Access to Archives in the Digital Information Industry: An Economic Perspective

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December 2007

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Introduction and Overview

In a statement before the National Film Preservation Board of the Library of Congress, the Committee For Film Preservation and Public Access presented their case for broader public access to preserved films in terms of the age-old philosophical dilemma: "Just as a falling tree makes no sound if no one is around to hear it, preserving a film makes no sense if no one is allowed to see it." They conclude, "Preservation is great, but preservation without access is pointless."[1]

This paper examines the issue of access in economic terms. It begins from the premise that it will be costly for archives to provide access and that someone must defray that cost, and unless the cost is defrayed then there will be no access. This paper will provide some possible self-sustaining business models for archives looking to defray the costs of providing access to their holdings from their own revenues.

This paper combines economic research done on strategic pricing policies for monopolies with research on the digital information industry to provide some possible business models for archives looking to generate revenues that will defray the cost of providing access to their holdings. It will also briefly investigate some of the issues involved in providing this kind of access, as well as possible concerns and benefits for archives seeking business models based on profit incentives.

The Media and Digital Information Industries

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[1]Statement by The Committee For Film Preservation and Public Access before The National Film Preservation Board of the Library of Congress, Los Angeles, California, February 12, 1993: http://www.cinemaweb.com/access/pre_stmt.htm

For all digital media in the information industry, the marginal cost (the cost added by producing one extra item of a product—in the case of digital media providers, providing access for additional customers) is essentially equal to zero. That is, once the data file has been developed and made available on a server, any user with the appropriate equipment and software can access the file without additional costs to either the user or the provider. While marginal cost is zero for many kinds of digital media, there are a wide variety of business models employed to defray the costs of making access available. These range from completely ad-supported to completely subscription-supported, with different mixtures of the two revenue sources in between. This variety suggests that no single method of defraying the costs will be appropriate in every case. So which method or business plan to choose given an equal marginal cost of essentially zero?

Disneyland Dilemma

In "Disneyland Dilemmas: Two-Part Tariffs for a Mickey Mouse Monopoly" published in the February 1971 issue of *The Quarterly Journal of Economics*, Walter Oi examines precisely this question. Oi's research looks at Disneyland's monopoly over their rides, and asks, "If you were the owner of Disneyland, should you charge high lump sum admission fees and give the rides away, or should you let people into the amusement park for nothing and stick them with high monopolistic prices for the rides?"[2] The Disneyland model makes for an apt comparison with the digital information market, because in each scenario the marginal cost—of granting access to rides, or to digital information—is

[2] Oi, Walter Y. "A Disneyland Dilemma: Two-Part Tariffs for a Mickey Mouse Monopoly." *The Quarterly Journal of Economics*, Vol. 85, No. 1. (Feb 1971), pp. 77-96.

essentially zero while the cost of making the content available has to be covered from the provider's revenue.[3]

Oi's research uses received theories of monopoly pricing to examine why a model like the system Disneyland chose is the most appropriate. Oi begins by asserting that as a monopoly, one business model that has proven successful for some industries (Oi cites the rental of computers and copy machines as well as country club fees) is a two-part tariff system. "A two-part tariff is one in which the consumer must pay a lump sum fee (the first part) for the right to buy a product (at a price per-unit, the second part)."[4] Disneyland's consumers, "are assumed to derive no utility from going to the park itself, and all utility derives from consuming…rides."[5] This situation seems to lend itself to a two-part tariff system. Disneyland is in a position to charge you one fee for entering the park, and then a second fee for ride. However, Oi argues that Disneyland may in fact be better served by charging only an entrance fee.

Oi begins by showing that, in an ideal world, Disneyland could potentially exact the most profit out of every visitor by implementing a discriminating two-part tariff system: the entrance fee would differ according to factors such as every visitor's income and the number of times each visitor planned on riding a ride.[6] Then it would charge each visitor a price equal to the marginal cost for each ride. However, with the marginal

[3] This is true as long as the number of riders or the number of those seeking access to the data is less than the system's capacity (the number of seats on the ride, or, in the digital media industry, the number of inquiries that the server can handle simultaneously). When this is not true, the marginal cost exceeds zero because potential customers have to wait or do without the service, and this is costly to them.
[4] Ibid, p. 77.
[5] Ibid, p. 78.
[6] Ibid, p. 93.

