

Operating Systems

**Macintosh/Windows:
Cost and Productivity
Analysis**

Complete Research Report

1 Overview of Collected Data

1.1 Nature of Companies Surveyed

Publishing companies have been working with both Macintosh and Windows computers for a long time.

Most companies participating in this research project are in the publishing business. Publishers have traditionally been using Macintosh computers quite extensively, and have adopted Windows over time in areas in which the Macintosh does not have key perceived benefits, or in which Apple's platform cannot compete fully with Windows. **In other words, publishers are among the few market segments that have in-depth working experience with both environments.**

This does not mean that the analysis provided in this report only applies to the publishing industry. On the contrary: **Studying an environment in which integration of Macintosh and Windows is common makes it easier to provide recommendations that apply to computing platforms in general.**

1.2 Levels of Data Collection

Three distinct levels of technology usage are covered.

Very early on during the preparation of this research project, it became clear that comparing the two operating systems in a "flat" fashion would be insufficient to fully cover the intricacies of the contemporary technology landscape.

The requirements, benefits and issues of a computing environment can vary significantly depending on the level of involvement with the technology: A corporate IT manager obviously has different needs than the end-user, and will deem different aspects and capacities as vital.

While these differences are rarely considered when comparing operating systems, this research project was designed and executed to provide data and analysis taking in account these levels.

4.2 Average Time and Cost of Deployment

The following tables present the average of all the reported times necessary for rolling out a new Macintosh and Windows computer. **Macintosh computers are consistently reported as being faster to deploy than Windows machines.**

The average cost of deploying and replacing Macintosh and Windows computers was calculated taking into account on the reported time for deployment and the corresponding cost of technical support staff, based on salary data provided by participating companies.

Table 5: Time Necessary to Deploy a New Computer (Average)

Average time to deploy: Macintosh (Minutes)	60.3
Average time to deploy: Windows (Minutes)	114.7

Table 6: Cost of Deploying a New Computer

	US Dollar	Euro
Cost of Deployment: Macintosh	\$45	38€
Cost of Deployment: Windows	\$82	68€

4.3 Average Time and Cost of Replacement

Replacing a defective computer can be more complex than deploying a new one. Windows computers are often reported as being more complicated to replace in case of a system failure than computers running Mac OS.

Table 7: Time Necessary to Replace a Defective Computer (Average)

Average time to replace: Macintosh (Minutes)	81.3
Average time to replace: Windows (Minutes)	136.2

Table 8: Cost of Replacing a Dysfunctional Computer

	US Dollar	Euro
Cost of Replacement: Macintosh	\$59	49€
Cost of Replacement: Windows	\$100	83€

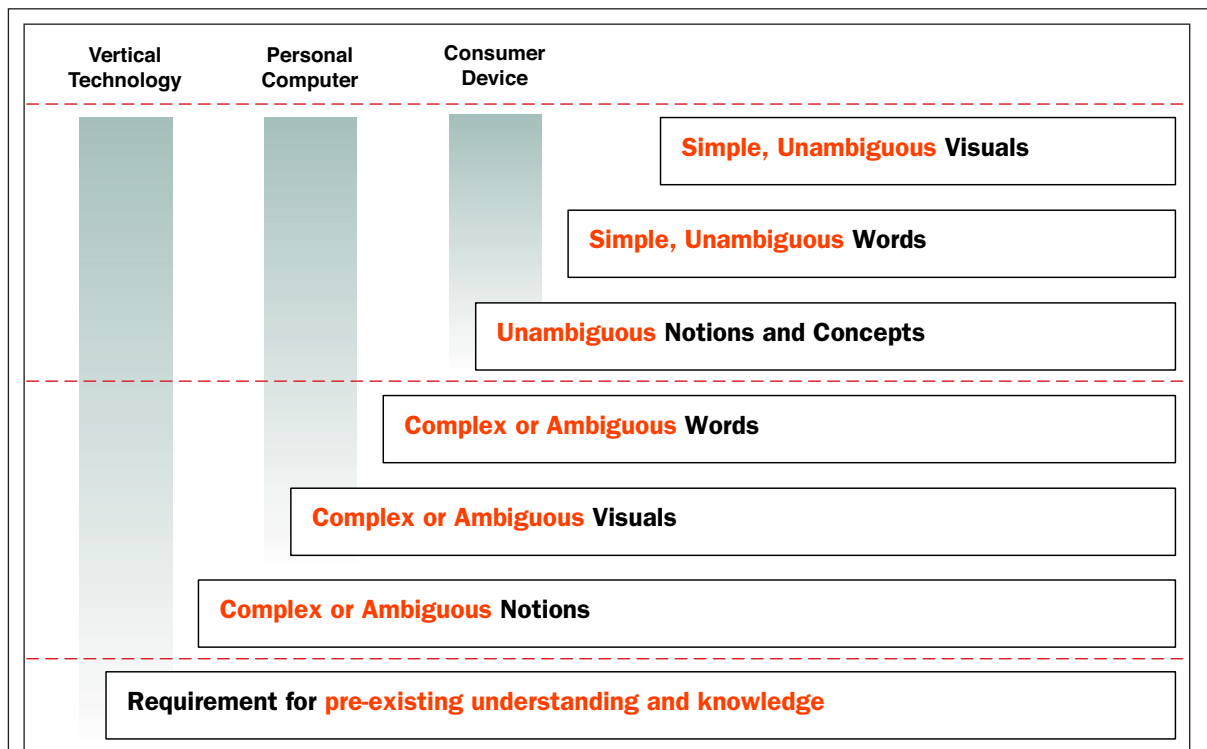
This table presents the projected cost of replacing Macintosh and Windows computers, based on the reported time and the total cost per minute of a technical support person.

