

A COMPARISON OF THE FORTUNE 500 AND AACSB-ACCREDITED UNIVERSITIES' SOFTWARE COPYING POLICIES

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ABSTRACT: *Eighty-four survey responses from the AACSB-accredited academic institutions and 110 from Fortune 500 companies are compared to determine how software copying policies differ between the two groups. Approximately 85% of the university respondents have set policies covering software copying while 90% of the companies report some policies. The methods of enforcing the policies, if any, are also compared as are the differences in responsibilities for setting the policies. The techniques used to inform users of these policies are also compared with most users informed at software installation time, in software classes, or through periodic memos and newsletters. The enforcement of these policies among students, faculty, and corporate employees are contrasted as are the actions taken when the policies are not followed. The most common technique for policy enforcement is through internal audits or an honor system. These actions range from written or oral warnings to termination; from removing the copied software to purchasing a copy of the software. The current methods of preventing software copying are analyzed and overall recommendations for handling the problem are made.*

KEYWORDS: *Software, Pirating, Legal Issues, Information Center*

INTRODUCTION

In September 1989, the SPA began operating a hotline 800 number on which individuals can inform the SPA of the use of illegal copies of software within an organization. The hotline is in response to the estimated \$2 billion a year lost by the software industry to illegal copies. (1) As of December, 1989, the SPA reported that 200 calls were received by the hotline. (2)

The SPA has even taken a French broadcasting company and the largest merchant bank in France to court over an alleged case of software piracy. They maintain that up to one third of the

broadcast company's software was pirated, despite the clarity of French copyright laws. (3)

As software companies take the initiative and exhibit more willingness to prosecute organizations making illegal copies of software, many large businesses are examining their own policies and procedures relating to software to minimize their legal exposure. Although a current law forbids suing individual state governments and their agencies (including state, but not private universities) (4) that violate parts of federal copyright law, this may soon change. Legislation has been introduced into both the Senate and House to amend this law

to hold universities and colleges responsible for copyright law. The new legislation has been approved by the House of Representatives (5). If passed, state universities will face the same monetary sanctions as corporations in cases of software piracy. Even without this law, while state universities would not be legally liable, their administrators should still feel morally and ethically liable. A blatant case of software copying will generate adverse publicity for the school and affect relations with parents, the public, and the state legislators.

Most colleges of business recognize the problem; software copying is cited as one operational issue of concern in the

UCLA Computer Usage Survey (6). Nevertheless, it is still unclear whether universities are acting as quickly as possible to address the problem before they face legal sanctions or have their ethics called into question.

Previous research found that among the Fortune 500 corporations, the software copying issue is recognized and is being addressed. Athey's (7) eleven item survey [Appendix A] of the Director's of Information Systems in the industrial Fortune 500 found that 88% of the respondent companies have adopted a policy which forbids software copying in their organization while 91% have measures in place to enforce the policy. An interesting question rests in comparing just how well these universities compare with the corporations to whom they supply employees in the area of software copying policies.

For this particular study, Athey's (8) sixteen item survey [Appendix A] administered to the Colleges of Business of the 1988 AACSB-accredited institutions is compared to the Fortune 500 results. Based on the differences between the two groups' responses, specific recommendations using the companies' expertise are made for universities.

RESPONDENTS

Each respondent university has faculty, staff, and students who use personal computers. The number of personal computers in use at the universities ranged from those with less than 50 computers for their business faculty and students to universities which reported having more than 500 personal computers in each of their respective colleges of business. Most universities reported owning between 100 and 199 personal computers for use by faculty, staff, and students in the college of business. Comparatively, the Fortune 500 companies responded having between 100 and 10,000 personal computers in their work place.

RESULTS

Both groups were surveyed regarding whether their organizations have

formal policies covering the copying of software. Similar results were reported by both groups. Eighty-seven percent of the universities' respondents have drafted a formal policy compared with 88% of the Fortune 500 companies who have a policy, not a significant difference. Consequently, software copying is a problem addressed by a large majority of both academic and corporate organizations.

... many university respondents expressed the opinion that faculty have no ethics when it comes to software copying and that they are the main offenders at their schools, far surpassing students.

Informing Users

Once software copying policies are in place, they have little effect if the users are not aware of them. In the area of policy education, both groups approach software copying in similar ways. Both use formal classes, memos, and new employee or student orientation for educational purposes as seen in Figure 1. The main difference lies in how frequently each technique is used.

