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Database As A Tool For Hospitality Management

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Database As A Tool For Hospitality Management

Abstract

In his discussion - Database As A Tool For Hospitality Management - William O'Brien, Assistant Professor, School of Hospitality Management at Florida International University, O'Brien offers at the outset, "Database systems offer sweeping possibilities for better management of information in the hospitality industry. The author discusses what such systems are capable of accomplishing."

The author opens with a bit of background on database system development, which also lends an impression as to the complexion of the rest of the article; uh, it's a shade technical.

"In early 1981, Ashton-Tate introduced dBase 11. It was the first microcomputer database management processor to offer relational capabilities and a user-friendly query system combined with a fast, convenient report writer," O'Brien informs. "When 16-bit microcomputers such as the IBM PC series were introduced late the following year, more powerful database products followed: dBase 111, Friday!, and Framework. The effect on the entire business community, and the hospitality industry in particular, has been remarkable", he further offers with his informed outlook.

Professor O'Brien offers a few anecdotal situations to illustrate how much a comprehensive data-base system means to a hospitality operation, especially when billing is involved.

Although attitudes about computer systems, as well as the systems themselves have changed since this article was written, there is pertinent, fundamental information to be gleaned.

In regards to the digression of the personal touch when a customer is engaged with a computer system, O'Brien says, "A modern data processing system should not force an employee to treat valued customers as numbers…" He also cautions, "Any computer system that decreases the availability of the personal touch is simply unacceptable."

In a system's ability to process information, O'Brien suggests that in the past businesses were so enamored with just having an automated system that they failed to take full advantage of its capabilities. O'Brien says that a lot of savings, in time and money, went un-noticed and/or under-appreciated. Today, everyone has an integrated system, and the wise business manager is the business manager who takes full advantage of all his resources.

O'Brien invokes the 80/20 rule, and offers, "…the last 20 percent of results costs 80 percent of the effort. But times have changed. Everyone is automating data management, so that last 20 percent that could be ignored a short time ago represents a significant competitive differential."

The evolution of data systems takes center stage for much of the article; pitfalls also emerge.

Database As A Tool
For Hospitality Management

by
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Database systems offer sweeping possibilities for better management of information in the hospitality industry. The author discusses what such systems are capable of accomplishing.

In early 1981, Ashton-Tate introduced dBase II. It was the first microcomputer database management processor to offer relational capabilities and a user-friendly query system combined with a fast, convenient report writer. When 16-bit microcomputers such as the IBM PC series were introduced late the following year, more powerful database products followed: dBase III, Friday!, and Framework. The effect on the entire business community, and the hospitality industry in particular, has been remarkable.

When the world business community bought over a half million of Ashton-Tate's dBase series of database management programs, it got something more than a good piece of software for its money; it began to learn about good data management. The hospitality management industry is no exception. The competitive difference that good database management can make was illustrated by what happened recently in two competing country clubs:

Customer: "I've lost my membership number but my name is Millie Robbins. How much is my balance?"

Answer in Club A: "Sorry, the computer needs your member number. Can't do a thing without it."

Answer in Club B: "Certainly! I'll just type your name into the computer."

This story illustrates what amounts to a generation gap in the attitudes of computer users in the hospitality industry: What was good use of computer systems just a few years ago is neither acceptable nor competitive today. A modern data processing system should not force an employee to treat valued customers as numbers and it should provide the answer to any reasonable question without delay. Any computer system that decreases the availability of the "personal touch" is simply unacceptable.

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Business Environment Has Changed

The first hospitality businesses to employ small computers successfully enjoyed such a great advantage over their non-automated competition that they had no need to use computers efficiently. For instance, an automated payroll system would have produced substantial cost savings over a manual system. In the euphoria that followed successful installation, most managers would have shrugged off any suggestion that the savings could have been a bit better. That would have been a wise application of the 80/20 rule: the last 20 percent of results costs 80 percent of the effort. But times have changed. Everyone is automating data management, so that last 20 percent that could be ignored a short time ago represents a significant competitive differential.

Also, the computers which small or medium sized businesses could afford five years ago were so small and slow that the economic difference between a well-utilized computer and one which was not well-utilized was not noticeable on the P&L. Simple files and single purpose programs were sufficient for the tasks done in most hotel and restaurant computer systems. But today's larger, faster computers allow data to be organized in ways that let human employees work productively.

