

MEDIA TEMPORAL EXCLUSIVITY

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ABSTRACT

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A media product's exclusivity is threatened by the effects of unauthorized distribution of electronic copies. This makes the producer inherit all risk in producing digital media for market. Through the process of applying temporal exclusivity to media in a distribution construct; I have found that firms can regain the upper hand in monetizing the digital media distribution markets. Media Temporal Exclusivity is the economic process in which firms can extract more revenue, and order the distribution of the media good. This is based on the consumer's highest willingness to pay as it relates to their longest willingness to wait. I found that people do volunteer their willingness to pay and willingness to wait; and that in doing so the consumer creates the market itself.

Table of Contents

LIST OF TABLES	V
LIST OF FIGURES.....	VI
KEY TO SYMBOLS or ABBREVIATIONS.....	VII
Introduction	1
Hypothesis	5
Importance	6
Literature Review	8
MTE 2: Possible model post-release.....	13
The Position.....	15
What I did in this study	17
What was predicted to happen	20
Results	21
Willingness to Pay	22
Feasibility of Paying in Advance to Secure Consumption Window	30
Willingness to Wait	31
What this might mean.....	33
Industrial Applications	34
Conclusion	35
Media Temporal Exclusivity-A Mechanism for Increasing Profits	36

APPENDIX	38
Questions:	39
Qualitative Data	44
 BIBLIOGRAPHY	 50

LIST OF TABLES

Table 1.....	19
Table 2.....	40

LIST OF FIGURES

Figure 1	9
Figure 2	25
Figure 3	31

KEY TO SYMBOLS or ABBREVIATIONS

WTP: Willingness to Pay

WTW: Willingness to Wait

MTE: Media Temporal Exclusivity

P:	Position on the demand curve
P(+1):	First or preceding position on the demand curve
P(0):	Second or trailing position on the demand curve
P(-1, -2...):	Trailing positions on the demand curve
P(N+1) > P_N > P(N-1):	Where P =Position and N =Time Period & Cost to Consume.
P(N+1)¹	First overall place in line on demand curve, highest WTP and lowest WTW

Introduction

Due to the plunge in price of electronic media, there is a very nominal marginal utility for the user to consume an additional good. That favors consumption, but it is not favorable in terms of production since the incentives are lost beyond producing the first copy. Producers in this scenario take on all of the risk, and reap none of the reward since the copy is virtually a public good (Owen-Wildman, 1992) (Napoli, 2004). With the change in the economic structure of media, the threat of piracy disrupts the current model and will threaten it further in the future.

People's willingness to pay is essential in determining the price in which a producer can set if applying second degree price discrimination. People's willingness to wait is essential in determining how long you can wait to distribute before it affects their willingness to pay. For if they could be proven to be somehow related in terms of paying for and distributing media, then producers may be able to set the price at the profit maximizing amount based on the willingness to pay and willingness to wait.

Now that files are infinitely copy-able and distributable exclusivity has been lost. Any consumer can distribute the media good once it is made. This makes the media nearly free for the consumer. And it's a big problem for the producer: They can't enact a transaction in exchange for the good they produced, despite the fact that their product is clearly desired.

Because there is no exclusivity control, the producers lose all control once the good is produced. It's simply up to the distribution system to enact exclusivity. Therefore all of their costs are sunk unless they can convince people by threat or by lobby to consume their goods in a way that they prefer; when the goods once made are already

in the form the public prefers. If the good hits any online network, the losses could be significant. Megaupload.com is a good example, in which the company had 180 million registered users and more than 50 million daily visitors for an estimated \$500 million dollars lost by the industry. (FOWLER, 2012)

I believe what complicates understanding is that both willingness to pay and more importantly willingness to wait for media products have not been examined thoroughly from the consumer's perspective. These are essential in determining whether or not a system can be built that can extract more surplus from the market.

For example, systems like auctions and pledging for public broadcasting and the introduction of new weather technologies show that willingness to pay can be volunteered *and increased*. Observations of human behavior can demonstrate that the people lined up outside of the neighborhood mall waiting for the opening night of a big movie or tech product are not willing to wait very long at all.

In stock market terms, temporal exclusivity plays a big importance. The sooner the trading firms get the stock quote information as it comes from the NYSE, the faster they can provide quotes to their large brokerages. When even milliseconds count, getting the information soonest gives the firms a strategic advantage. This example of stock quotes (which have high temporal value) shows that goods can have different values at different times in their life cycles. Dr. Steven Wildman at Michigan State University proved that media can be scheduled into release windows (in time increments) in order to maximize the profit. Similarly, I have found that these techniques of temporal exclusivity work just as well in media online if links between WTP and WTW are established.

Media Temporal Exclusivity is already being practiced by companies like Apple. They have a library of codec-enforced media (iTunes), a way to search and purchase media (the iTunes Store), and a way in which to play or consume the media (iPad, iPhone). For this example, complexity has been built in service of reducing the risk of production and stifling creativity. (Weinstein, 2005)

Complexity adds temporal costs to the consumer and makes the transaction (iTunes) less expensive when faced with the alternative of trying to find software to crack the encryption or recreate the entire ecosystem by hand. Similarly, games have temporal constructs set up so that the consumption environment is controlled by the program, system and game dynamics.

Complexity adds nearly infinite potential temporal costs to games. These are too expensive in time/money for one person to do by themselves. And, with consumption paradigms mirroring real-world scenarios, time/cost is at a premium.

Broadcasting companies have long used temporal exclusivity for their media. Their content is only allowed to be consumed at times they choose, because of fewer channels of distribution and the way in which the technology traditionally worked. These could only be consumed at the time that the company wanted.

By controlling the time window of consumption in both the broadcast and game examples, exclusivity can be ensured. By controlling the complexity of the design and consumption ecosystem, exclusivity can be ensured. But both examples are still temporal in nature: Time seems to be an arbiter of cost of media, over all other considerations.

This is why the value of these media is not as affected by the copy/distribution system that affects content producers. There are only ways to time shift in order to consume, but to break controls would mean a substantial cost on the consumer. Imagine if they would have to code their own game, scoop their own news, or break into the network master control to steal a file “before air.” These few examples show that temporal control can enhance profitability and depress unwanted consumption.

Value in anything changes over time, but media has the rare pleasure of being re-consumable. This makes the focus on the exclusivity of the class of products erroneous. One song is not substitutable for all songs, for the consumer. Some goods are preferred, and those goods are open to temporal consumption effects including additional marginal utility for consumption. Each consumer has their own preferences. Some prefer movies. Some, prefer music.

Exclusivity is in the product itself, and nothing is The Wizard of Oz like The Wizard of Oz.

My contention is that willingness to pay and willingness to wait are linked, and to model the post-release demand curve I created a mechanism I call Media Temporal Exclusivity. This means inherently that media has time-exclusive controls tied to the consumer’s willingness to pay/willingness to wait relationship. In the terms of this study, I was interested in the exclusivity of consumption as it relates to windowing (for time control) and position competition. I wanted to discover if a firm could use second degree price discrimination to extract more profits than at the market aggregate level where the overall $\text{Marginal Revenue} = \text{Marginal Cost}$.