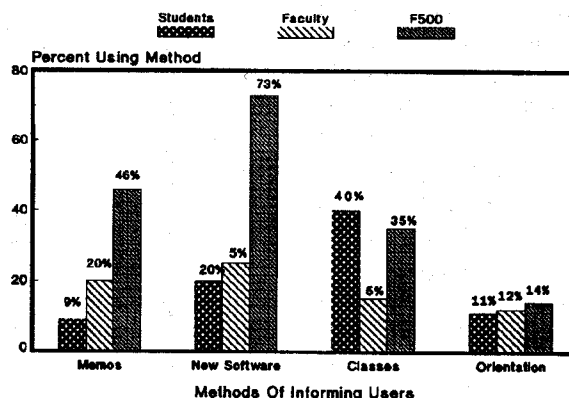
Formal classes are used by 35% of the Fortune 500 corporations. Forty percent of the universities use formal classes to inform students of copying policies; however, only 15% (a significant difference at $p=.001$ from companies) of the faculty ever hear about software copying ethics or rules in a formal setting.

Memos are used as reminders by 46% of the companies but by only 20% of the universities (significant at $p=.001$). In addition, 73% of the companies remind users of the policies every time they receive new software compared to 25% of the colleges (significant at $p=.001$).

The other important difference between the educational approach used by the two groups is that colleges tend to use only one - or at the most two - of the techniques to inform and remind. The corporate world, on the other hand, uses numerous methods and reminds users periodically over time rather than simply stating the rules once at a new employee orientation. Corporations send repeated newsletters, memos, and issue reminders in software classes.

One university respondent even answered, "We assume faculty are ethical people. We tell them not to copy and assume they do not". However, many university respondents expressed the opinion that faculty have no ethics when it comes to software copying and that they are the main offenders at their schools, far surpassing students. This attitude is definitely a "head in the sand" approach

FIGURE 1: How Are Users Informed?



if the comments on the university survey can be believed.

Enforcing Policies

Universities fail approximately 46% of the time to have any enforcement mechanisms for the policies among faculty and simply rely on the honor system as seen in Figure 2. Little effort is made to check for illegal copies. Universities are, however, more cautious when dealing with students. Fifty-five percent of the schools take some steps (other than the honor system) to enforce the software copying policies among students. Fifteen percent of them rely solely on the honor system among students. The other universities use lab monitors or faculty to check students' disks for illegal copies or to watch students as they use the labs.

The universities' lax attitude is in sharp contrast to the Fortune 500 group who employ some method of enforcement in all but 9% of the companies. While 26% of all the companies rely solely on the honor system, the remaining 65% use more active methods of detecting illegal copies of software. By far their most prevalent method for detecting illegal copies is via the internal auditing function among the Fortune 500. Forty-five percent include computer system inventories as part of the internal auditors' jobs and will run programs to check hard disk contents for software that matches the inventory for which the user is registered. In contrast, only two schools include software auditing as part of their internal auditor's function.

What are the reasons for this lack of aggressive enforcement in the academic world? While no definitive answer exists, it may be a function of the type of climate in which most faculty work. They have no true supervisor of faculty responsible for how the faculty perform their jobs. The lackadaisical approach may be due to costs or to the public nature of many universities or to not having to issue annual reports and financial statements with external auditors' approval. There may be a general feeling that faculty are more ethical than students although from the comments received on the surveys,

this assumption should be questioned. In any case, universities generally do not employ the same sophisticated types of auditing and inventory systems of software as private industry does. It seems that many business schools fail to practice what they teach!

Actions against violators

When an illegal copy is detected, the Fortune 500 and the universities agree that the most prevalent action is to issue a oral warning to the offender as seen in Figure 3. However, colleges are far more lax than corporations, and even less stern with faculty and staff than they are with students. Thirty percent of the schools take no action against a faculty member who copies but only 17% are that forgiving of students. Interestingly, the two schools who use the internal auditing function for checking hard disk inventories are

two of the three schools who will fire an employee or dismiss a student for a second violation. Both are fairly sizeable schools, one private and one public.

The corporate world is slightly more harsh with offenders. One company would fire an employee for the first violation of the policy while none of the universities would fire an employee for a first violation. None of the school would dismiss a student the first time he copied although one of the schools would give the student an 'F' in the class for which he copied. Many of the corporate organizations take a somewhat pragmatic approach to copying. They feel that if an employee needs a particular piece of software enough to copy it and violate policies, then it behooves the organization to evaluate the need for the software and possibly buy a legal copy.

FIGURE 2: How Are Policies Enforced?