cost equal to zero, the ideal pricing scheme would reduce to differing entrance fees. While Disney does some of this–entrance fees may be higher at some times of the year than others, for example–it is impossible for Disneyland to know enough about individual customers to fully implement the theoretically ideal system. [7]

Disneyland Implications

Oi's research pertains to a situation in which there is a predetermined demand for the product as well as a large infrastructure (the Walt Disney Company) to promote it, and therefore the Disneyland business model cannot serve as a reasonable business model for an archive to follow simply because the demand for the product is not as great; the comparison is not meant to serve as a one-to-one analogy. Nevertheless, Oi's analysis has clear implications for the pricing of digital media. Oi's research proves valuable in demonstrating why an archive might want to charge an access fee as (which could be paid by a subscriber or an advertiser) but not a fee per use.

Oi shows that one reason such a pricing system works better than alternatives is that it makes the service more valuable to customers than charging a price per ride or use. This extra value arises because, with no per-use charge, the customer will take more rides or access the information more frequently. Further, if the information provider does not know enough to set different access fees, it may wish to set a uniform access fee, as Disneyland does at a particular time of the year or week.[8]

While Oi's analysis of Disneyland is cast in terms of a monopolist seeking to maximize profits, the principles of the Disneyland case also apply to any organization

[7] Ibid, p. 93.
[8] Ibid, p. 81.

that wants to provide the most valuable service to their customers while also covering the costs of providing that service to them in the most effective way. For example, even if the data provider just wants to cover the cost of providing access, it wants the service to be as valuable to customers as possible so that as many customers as possible are willing to pay the subscriber fee. That objective, Oi's anlaysis suggests, is best achieved by not adding substantial per use charges to the access fee.

<u>Subscription-Based Business Models and Cable TV</u>

The idea of paying a single upfront fee for unlimited access to the information or service that an organization has to offer is, in essence, like buying a subscription. Walter Oi's article illustrated that such a business model is the most valuable to the customer, and a clear "real world" example of this is in the cable TV industry. For cable providers, the marginal cost of adding another user to their network is essentially zero since the signals are already being broadcast. Cable TV customers can watch TV for 24 hours a day or for 24 minutes, but regardless of how much time they spend watching TV their cable bill will be the same every month.

There are other business models that cable broadcasters could use—a strictly pay per view system, or charging a per-minute fee, for example. And yet of all the available business models, the cable TV industry—representing a large part of the digital information market—has chosen to use a subscription-based business model. The clear application of the economic principles that Oi outlines in his paper suggests that in cases where the marginal operating cost (the cost of granting access to additional customers) is equal to zero and other business methods are possible, organizations within the digital information industry tend to choose a subscription-based business model over others.

Alternative Business Models

In order for any business model to run effectively, there must be enough revenue to, at a minimum, cover the cost of operating the business or service provided. As previously mentioned, there are alternatives to a subscription-based model. In fact, the variety of different models currently being used by businesses across the digital information revenues and industry suggests that there is no single "best" method, or else every business would operate the same way.

A comparison between four different business models, each a "real world" case of a businesses in the digital information industry that has a marginal operating cost of essentially zero, will shed light on the alternatives to the aforementioned subscription-based model. The four models discussed below range from a business model that is entirely supported by advertising to one that is entirely supported by users (subscribers) as well as models that effectively combine both.

1. **Entirely ad-supported publications** offer their content at no cost to the user. They are able to cover the cost of operation by selling space on their websites to online advertisers. The *New York Times* online recently switched to this business model from a previous model that relied partially on online advertising partly on subscription fees. In an article announcing the switch, Vivian L. Schiller, senior vice president and general

manager of nytimes.com, said, "our projections for growth on that paid subscriber base were low, compared to the growth of online advertising."[9]

2. **Entirely user-supported (subscription based) publications** offer their content, free of any advertising, to their customers. They cover the cost of operation by charging a slightly higher subscription fee; customers pay this fee because the information that they seek from these sites has a high value to them. *Consumer Reports* accepts no outside advertising for two reasons: firstly, to "maintain…independence and impartiality"[10], and secondly, because the information they offer is highly valuable to a niche market of customers who are willing to pay a higher fee for it. *Consumer Reports* makes their content available only to subscribers and has followed this same business model since it was founded in 1936.

