

The Napster Phenomenon: Turning the Music Industry Upside Down

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ABSTRACT

Napster, a software program created in 1999 by 18-year-old Shawn Fanning, “allow[s] computer users to swap music files [MP3s] with one another directly, without having to go through a centralized file server or middleman” (Greenfield 60). It has since evolved into a controversial legal flurry between Napster and the Recording Industry Association of America (including various artists) who is suing for tributary copyright infringement. However, others believe that Napster is actually benefiting the music industry. To determine the possible effects of Napster, this study surveyed 500 random students of the University at Wisconsin—La Crosse (5% of the student body). Questions regarding demographics, CD purchasing patterns, Napster use in downloading MP3s, frequency of use, and student sources of music were posed. Subsequent data analysis revealed that CD sales are largely affected by a student’s age, gender, and the downloading of MP3s, which do, in fact, stimulate CD sales.

BACKGROUND

In January of 1999, 18-year-old Shawn Fanning dropped out of Northeastern University to finish writing the software for Napster, and by June 1 the revolutionary program was being downloaded by an exponentially-increasing user base. Fanning passionately believed that Napster would be great because the idea was simple: a software “program that would allow computer users to swap music files [MP3s] with one another directly, without having to go through a centralized file server or middleman.” He dubbed this phenomenal program Napster, originating from a high school nickname that later became his internet handle.

Before Napster, MP3s proved extremely tricky to find on the Internet, and the only way to get them was to download the music file from a website, which was stored on a server. Thousands of people might simultaneously try to obtain the same song, thus causing it to take a long time to download as well as contain errors. With Napster, the servers contain only directories of the MP3s on the hard drives of the millions of registered users. The MP3s themselves remain on the users’ hard drives. To find a song, one simply logs onto Napster and types in the requested song title. Napster’s software then connects the inquiring hard drive to its central user directory, which sends the inquiring PC a list of active users who have the requested song on their computer. A slight click of the handle name, and Napster opens a link between the inquiring PC and the hard drive of the user selected. A copy of the MP3 is then transferred back to the inquiring PC. So although the music travels over the Internet, Napster never possesses any of the MP3 files—in fact, they are not stored on the Web at all.

The simplicity of the program proved key to its success. Fanning wrote the code in a few months, so he didn't have time to make it more complicated. As a result, Napster has quickly become a phenomenon within the cyber community. It already ranks "among the greatest Internet applications ever, up there with e-mail and instant messaging, [and] the site is the fastest growing in history, passing the 25 million mark in less than a year of operation" (Greenfeld 60). According to U.S. News and World Report, Napster's user base has been expanding as much as 25 percent per day (Cohen 41). Currently there are 32 million registered users, boasting approximately 900,000 simultaneous users (Fredman 1).

However, despite unprecedented popularity, the Recording Industry Association of America (RIAA), composed of the five "giants" of the music industry—Sony, Bertelsmann, Universal, EMI, and Warner—sued for tributary copyright infringement on December 7, 1999, meaning that Napster is being accused "not of violating copyright itself but of contributing to and facilitating other people's infringement" (Greenfeld 60). The RIAA also asked for damages of \$100,000 each time a song was copied.

David Boies, the lead attorney for Napster, who triumphed in the Department of Justice's case against Microsoft, sees the issue as "the definition of commercial or noncommercial uses." For instance, it is legal for consumers to copy music for their personal, noncommercial use. As a matter of fact, the Audio Home Recording Act (AHRA) passed by Congress in 1992 guarantees individuals' legal rights to make recordings, including posting songs and downloading them for free online, and even lend them out to people, as long as it is not done for commercial intentions. Obviously, it is against the law if it's done to make a profit, which Napster has not done; the service is free and users do not charge one another for the music. "The law does not distinguish between large-scale and small-scale sharing or lending," insists Boies (Greenfeld 60). Aside from established copyrighted artists, Napster also makes available exposure to over 17,000 up-and-coming artists who praise Napster for the opportunities it gives them.

Due to the growing publicity of the case, Napster claimed to have been attracting some 250,000 new users a week (Cohen 54). Although studies show that the majority of users are over the age of 30, in February and March numerous universities banned the Napster site from use of college students (one of the primary user bases) because it was taking up too much of the bandwidth. At the extreme, Napster was utilizing 75% to 80% of the university's bandwidth at the University of Illinois at Urbana-Champaign (Ante 115).