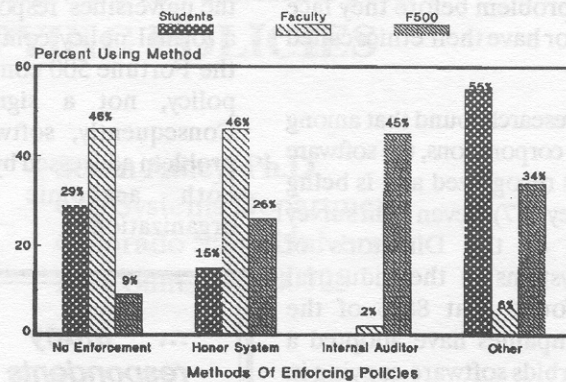
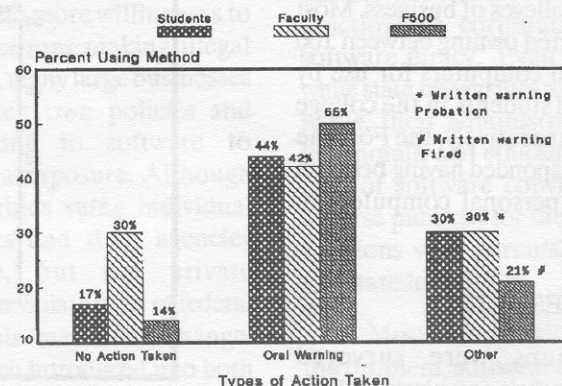


FIGURE 3: What Actions Are Taken When Policy Is Broken?



LESSONS LEARNED

With 78% of the universities having software policies in place, it is apparent that they do recognize the existence of the problem. However, with the increased use of software in diversified fields in the university, total costs of legal copies of software continue to increase demanding the attention of top administrators. Top administrators need to understand the potential legal or ethical problems (\$50,000 per illegal copy if an organization has violated copyright laws) (9) and take a stand on the issue. Examples must be set at the highest level for both faculty and students.

Once the problem is recognized and has the backing of the top administration, the formal policy should be communicated to the entire university community. This will require the use of multiple educational techniques. The corporate world uses several which are applicable in a university setting. For example:

- o All users of software should sign and return a document stating they are aware of the policies each time a new piece of software is received.
- o Each class that uses a piece of software should require individuals to sign the same statement.
- o Mail announcements and reminders to faculty and staff throughout the year.
- o Place reminders on the university or college network.
- o Place advertisements in the school paper to remind students of the important issues involved in software copying (viruses, fines, ethics).
- o Conduct a management awareness program to inform all managers and department heads of the risks, benefits, and responsibilities in implementing the copying policies.

When the policy is established and the faculty and staff educated, the university must take steps to prevent copying and

enforce the policy. Once again, the university world can learn from the corporate world. If it is not feasible for the university as a whole to take a physical software inventory each year, then each department should take responsibility for this inventory. They should track the software each faculty and staff member is assigned and use this when auditing the contents of their hard disks. Obviously, this requires a serious commitment and education by the university. Universities can borrow a technique from a corporation who employs a knowledge-based, self-audit program for managers to use.

Universities should make a serious attempt to negotiate site licenses with major software firms, although this is a major source of complaint by the Fortune 500 Corporations. Corporations have reported that they do not believe software companies are willing enough to use creative licensing and contracts to enable large organizations to easily obtain all of the legal copies they need. (7) Universities can also try to negotiate reduced software package costs for demonstrated educational uses.

Colleges can take preventative measures by installing networks and running networked software. This prevents faculty and students from having access to the physical copy of the software and hence will keep at least the less sophisticated users from copying.

CONCLUSION

It is obvious that the software copying problem is not an easy one to solve and is not going to disappear any time soon. It is also obvious that the corporate world is far more advanced the academic world in their recognition, identification and attack of the problem. The attitudes of the faculty, students, and general public need to change. They need to recognize software as a tangible product with value while administrators must recognize that software is fundamental equipment to a computer class just as chemistry beakers are to a chemistry class. Both faculty and administrators must recognize the need

to take a leadership role in setting an ethical example to students and to take proactive steps to halt the practice. As one respondent put it, "Faculty are our worst offenders and don't seem to care". Until these attitude changes occur, universities will lag far behind their counterparts in the private sector in having a legal or ethical leg to stand on.

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APPENDIX A

(The questionnaires are presented here in a condensed form for the sake of space.)

COLLEGE OF BUSINESS QUESTIONNAIRE

Thank you for taking your time to answer this questionnaire. All answers will be used only in the aggregate.