Finally, prior to the introduction of good microcomputer database systems, it simply was not economically feasible to develop customized applications for segments of the hospitality industry. Applications that would have taken months of programming effort in BASIC or COBOL can be developed in a few days. This makes it possible for such limited markets as a single travel office or one restaurant to have custom products that would have been priced beyond the reach of even large corporations just a few years ago. In addition, the products are more bug-free and reliable.

Businesses Remaining Static Face Problems

Business is a lot like athletics in that performance that was considered outstanding in the past will not win any medals today. Hospitality businesses, especially smaller ones which have utilized computers for a number of years, now find themselves in a vulnerable position because of their unthinking repetition of past successes. Others just beginning to use computers will find themselves in the same unpleasant situation just a few years down the road unless they take precautions now.

• **Disorganized information:** Each profitable application of the computer has encouraged management to look for a new application, each of which has resulted in cramming more data into storage with little regard for what was already there.

The computer systems that first appeared in hotels, restaurants, and other hospitality-oriented businesses were designed to do a very few simple tasks, such as payroll. For each task, a file or two was created. The payroll file might contain each employee's name, home address, hourly pay, deductions, etc.

Within a short time, managers discovered that it was cost effective to require additional functions of already installed computers. For instance, the computer that was already doing payroll also could be pro-

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grammed to keep personnel records. When the new function was added, an additional file was created, normally with little coordination with previously existing files.

●**Lost or garbled information:** When a physical file system becomes totally disorganized it is always possible to straighten things out. It may take a room full of accountants and a lot of money, but it can be done because the information is visible. But information sorted on a magnetic disc is not so accessible and can be shuffled electronically beyond any hope of recovery. Each new program geometrically increases the chance of this happening.

●**Duplicated data:** Many files contained duplicate information. For instance, the employee's name could appear in both the payroll file and in the personnel record file. Each new function added to the computer might result in duplication, not just of names but of vast amounts of information.

Duplication causes several problems. The first is that redundant information consumed storage space needlessly. In one early restaurant inventory system, 60 percent of the available disc file space was taken by duplicate information.

●**Inconsistent information:** A more severe difficulty was that the duplicated information might not always agree. A person's name might be entered with several different spellings in several different files. One file would say that there were 12 cases of tomatoes in inventory while another might report that 19 were on hand. The humans responsible for correcting misinformation stored in the computer found themselves with the job of updating the same number in an ever increasing number of places. Predictably, they became more and more frustrated, and less and less accurate. "Garbage in, garbage out!"

●**Vital information became inaccessible:** This program surfaced when managers insisted on asking for reports that drew information from several files. An example might be, "List all local employees who worked overtime this month and are in the profit sharing plan." One way to solve this problem is to print a hard copy of the three files and compare them manually. Issue an order like "Keep the address in both the payroll and the personnel file" and the problems get worse. A manager who consults the wrong computer expert would commission a programmer to write an ad hoc set of programs. He would find himself entangled in the nightmare pictured in Figure 1. Several weeks and many dollars later, he might get the answer, if he was lucky.

●**A confusing array of conflicting programs:** Creating more special purpose programs might work a few times, but eventually there comes a time when the computer cannot deliver the type of report needed or cannot store "a few more reservations," or programs start "bombing out" during peak traffic. Information may be in the computer but not possible to retrieve. Important data may be erased in the confusion of programs accessing it. The system is so confused that it is almost impossible to train new personnel.

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•Too many black boxes: The first reaction is to look for a new piece of hardware, a black box to solve the latest problem or accommodate "those few more records." A favorite band-aid recommendation is "You need to buy a file server." But bolder computer salesmen will recommend a whole new computer with all its accompanying peripherals for hospitality businesses whose needs have outgrown their old systems.

Unfortunately, those salesmen may be right. When lack of planning has brought a business to the state where most of these problems are present, the only solution may be a new system or something equally drastic. Virtue is not rewarded if it is accompanied by bad planning. One should avoid getting into this situation in the first place. The best suggestion for anyone who is there now is "Don't do it again."

An Expert Manager Is Needed

How can a hospitality manager make sure his data system is well-planned and organized and that his business will not come up against any of these horror stories in the future?

One answer is to manage data the old fashioned way: Hire an expert.

Most big organizations hire an individual whose job it is to keep the company out of the kind of trouble described above. The job title might be something like database manager or vice president for MIS. Good management information system managers can be worth much more than their weight in gold. Bad ones can put their companies into bankruptcy overnight.