Then on April 13, 2000, the rock band Metallica also sued Napster and three schools—Yale, University of Southern California, and Indiana University—for copyright infringement. To demonstrate its concern, Napster booted more than 300,000 members from its service on May 9 for downloading Metallica songs. Despite all this, Napster received a \$15 million investment from the venture-capital company Hummer Winbold, also in May. Hank Barry, a Hummer partner, then became Napster's official CEO, taking the place of temporary CEO Eileen Richardson. Barry subsequently began molding Napster into a real business from its loose framework.

On June 13, 2000, the RIAA filed a motion for a preliminary injunction to stop all major-label music from being traded through Napster—basically seeking to shut the service down. The U.S. District Judge Marilyn Patel granted the injunction on July 26, thus ordering Napster to cease the swapping of all copyrighted MP3s through its website by midnight two days later. However, just nine hours before Napster was shut down, the Ninth U.S. Circuit Court of Appeals stayed the injunction. The grounds for such an injunction is that the RIAA

must be able to substantially prove that the very existence of Napster will cause irreparable harm between now and the end of the case. According to Time magazine, the fact that “CD sales have actually increased in the ‘Napster era’—by \$500 million this year alone” may prove to be a slight setback for the RIAA injunction request (Greenfeld 60).

Studies conducted by SoundScan found that overall album sales in the U.S. were up more than 8% in the year 2000, just as Webonize discovered that Napster is actually helping to create “buzz” about artists—exposing artists’ music to masses of fans is actually stimulating sales (Gillen 5). Record labels, on the other hand, point out another survey done by SoundScan that shows CD sales dropping slightly in stores near colleges where Napster use is prevalent. However, that study did not include online music retailers, many of which offer substantial discounts or tax-free purchases. Forrester Research actually expects these online sales to increase to \$1.38 billion in 2000, up from \$848 million in 1999 (Jeffrey, 104).

For most users, Napster isn’t a substitute for the real thing. Over the internet, Napster users can sample the songs they want, rather than being restricted to what the DJ on the radio plays, as well as chat with fellow Napsterites about favorite bands and great new artists they’ve heard. Billy Pidgeon, Jupiter Communications consultant, comments on the buzz created by Napster, “This is guerilla marketing, and we think it’s really helping the major labels. We believe that it’s via Napster that kids decide to buy CDs” (Tully 186). A study conducted by Peter Fader, a professor at the Wharton School of Business at the University of Pennsylvania, showed that most all Napsterites download MP3s to sample songs and then go out and buy the CDs (either at a physical store or online) (Anathan, 31). Rarely does one waste the time to download an entire CD instead of purchasing it. The ability to sample songs, however, allows consumers to be much choosier with their purchases. Courtney Love sums it up nicely, “I know how many times I have heard a song on the radio that I loved, only to buy the record and have the album be a piece of crap. If you’re afraid of your own filler [music] then I bet you’re afraid of Napster...[To me] anything that makes my music more available to more people is great” (Love, 5). Rapper Chuck D echoes Love saying that, “It’s among the most positive developments ever for musicians. It will expose more music to more people because artists won’t have to fight the big record labels for space in stores” (Vogelstein, 38). If someone downloads a song and truly gets excited about an artist, they are going to buy the merchandise and go to concerts, and purchase the CDs as well.

In October of 2000, Bertelsmann, whose catalogs include BMG, Arista and RCA imprints, announced a “strategic alliance” with Napster in order to collaboratively reach Napster’s commercial potential. Bertelsmann CEO Thomas Middelhoff states, “Napster has pointed the way for a new direction for music distribution, and we believe it will form the basis of an important future of the music industry” (Learmonth, 1). The alliance with Bertelsmann includes a \$50 million loan to Napster to develop a system that charges its users for copyrighted material and provides “cuts” to various entities within the music industry (ie artists, songwriters, publishers and music labels). A proposed idea is to charge Napster’s 32 million users \$4.95 a month for use of its services. Napster also adds that there will always be some free MP3s available, for instance, the 17,000+ up-and-coming artists who have already encouraged their music to be downloaded for free. BMG has subsequently promised to withdraw from the RIAA’s lawsuit against Napster once this new system is established. Middelhoff, who himself uses Napster with his 15-year-old son despite BMG’s lawsuit, claims that “digital distribution will in fact nourish music sales” (Stone 2).