1. Does your university have formal policies or guidelines covering software copying?

By Students	By faculty	By staff	
_____	_____	_____	Yes, at the university level
_____	_____	_____	Yes, at the college level
_____	_____	_____	Yes, at the department level
_____	_____	_____	No, we have no policies

2. Who is responsible for setting software copying policies in your university?

_____ I don't know who is responsible.

_____ President of the University

_____ Vice-president of Research/Computing

_____ College deans

_____ Department heads/chairs

_____ Computer lab managers

_____ Other. Who? _____

3. When are the faculty, staff, and students of your College of Business informed of the policies governing software copying? [Check all categories that apply.]

Students	Faculty	Staff	
_____	_____	_____	My college has no policies regarding software copying.
_____	_____	_____	I am aware of no policies regarding software copying.
_____	_____	_____	At new employee orientation.
_____	_____	_____	At student orientation.
_____	_____	_____	Software copying practices are covered in the introductory computer courses.
_____	_____	_____	During each semester a student uses a personal computer in class.
_____	_____	_____	When an employee receives a personal computer to use as part of his/her job.
_____	_____	_____	Every time an employee receives a new piece of software to use on a personal computer.
_____	_____	_____	At software training classes.
_____	_____	_____	Through regular university-wide memos.
_____	_____	_____	At regularly scheduled meetings with supervisors or department heads.
_____	_____	_____	Faculty/staff are informed in other ways. Please explain.
_____	_____	_____	Students are informed in other ways. Please explain.

APPENDIX A

COLLEGE OF BUSINESS QUESTIONNAIRE - continued:

4. What action is taken in your College of Business when it is discovered that a student has copied software?

First time	Second time	
_____	_____	No action is taken.
_____	_____	Verbal warning to the student.
_____	_____	Written warning to the student.
_____	_____	Student is placed on probation.
_____	_____	Student is dismissed from school.
_____	_____	Student receives an 'F' in the class.
_____	_____	Some other action is taken. Please explain.

5. What action is taken in your College of Business when it is discovered that a faculty/staff person has copied software for work-related use?

First time	Second time	
_____	_____	No action is taken.
_____	_____	Verbal warning to the employee.
_____	_____	Written warning to the employee.
_____	_____	Employee is placed on probation.
_____	_____	Employee is fired.
_____	_____	Some other action is taken. Please explain.

6. What action is taken in your College of Business when it is discovered that a faculty/staff person has copied software for personal use?

First time	Second time	
_____	_____	No action is taken.
_____	_____	Verbal warning to the employee.
_____	_____	Written warning to the employee.
_____	_____	Employee is placed on probation.
_____	_____	Employee is fired.
_____	_____	Some other action is taken. Please explain.

7. What steps are taken in your College of Business to detect unauthorized copies of software on personal computers in the faculty/staff work area? [Check all categories that apply.]

- _____ I don't know of any measures we take to detect copies.
- _____ We do not take any steps to detect unauthorized copies of software.
- _____ The internal auditors include detection as part of their job.
- _____ Managers/department heads perform regular unannounced checks of their employees' software.
- _____ Employees are on the honor system and no checks are made.
- _____ We use other means of detecting unauthorized copies of software. Please explain.

APPENDIX A

COLLEGE OF BUSINESS QUESTIONNAIRE - continued:

8. What steps are taken in your College of Business to detect unauthorized copies of software on personal computers in the student computing work area? [Check all categories that apply.]

- ☐ I don't know of any measures we take to detect copies.
- ☐ We do not take any steps to detect unauthorized copies of software.
- ☐ Lab monitors perform checks as part of their job.
- ☐ Faculty members perform regular unannounced checks of their students' software.
- ☐ Students are on the honor system and no checks are made.
- ☐ We use other means of detecting unauthorized copies of software. Please explain.

9. What steps are taken in your College of Business to prevent students from making unauthorized copies of software?

- ☐ I don't know of any steps we take to prevent copying.
- ☐ We do not take any steps to prevent copying.
- ☐ Lab monitors watch students as they use the software.
- ☐ All software is on a network file server so students never handle copies of the software.
- ☐ Students must buy all software they use in class.
- ☐ We only use texts which include individual student versions of software.
- ☐ We take other steps to prevent software copying. Please explain.

10. What steps are taken in your College of Business to prevent faculty/staff from making unauthorized copies of software?

- ☐ I do not know of any steps we take to prevent copying.
- ☐ We don't take any steps to prevent copying.
- ☐ All software is on a network file server so faculty/staff never handle copies of the software.
- ☐ We take other steps to prevent software copying. Please explain.