Hypothesis

In determining if willingness to pay and willingness to wait for media are linked, I came to two hypotheses. These would help determine the feasibility of pre selecting consumption windows based on respondent's willingness to pay and willingness to wait.

Hypotheses:

H1 - People's willingness to wait and willingness to pay for media have a direct relationship

H2 - People would be willing to pay in advance of release of media to ensure a consumption window

Importance

The film and entertainment industry, that is the industries of movies, music, and gaming make up over \$82,154,606,000 in revenue a year world-wide. To put the size in more relevant perspective the total entertainment portion of the economy that media represents is 2.67% of the United States' Gross Domestic Product. Films alone make \$24,054,606,000 a year and hire at least 2,000,000 people. (Metcalf, 2005) (Caron, 2008)

Piracy and loss of consumer surplus is estimated at \$12,500,000,000 a year and cost 71,000 jobs in the recording industry alone. (Sweeney, 2012) This is revenue that is lost due to the loss of exclusivity once the good is produced.

If a solution to extract consumer willingness to pay were to be created, firms could increase their revenue and mitigate the risk of loss. In addition, solutions based on previous models may enable the producer to extract more revenue in producing and distributing in this way. MTE 2 (the behavior of the demand curve post-release) represents a mechanism in which the producer can extract more consumer surplus.

Currently, the point of view of the consumer in these types of transactions is not represented in the literature as it relates to the media industry or intellectual property. Understanding why consumers still have high demand for a low-barrier good and are willing to consume en masse with little loss in utility is the key to unlocking the problem plaguing intellectual property rights holders.

Once information is made, temporally exclusive functions such as encryption or system design have been used to slow the rate of loss, but never have been able to fully stop it. If it takes a user a lot of time to build each component of a console gaming system, spend hours designing and testing the game, then this adds considerable time costs to the consumer if they were to simply replicate.

And, the more time investment needed to copy and consume a good the less likely it will be to be faked. Transaction costs of the temporal investment therefore may override the benefit of saving the surplus. It simply costs too much in time to do it yourself, and so consumers buy the game and its console.

In cases where there are small or nominal transaction costs there is no media exclusivity once a product is released. So, what can be done about the release that would mitigate the risk of pan-exposure and sink all producer costs? For one, don't release it all at once. Make people pay for their place in line.

This mechanism can allow for the firm to create envelopes to sell. These "envelopes" are the position which is time & cost. (The time in which the consumer will consume the media; and the cost to consume it in that window is the position). Rational consumers should choose equilibrium between their WTW and WTP.

The time window in which a particular media product consumed is its temporal exclusivity. The consumer selects which product to buy based on expected discount and their own willingness to pay and willingness to wait to consume it.

Literature Review

Public Good

According to Kelly in his manifesto “Better than Free,” (Kelly) digital media systems behave much like a public good does, in that it is a non-rival and non-excludable good. There is still a willingness to pay for a good that is essentially free, so there is little chance of market failure, but there is a threat of producers working in their own self-interest and realize that making media doesn’t ever (or takes too long to) make a return on investment.

That was the prediction that was made on digital media systems, but a funny thing happened while on the way to the market. While the public good as a whole has nominal value to the whole market, it has a **lot** of value to **some** in the market. But with no methods of individual price discrimination, and no way to lower transaction costs for un-favored media and naturally force pirates out of business: The bleeding from the effects of the digital file on the public network continues.

In my study, I found that only 7.34% of respondents never paid for their media. That means, that even at the nominal level consumers value their media. Those that do not value media, represent a small amount of users and can be considered acceptable loss. This is the new reality. Media companies need to start focusing in on the 92.66% of people who do pay for their media and find new ways to do it.

The properties of media have come to resemble a quasi-public good, and because of this the demand curve has slipped closer to hug the y axis and does so sooner over time. This means that while there is little value by most consumers for a particular piece of media, there is some. And, a few value that particular good a lot.

Each piece of media's value is unique to the person; we all have different demand curves for different media products. Your favorite is not my favorite, and even those preferences can change over time. In aggregate, they make up the market curve seen in **Figure 1**; which is represented by a steeply declining demand curve. These points represent the highest WTW and WTP for each respondent. This is where their WTW and WTP are optimal for them for the piece of media. I asked them to state how much they would be willing to pay for the media of their choice at maximum; and I asked what maximum amount of time would they wait. Each respondent has chosen their amount and time in which to consume the media; the “envelope” if you will.

These are some of the guiding principles behind Media Temporal Exclusivity: There is considerable demand by few, and most consume at low marginal levels.

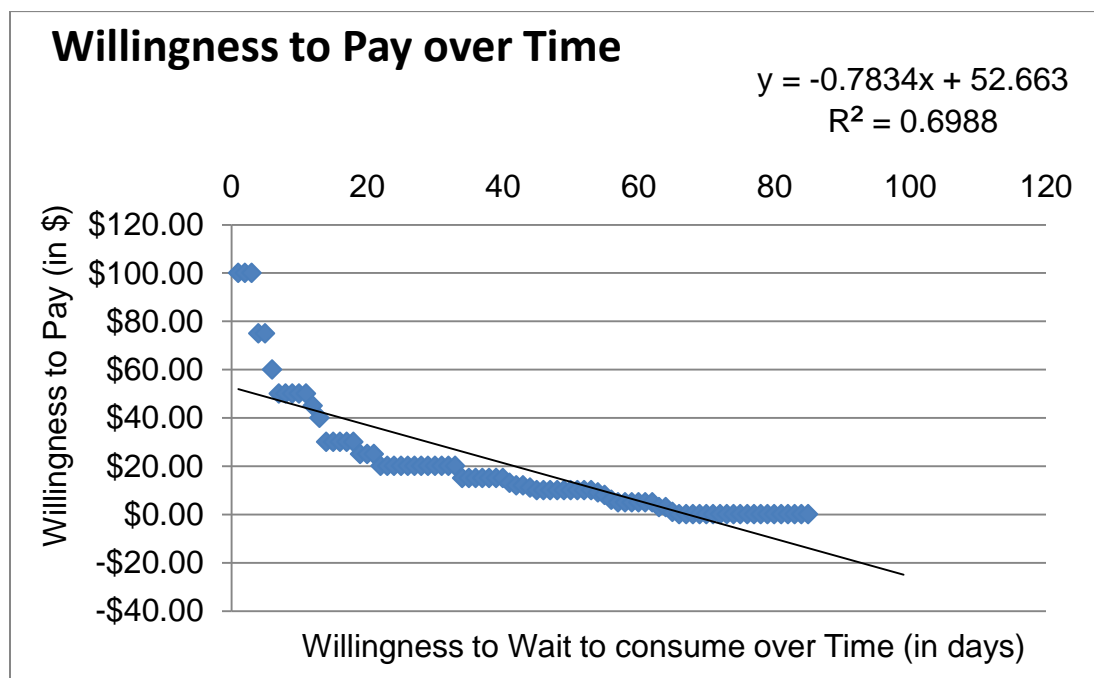


Figure 1

Windowing

Use of different distribution schedules to segment audiences is the basis of this proposed type of model. Instead of schedules based on the population distribution, this supposes that there is a schedule based on the direct proclamation of the user themselves as to their willingness to pay and wait. The firm controls the market; as they set the windows of consumption and could possibly limit the populations of consumers in each window, thus creating more demand.

