

# “The recording industry as a heterogeneous population and the new behaviors emerging in the digital era”

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## The recording industry as a heterogeneous population and the new behaviors emerging in the digital era

### Abstract

Artists and record labels within the music industry generally value artistic expression and profit making with varying degrees, and, hence, they may be modelled as a heterogeneous population of producers. It is argued that the Internet not only encourages the appearance of artists who prioritise artistic expression over profits, but also raises the level of the listeners' awareness about this distinction; this, in turn, is possible to prompt record companies adjust their marketing strategies accordingly. Assuming that consumers have an incentive to support artistic motivation, it is shown that the greater is the dimension of the heterogeneity, the more accurately the consumer can reward artists with no solely profit making intentions, contingent on the consumer's beliefs and behavioral profile. This leads to the conclusion that consumers may experience an increase in the utility derived from purchasing music, an assertion that might seem counterintuitive in today's digital economy.

**Keywords:** economics of entertainment, psychological game theory, social networks, digital economy.

### Introduction

It seems to be a general consensus within the entertainment industry circles that the Internet has had an overall negative effect on the recording industry in terms of sales and profits. The justification for this view lies in the assertion that use of the Internet has led to a direct decrease in sales caused by listeners who use file-sharing programs to illegally acquire music recordings for free. Although it cannot be denied that such practices harm the music industry and constitute disrespect against artistic creation, what is not mentioned very often is that a significant fraction of listeners actively support musicians financially, even in cases when they do not have to. The most well-known example is that of recording band Radiohead, who, in 2007, let listeners themselves determine the price they would pay for downloading the band's new album. Most people who downloaded the album set a positive price, although paying nothing was also available as a choice.

A multitude of other similar examples vividly show that listeners sometimes are more than willing to reward musicians and pay for the music they listen to (rather than acquire it for free). Another remarkable case in point is the website [kickstarter.com](http://kickstarter.com), where artists (not exclusively musicians) directly ask for funding of their projects, and the actual participation of people who contribute is surprisingly big. If seen from the standard point of view of microeconomics, this "generosity" might seem paradoxical, because it seems to be inconsistent with utility maximisation. The aim of this paper is to explore these consumer behaviors on a theoretical basis, as well as their corresponding impacts on musicians and record companies, in order to acquire a deeper understanding of how the digital economy has affected the recording industry.

The last decade has seen a rich literature that studies the effects of new technologies and the Internet on the entertainment industry in general, and on the recording industry in particular. The work of Meisel and Sullivan (2002) was one of the first papers to delve on these issues, followed by Zhu and MacQuarrie (2003), Peitz and Waelbroeck (2005) or Liebowitz (2005). Molteni and Ordanini (2003) contain an empirical analysis on the new consumer behaviors, while Bockstedt et al. (2006) offers a comprehensive discussion on the new roles within the music industry established by the digital economy.

It is interesting to note that, contrary to the consensus of several music industry representatives, most studies seem to converge to the assessment that the new practices brought in by the digital economy have done the music industry more good than harm: Peitz and Waelbroeck (2006) illustrate that the negative effect from reduced sales due to illegal downloading may be overcompensated by an increase in sales, prompted by the listeners' being able to sample before they buy, a view which is consistent with Gopal et al. (2006). Oberholzer and Strumpf (2007) attempt an empirical study of the effect of downloads on sales, and find this effect to be statistically non-existent. Patokos (2008) explores the possibilities for all actors within the music industry (consumers, artists and record companies) to be made better off in the digital economy, while Andersen and Frenz (2010) adopt an evolutionary approach to argue that there is no association between music downloaded for free and record sales.

Most of the above studies mention that consumers may show an increased willingness to buy music when they have access to file downloading, and hence, they can be fully (or, at least, better) informed about the quality of a music recording. This volume of information was not possible before the Internet, when consumers would only be able to sample a limited selection of releases that would be promoted

through radio and/or television. This increased level of information accessible to the consumers does not exclusively relate to the quality of music, but also on its availability: listeners can now be exposed to the artistic creations of musicians who are not necessarily supported by big record companies, and who would be under the radar without the Internet. This means that, contrary to what happened in the era before the Internet, big record companies, smaller ones and standalone artists have begun to compete on almost equal terms. Moreover, the listeners can be made aware of this distinction between record companies of different sizes, and because of this, their willingness to support the recording industry may be assumed to be contingent on what the consumers perceive the motivations of the record companies to be.

