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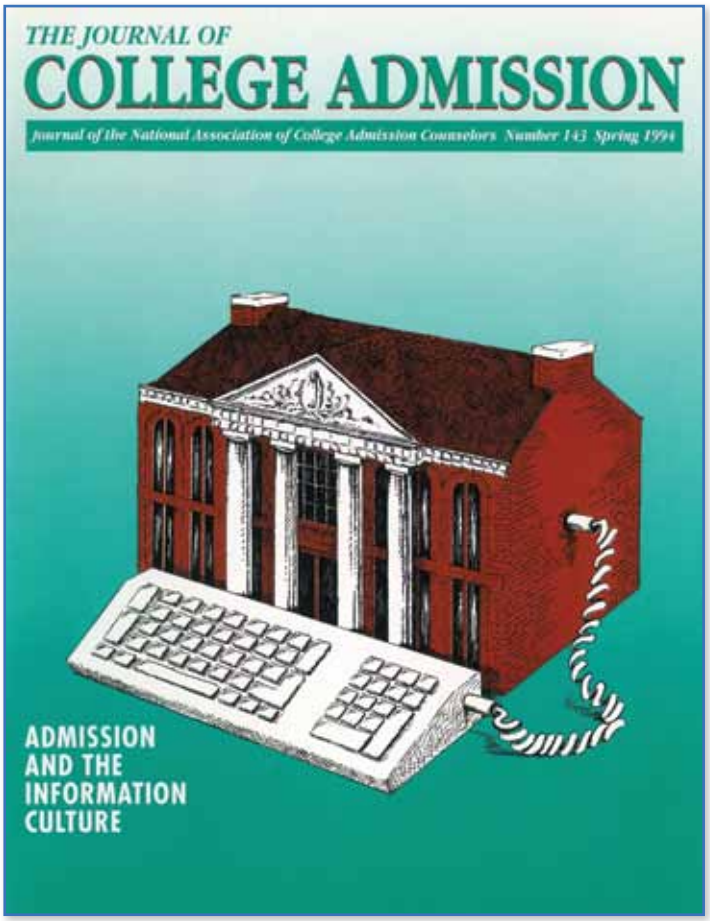
by Nicholas Levenstein

The Reality, Direction, And Future Of Computerized Publications

Response: "Computerized Recruitment and the Staying Power of Print" Matthew Summer on page 90



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From 1994: **NICHOLAS LEVENSTEIN** is founder of Access Technology Corporation, a software company based in Chicago, IL, specializing in computerized publications and electronic data interchange systems. Levenstein graduated from Yale University (CT) in 1989 with a B.A. in History.

There are roughly 100 million personal computers in the United States that conform to one of two standards, "PC" or Macintosh. However, the impact of the machines' ubiquity is largely unfelt, and their potential is only half-tapped. The stage is set for remarkable changes in publishing and communications and much has already begun.

The development of the computer today is similar to that of cars. In 1920, middle-class people could afford cars, and consequently there were quite a few buzzing around.

On the mechanical end, brake fluid, windshield wipers, or whatever you needed to make it run and be useful to you were available. There was also new automobile apparel like cool leather jackets and goggles. However, there was little physical evidence in the world as a result of the automobile phenomena; i.e., no strip malls, drive-through restaurants, or suburbs.

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What Has Happened in Communications

Sharing information in digital form by using a computer is a growing phenomenon. Within companies, employees are using electronic mail systems more receptively. Among computer hobbyists and professionals, a remarkably advanced communications network has already evolved. Compuserve Information Service and the Internet System allow people in government, industry, and in their homes to communicate via computer at a cost lower than phone rates. These services also allow people to establish personal networks—or "forums" in the case of Compuserve—to discuss specific topics.

People seem to like getting messages on their computers. One reason is that E-mail is more directed and less ceremonial than paper communications, and it is less obtrusive than a phone call. Another reason is that in most cases, E-mail users only have to type "reply" to send a response. With these innovations, it will be just a matter of time before pictures, sounds, and all sorts of colorful messages will be sent via computer.

What is Happening in University Publications

Many universities are making their applications available on computer. More than one hundred and thirty-six universities have developed computerized applications on their own or through a commercial vendor. College applicants can now fill out their applications on a Macintosh, Windows, and DOS (any computer in the US) instead of using their typewriter. When the student begins the computerized application, a facsimile of the paper form appears on the screen. Soon there will also be elements of the brochures combined with the form, such as pictures of the campus.

Universities developed computerized applications in order to provide better services to applicants, to beat their competition, and to save money. In all three respects, these projects appear to have been successful.

The savings from not having to employ clerical workers to input data have been substantial. More importantly, applicants love computerized applications. The feedback which universities that presently use the computerized application have received has been very positive; and in many cases, has helped them against competition by making the process easier.

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Northwestern University's Kellogg School of Business developed a computerized application in 1992 when none of its major competitors had one. Said one Kellogg applicant, "I filled out the computerized application first...because I could pop the disk right into my computer. It made the process a lot quicker and simpler."