•How do you know he is any good? Unfortunately, the only way to tell the good from the bad is performance, and there are only two ways to judge performance in such a specialized job: the traditional way is to wait for something major to occur–some of us enjoy surprises; the harder and more modern way requires that one recognize that database management is no longer a technical speciality that the general manager can ignore–at a minimum one needs to know enough to recognize proficiency.

•Can you trust him? The owner of one purely hypothetical restaurant grossed well over $5 million a year until he bought an elaborate computer system. Feeling uncomfortable with the machine, he hired a bright part-time college student—call him Fred—to "take care of the details." Thereafter, gross and net declined somewhat, but Fred's computer generated reports which showed it was unavoidable. In the meantime, Fred bought a new sports car and a condo and finished school. Shortly after his graduation, he opened his own restaurant with financial backing from some mysterious "offshore investors." During Fred's entire three-year period of employment, there was only one problem: A fire destroyed some of the older computer files just before he left. Obviously Fred couldn't be blamed for that.

To manage the data system the modern way, one must learn it well. The computer power contained in a micro would have cost $10 million and had 10 engineers in charge of it just two decades ago. Now ordinary clerks are expected to run it alone. Certainly in a small organization a

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manager needs to understand database systems well enough to use them. Otherwise, it is probably better not to have a computer at all. At a time when some business people have just started to use simple files and feel rather pleased at such progress, it can be upsetting to find another complication.

Database Has Many Advantages

A science that was created expressly to answer business needs, database organizes data so that it can be treated as an integrated whole, the way humans use and need it. Data becomes information when it is organized. A good database processor will provide all of the following automatically:

●**User friendliness:** One major objective is that business people be able to ask questions in a way that is comfortable and natural rather than in an artificial computer jargon. In some of the newest database systems, called "expert systems," artificial intelligence techniques have made it possible to use ordinary language to ask questions. A rule of thumb for purchasers of new database systems is if they have to read a manual for more than three minutes in order to start using the system, they should not buy it. Software engineering is now advanced to the point that acceptable products must be as self-explanatory as a television set or hi-fi system. The term "computer literacy" makes no more sense than "hi-fi literacy" or "automobile literacy."

●**Standardized data:** Another objective is to simplify and standardize the form in which information is presented and stored. Each file, represented by the round circles in Figure 1, holds data in some electronic code. All too often the codes are different and incompatible. For example, a restaurateur buys a microcomputer on which he runs spreadsheet menu analysis. He has to obtain a printout from the point of sale computer used by his cashier, then hand copy the data into the microcomputer. When he asks the POS manufacturer why the information cannot be transferred electronically, he is told, "The two systems are incompatible."

●**Data integrity:** A business can be destroyed if the integrity of its data is under attack. When a hacker invades a computer system to change data, it makes headlines. However, businesses suffer more from carelessness or frustrated employees. A good database system can protect data best by preventing duplicate (and potentially contradictory) data. Nothing shakes confidence in a computer system quite as much as when it prints two conflicting reports.

●**Answering questions not thought of before:** With a system of simple sequential files, computer people learn to dread the slightest bit of original thinking by their managers. Whenever a new question is asked, the programmer starts to get pictures like Figure 1 in his mind. He imagines what programs he will have to write and debug, and how long it will take. In his view, only a crazy, impractical person would ask such a thing.