Indeed, observation of consumer behaviors on the Internet indicates that listeners are more inclined to support independent artists and smaller record companies that do not have the promotional resources of bigger record companies. This paper investigates this issue by offering a theoretical explanation based on psychological game theory. The beginning assumption is that consumers are able to distinguish (because of the Internet, and subjectively, to a degree) between profit maximising record companies and music production entities, whose primary aim is not making profits. It is natural to assume that the listeners' behaviors will differ according to their perceptions on whether, and to what degree, a musician or a record company operates on a non-profit-maximising agenda. In simpler terms, consumers may take into account the motivations of the producers and be willing to reward the producers who have artistic (as opposed to solely profit-maximising) intentions.

The main theoretical framework that implements the above intuitive facts is described in Section 2, following a brief introductory discussion on the heterogeneity of record companies in Section 1. Section 3 explores the record companies' reactions to the new consumer behaviors analysed in Section 2, and Section 4 offers a generalisation of the basic model of Section 3. We find that the greater the heterogeneity within record companies, the more accurately a consumer will be able to distinguish between different types and adjust his or her behavior accordingly. The insight from this finding is that the new digital setting can be very beneficial for standalone musicians and smaller record companies; bigger record companies are not excluded from these benefits, as long as they place the focus on better output quality (given that consumers are assumed to not be as willing to support them as they do with smaller record companies).

## 1. Heterogeneity within the recording industry

If seen from a high enough level, the music industry can be considered as a standard market, consisting of producers and consumers, the commodities produced being music recordings. To allow for some more detail entails the acknowledgment that what can be seen as a "firm" in the music industry can be divided into two separate production entities. On the one side, there is the very creation of the music by the artist, which, in principle, involves inspiration and talent. On another level, there is everything else that is needed for this music to reach the listener – a large diversity of duties, such as the assignment of sound engineers, the labour of the workers who will manufacture the physical products in the factory, the advertisers' promotional efforts or the distributors' tasks. Therefore, even if both artists and record companies jointly constitute "the firm", it makes more sense to see them as distinct actors; the role of the former is to create the "raw material" (that is, the music), while the role of the latter is to refine it (for example, do the packaging or the publishing) and sell it.

The aforementioned two categories of labour, differ in that each artist's labour is indispensable, in the sense that the output would be entirely different, were the artist to be replaced by another. In contrast, the rest of the labour needed could be performed by anyone having the corresponding skills. This means that record companies depend strongly on artists, as they can not exist unless they employ artists' labour. Artists themselves depend on record companies too, because they use them as a means to create a final product that shall be up for sale.

This interdependence between artists and record companies has not the same weight both ways. While record companies would not exist if there was no artistic creation, artists are not incapable of performing the rest of the tasks needed for the music to reach the consumer themselves. Most usually though, artists choose to work for a record company because they find it optimal (less costly) too. However, there always have been artists who preferred to circumvent record companies and have total control of their output, being creators and sellers at the same time. Because of this, along with the existence of the big record companies, there have been smaller "independent" ones (or "labels" as they are often called), usually run by artists themselves, or, to put it differently, by people with some artistic vision.

Introduction of new technologies and the existence of the Internet became a considerable facilitator for the creation of such recording labels. With production processes becoming cheaper, promotion duties being made easy to handle even from home, and communication with anyone being possible at almost zero cost, a large portion of artists found it af-

fordable to set up their own company instead of being represented by a bigger one. Hence, if before the 1990s making music without the backup of a record company seemed a somewhat “brave” decision, it has now become a phenomenon that is hardly unusual in the music industry. Independent labels have multiplied in the last few years and can range from bigger ones that can compete directly with the companies of the corporate industry, to standalone artists who simply record and/or produce their own CDs themselves and sell their music through the Internet.