If they tell the firm when they want to receive it and what they want to pay for it; then the firm can put them into a market...or not. The consumer will be forced to choose their optimal WTW and WTP based on the construct of the firm; for it sets the distribution points based on its own calculation of demand. Each person on the curve in **Figure 1** has suggested their cost and distribution window for a particular piece of media that they self-selected.

A firm that was to maneuver in this space should tailor their schedule not on the different mediums/channels, but on the willingness to pay that the consumer volunteers themselves. So instead of 1st run, 2nd run, On Demand, DVD, Pay TV and Broadcast; it would be based on how much they are willing to pay and how long they are willing to wait to get it. Thus, this type of good would have paying levels directly tied to time after the media is released and allows temporal exclusivity to be built into the distribution of the media.

The same principles behind determining the time windows proposed by Wildman (S. Wildman, 1995) would apply, only in this case the consumer puts *themselves*

somewhere on the demand curve and willingness to pay becomes the most important factor. “Rabid fans” have a high willingness to pay (but are small in number) and “casual fans” having a low willingness to pay (but are large in number). Windows are simply time increments, set by the firm based on the expected discount over time. If consumers choose a distribution window, they volunteer their WTW and WTP.

This is necessary for the firm to extract profit, for I found in the study that people are open to suggested windows of consumption. If allowed to choose, they will be rational and always choose the lowest WTP and WTW. It's up to the system to exert pressure on people's WTW and WTP by increasing demand. An auction or bidding system which consumers could pay for that would improve upon (or secure) their pre-selected position would be one of many ways to elicit truer WTP. Competition for the spots and the threat on their WTW may be feasible mechanisms based on this study.

The profit maximization point of the sample market would also determine the window of distribution...the zenith of the curve, y-intercept, if you will. Each subsequent person would find themselves on the demand curve depending on where their Willingness to Wait (WTW) and Willingness to pay (WTP) were equal, $WTW=WTP$. This is because if they were willing to pay more they would be less willing to wait; and if they were willing to wait longer they would be willing to pay less. The higher the top price demanded on the y axis the more profit the project will make.

When few will pay a lot and most will pay little, operating without a price discrimination method is dangerous. Currently, firms will take set a price where $MR=MC$ and this “box” only takes up so much of the demand curve, leaving plenty of surplus for producers to take advantage.

Using the temporal window stratification & working with people's willingness to pay (in time increments...days/weeks/months), a system can be constructed to place people into windows depending on their $WTP=WTW$. This removes the effects of a population as a variable and treats the customer as an individual consumer. The consumer selects their window based on how willing to pay and how long they are willing to wait. Time also provides absolute, accepted and standard "exclusive" envelopes. *Not today? Then tomorrow...\$10 for today, \$5 for next month...*

MTE 2: Possible model post-release

Media Temporal Exclusivity may be the way to distribute the project once it is funded. If the release is only to scheduled person(s) and those persons are temporally limited to their next available consumption period (like waiting in line for a good), then other entrants may decide to enter into the market to increase their WTP if their WTW declines. Competition between the *want* of the willingness to wait and the *need* of willingness to pay could cause consumers to compete to consume in favorable consumption windows.

The competition between people could create an auction-bidding system where each person competes for their place in line. Windows are time increments; it is a construct that is extremely familiar to people and they have a pretty good gauge of the value of their own time. Using media temporal exclusivity, firms can sell based on current demand and distribute based on the consumer's willingness to pay (which, with the system temporally controlled, already knows their willingness to wait). In this way, the firm establishes the "grain" of the temporal window--what dates of release are for sale to the consumer.

If another consumer is willing to pay more and willing to wait less, they will move ahead of the other person in line. If that person does not want to be leaped over in terms of position, (which may affect WTW) they have to give up more of their WTP surplus to attain the desired position.

This dynamic and active process grows the market and moves the demand curve closer to true WTP; and this puts pressure on their consumer surplus in that the good becomes more exclusive because the good is the consumption window since the product cannot be consumed in other time periods yet. This concept can be used to “lock in” a consumer’s position with a pre-determined increase. For example, asking 10% more of the cost of the good to ensure that they get their media when they want it.

MTE principles can create aggregate demand by offering reward and premiums on levels of donations. This can push out the curve by increasing demands on different “envelopes” (*Wait two weeks and pay \$10, get a CD; Wait one month, pay \$5 and get a download*). Incentives could slow the declining rate of willingness to pay, and increase profits by gaining more actual willingness to pay and real willingness to wait.

The Position

If I am first in line with an MTE system ($P(+1)^1$), I have beaten out the market to be in the rewarded position of consuming the product before all others. This would assume that you would have a high willingness to pay, in order to out-bid other consumers for a place in line. It would also assume that you had the lowest willingness to wait, for if you could have waited it would have meant paying a lower price and therefore not being in the first position. So, this would be represented by:

$P(+1)$ where **P**=Position

If I am second, my first threat is the person behind me and I am at the next available spot. I will not pay more, or I would have. I would not pay less, for I have chosen my window of consumption equal to my willingness to wait. Second would be represented by:

$P(0)$

And, if I am in sequence behind first or second position my position would be represented by:

$P(-1, -2, -3...etc)$

I predicted that the cost of moving up a time window will only move to respondent's willingness to pay and no more. Each consumer will do a cost/benefit analysis to see how much cost it will take to move up to a certain more desirable position in line.

What I did in this study

In this study I intended to find out if there are any links between willingness to pay for media and willingness to wait for media. That was conducted by survey. The survey asked respondents questions regarding their value on entertainment goods, specifically movies and an album. It also asked them questions as to how long they would be willing to wait to consume the item. This was framed as a much-anticipated project such as a major film release or a critically-acclaimed album from a famous artist of their choosing.

Questions were constructed so as to determine if there are links between willingness to pay and willingness to wait. From this I expected to find a possible direct link between people's willingness to pay and willingness to wait. While some of the results I found show a clear link, there isn't enough data or study to confirm a correlation between the two. Nonetheless, this does help to strengthen the position that Media Temporal Exclusivity can be used to increase profits upon release by extracting more consumer surplus by pressing consumers closer to their true willingness to pay. I accomplished this through the analysis of the qualitative data as well as analysis of the quantitative data using standard methods of analysis of variance (Qualitative data is in the APPENDIX).

I conducted a survey of respondents. The survey targeted adults by invitations that were most likely to purchase to consume media: P 18-64. Demographics were not kept to skew analysis of the critical questions, and for this study weren't necessary. The respondents were offered an opportunity to take the survey, and fell into diverse socio-

economic as well as racial and age demographics determined by who was invited. I asked work populations from public and private institutions; college students; trade associations; and alumni associations. The invitation to participate was done through email, social media, flyer, and by posting on a message board. There were approximately 1,500 people invited or notified through these methods. From this, 107 respondents took the survey to date. Of this, 89 filled out full surveys to be incorporated into the data.