4 What Is Ease of Use?

4.1 Understanding Simplicity

Ease of use is a complex notion.

Ease of use and simplicity are popular notions in the technology industry: Every new product, it seems, is aiming at being simple. Technology that is so compellingly easy to use that consumers are lining up to adopt it (like the iPod) is the holy grail of electronics and computer manufacturers alike. This is particularly true in a maturing technology business where novelty alone is rarely enough to trigger adoption of a new product. **Ease of use and an elegant, intuitive user interfaces have become as essential as good manufacturing to make a product a success.** Yet simplicity and ease of use are complex issues.



Understanding Ease of Use

*Ease of use is a complex notion. A device or technology intended for the consumer market needs to be as unambiguous as possible, while complexity can increase with the expected technology literacy of the potential user. **In any case, it is essential to understand perception in order to create a truly easy to use product**—and this is much harder to do than it may initially appear.*

Administration Issues

Question:

Could Your Windows Support Personnel Handle Macintosh Support Calls?

Focus: Global

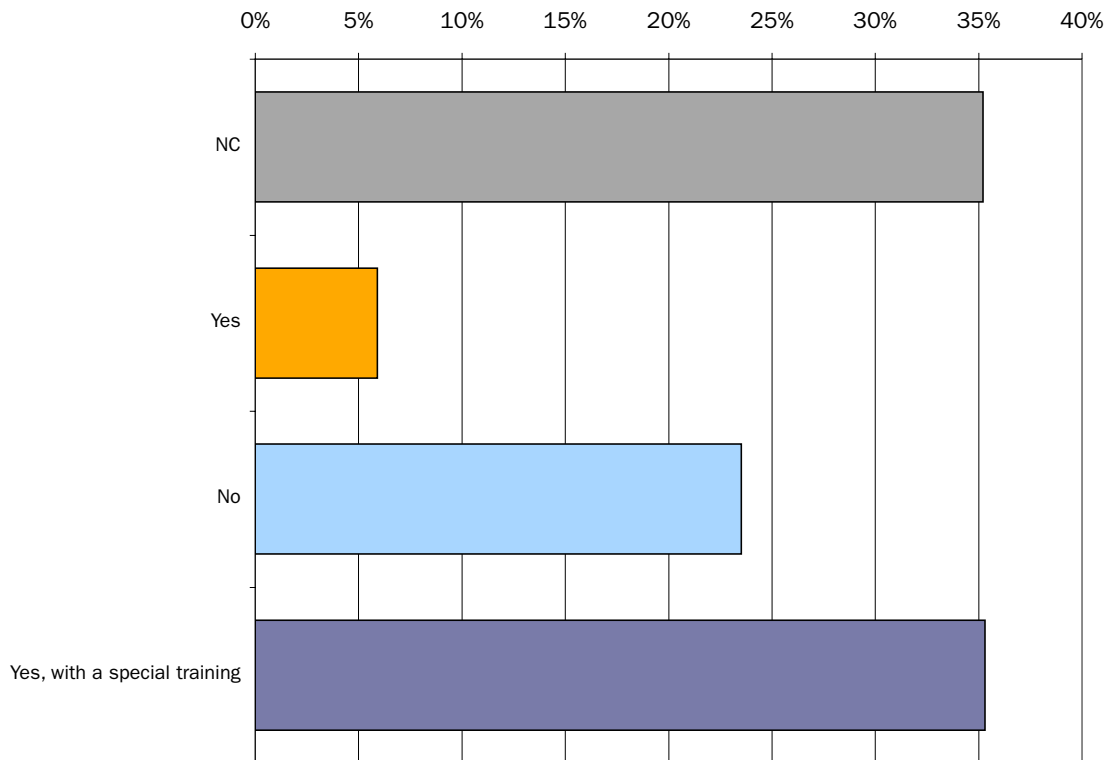


Chart 12 : Could Your Windows Support Personnel Handle Macintosh Support Calls?

