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Windows95: Is it the bargain it was supposed to be?

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INTRODUCTION

Whereas a critical mass of computer users has migrated to Windows95, some are still using Windows 3.1 and DOS. There is concern that the benefits of installing Windows95 may not outweigh the costs. For example, the META Group has estimated that migrating to a Windows95 platform in a 5,000-person organization will cost an average of \$1,462 per computer. This total includes costs for the purchase of Windows95 and new Win32 applications, additional RAM and hard-disk memory, installation and supporting the software, plus end-user training. Additional concerns center on the problems end-users face as they use Windows95. Any operating system that claims to be superior must pass the litmus test for good interface design including intuitiveness, ease of use, consistency, portability, stability, and flexibility (Gaines & Shaw, 1983; Shneiderman, 1987). This study used Analytical Hierarchical Process (AHP) approach to evaluate the three platforms: DOS, Windows 3.1, and Windows95, according to the six characteristics: intuitiveness, ease of use, consistency, portability, stability, and flexibility. Results showed that Windows95 dominated Windows 3.1 and DOS in all characteristics except consistency, portability, and stability. Windows 3.1 dominated DOS in all characteristics including consistency, stability, and portability. The conclusion is that Microsoft Corporation should strive to improve the consistency, stability, and portability of Windows95. Organizational adopters of the Windows95 platform should be aware of these shortcomings.

BACKGROUND

Before August 1995, Windows 3.1 and DOS commanded more than 70% of the operating systems market for microprocessors. In a bid to provide a more powerful, flexible, user friendly, intuitive interface, Microsoft introduced Windows95 on August 1995. The inability of the DOS and Windows 3.1 platforms to take advantage of new advances in microprocessor and storage technologies partly contributed to this move.

DOS is a 16 bit, non-multitasking operating system that provides no built in networking, no security, no memory protection, and no windowing system. The File Allocation Table (FAT) suffers significant limitations in scalability and performance. For example, DOS could not take advantage of advances in hard disk capacities. Also, DOS has to execute the lowest 640 KB if

the processor's address space, an area of memory that is shared with the operating system itself, device drivers, and network drivers--which meant users have to spend a lot of time fine tuning the memory configurations of their DOS based PCs. Later versions of DOS tried to address this problem, but it was not completely solved. Microsoft then introduced Windows 3.1 in 1990 to address some of the DOS problems.

The Windows 3.1 platform is not an operating system per se, but a Graphical User Interface (GUI) that provides DOS with a windowing capability. It also provides cooperative multitasking, virtual memory and memory management capabilities not provided by DOS. However, like DOS, Windows 3.1 still lacks memory protection and security. Additionally, Windows 3.1 lacks pre-emptive multitasking and multi-threading capabilities. The Windows 3.1 code is designed to run 16 bit applications and does not take full advantage of 32 bit microprocessors. The introduction of Windows95 was intended to overcome many of the limitations of the Windows 3.1 and DOS platforms.

Windows95 is a 32 bit, virtual memory operating system with preemptive multitasking, networking, and multithreading capabilities. Its new user interface incorporates most of the Windows 3.1 features and provides a single interface from which one can manipulate files and run programs. Windows95 was also intended to maintain a backward compatibility with most programs written for Windows 3.1. Additionally, it contains a new file system called Virtual FAT (VFAT) which supports file names up to 254 characters in length, a major improvement over the 8 character file name/3 character file extension limitation found in DOS and Windows 3.1. Windows95 was therefore expected to be a superior platform compared to DOS and its cousin Windows 3.1

This study uses Analytical Hierarchical Process (AHP) approach to evaluate the three platforms, namely, Windows95, Windows 3.1, and Disk Operating System (DOS) according to six characteristics: intuitiveness, ease of use, consistency, portability, stability, and flexibility. *Intuitiveness* refers to one's ability to use the system or platform without much cognitive effort; *ease of use* to one's ability to learn and understand the system easily at a level expected of the user. *Consistency* refers to one's ability to obtain similar results from the system, *portability* to the ease, speed, and accuracy of converting files from one system to other systems. *Stability* refers to lack of sudden or unexpected changes as one uses the system, and *flexibility* to the ability to use the system to add new features with ease and accuracy.