The survey was constructed in part using the Becker–DeGroot–Marschak method. In this method, the subject was presented with a series of sequentially increasing or random-order monetary amounts. They decided if they would prefer to have a presented amount of money or the item at hand. This metric helped discover the subject's true willingness to pay. For discovery of the longest they would be willing to wait, I asked them to place themselves into a time window.

I used the Likert Scale to present some questions to respondents, in particular their likelihood to purchase and likelihood to wait. Specific questions were asked of their willingness to pay more, and I offered them a place to volunteer what they would do if the price were too high on both music and movies (the two products in the survey).

Questions

The National Oceanic and Atmospheric Administration has established best practice rules in order to overcome the major sources of bias associated with WTP surveys.ⁱ They recommended that WTP surveys should:

(1) Rely on personal interviews; which was impractical but the survey was constructed as if it were.

(2) Use close-ended questions that elicit the respondents' WTP to a specified increment for a service that is familiar to them; which was implemented.

(3) Remind respondents that the price increment reduces other consumption; which was implied.

(4) Remind respondents that substitutes exist for the service in question; which was implemented.

...and (5) question respondents about factors that might influence their preferences (which was accomplished with a write in field after the question set).

What was predicted to happen

I predicted that there would be a relationship established between the consumer's willingness to pay and their willingness to wait. This would likely show that the more a consumer demands a good the more likely they are to pay; and similarly the shorter they were willing to wait. This, by extension would show that a temporal exclusivity is at play that can be exploited by a media firm in the distribution process.

Guiding this thought, was the classic example of a stock quote which has high temporal value at first, but low value after its first use (or after time window for action on the advantage has passed). Similarly, a "new release" has more value than an old release. I predicted we would see that few people are willing to pay a lot and most were willing to pay very little, but even at the margins that they have some nominal value of consumption. This would likely follow a steeply decreasing demand curve with large drop offs in the between the highest and next most willing to pay/less willing to wait customer, until the willingness to wait and the willingness to pay return to but never reached 0.

On the anticipated power law distribution curve, I have identified three key places on the curve that identify three distinct consumer types. **One**: is the consumer with the highest willingness to pay and the lowest willingness to wait.

Below them, are the customers with a declining willingness to pay and an increasing willingness to wait at point **Two** (the elbow of the curve). At point **Three** where most consumers are, there is a low willingness to pay and a high willingness to wait. 1 would be the top of the curve, 2 where it levels out, and 3 where the curve levels out more and to where the curve approaches 0.

Results

I intended to show that a firm can take advantage of this temporal exclusivity by creating a system in which the consumer pays for a spot in line. Each user would, according to his own willingness to pay self-select a position just inside the optimal. I intended to show that this model of second degree price discrimination can work for a viable model for the industry; and that an auction structure could elicit truer WTP and extract more profits through competition.

Willingness to Pay

In the study, I found that people have a willingness to pay that decreases exponentially. When asked if they would pay one dollar more, 74.74% said they would. When asked if they would pay five dollars more, only 26.32% said they would. Similarly, people's willingness to wait decreased as well.

In determining the expected discount of media over time, we found that 72.41% said they would be willing to pay the same amount of money if they had to wait one day. 48% said they would be willing to pay the same amount of money if they had to wait one week. 17.24% would wait one or more months. So we found both willingness to pay and willingness to wait are not infinite, and that both factors influence decision to purchase.

It seems that Willingness to Wait has strong relationships to Willingness to Pay, according to the study. There are instances where the willingness to wait may actively depreciate as well as the willingness to pay.

Respondents that were willing to pay a lot right away had a lower willingness to wait. But if they have to wait they don't want to "pay much." This helps to validate MTE because if someone is not willing to wait, their willingness to pay will drop as well. If you fall outside the established curve, you will likely not consume the good, save for maybe in the "long tail". Only 7.34% of respondents said they don't pay for the media they consume.

If $WTW=0$, but price is too high and above WTP , then the consumer will not consume the good until good reaches either nominal cost or their adjusted WTP when $WTP=WTW$.

So someone with a low willingness to pay and a low willingness to wait will not consume. Someone with a high willingness to pay, but a low willingness to wait is still constrained by their own budget and that therefore affects willingness to pay. If the cost is too high and the wait too long: The relationship between the two causes the consumer to adjust their willingness to pay.

If I was a consumer, and I wanted the media as soon as possible, I would have a high willingness to pay and a low willingness to wait. That is what I have found in the study. The consumer who has high WTP typically has low WTW, and vice versa. This was found in the curve in **Figure 1** where the respondent's highest WTP and WTW (and therefore where $WTW=WTP$) is signified in terms of time/cost window of their selection.

The majority of people retain value in the first period; roughly half in the subsequent period; and about two out of every ten will wait until after the third period and still pay the same. And, there may be some serious money that is left in their consumer surplus: 85.88% would pay at least \$0.59 for a new song from their favorite artist. 82.35% would pay at least \$0.99; and 51.76% would pay \$1.99 or more.

With \$0.59 being the current "discount" rate from mp3 retailers, \$0.99 being the average price per song from said retailers; and \$1.99 representing 200% increase of average price: More than half would pay double. This means that keeping the cost where the $MR=MC$ (**Figure 2**) for the large market maximizes profit by selling the track at \$0.99; but by using self-described WTP they may be able to extract a considerable amount more profit. (In this small case, 50% more profit).

The respondents volunteered what they had paid for their last project from their favorite band (*Money Spent on Band's Last Project*). Those who volunteered they would

pay a dollar more were segregated and added to the total. Similarly, those who said they would pay five dollars more were added to the total. This amounted to a 53.61% difference if the firm had only settled on the first volunteered WTP. Asking for the increase, whether with a premium or by survey, should result in a similar increase in profit. (See Table 1)

Table 1

Money Spent on Band's Last Project	Would have paid \$1 more	Would have paid \$5 more
TOTAL	TOTAL	TOTAL
\$767.76	426.36	\$238.06
	TOTAL with MTE	\$1,432.18
	Difference in %	53.61%

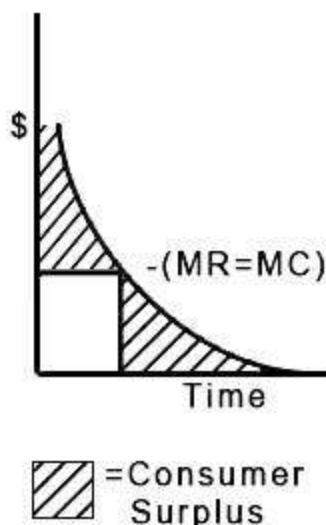
The retail price paid by consumers fell to \$9.82 in 2010 from \$11.07 in 2008, according to Nielsen (the company did not give a year-to-date 2011 number). It stands to reason that catalog titles are helping push down the average price paid. CD sales of catalog titles, which cost less than new releases and are getting a big push at mass merchants, are up 3.5% year to date, according to Nielsen. New release CDs are down 9.5%.

The surge in digital sales is not the result of lower prices, however. "Tracks are expensive as they've ever been," David Bakula tells Billboard.biz. "Digital albums, too." More digital tracks priced at \$1.29 and more albums - many deluxe versions - priced above the standard \$9.99 cost for a digital album. Even so, people have not turned away from the prices. (Peoples, 2011)

In my study, 40% paid more than \$9.99 for their favorite band's last release. 68% of respondents suggested that they paid nearly full retail price of more than \$7.99 for an album...delivered via a CD.