HYPOTHESIS

Conventional wisdom would view “free music” as the demise of the music industry—the RIAA, artists, producers, songwriters, etc—assuming that consumers would refuse to purchase any music at all if they can obtain it at no cost. However, a closer examination reveals that the music industry possesses asymmetric information. They know exactly what the songs on a CD for sale sound like, but the consumer possesses a high risk in purchasing the CD because they do not have the same information as the music industry does—they do not know what all the songs sound like on the CD. Thus, if a customer buys a CD for \$10.00 and there’s only one good song on it, the customer will be upset because the purchase would not have been worth it and now they are stuck with a CD that they cannot return.

This asymmetric information causes a great problem for the consumer—a problem that Napster solves very efficiently by allowing consumers to sample songs before they make a CD purchase. Even downloading MP3s on Napster, though, is not free. Unless there is a high speed internet connection, such as college students in dorms have, downloading just one MP3 takes, on average, about 20-30 minutes. This time increases with each additional MP3 that is being downloaded simultaneously. Therefore, the consumer incurs a rather high opportunity cost of their time spent downloading and their phone line being tied up. Often transfer errors occur or the downloaded MP3 is actually a different song than what the title states. Hence, the time spent downloading a single MP3 can be much longer since Napsterites may be forced to try several times before it is successfully downloaded. Most peoples’ time is considered to be very valuable, carrying a large opportunity cost of doing something else besides downloading MP3s. This idea of a high opportunity cost also contributes to the use of Napster as a sampling agent, which can ultimately cause CD sales to increase, not decrease.

The hypothesis this study subscribes to is that Napster is not a substitute for buying a CD, rather it acts as a filter to sample songs on a CD to reduce the consumer’s risk in purchasing it. The null hypothesis is that Napster has not reduced sales.

RESEARCH METHODS

Since a large percentage of music consumers and Napsterites are college students (due in part to the high speed internet connection available in dorms), it was plausible to conduct research on Napster through a survey administered to 500 random students of the University at Wisconsin—La Crosse. This sample of 5% of the UW-L student body was deemed sufficient in size. To ensure randomness of sex, age, year in school, abilities, likes and dislikes, surveys were hand distributed to students throughout the campus at: Cartwright Center (both during the day and night), Cowley Hall, Carl Wimberly Hall, Mitchell Hall, Morris Hall, Center of the Arts Building, Whitney Center, Murphy Library and Computer Lab, as well as two randomly chosen dorms, Coate Hall and Laux Hall. Questions regarding demographics, CD purchasing patterns, Napster use in downloading MP3s, frequency of use, and student sources of music were posed. A verbatim copy of the survey is attached in Appendix A.

DESCRIPTIVE STATISTICS OF SAMPLE POPULATION

The frequency analysis of the data showed that 56% of the sampled students were female and 44% male. This suggests that the sample surveyed is sufficient since it is closely proportional to the UW—La Crosse student body of 58% female and 42% male. The mean age sampled was 20.8 years old, with year in school being a second semester sophomore. About 58.6% of the students were between the ages of 19 to 21 years old. The remaining ages varied from 17 to 46 years. The majority (57%) of UW-L students surveyed have, in fact, used Napster to download MP3s. Of those who have used it, most either download a few songs (1-25 MP3s) or many songs (101-250 MP3s), with the mean number downloaded at approximately 76 MP3s. This supports the fact that prevalent use among college students makes them one of the primary user bases for Napster. About 47.6% of the students purchase only 1 to 5 CDs per year, 25.8% purchase 6 to 10 CDs, and the remaining 21% purchase more than 10 CDs per year. Thus, the mean number of CDs purchased each year by the surveyed students was almost 9. The initial analysis also found that most of the students did not purchase a CD after downloading a song from Napster, about 21.8% of the time 1 to 5 CDs were purchased, and 5.4% of the time more than 5 CDs were purchased. These purchasing patterns are most likely a result of the sampling aspect of Napster—36% of the students downloaded songs they were interested in, and subsequently based their CD purchases upon whether they actually liked more than just a few of the songs on that CD. Hence, if they enjoyed more than just a few songs, they most likely purchased the CD, if not, they didn't purchase it. Only about 25.2% of the students chose to borrow a song they were interested in, and 30.6% went out and bought the CD because they liked a song on it. However, only 19.2% of those who downloaded the MP3 from Napster have ever downloaded an entire CD rather than purchase it. The mean number of CDs downloaded, though, is only 1.32. So even if students do spend the time to download an entire CD it is usually just a one time deal, thus supporting the theory, once again, that Napster is used to sample songs rather than a substitute for CD purchases. Also, the vast majority (84%) purchases their CDs from physical stores rather than from online retailers or mail order clubs.