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Figure 1
How Merge-Type Programs
Answer Management Questions
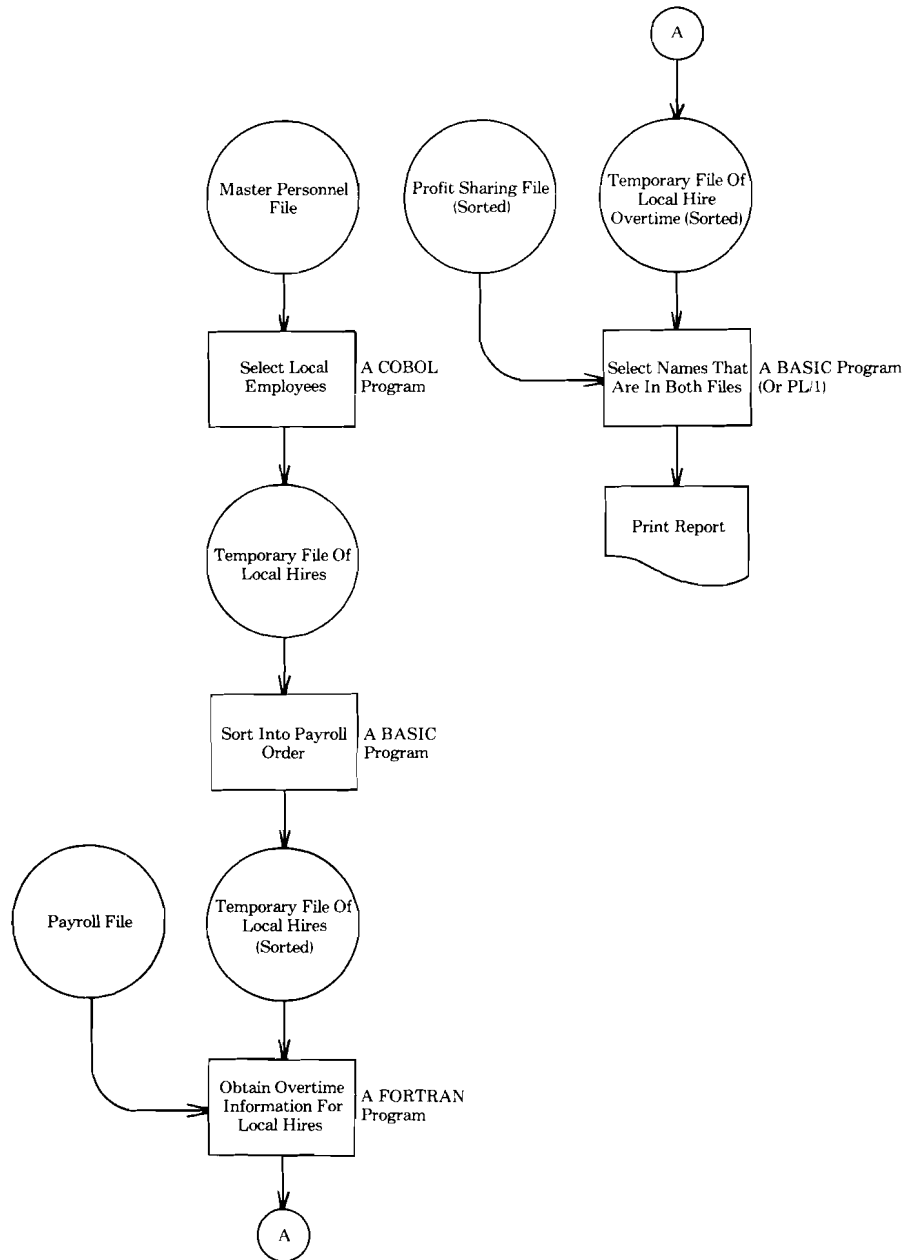
But a database system makes it possible to ask a thousand new questions every day. If the system is good enough, there never is the need to write programs, and never a need for programmers either.

One of the primary disadvantages of database is that the program (called the database processor) is large. One can expect to purchase additional memory for the host computer. Another problem is that moving existing data to a database can be expensive and time consuming.

Some applications will run slower. A database processor is more complex than any single applications program, so it will have overhead time.

However, the most serious objection to database is that it increases centralization and therefore vulnerability. Any damage to any part of the data will degrade the entire system. In an older type system, the payroll program or data might not be working, but the inventory system could still be fine. Because the database and its processor are tightly integrated, failure is usually total. However, J. P. Morgan's advice is appropriate for this situation: "Put all your eggs in one basket, but watch the basket very carefully!"

One thing is clear. The hospitality industry is in a phase of explosive change in how information is managed. Many in the industry are moving ahead with the technical changes and are starting to reap the financial benefits. Others are lagging behind and need to stir themselves out of the complacency that primitive computer use has engendered.

It is also clear that even those who are in the vanguard today cannot afford to relax. New advances are already upon us. Presently, the main difficulty and obstacle to efficient data processing is the difference between the mainframe and microcomputer worlds. For instance, a travel agency that has satisfactorily used a database program in its office computer may find it difficult to exchange information with a mainframe database reached using a telephone and modem. One solution in the offing is IBM's Structured Query Language (SQL). Depending upon IBM's marketing strategy, SQL or some other product will sweep the field and become the de facto standard of the database programs just as Lotus 1-2-3 has become the de facto standard of spreadsheets.