This suggests that while the people in the study aren't opposed to paying more, the price keeps coming down. So of course they are going to pocket the extra surplus.

How much surplus? 78.57% said they would pay \$1.00 more. That's nearly \$80 extra for every 100 consumers. The system is so inefficient now that it leaves \$135 additional dollars in consumer surplus for every 100 customers, based on this survey. 27.38% said they would pay \$5.00 more. If \$13.02 is the average highest price they would pay, then the standard model of transaction is 27.74% inefficient.



The respondents overwhelmingly responded that they used media online (95.88%) and they paid for the media they used (73.2% Online, 67% Overall). This suggests that there are big inefficiencies in the current online media market, and maybe due to producers forcing the market into the aggregate $MR=MC$ box which eschews a lot of consumer surplus. (**Figure 2**)

When the demand curve is steep, and flattens out fast (as it appears to do with media) then the profit maximization amounts decrease relative to the amount of profit that could be received using price discrimination.

The amount of surplus that could be left after the transaction at the levels set by the market as a whole can be almost equal to the amount of revenue generated by

selling at the profit maximizing price. The vast majority of respondents said they paid \$0.99 and 51.76% said they would pay double that.

The network offers scale in terms of serving the same copy millions of times but because of its construction also offers a one-to-one transaction environment when the user connects to the network. At that node, the information that the user is imparting will place them on the demand curve and will move the curve towards their $WTP=WTW$.

The individual user's connection to the "network" (as described, an online network of transfer protocols and content, and firms that operate them) gives the network the ability to ask, test and judge their WTP and WTW . This is done as they use the system for purchasing a temporal window in which to receive their product.

Inevitably, it's a race for revenue between points **One** and points **Two**. The more surplus the producer can extract from the consumer the more beneficial it is for the firm. So, they are incentivized to flatten out the demand curve for their product and keep demand higher over time.

I found the curve I expected (**Figure 1**). The longer someone waits, the less willing they are to pay. And, as expected I found that people who are willing to pay the most are the least likely to wait to consume. Otherwise, their behavior would place them somewhere else on the demand curve.

In the results, I show that price discrimination of a temporally controlled media distribution system could increase the profits of the producer. If the cost was set at the average level of \$12.05 and the time period left the same, the producer would be forced maximize profits by selling to a larger audience.

As the industry operates now, on the micro economic level the producer leaves the individual surplus; since they have no way to predict every individual user's highest WTP and set their individual longest WTW. If it made the consumer wait too long, their willingness to wait would drop and that would take their willingness to pay lower as well.

Since each user has a unique position $P(0)$ where their $WTP=WTW$, profit can be maximized by allowing the user to make the calculation themselves based on the market for a specific product.

Even at point three the demand curve slows, flattening before it reaches zero. I had predicted that it wouldn't reach zero. This is obviously not the case. However, since this type of pricing would be based on the consumer's revealed willingness to pay, they could not take into consideration distribution windows in which the viewing is considered "free" when in reality it is ad-supported.

While I didn't see the demand curve stop short of 0 we can observe the flattening of the demand curve over time as the marginal cost of consumption tightens as the cost drops and time passes. This is due to the nominal marginal cost to consume being close to equal to the marginal cost to distribute.

This type of distribution and revenue model may be profit maximized; if the firm is willing to take a long-term stance on recouping costs. These of course, could be subsidized with advertising or getting in line to consume at a cost/time agreement; on popular titles over a long period of time if not completely covered in the launch of the product using MTE.

Casablanca is still making revenue from licensing because it is a classic and beloved by film fanatics. It is kept exclusive in its method of delivery, its destined function, and it's time to be delivered to the end user—which are all functions of time.

It could be that network effects like the mass consumption of media can be arranged (or arranges itself) into a similar power law distribution curve. Each node falls into line because it is beneficial for them to climb above the one below (**P(-1)**) and do not feel demand for a higher position (**P(+1)**) based on equilibrium between their willingness to pay and their willingness to wait. Where that threshold really lies is the boundary between the curve and the mysterious consumer surplus and all willingness to pay (**P(0)**)

In the first position, the cost to move up a spot is big relative to the number of spots I move up. Conversely, the cost to move up a considerable number of spots in the lowest of positions is cheap relative to **P(+1)**. In this system, those who demand and pay more are rewarded sooner.

When $WTW > WTP$, then P will be lower and people will want to move to lower P(-1, -2...)

When $WTW = WTP$, then P is optimal and will want to stay (also where it levels off) P(0)

When $WTW < WTP$, then P will be higher and people will want to move higher P(+1)

Where $WTW \leq WTP$ then consumer would want to lock in spot so that transaction does not go lower or pay to satisfy $WTW = WTP$.

In the study, 49% of respondents would be neutral or most likely to pay a little more to make sure they consume in the exact window of their choosing. 84% were open to the idea of paying a little more (true WTP) to lock in their current spot. This shows that there can be a beneficial way of framing the transaction as defensive.

This means that exerting pressure on the market by initiating auction pressures where new users compete for their spot in line can elicit truer WTP. And, to capture more WTP surplus, producers can incentivize with a premium so that users move up positions until there really is no more WTP and when $WTP = WTW$. This is where the structure of an auction system and use of pledge-thresholds can elicit truer WTP.

In order to better understand the forces at work on the consumer, I created a formula. The calculation to explain the behavior of the population in this market, as it would appear on the demand curve is:

$$P^{(N+1)} > P^N > P^{(N-1)} \quad \text{Where } P = \text{Position and } N = \text{Time Period \& Cost to Consume.}$$

Your optimal position is P^N where your $WTW = WTP$ and the cost of $P^{(N+1)}$ is too much money to bring you into the next consumption window (or you are in the first window) and $P^{(N-1)}$ is too long of a wait.

Feasibility of Paying in Advance to Secure Consumption Window

Would people be willing to purchase a song and time to consume before it was released? I found that 82% of people said that they were open to possibility of purchasing a new song by their favorite artist before it was released. (Pre-Purchase). Only 17.8% of people said they were unlikely or would not pre-purchase a song by their favorite artist before it was released. This means that the respondent sample is open to the pre-sale concept. The study also shows that they will pay an average of \$12 per copy of a complete new work from their favorite musicians. (Of note, the maximum response was \$50).

And, the effects of temporal exclusivity on demand are apparent as well for 59.78% of respondents said they were either neutral, somewhat or very willing to pay more to get their pre-purchased product even sooner. 34% said they would be either somewhat or very willing to pay. So a majority of people would want to pay a little more to get it sooner.

How much more? I asked the question of how much more respondents would pay to get it sooner, in the implied next-soonest time window. \$4.69 is the average cost that the respondents would pay to get the movie sooner. Standard deviation was \$7.16.

Willingness to Wait

In order for a firm to monetize media distribution systems most effectively, there has to be some variable willingness to wait (expected discount over time)(Figure 3)

In the case of auctions, there is a premium on willingness to wait. With stock quotes are well, those who get the information sooner can demand the highest price. And, like the respondents in the survey, there is a decreasing willingness to pay as the value of the suggested media in relation to the market decreases.