Type of Reply:

Single

Notes:

Only a very small number of the participating companies consider their Windows support staff to be able to handle Macintosh support calls without special training—and almost 25 percent think it is impossible, and that they would need to adapt their support staffing if all publishing tasks were moved to the Windows platform.

Reference:

Q27

Performance vs. Productivity

Benchmark:	Photoshop Open File vs. Photoshop Round-Trip
	Focus: Comparison of performance and productivity

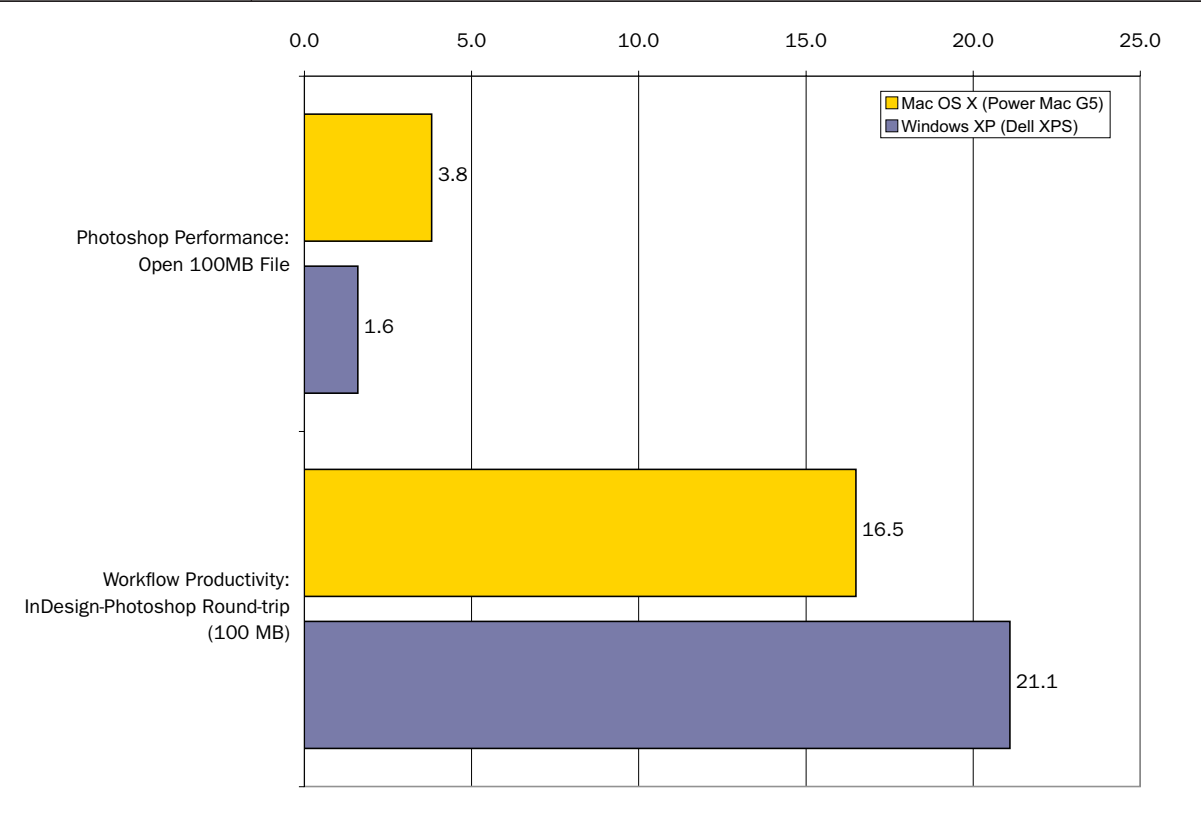


Chart 6 : Performance vs. Productivity

Type of Benchmark:	Notes:
<p>Performance and productivity measures</p> <p>Time in seconds. Shorter is better. (Figures shown are the average of 3 individual benchmarks.)</p>	<p>Comparing hardware performance and workflow productivity shows that results can be completely different: This chart shows the time necessary for the computer to display a 100MB file in Photoshop, not taking in account any user interaction. The bottom chart shows the time required to actually perform a round-trip between InDesign and Photoshop, including the necessary user interaction.</p> <p>The explanation for this discrepancy lies in higher User Interface Friction on Windows. (See “Understanding User Interface Friction” on page 105 for details.)</p>
Reference:	24