The next four questions ask for your personal opinions. Please circle the number which most accurately reflects how you perceive software copying in your College of Business.

11. How aggressive is your College of Business in informing students about software copying policies?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to inform them

12. How aggressive is your College of Business in informing faculty/staff about software copying policies?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to inform them

13. How aggressive is your College of Business in enforcing software copying policies among students?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to enforce them

APPENDIX A

COLLEGE OF BUSINESS QUESTIONNAIRE - continued:

14. How aggressive is your College of Business in enforcing software copying policies among faculty/staff?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to enforce them

15. Approximately how many personal computers are in use throughout your College of Business for faculty, staff, and students? Please make a best guess.

___	0	___	100-199
___	1-49	___	200-499
___	50-100	___	more than 500

16. How many undergraduates are in your College of Business? _____

17. How many graduate students are in your College of Business? _____

18. How many faculty and staff are in your College of Business? _____

FORTUNE 500 QUESTIONNAIRE

Thank you for taking your time to answer this questionnaire. All answers will be used only in the aggregate.

1. Does your company have formal policies or guidelines covering software copying by employees?

For personal Use	For work-related home use	For work related use at the job site
___ NO	___ NO	___ NO
___ YES	___ YES	___ YES

2. When are the employees of your company informed of these policies? [Check all categories that apply.]

- ___ My company has no policies regarding software copying.
- ___ I am aware of no policies regarding software copying.
- ___ At new employee orientation.
- ___ When an employee receives a personal computer to use as part of his/her job.
- ___ Every time an employee receives a new piece of software to use on a personal computer.
- ___ At software training classes.
- ___ Through regular company-wide memos.
- ___ At regularly scheduled meetings with their supervisors.
- ___ Employees are informed in other ways. Please explain.

APPENDIX A

FORTUNE 500 QUESTIONNAIRE - continued:

3. Who is responsible for setting software copying policies in your company?

- ☐ I don't know who is responsible.
☐ CEO
☐ Vice-president of Information Systems
☐ Each division manager
☐ Each information systems manager
☐ Other. Who? _____

4. What action is taken in your company when it is discovered that an employee has copied software for personal use?

First time Second time

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | No action is taken. |
| <input type="checkbox"/> | <input type="checkbox"/> | Verbal warning to the employee. |
| <input type="checkbox"/> | <input type="checkbox"/> | Written warning to the employee. |
| <input type="checkbox"/> | <input type="checkbox"/> | Employee is placed on probation. |
| <input type="checkbox"/> | <input type="checkbox"/> | Employee is fired. |
| <input type="checkbox"/> | <input type="checkbox"/> | Some other action is taken. Please explain. |

5. What action is taken in your company when it is discovered that an employee has copied software for work-related use?

First time Second time

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | No action is taken. |
| <input type="checkbox"/> | <input type="checkbox"/> | Verbal warning to the employee. |
| <input type="checkbox"/> | <input type="checkbox"/> | Written warning to the employee. |
| <input type="checkbox"/> | <input type="checkbox"/> | Employee is placed on probation. |
| <input type="checkbox"/> | <input type="checkbox"/> | Employee is fired. |
| <input type="checkbox"/> | <input type="checkbox"/> | Some other action is taken. Please explain. |

6. What steps are taken in your company to detect unauthorized copies of software on personal computers in the work area? [Check all categories that apply.]

- ☐ I don't know of any measures we take to detect copies.
☐ We do not take any steps to detect unauthorized copies of software.
☐ The internal auditors include detection as part of their job.
☐ Managers/department heads perform regular unannounced checks of their employees' software.
☐ Employees are on the honor system and no checks are made.
☐ We use other means of detecting unauthorized copies of software. Please explain.

7. Does your company apply the same policies on software copying to employees who are located outside of the U.S.?

- ☐ We have no employees outside of the U.S.
☐ We have no policies on software copying.
☐ YES
☐ NO Please explain.

APPENDIX A

FORTUNE 500 QUESTIONNAIRE - continued:

The next two questions ask for your personal opinions. Please circle the number which most accurately reflects how you perceive software copying in your organization.

8. How aggressive is your company in informing employees about software copying policies?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to inform them

9. How aggressive is your company in enforcing software copying policies?

5	4	3	2	1
Not aggressive		Moderately aggressive		We use every opportunity to enforce them

10. Approximately how many personal computers are in use throughout your company? Please make a best guess.

___ 0	___ 1000-1999
___ 1-99	___ 2000-4999
___ 100-499	___ 5000-9999
___ 500-999	___ 10,000 or more

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