Affiliate Achiever

Derrick Kang, *Director of College Counseling*
Mid-Pacific Institute, Honolulu, HI
Hawaii ACAC

Why are you in this profession?

I started off my career in college admission. I knew that my next job would be at the secondary level. I enjoyed recruiting students, but would often lose touch with them once they enrolled. In college counseling, I enjoy the day-to-day contact that I have with my students. My students keep me feeling young and energized. There's a terrific sense of fulfillment in helping students get to the next phase in life. I love hearing about their experiences and visiting them on their campuses to see how much they have grown and matured as adults. My job also allows me to maintain strong relationships with my colleagues in higher education.

A trend that will definitely facilitate applying is the commoditization of the application process through computerized applications. Since students are filling out the same symbolic information all the time (name, address, social security, etc.), they could clearly send this information to more than one university. Businesses and organizations of universities have accepted this trend. One such educational business allows students to apply to over 500 different universities using a single computer application. One consortium will even offer a single application to over one hundred schools in the group. Next year this consortium will offer supplemental questions in their computerized applications for each individual university in addition to the same basic data for all of them. This trend will make the application process easier for students, but it will make it harder for universities to convey their uniqueness.

Despite these examples, the vast majorities of university applicants still read paper brochures and fill out paper application forms. Now that computerized university admission applications exist, most colleges should develop their own application forms on disk for competitive reasons.

What is preventing all communication and publications from being distributed and read this way?

Cultural Habits

Americans aged 30 and up did not grow up with computers as a central part of their lives. Rather, they were administrative tools for special tasks. They are already accustomed to saying "send me some material in the mail," or "let's see some literature." Baby boomers feel confident in using a computer for their own needs but not in asking others to use a computer to work with or to communicate with them. However, younger Americans do expect to use their computers and actually depend on them. Hopefully, forward-looking Americans of all ages will make a little change to reap a lot of benefit.

Technical Issues

Most of the technical change necessary for computerized publications is in place—being that the 100 million different computers all operate from one of two architectures, PC or Macintosh. However there are four technology phenomena that will accelerate communications and publications on computers beyond the nascent state of today.

The MS-DOS system that facilitated the boom in micro-computing is somewhat inadequate to develop publications. The reason is that any computer application requires special software to run the printers, facsimile devices, and basically anything else that is attached to the computer.

The Windows, Macintosh, and OS/2 operating systems include software to run peripheral devices, so applications developed for these newer operating systems can include more information and less peripheral device drivers. Pictures and sounds can take up much more space, because the operating system understands how to print, view, or hear them without as many instructions.

Modems and Fiber Optic Cables

As more and more people buy modems with their computers, it will become easier to receive large amounts of information without tracking, purchasing, or manufacturing floppy diskettes. Also, as more fiber optic cables are laid, information will flow more cheaply, particularly on a national basis. These inexpensive communications will help more people grow professionally and personally.

Better Screens

Most people view computer documents on computer screens which strain the eyes. Slowly larger screens with higher resolution are appearing and becoming more affordable. Devices already exist to hook up computers to TVs or overhead projectors, but such devices are not used widely yet. A clear portrait of the future exists in the home of Seattle billionaire, William H. Gates III, who allegedly has digital panels on which he displays his current guests' favorite art. As technology advances, such devices will proliferate.

CD ROM and Optical Magnetic Drives

While the chips that can process large amounts of data are widely used, the devices to store and read it are not. However, CD ROM

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drives and optical magnetic drives are inexpensive enough for many people to afford now. In this case, publications and software will drive the hardware. If there is a $1,000 encyclopedia set that someone wants on their computer, it might be worth investing in a $225 CD ROM drive. If someone wants to store large amounts of information, they may invest in a $2,000 optical magnetic drive or even an $8,000 drive to press their own CDs.

Benefits of Competition

Competition between the two giants of personal computing, Apple and Microsoft, as well as other second-tier players, will also foster growth in the media capabilities of computers. Clear examples of this are the appearance of sound software in the Microsoft Windows operating system and the availability of sound cards and IBM-clone PC manufacturers. The Apple Macintosh has had great sound capability for a few years. Apple makes the operating system and the physical computer so the company could make sound hardware and software work together fabulously. Microsoft seemingly felt that this was a feature that had to be matched so they either actively or inadvertently teamed up with certain hardware manufacturers like Gateway 2000 to provide sound capability. Great sound systems are available in computers that rely on software written by one company and hardware manufactured by another.

Conclusions

The framework and infrastructure for whole new industries and life-styles has been set. The free flow of digital information will have almost as large an impact as the free flow of people and goods that developed in the early and middle twentieth century. While auto traffic increased personal freedom and encouraged the growth of industry, it also had an incalculably negative impact on the environment and on cities. Computers and digital communication will have as large an impact on the information culture of the future as automobiles had on the industrial culture of the twentieth century. This technology will provide new opportunities and responsibilities. Use it well.