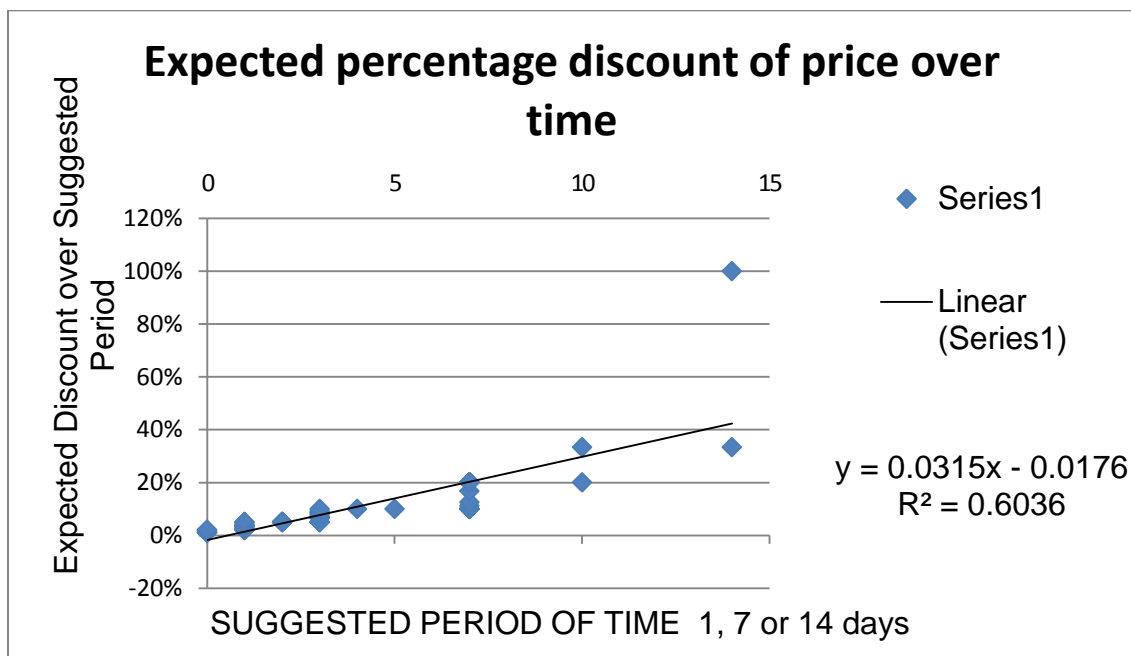


Figure 3

The figure above shows that the respondents value media less over time after release; for there is an expectation of a discount up to 40% in the third window. The reason why I used the term “window”; and not talk in terms of days, is that I suggested

the windows (1 day, one week, two weeks) in one and asked them to volunteer it in another.

54% of the said they would wait 2 weeks or more before the release of the music product they have purchased. (28% of respondents would wait two weeks or more. 25% would wait more than one month. 15% would wait more than three months.

Similarly, for a movie 55% would wait more than two weeks to view a movie they have previously purchased. 31% would wait more than a month. 17% would wait three months or more.

It would be interesting to see in further study if this expected discount would hold up over longer suggested time periods, perhaps intervals over three months. This may better determine if the market may be amendable to longer distribution periods, which would increase the amount of revenue that a company would be able to extract.

What this might mean

The results of survey have shown that media temporal exclusivity is at play in the construct of pre-payment for delivery of media at a later date. The survey shows that rational consumers do not volunteer all of their willingness to pay when prompted; but may be guided into divulging a truer willingness to pay. The survey shows that people are willing to wait for their media, and would pay to get it sooner if they could. They also showed that they would be willing to pay more to ensure a consumption window.

The respondents revealed that their willingness to pay over time decreases and may do so dramatically over the given time periods (40%). There is also some evidence that the suggestion of time windows predicates the consumer's decision when weighing WTP and WTW. I suggested two time windows and had them volunteer their own. The two were not mutually exclusive, and it may be beneficial for a firm to operate this way in that they could choose distribution time windows arbitrarily.

Subsequently, the demand curve appears to follow the power law distribution. This means that few are willing to pay a lot and are therefore a lot less willing to wait.

Industrial Applications

For various media industries, the implications are enormous. In gaming, for example pricing goods based on decreasing willingness to pay over time allows for product roll outs that are designed to decrease in cost. Imagine that now the latest upgrade to game play abilities is priced at a premium; the same upgrade weeks later after other players have used it to their advantage “is now available” for a lower cost.

Or, a gamer may be able to pre-pay a complete new version or “pack” of their favorite game and set their time period and price before release. Using time as a control for the economics of electronic media gives the producer an advantage. The game environment by its very nature controls the time variables for the user. Using MTE models the game creators can find new ways in which to maximize profits.

Consumers could be able to pre-select their place in line and/or consumption window based on their WTW and WTP and get the next movie or album by their favorite artist. If the demand increases, they could be incentivized by threatening their WTW into giving up their truer willingness to pay.

Producers of movies would be able to mitigate a lot of the risk of producing a movie: Finding out which million dollars to invest into a project with little chance of serious profitability. Those that do succeed, do so spectacularly. Those that don’t, fail miserably. This way, the producers would be able to judge the demand for their movies and could adjust accordingly.

Conclusion

The questions I set out to answer were simple: “Does willingness to pay and willingness to wait have a relationship?” & “Would people be willing to pay in advance of release of media to ensure a consumption window?” The answers are clear, from this set of respondents that it does indeed have a relationship; and they are willing to pay in advance. Not only is it logical to assume that you would demand a product more when it first becomes available; but you’d value it less when it has been out for a longer period of time.

How it applies to media production and distribution is potentially significant. If a producer can increase profits after release then the system would be a reliable way to predict and extract income, possibly much larger than they see now. The temporal exclusivity of media represents a way in which the producer can order the distribution, and pressure the consumer into volunteering their true willingness to pay. With the window being a construct of the firm, each participant competes to be part of the group that consumes the media where their $WTW=WTP$.

This decelerates the demand curve’s descent, increases profit by capturing more consumer surplus, and is a good predictor of future success. If the model holds, then the highest demanded price window would predict the amount of money a film would make. If $P(+1)^1$ (The highest possible position) is \$100, the project will make more money than if $P(+1)^1$ is \$80. More demand would mean WTP would stay higher over time.

Media Temporal Exclusivity-A Mechanism for Increasing Profits

Media Temporal Exclusivity could also take advantage of the link between willingness to pay and willingness to wait for media. By realizing that rational consumers will place themselves on the demand curve (release schedule) where their $WTP=WTW$; a system may be set up so that consumers volunteer their Willingness to Pay and Willingness to Wait.

Because the network has dissipated the power of the media distributor the profits producers have been seeing have gotten more constrained (meaning channels of distribution aren't viable whereas they could hold more exclusivity in the product and therefore extract a higher price).

When the demand curve drops precipitously and the vast majority of consumers have a low WTP and a higher WTW now because of media being "free," the $MR=MC$ calculation is safer but much less efficient in extracting rent.