3. **A combination of ad-supported and user-supported publications** offer some of their content to customers for free, but in order to have full access customers must purchase a subscription. The *Wall Street Journal* online is a good example of a digital information provider that uses both forms of revenue as part of their business model.

4. **Preview-based subscription publications** operate on a system that depends on enticing potential customers to buy the product by offering a preview of its content. The revenue comes from the subscriptions, but the subscriptions are solicited by the content

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[9] "Times to Stop Charging for Parts of Its Web Site." Pérez-Peña, Richard. Sept. 18, 2007, http://www.nytimes.com/2007/09/18/business/media/18times.html?_r=1&oref=slogin
[10] "Our Mission." http://www.consumerreports.org/cro/aboutus/mission/overview/index.htm

itself and not from an outside source of advertising. Many Internet pornography sites operate based on this model.

It is important to note, however, that three of these four business models rely heavily on access fee of one kind or another. Sometimes the fee is paid by subscribers and sometimes by advertisers (whose willingness to pay for ads is based in part on how many users the medium attracts). For digital media, the typical model relies heavily on either advertisers or subscriber access fees; or, as with cable TV, some combination of the two.

Online Access to Archives

While many archives such as the Online Archive of California presently offer online access to their holdings, these institutions have been able to provide access due in large part to funding from grants. This is not a source of funding that archives can count on receiving indefinitely.[11]

Although there is much potential for archives that want to operate self-sustaining business models to defray the cost of providing access to their holdings, few archives have yet to do so. One example is footnote.com, an online repository for original documents that operates on what is essentially a preview-based subscription method. It

[11] "California History and Culture Available Online: $1.5 Million Supports the California Digital Library's Online Archive of California." Press release, Nov 9, 1999, Office of the President News, University of California.
http://www.ucop.edu/news/archives/1999/cdlhistory.html

offers a free 7-day trial, after which users may choose from different monthly or annual subscription plans.[12]

Issues of Online Access

Institutions are generally reluctant to begin new ventures that they will have to incorporate into their long-term goals. Taking the step of creating a business plan that would defray the costs of offering access is a venture that requires a great deal of time and resources. If an archive were interested in generating revenues that will defray the cost of providing access to their holdings, they would most likely need to create a position at their organization for someone who would deal with the development, installation, and maintenance of the site. This would also require that the archive allotted the initial capital in their budget to begin the venture. Furthermore, there are a number of legal issues involved: for example, if the archive is non-profit it would have to re-invest any surplus for the legally approved goals of the organization.

Additionally, as films disappear every day, many archivists believe that their emphasis as preservationists should be on saving what's left.[13] If an organization intends to take on the task of charging for access, they must be prepared to deal with the tension between archiving what the users want and the goal of preserving less popular works.

Concerns of Profit Through Access

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[12] "Choose the Footnote Membership That's Right For You" http://www.footnote.com/choose-a-plan.php
[13] "Keepers of the Frame." Gitsch, Randy. Keepers of the Frame online press kit http://www.in70mm.com/news/2007/keepers_frame/index.htm

Before an archive would be able to offer digital access to its holdings, it would have to address various issues surrounding online remote access. These issues include but are not limited to copyright and privacy issues relating to the material itself, state and federal laws pertaining to censorship or content regulation[14]. If the business model chosen includes paid advertising, the archive would have to take into consideration the consumer's privacy and protection as well. Additionally, archivists would have to commit more time and money to digitizing their collections, as it will only be best and most thoroughly digitized collections that will serve access.[15]

Benefits of Profit Through Access

Although it will be costly for archives to provide access, unless the cost is defrayed then there will be no access. The immediate and obvious benefit of making one's holdings remotely available to the public is that more people will be able to utilize the content of the archive.

Additionally, it should be noted that to a large degree funding often determines what, when, and how materials are preserved at an archive. Being financially dependent on grants turns archivists into *de facto* grant writers, and applying for funding often takes time and precedent away from preservation work. Additionally, if funding is granted to an institution to preserve a particular collection then that project becomes a priority based solely on the fact that the archive has been given the funds for that preservation work. A successful self-sustaining business model would allow archives to make their own

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[14] Hirtle, Peter. "Archives or Assets?" American Archivist 66:2. (Fall/Winter, 2003), 235-247.

