it had the power to do the job. All computers and, specifically, microcomputers are purchased with the knowledge that there is particular software that will perform to the purchaser's specifications. Thousands of computers have been sold because of the electronic spreadsheet programs which perform calculations in a painless manner.

As a simple example, Figure 1 consists of a pro forma income statement designed by a student for an undergraduate finance course at Florida International University. Once the row labels were typed on the left side, and the column headings at the top, the room sales were determined by an occupancy forecast. The room sales were then entered at the top of the annual columns. The public room and store rentals were also entered. All other revenue and variable

expenses were determined by ratio analysis using industry standards. Once these ratios were entered, along with A & G expenses and fixed charges, all figures were computed by the program. As usual, no one is ever satisfied with a first attempt or with the assumptions that govern the determination of the room sales. With VisiCalc all that has to be done is the entry of the new room revenues. All numbers based on a percentage of room revenue are automatically recalculated along with all subtotals and totals.

This is a simple example using VisiCalc. For forecasting, financial analysis, and staffing analysis, an electronic spreadsheet program is an indispensable tool for executives. There are other electronic spreadsheet programs besides VisiCalc, including SuperCalc, Perfect Calc, and Multiplan.

Fig.1

FIU HOTEL PRO FORMA STATEMENT OF INCOME AND EXPENSE 1983 TO 1987					
	1983	1984	1985	1986	1987
ROOMS DEPARTMENT					
ROOM SALES	868700	1153400	1426128	1664400	1803100
DEPARTMENTAL EXPENSES					
PAYROLL & RELATED	148547	197231	243867	284612	308330
OTHER	59071	78431	96976	113179	122610
TOTAL	207618	275662	340843	397791	430940
DEPARTMENTAL INCOME	661082	877738	1085285	1266609	1372160
FOOD & BEVERAGE SALES					
FOOD	425663	438292	513406	532608	576992
BEVERAGE	204318	197231	241300	229021	248104
TOTAL	629981	635523	754706	761629	825098
COST OF SALES					
FOOD	161751	166550	195094	202391	219256
BEVERAGE	49034	47335	57912	54965	59545
TOTAL	210787	213885	253006	257356	278801
GROSS PROFIT (F & B)	419194	421638	501700	504273	546297
PUBLIC ROOM RENT.	12609	12609	12609	12609	12609
GROSS PROFIT & OTHER INCOME	431803	434247	514309	516882	558906
F & B DEPT. EXPENSES					
PAYROLL & RELATED	226793	228788	271694	274186	297035
OTHER	62998	63552	75470	76162	82509
TOTAL	289791	292340	347164	350348	379544
DEPARTMENTAL INCOME	142012	141907	167145	166534	179362
TELEPHONE INCOME (LOSS)	-8463	-11237	-13894	-16216	-17567
NET INCOME-MINOR OPER. DEPT	8687	11534	14261	16644	18031
GROSS INCOME	803318	1019942	1252797	1433571	1551986
UNDIST. OPERATING EXPENSES					
ADMINISTRATIVE & GENERAL					
PAYROLL & RELATED	55596	73817	91272	106521	115398
OTHER	49560	65250	85460	92700	96300
TOTAL	105156	139067	176732	199221	211698
MARKETING	86870	103806	114090	133152	144248
ENERGY	62547	83045	102682	119838	129825
PROPERTY OPERATION & MAIN.	60809	80738	99828	116508	126217
TOTAL UNDIST. OPER. EXPENSE	315382	406656	493332	568719	611988
HOUSE INCOME	487936	613286	759465	864852	939998
STORE RENTALS	7000	7000	7000	7000	7000
INCOME BEFORE FIX CHARGES	494936	620286	766465	871852	946998
FIXED CHARGES					
PROPERTY TAXES	40200	40200	40200	40200	40200
INSURANCE	10000	10000	10000	10000	10000
TOTAL	50200	50200	50200	50200	50200
NET INCOME BEFORE INTEREST AND DEPRECIATION	444736	570086	716265	821652	896798
INTEREST EXPENSE	215571	215571	215571	215571	215571
DEPREC. & AMORTIZATION	113391	113391	113391	113391	113391
NET INCOME BEFORE TAXES	115774	241124	387303	492690	567836
PROVISION FOR TAXES (50%)	57887	120562	193651	246345	283918
NET INCOME (LOSS)	57887	120562	193652	246345	283918

Word Processing Functions. Many people buy microcomputers to have a word processor. For an office environment this is not a very good idea. A good word processing computer costs approximately \$7,500 because of the number of special functions on the keyboard and the training and support required. Generally stores that sell microcomputers cannot offer sufficient training and support for word processing.

Another application that entails the use of name and address files and a form letter is sometimes offered with word processing software; this is called list processing. If done properly, the letter looks as though it were typed on a typewriter and not computer-generated. This application is very useful for producing contracts, thank-you letters, and other repetitive correspondence. The sales and marketing area should find this application very helpful.

Computer Graphics. To some executives the idea of presenting data in tables along with bar graphs or pie charts is important. Microcomputers have graphics software that will allow the drawing of bar graphs, pie charts, and graphs. A color screen is preferable over a monochrome for graphics. In order to use a graphics package to secure a printout of the drawings, a graphics printer must be used. Many of the matrix-dot printers have graphics capabilities; a graphics plotter that is capable of printing multi-colored charts may be used. The use of color graphics will result in a much higher cost for the microcomputer since a color screen and a color graphics plotter must be purchased.

Integrated Software Package. In the past year, a number of integrated software products have come on the market. These packages, which include electronic spreadsheets, word processing, and graphics capabilities all in one, are more expensive than if one bought each application separately. The major sales thrust of these packages is that one can combine and mix the spreadsheet and graphics in a single letter or document; the software certainly makes a powerful impact when it is demonstrated.

Apple has produced a new computer, Lisa, along with this software. Rather than use the keyboard to give commands, it comes with a "mouse," a hand-held device that one points at the screen to give the computer commands, rather than typing them through the keyboard.

Other software that has the above capabilities includes VisiOn, Lotus 1-2-3, and MBA. It is interesting to note that VisiOn with an IBM PC is approximately \$4,000 cheaper than Apple's Lisa.

Hotel executives can select hardware in "configuring" their computers. The configuration recommended for executive use is as follows:

- a monochrome screen that displays 80 characters/line,
- a keyboard with a numeric key pad and function keys,

- two disk drives or one disk drive and a hard disk,
- a minimum of 64KB main memory with a 16-bit CPU, and
- a wide carriage printer that prints 120-132 standard size characters/line.

If color graphics are desired, a color screen should be substituted for the monochrome screen listed above, and a graphics plotter should be added to the above configuration.

The one overriding rule that should be used by executives purchasing a microcomputer is to be sure to see the configuration that is selected demonstrated with the software to be used before purchasing.