It must be stressed that what initially makes the independent labels a separate entity from the big record companies is not the size in itself, and certainly not a matter of who makes the decisions and runs the business; what generally distinguishes these two sides of the recording industry is a difference in ends: the corporate record companies are profit-making firms, while the independent labels may follow other incentives. For example, there exist independent labels that sell their CDs at almost half the standard price; such a pricing policy would seem irrational for a profit-maximising company, but it would be perfectly rational for a firm which, for example, values customer satisfaction more than the actual profits. Obviously, it is often a thin line to strictly distinguish profit-making companies from others, as all of them are concerned to one degree or another with profits; it nevertheless seems plausible to begin by entertaining the hypothesis that smaller companies exist for primary reasons other than making profits, because if making profits was the main aim, they would not choose to be independent in the first place (but rather, be part of a corporate company).

Except for making the creation of more independent labels possible, the Internet has also been decisive in raising the consumers’ awareness about this heterogeneity in music production. The mainstream music press is no longer the usual resource for music-related news and opinions; consumers have now access to a much wider information set, formed by people within and outside the recording industry. In many cases, they can even communicate directly with the artists and sample their work, either legally (by listening to the audio excerpts available in almost every artist’s webpage) or illegally (by using file-sharing programs). What is really important that while listeners’ opinion previously was, in a sense, directed by the will of the media and by the record companies that had the most money to spend, it is now formed by many alternative sources, and is based on a wider knowledge on how the industry works and what its motives are.

The Figure 1 shows this effect on the network formed by the recording industry and the consumers; the network on the lower half of the figure reflects a set-

ting before the internet: the recording industry consists of two entities. Entity A includes the big record companies and entity B independent artists and labels. The tie connecting the consumers with entity B is weak, because the consumer has little access to these artists’ works and communication is almost non-existent. On a micro-level, this translates to the fact that a fraction of consumers are totally unaware of the existence of group B (and thus, are not connected with them at all). The effect of the Internet is reflected on the network on the upper half of the figure in two ways: entity B has become bigger, and the tie connecting it with the consumers is strong. It is interesting to notice that the Internet bridges the structural hole that used to exist (see, Burt, 2003), and hence, provides new opportunities and benefits for the parties involved (group B and consumers, in our setting). The next Section offers a game theoretic model attempting to describe how consumers differentiate their behaviors according to their perceptions of the motivations of the different types of actors within the recording industry.

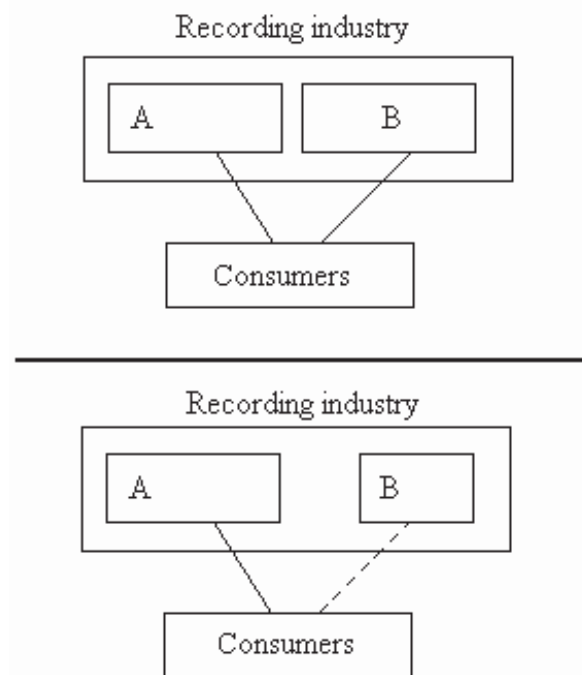


Fig. 1. The weak link between consumers and standalone artists (bottom figure) becomes strong in the digital era (top figure)

## 2. Consumers’ reactions to record companies motivations

Consumers evaluate a work of art with a multitude of criteria. It seems plausible to assert that most of these criteria are product-specific, in the sense that they are directly related with the actual quality of the recording, as (subjectively) perceived by each listener. There are, however, other attributes linked to the product’s creation that can have an effect on the consumer’s decision-making, even if such characteristics are not related with the music itself. Since consumers are now

assumed to be aware of the distinction between profit-making record companies and independent labels, it makes sense to argue that they use different criteria to evaluate the corresponding products. In other words, a consumer may evaluate a product released by a big record company in a different way than if the very same product came by a standalone artist.