Mouse Precision Productivity Measures

Benchmark:	Mouse Precision Measures: Windows User
	Focus: Hardware-related productivity measures

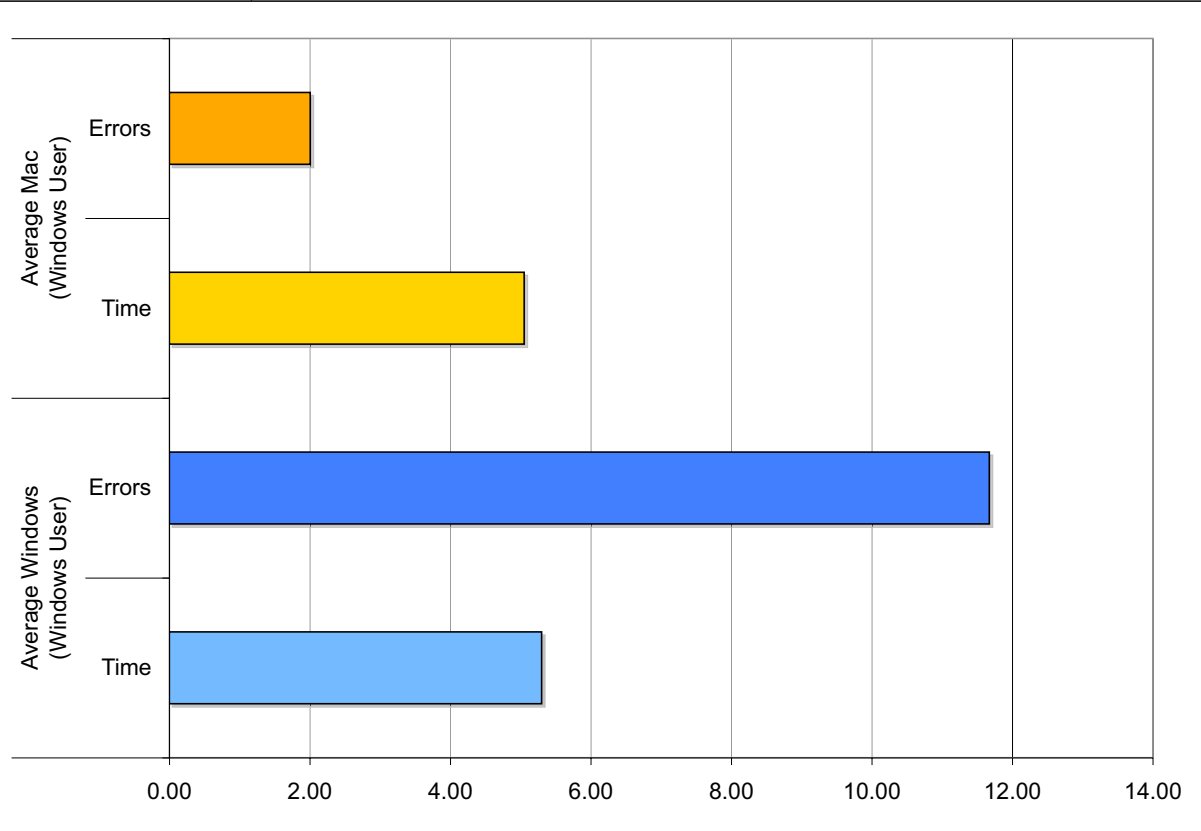


Chart 27 : Mouse Precision Measures: Windows User

<p>Type of Benchmark:</p> <p>Task-based productivity measure</p> <hr style="border-top: 1px dashed black;"/> <p>Time in seconds. Shorter is better. (Figures shown are the average of 3 individual benchmarks.)</p>	<p>Notes:</p> <p>This chart presents the average results for all the test series performed by the Windows user.</p> <p>This chart underlines the fact that the mouse precision issue is a problem that has little if anything to do with the expertise of a user with a given platform: The time-to-error ration is practically identical, whether the tests are performed by the Macintosh user or the Windows user. (Windows users are usually not aware of the problem until they execute this test, and are often shocked by the difference between Macintosh in Windows in this respect.)</p>
<p>Reference: MP2</p>	