METHOD

The Analytical Hierarchical Process (AHP) Framework

AHP is a framework that enables decision makers to make complex decisions involving multiple criteria while taking into consideration their intuitions and feelings. The framework is a hierarchy. At the top level, the decision-maker decides on the overall goal of the decision. At the second level (and subsequent levels if necessary), the decision-maker provides judgements on the various criteria in the hierarchy in pairs as to their relative importance. After the decision-maker

sorts the criteria into hierarchy levels clustered into homogenous entities, s/he evaluates the alternatives under consideration in pairs with respect to each of the criteria. For example, in this study, the participants first evaluated the relative importance of each characteristic: intuitiveness, ease of use, consistency, stability, portability, and flexibility relative to the others. That is, on a scale of 1 = equal, 3 = moderately more, 5 = strongly more, how important is intuitiveness relative to ease of use? Then, how important is intuitiveness relative to consistency?, etc. After completing this comparison, participants were asked to evaluate the statement: How much more preferred is Windows95 to Windows 3.1 with respect to intuitiveness? ease of use? consistency? and so on. The same scale of 1 = equal, 3 = moderately more, and 5 = strongly more was used.

Data Collection and Analysis

Fifty-seven (57) senior information management students in a southwestern university who had used Windows95, Windows 3.1, and Disk Operating Systems (DOS) for at least one year were asked to complete a questionnaire that evaluated the relative importance each of the criteria characteristics; intuitiveness, ease of use, consistency, portability, stability, and flexibility as explained above. The scores were then averaged and entered into an AHP software application called Expert Choice Decision Support Software.

Results

Figure 1 shows weights assigned to each characteristic. According to the raters, intuitiveness (37%), ease of use (22%), and consistency (17%) are the three most important qualities for an operating system. The next three in order of importance are portability (10%), stability (9%), and flexibility (5%). Figure 2 shows the overall ranking of the three platforms based on weights of the six characteristics. Windows95 was ranked first (42%), Windows 3.1 second (38%), and DOS (20%), as expected. However, the domination of Windows95 over the other two platforms was not overwhelming. Figure 3 shows why the ranking of Windows95 was not that overwhelming after all.