REGRESSION ANALYSIS

Proceeding to regression analysis, this study used the number of CDs purchased on average each year as the dependent variable. The explanatory variables are: age, year in school, gender, whether students used Napster before, the number of MP3s owned, the number of times they had purchased a CD after downloading a song, how many of them buy a CD if interested in a song on it, if they'd ever downloaded a whole CD rather than purchasing it and the number of times they'd done that, and where they usually purchase their CDs. Two separate regressions were run to determine any significant relationships between the different variables and the strength of those relationships. The first regression contained all of the explanatory variables (as shown in the first column of Table 1). The second was run with the variables year in school, the number of times students had purchased a CD after downloading a song, how many of them buy a CD if interested in a song on it, and where they usually purchase their CDs removed from the regression. The results of these two regressions are presented in Table 1.

Table 1

| Regression Results | | |
|--|------------------------------|-----------------------------|
| Dependent Variable: Number of CDs purchased | | |
| <i>Regressor</i> | <i>Coefficient (t-score)</i> | <i>Coefficient(t-score)</i> |
| Constant | 12.17 | 13.10 |
| Age | -0.35 (-1.82) | -0.16 (-0.97) |
| Year in School | 0.46 (1.11) | |
| Gender ¹ | -2.42 (-2.88)** | -2.76 (-3.08)** |
| Use Napster ² | 0.86 (0.77) | 1.42 (1.22) |
| Number of MP3s Owned | -0.001 (-0.27) | -0.006 (-1.02) |
| Number of Times Purchase CDs After MP3 Downloads | 0.10 (6.24)** | |
| If Interested in a Song, Usually Buy the CD ² | 5.17 (5.44)** | |
| Ever Downloaded Whole CD Rather Than Purchase It ² | 0.66 (0.54) | -0.07 (-0.05) |
| Number of Whole CDs Downloaded | 0.06 (0.65) | 0.10 (1.00) |
| Where Usually Purchase CDs ³ | 0.74 (0.67) | |

Notes:

** Significant at the 0.01 level.

¹ Dummy variable used with 1=female, 0=male

² Dummy variable used with 1=yes, 0=no

³ Dummy variable used with 1=physical store, 0=online/mail order clubs (ie BMG)

Under the null hypothesis, the output data of the first regression analysis reveals that a student's age in comparison with CD purchases is approaching significance, meaning that for each year a person ages, on average they purchase a little more than 1/3 (0.35) of a CD less than the year before. However, the student's year in school proved to be insignificant. The number of times students purchase CDs after downloading MP3s and whether students buy the CD if interested in a song were also found to be significant. The significance of the students' purchases of CDs after downloading MP3s is due to the sampling effect of Napster to reduce the consumer risk generated by asymmetric information, as proposed in the hypothesis. If a student downloads a few songs from a CD that they are interested in and they like the songs, they will go out and purchase the CD (either in a physical store or online), thus the

positive correlation between the two variables tested and the increased purchasing patterns. Other insignificant variables in the first regression analysis are: Napster use, the number of MP3s owned, whether students have ever downloaded an entire CD rather than purchasing it, the frequency of these whole CD downloads, and where they purchase CDs (online or in a physical store). Even though Napster use on the purchase of CDs was shown to be insignificant, it proved to have a positive correlation. Therefore, if it were a significant variable, Napster use would be beneficial to the music industry in increasing sales on average a little more than 2 CDs per year (2.318) per user, not harmful as proposed by the music industry.