Without price discrimination, producers ignore much of the market. Case in point: A majority of the survey's respondents volunteered the desire to pay double what the current retail price for a premium song on iTunes or Amazon. 77% paid more than \$7.99 for their most favored movie on release. 60% paid more than \$9.99.

75% said they would pay \$1.00 more. 33.33% said they would pay \$5.00 more. Without windowing and taking advantage of this relationship media companies are going to be stuck trying to get people to either pay too much or wait too long for the media they don't care about...and even worse the media they *really do care about*. Each person has their own unique demand curve for each piece of media and therefore setting a price and distribution for all makes little sense if you don't have to.

When 3/4 of your market says they'd pay more for the stuff they really enjoy and 1/3 says they would pay a lot more...you know the pricing structure as it is today is broken. When these companies have to sue people who have marginal—but not “no”—interest in most media and forget they have huge interest in others, they operate on dangerously short sighted assumptions.

For certain individual products, the demand curve is specific and here is where the market is failing to take advantage of the fact that each consumer has a different demand for each product; that the product has its own demand curve.

Each product is unique and exclusive market in and of itself. Each person's own demand curve and their WTW and WTP makes up the aggregate total demand curve as seen in **Figure 1**. Each “node” is the respondents' highest WTP and lowest WTW.

The way in which we consume media over time makes the temporal forces on media consumption a worthy question to ask...and try to answer. If I were to do this study again, there would be more interviews and the demographics would be taken in order to see if there is a match to the larger community or just in this sample.

Also, another field of further study would be to verify the existence of the demand curve from -365 to 0 days. This illuminates another possible previously ignored market for a media distribution company, and could be an interesting question to study.

Media Temporal Exclusivity provides a framework in which the problems of media distribution and transaction are mitigated, and provides a possible new model of distribution. You can't steal something that doesn't exist, or that costs more to consume than you are willing to pay.

APPENDIX

APPENDIX

Software used in this study: LimeSurvey ®

List of solicitation for survey software:

Facebook ®, Twitter ®, LinkedIn®, Gmail®, Tumblr®

Questions:

General Consumption

1. Do you use digital online media? This would include using services such as Hulu, Netflix, or accessing content online on websites like YouTube, Flickr, The Huffington Post, Pandora, etc. [Yes/No]
2. Do you pay for your digital media, through subscription or purchase on iTunes, Play Station Network, Amazon, Netflix or Wall Street Journal for example? [Yes/No]
3. We are interested in finding out what specific types of digital media you use. Your iTunes songs and Netflix movies, for example. What types of the following media do you use? Check all that apply: [Downloaded Music (iTunes, Amazon or other music download services); Streaming music (Pandora or others); Streaming Video (YouTube, Hulu, Netflix, or other video on a website); Downloaded Video (Bit Torrent, Netflix, or other Video on Demand); Online picture service (Flickr, Picasa)]

4. What do you watch or listen to your media with? Choose all that apply:
[Television; Radio; Desktop Computer; Laptop Computer; Tablet; Portable
Media player (iPod); E-Reader; Gaming System; Mobile Device; Other
Multimedia device: (With write in)]
5. Do you pay for this media [Always? Most of the time? Sometimes? Almost
Never?]
6. How much do you use media in total? (Like playing a game, listening to
music, watching a movie, surfing the Internet) Choose one: [Never, Less than 1
hour per day, 1-3 hours per day, 3-5 hours per day, 5-7 hours per day, 7-9 hours
per day, More than 9 hours per day]

Preferences

7. Who are your favorite bands? [Write in with five spaces]
8. What are your favorite movies? [Write in with five spaces]

Pre-Purchase ⁱⁱ

9. [Favorite band-random] has another song coming out. It has all of the
elements that made them your favorite in the first place. Would you be willing to
purchase their next project before released to the public? [No, unlikely, Neutral,
Likely, Yes]
10. How much would you be willing to pay for [Favorite band]? [Write in]
11. How long would you be willing to wait to listen to music you have pre-
purchased at the price you said you were willing to pay? [Immediately, One hour,
One day, One week, Two Weeks, One month, 3-6 months, 1 year, >1 year]

12. [Favorite movie-random] is going to have a sequel or another project inspired by it that has all the original elements that made them your favorite in the first place. Would you be willing to purchase their next project before it is released to the public? [No, unlikely, neutral, likely, yes]
13. How much would you be willing to pay for [Favorite movie]? [Write in]
14. How long would you be willing to wait to listen to music you have pre-purchased at the price you said you were willing to pay? [Immediately, One hour, One day, One week, Two Weeks, One month, 3-6 months, 1 year, >1 year]
15. How long would you be willing to wait to watch a movie you have pre-purchased at the price you said you were willing to pay? [Immediately, One hour, One day, One week, Two Weeks, One month, 3-6 months, 1 year, >1 year]
16. Would you be willing to pay more to get to get your pre-purchased product even sooner? [No, unlikely, neutral, likely, Yes]
17. How much would you be willing to pay to get it sooner? [Entry field]
18. Your favorite band or movie director is coming out with a project you are particularly excited about. What would you pay to get it as soon as they were ready to release it? [Write in]
19. Would you be willing to pay the same amount of money if you had to wait one day? (Remember, there may be other things you could spend your budget on. There may also be other media that you could buy too.)[Yes/No]

20. Would you be willing to pay the same amount of money if you had to wait one week? (Remember, there may be other things you could spend your budget on. There may also be other media that you could buy too.) [Yes/No]

21. Would you be willing to pay the same amount of money if you had to wait one or more months? (Remember, there may be other things you could spend your budget on. There may also be other media that you could buy too.) [Yes/No]

22. What would be the longest you'd be willing to wait and still pay your highest indicated cost for the [music/band] new project? [Write in]

Purchase Place in Line WTP & WTW

23. Assuming you already have the money, would you rather have [The amount of money presented here is less than actual*] or [the Favorite Movie-at random] presented here?

24. Same question as #22 with amount #2 more than actual

25. Same question as #22 with actual cost

*Actual price for movie and music will be based on Amazon pricing on the date of creation.

26. You are competing with someone else for the chance to get the same movie or album when you want to get it. Otherwise, they may get it before you and make you wait longer. Would you be willing to pay a little bit more? [No, unlikely, neutral, likely, Yes]

27. If you could guarantee yourself to be the first of any in the world to experience the new release of your most favored and anticipated new movie, how much would you be willing to pay for it? [Write in]

Sequence of five: Most Favored Project.

Project is picked from the first entry (and likely most favored band/movie) into their list of five either music or movie, chosen by odd/even participant number.

28. Think of [First band], and some projects (CDs, songs) you have purchased in the past. What price did you pay for your favorite band's last release? $P(0)$ Choose one of the following: [$< \$0.59$, $\$0.59-\1.29 , $\$1.29-\5.99 , $\$5.99-\9.99 , $> \$9.99$]

29. Would you pay \$1.00 more? [$P(2) < 1$]

30. Would you pay \$5.00 more? [$P(3) \geq 2$]

31. Would you pay \$1.00 less? [$P(1) > 0$]

32. What is the highest price you would pay? $P(\max)$. [Write in]

33. What would you do if the price were too high? [Write in]

34. Think of [First movie], and some movies that are just like it that you have purchased in the past. What price did you pay for your favorite movie on its release? $P(0)$ Choose one of the following: [$< \$0.59$, $\$0.59-\1.29 , $\$1.29-\5.99 , $\$5.99-\7.99 , $\$7.99-\9.99 , $> \$9.99$]

35. Would you pay \$1.00 more? [$P(2) < 1$]

36. Would you pay \$2.00 more? [$P(3) \geq 2$]

37. Would you pay \$1.00 less? [$P(1) > 0$]

38. What is the highest price you would pay? P(max). [Write in]
39. What would you do if the price were too high? [Write in-qualitative]

Qualitative Data

What would be the longest you'd be willing to wait and still pay your highest indicated cost for the new project?