Figure 1. Graphical Representation of Priorities for each Characteristic

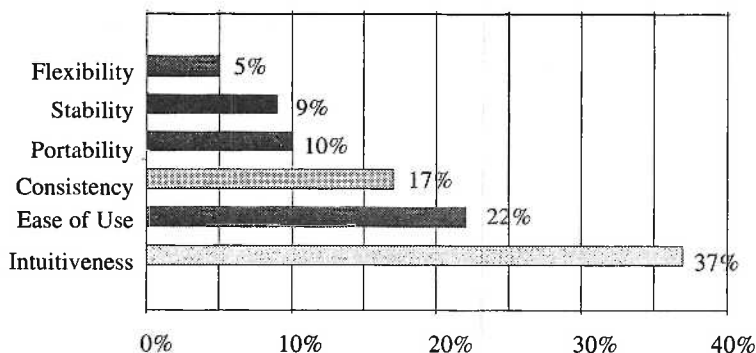


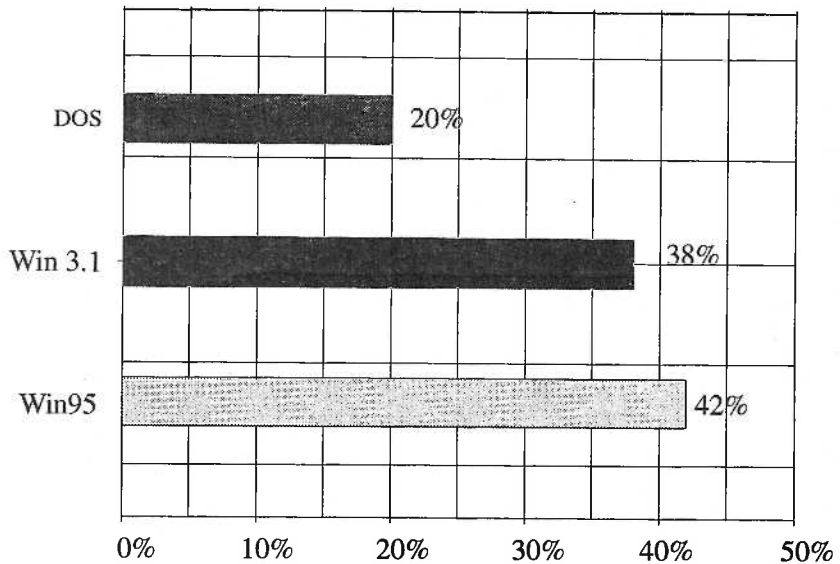
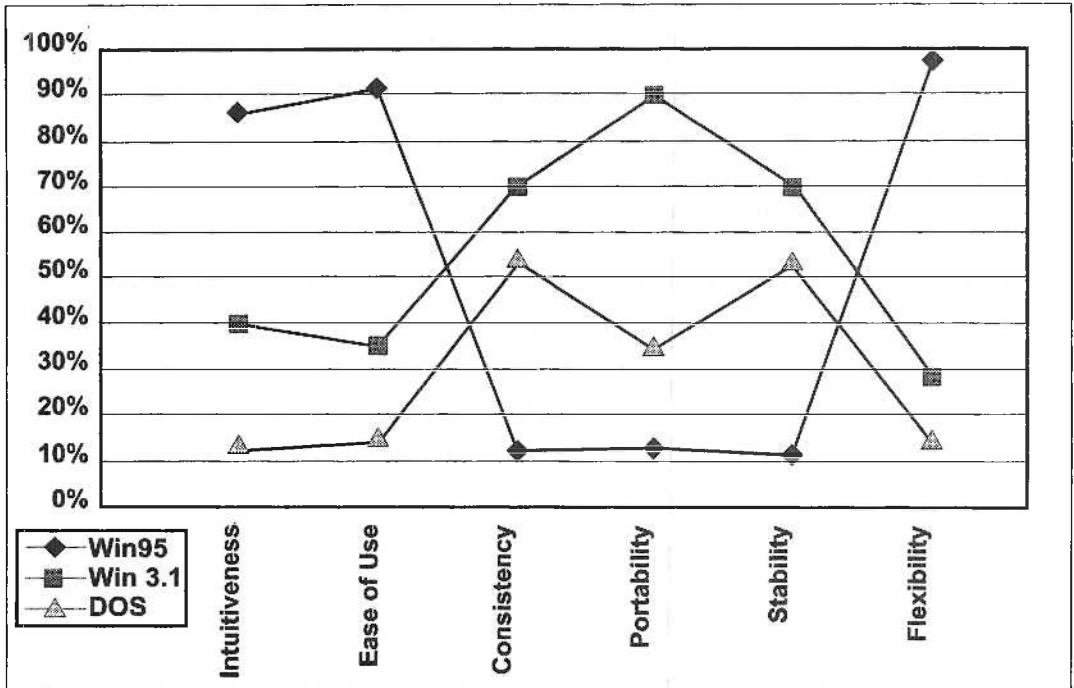
Figure 2. Relative Importance of Each Platform

Figure 3 shows that Windows95 is not strong in consistency, portability, and stability compared to Windows 3.1 or DOS. Noted consistency problems included problems of saving a file like "Homepage.html" and having the file come out as "Homepage.html.txt," automatic running of CD-ROM Applications, and incomplete pathnames in folder windows. Portability problems included lack of full backward compatibility with programs written for Windows 3.1. Some of the raters noted that once you migrate to the Windows95 platform "you are doomed!" Stability problems included the infamous blue screen with a message that a fatal error has occurred and you need to call the vendors to solve the problem.

However, as shown in Figure 3, the intuitiveness, ease of use, and flexibility of Windows95 was enough to give it a superior ranking.

Figure 3. Performance Sensitivity of Win95, Win 3.1, and DOS Rankings Relative to the Six Characteristics



DISCUSSION

The results indicate that despite Microsoft's effort to advertise the superiority of Windows95 (the company spent \$200 million at its introduction), many users who value consistency, portability, and stability may be lukewarm to its widespread deployment. Some users may also hold out waiting for newer versions of Windows95. Yet, other users may explore more versatile products like Windows NT, IBM's OS/2, Mac Operating System, and other various UNIX operating systems. Further AHP studies should be carried out to evaluate users' perceptions of various operating systems compared to Windows95 based on the characteristics used in this study and other software measurement variables.

CONCLUSION

Microsoft should work on increasing the consistency, portability, and stability of Windows95. Microsoft should also make the potential benefits of Windows95 much improved file and memory management, seamless integration between major applications, multitasking, multithreading, security and network management a reality. One area where the company could learn from is the *Windows95 annoyance forum* on the Internet. The URL is <http://www.annoances.org/win95/>.

REFERENCES

- Gaines, B. R. & Shaw, M. L. G. (1983). Dialog engineering, in M. E. Sime and M. J. Coombs (Eds.) *Designing for human-computer interaction*. New York: Academic Press.
- Shneiderman, B. (1987). *Designing the user interface: Strategies for effective human-computer interaction*. Reading, MA: Addison Wesley Publishing Co.