Between the two regression analyses though, gender is the principal significant factor in CD purchases. As seen from Table 1, this was the only variable of the six tested in the second regression analysis that did prove significant. These regressions revealed that females, on average, purchase approximately three fewer CDs (between 2.88 and 3.08) per year than males do each year.

CROSTABLULATION RESULTS

The significance of gender in this study seems to be one of the primary reasons of any fluctuation in the level of CD sales, with Napster use and frequency of use having little impact, if any. In a crosstabulation analysis of the number of MP3s owned relating to gender (See Table 2), it was found that males, on average, tend to be more avid downloaders of MP3s with 63.8% using Napster and 29.4% of them possessing between 100 and 250 MP3s, whereas only 51.4% of females use Napster and only 20.1% own between 100 and 250 MP3s. The fact that the majority of both genders downloads less than 100 MP3s again supports the sampling theory, that individual songs are downloaded to sample them, not to replace the purchase of actual CDs.

Table 2

| Crosstabulation Results | | |
|---------------------------------------|-------------|---------------|
| Number of MP3s Owned vs Gender | | |
| Number of MP3s Owned | Male | Female |
| 0 | 36.2% | 48.6% |
| 1-25 | 18.1% | 16.6% |
| 26-50 | 5.9% | 6.8% |
| 51-75 | 7.7% | 4.3% |
| 76-100 | 2.7% | 3.6% |
| 101-250 | 29.4% | 20.1% |

The number of CDs purchased each year in relation to gender (See Table 3) also shows that males buy significantly more CDs than females do each year—25% of the males purchased over 10 CDs a year, as opposed to only 18% of the females. This also tends to support the regression analysis above that showed, on average, females purchase about 3 CDs less each year in comparison to the previous year.

Table 3

| Crosstabulation Results | | |
|---|-------------|---------------|
| Number of CDs Purchased Per Year vs Gender | | |
| Number of CDs Purchased Per Year | Male | Female |
| 0 | 8.1% | 3.6% |
| 1-5 | 42.1% | 52.2% |
| 6-10 | 9.1% | 26.3% |
| 11-15 | 9.1% | 8.6% |
| 16-20 | 6.8% | 5.8% |
| 21+ | 9.1% | 3.6% |

CONCLUSIONS

Overall, this study suggests that the music industry does possess asymmetric information. CD sales are affected by a student's age, downloading MP3s, and even more so by gender, which plays a larger role in CD sales than does Napster use. The impact of Napster use is small yet beneficial, causing sales to increase, not decrease. Therefore, through regression analysis and crosstabulations, the hypothesis that Napster is not a substitute for buying a CD, rather it acts as a filter to sample songs on a CD to reduce the consumer's risk in purchasing it, is supported.

LIMITATIONS

An obvious limitation of this particular study is the fact that it is applicable only to the University of Wisconsin—La Crosse, and at most, other mid-sized, middle-income range campuses. Further research would benefit from an expanded survey base extending out into the community, to other campuses, as well as to larger cities across the United States. This would provide much greater diversity in age, race, socioeconomic level, interests, and other demographic variables, which would subsequently impart a more nationwide view of Napster use and its true impact.

Because most of the traditional freshmen and sophomores and even some of the juniors and seniors live in the dorms at UW-La Crosse and possess a much quicker LAN internet connection, Napster is perhaps more appealing and efficient to those college students. Therefore, results from campus studies will most likely differ from studies whose survey sample consists of community residents whose modem connection to the internet is much slower (which would cause downloading MP3s to take much, much longer, thereby possibly turning those citizens off to such internet programs like Napster), or perhaps residents have two phone lines, thus allowing them a 24-hour connection with the internet, which might produce still different results.

A final suggestion for future research would be to expand the survey to pose more in-depth questions about frequency of use, amount of disposable income spent on CDs before Napster versus now, the surrounding ethical issues involved, what Napsterites use the MP3s for (ie to listen to on a computer or portable MP3 player, to burn "mix" CDs, etc), as well as the consumer's perception of Napster and its effects on the music industry.

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