[15] "Moving Images: Digitization for Access, Lot 49." Brantley, Peter. July 15, 2007. http://radar.oreilly.com/archives/2007/07/moving_images_d.html

decisions about what should be preserved as well as allowing archivists more time to work on preservation as opposed to applying for funding.

Another possible benefit of using a business model that is designed to yield a maximum potential profit is that providing access may result in a profit. In this situation where the more access an archive is able to provide means the more profit it will earn, a question is raised as to whether or not an archive should go beyond merely covering their costs and seek to making a profit as well.

Archives as Merchants?

This raises the ethical questions of whether it is right or wrong for institutions that are guardians of cultural heritage to be selling their material at all.

In the WIPO Guide on Managing Intellectual Property for Museums, Rina Elster Pantalony touches on the importance of business opportunities for museums and other non-profits.

> The global digital environment has created new and exciting opportunities for museums. Over the last ten years, new business models in general have been developed to harness the new market potential that the Internet and digital technologies have provided society in communicating knowledge and ideas, and exchanging goods and services. While museums are non-profit oriented as such, compelling reasons are emerging why they need to

be aware of and to the extent possible, participate in these new markets.[16]

The recognition that there are "compelling reasons" for non-profit oriented institutions (as in the case of archives) to participate in the digital information markets are numerous. Pantalony cites a study entitled, "Reproduction Charging Models & Rights Policy for Digital Images in American Art Museums" conducted by Simon Tanner for the Andrew W. Mellon Foundation. His study, although not a direct correlate to the business model an archive might adopt, has significant implications for archives. Pantalony writes:

As Simon Tanner discovered in his 2004 study for the Mellon Foundation, the primary factors driving museums to provide a licensing and reproduction service for digital images of artifacts and artworks found in their collection, are the following, in descending order with the last three being of equal value:

1. Serve the public and educators;
2. Promote museums and their collections;
3. Serve publisher and other commercial users;
4. Serve internal museums or museum to museum requirements;
5. Recover costs of the service;
6. Manage museum collections; and
7. Protect museums from copyright infringement [17]

[16] WIPO Guide on Managing Intellectual Property for Museums. Pantalony, Rina Elster. Aug 2007
http://www.wipo.int/copyright/en/museums_ip/guide.html#P958_134127

These findings are significant because they include generating profits to pay for more than just cost recovery and point to the direction in which archives that wish to make their collections widely available using self-sustaining business models to do so. Pantalony does, however, caution against being too distracted by profit incentives. "Indeed, if the sole purpose of the museum's endeavor is to generate profit, the institution, depending on the activity, may have lost sight of its overall mission and mandate."[18]

Conclusion

Responding to the Committee For Film Preservation and Public Access's statement that "preservation without access is pointless", this paper examined the issue of access to archives in economic terms. Assuming that it if an archive wants to defray the cost of making their holdings available to the public, it will need to develop a self-sustaining business model to do so. This paper used Walter Oi's examination of one method that has proven successful in the past, a two-part tariff system, to determine why this method of access would most likely not work for an archive. Oi's research did prove helpful to this paper in determining some of the benefits of an access fee-based model, but alternative business models were considered as well. Finally, in addition to discussing

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[17] Simon Tanner, King's Digital Consultancy Services, "Reproduction Charging Models & Rights Policy for Digital Images in American Art Museums", Andrew W. Mellon Foundation, New York, 2004, at pp 17-18 in WIPO Guide on Managing Intellectual Property for Museums Pantalony, Rina Elster. Aug 2007 http://www.wipo.int/copyright/en/museums_ip/guide.html#P958_134127

[18] WIPO Guide on Managing Intellectual Property for Museums Pantalony, Rina Elster. Aug 2007 http://www.wipo.int/copyright/en/museums_ip/guide.html#P958_134127

possible business models that would defray the cost of providing access, this paper also briefly investigated some of the issues involved in providing this kind of digital access, as well as possible concerns and benefits for archives seeking business models based on profit incentives.

Although it seems archives are a ways off from having to deal with directly addressing these questions and issues at present, it is clear that in order to provide digital access without the reliance of grants, many of the questions raised in this paper must be taken into account. Furthermore, although there will be a number of issues that archives must deal with before they will be ready to implement a business plan, there are compelling reasons why addressing the issues would be beneficial not only to their institutions, but to the public at large.

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