1	10 days	10	Three days	27	1 day
2	A couple days	14	One week	28	2 days
3	4 months	15	1 month	29	0
4	30 days	16	2 weeks	30	30 days
6	3	17	3 weeks	31	2 weeks
7	1 month	18	One day	32	0
8	A few weeks	19	2 Weeks	33	3 days (US
	perhaps, but for music I	20	6 months to a 1		release), 6 months
	am guessing I could		year		(Japanese release
	stream it from youtube	21	2 weeks		ported to US)
	when it is available to	22	0	34	0
	those paying more so it	23	1 week	35	3 months
	might not be an issue at	24	1 day	37	1 day
	all	25	1 day	38	3 months
9	3 days	26	Ten days	39	1 year

40	I would probably	70	3 days	93	3 days
	just order it when it	71	1 week	94	3 weeks
	came out	72	3-5days	95	1 month
41	5 days	73	week	96	one month
43	one week	75	0	97	1 month
44	1 week	76	4 weeks	98	8 weeks
45	1 month	77	1 week	99	8 hours
46	A month	78	1 month	100	1 week
48	I would not be	79	2-3 weeks	102	3 -7 days
	willing to pay or wait	80	4 days	104	2 weeks
49	3 months	81	I wouldn't.	106	1 week
50	One week		Nothing's that important	107	2 weeks
51	1 week		in entertainment.	108	one week
52	3 months	82	1 week	109	6 months
53	7 days	83	three months	110	0
55	none	85	1 week	111	2weeks
57	1 Day	86	None - either on	112	3 months
58	3 days		the anticipated release	113	never
60	Two days		date or I wouldn't bother.		
66	1 week	87	1 hour		
67	one month	90	1 day		
68	I wouldnt wait.	91	6 months		
69	2 weeks	92	2 months		

What would you do if the price was too high?

- | | | | | | |
|---|--------------------------|----|---------------------------|----|----------------------|
| 1 | dl | 10 | I'd probably wait | 21 | live without it |
| 2 | Probably still pay | | until the movie's price | 22 | not make the |
| | it | | dropped or went on | | purchase |
| 3 | watch it on netflix | | sale, or borrow it from a | 23 | Wait for it to |
| | or other online media or | | friend. | | come out on Netflix. |
| | find a friend who owned | 12 | Not buy the | 24 | Buy something |
| | it. | | movie. | | else |
| 4 | Wait by it second | 14 | Wait for the price | 25 | wait until it came |
| | hand on ebay or | | to come down. | | down |
| | something. | 15 | I would download | 26 | not buy |
| 5 | I would not watch | | it from a media sharing | 27 | wait for it to be |
| | the movie. | | site. | | lowered or become |
| 6 | don't buy | 16 | Download it for | | available on demand |
| 7 | I would wait like I | | free illegally. | 28 | wait for it to come |
| | do now. | 17 | Download it. | | on cable and tape it |
| 8 | Rent it. | 18 | Rent it for a dollar | 29 | Don't buy it |
| 9 | Wait until I see it | | from Redbox | 30 | rent it instead. |
| | for less. | 19 | Rent it instead. | 31 | have someone |
| | | 20 | not buy it | | make me a copy of it |

32	Not buy it.	45	Illegal download	wait for it be be
33	Wait for it to	47	Wait for it to	released. If that price is
	come down or for it to		appear on a streaming	too high I may watch it
	be streamed on Netflix		service	on Netflix. Unfortunately
	or Hulu.	48	I would not wait	Netflix doesnt put the
35	Wait to get on		or pay	newest movies in their
	sale	49	Not buy it.	library. It may be on tv
37	wait or find for	50	Torrent	prior to coming into their
	free elsewhere	51	I would rent it at	library so I may rent it
38	Wait. Or not see		the video store until it	for around \$3-5.
	it.		was affordable for me.	58
39	Wait for a sale or	52	Buy the product	I would wait until
	not watch.		used offline or borrow it	the price went down so
40	Wait until the		from a friend. (Like	that I felt better about
	price drops, I don't		before)	spending the money.
	usually buy movies	53	wait	60
	anyhow. Most movie I	55	buy it used	Go
	only care to watch once.			without...movies are a
41	wait til it was on			pain in the ass to torrent
	tv to watch			65
43	Wait for it to go			wait for price
	on sale or buy used.	57	Instead of going	reduction
44	Buy it on ebay		to the theater I would	66
				wait for a sale or
				for the price to lower
				67
				wait

68 I wouldn't do anything. Maybe stream it once in a while

69 Still watch it because I cannot wait on Harry Potter :P

70 Go to cinema.

71 wait until it comes on on demand

72 If I really like it, I will still buy it

73 Rent it

75 not buy

76 I would likely rent it.

77 not but it

78 i would borrow it from a friend

79 I would not buy it.

80 not buy it

81 Check it out from the library.

82 not purchase it

83 I would avoid buying the works until the price got affordable for me. I would also check other media such as TV, Pandora or YouTube to watch them.

85 Wait for a discount

86 Just wait until the price drops.

87 wait for its actual release when its cheaper, or find it online at a worse quality but lower price

90 Wait for it on Redbox

91 Wait

92 Wait till the market trends drove the price down.

93 not purchase it and wait until can find it from a free source.

94 Wait until the price goes down

95 Not buy it.

96 I would wait until it goes on sale

97 Wait and get it used from the video store when it was no longer a new release.

98 not buy it

99 Skip buying it new. Check used places or wait for netflix to get it.

102 Wait for it to be sold or resold on Amazon or record it on cable.

104 I would download it a day after release

106 Again, I am
patient. I am never in a
hurry for new media,
there are more
important things in life.

107 stream it online
108 Not make the
purchase
110 Not buy it
111 Download it

112 not buy it
113 forget it

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ⁱ In the aftermath of the Exxon Valdez oil spill, the U.S. Department of Commerce convened a panel of experts to determine whether estimates of loss derived through the WTP method were sufficiently reliable for use in a natural resource damage assessment. See Portnoy (1994) and Phillips et al. (1997). The guidelines described here seek to minimize response biases introduced if respondents do not understand the questions, if they cannot answer the questions, if they do not answer truthfully or give answers to please the interviewer, or if they answer "strategically" to influence the study outcome in their favor.

ⁱⁱ Pre Purchase questions are framed as Music and Movies. This is because these consumer segments are the strongest and most historically measurable forms of media. It also simplifies for the respondent the required cognitive leap when imagining the presented scenarios. There is high likelihood that the respondents will have purchase and consumption experience with these two types of media.