We have here a concept of economic action that differs from the conventional one in that the consumer is not constrained within the limits of a “rational actor” in the strict sense, but is modelled as an agent, who does not only evaluate a commodity in terms of price and utility, but rather sees it more like a “bundle” consisting of the physical product and the corresponding experiences, and within its explicit cultural parameters. Smelser and Swedberg (1994) provide a comprehensive discussion about this difference in concepts, which is one among the central issues in the comparison between economic sociology and mainstream economics.

The explicit assumption we are making is that listeners show an inclination to reward “good” motives, when they can acknowledge them, which accordingly means that they have a tendency to be more supportive of artists who run their own independent companies. This is not just based on intuition, but also on observed behavior (for example, consumers who are given the option to choose how much to pay for a recording coming from an independent artist usually choose to pay a non-zero amount). In contrast, consumers are assumed not to have the same behavior when it comes to the companies of the corporate industry, and whose purpose is knowingly profit-making. In this setting, it is understandable that being “independent” also becomes a signal of better quality, no matter whether this reflects reality or not. In general, consumers might feel that a product released by an independent label carries more “artistic value” than a related good produced by a big record company, regardless of the fact that the actual enjoyment from listening to the latter might be greater: the very fact that the motivation for the existence of the former was creative force and not just an incentive to make money is enough to turn on some level of “positive bias” in the mind of the consumer, and thus, prompting a penchant for supporting the specific product.

To be more specific, if there is a product priced  $p > 0$ , and the consumer’s (indirect) utility from purchasing the product is a decreasing function of  $p$  and an increasing function of its quality (denoted  $b$ ), then a rational consumer (in the standard utility maximising sense), who would be able to acquire the product for free (for example, by access to a file-sharing program), would not choose to purchase the product. Because, now, the utility from purchasing this product (denoted

$u_p$ ) is greater than the utility from downloading it ( $u_D$ ) given the same price and quality, this means that for a given quality, there is a threshold price  $p^*$  such that the consumer chooses to purchase rather than download, if  $p < p^*$  (for a detailed elaboration, see Patokos, 2008). In addition to that, and given the assumption that the listener is intentionally willing to support independent artists, it follows that they might rationally want to sacrifice some part of their utility in order to reward the well-meaning producers<sup>1</sup>. Thus, if for a product of some given quality, the consumer is willing to pay (up to)  $p^*$  if it comes from a big record company and (up to)  $p^{**}$  if it comes from an independent label, this assumption can then be written as  $p^{**} > p^*$ , that is, the threshold price is greater if the recording comes from a stand alone artist.

The above framework suggests that we can define a “kindness function”  $f_i$  for each consumer  $i$ , and then consider each person’s utility to depend on their “kindness”. This framework is essentially based on psychological game theory, following Geanakoplos et al. (1989) and Rabin (1993). We can assume  $f_i$  as taking non-negative values, the value 0 representing no intention to support the producer at all, and an infinitely positive value representing a totally altruistic attitude which translates itself into rewarding the producer even when the product does not meet the consumer’s quality standards. A possible way to model our hypothesis would then be to write the utility function of consumer  $i$  from purchasing as  $v_i = (1 + f_i)u_i(p, b)$ , where  $u_i(\cdot)$  is the utility from purchasing, unaffected by any psychological parameters;  $u_i(\cdot)$  is naturally a function of price  $p$  and quality  $b$ . If  $f_i = 0$  then  $v_i = u_i$ , which means that the listener has no intention of “rewarding” the producer, and therefore, their utility is solely determined by the price and the quality of the product (i.e., the framework collapses to the limit case where the consumer’s utility is not affected by his or her “kindness”). If  $f_i > 0$  then  $v_i > u_i$ , which accordingly means that the consumer values the product more highly (attains more utility) because of their own attitude to compensate the artist. Obviously, the higher  $f_i$  is, the higher the utility, and the more the consumer will be willing to support the artist<sup>2</sup>.

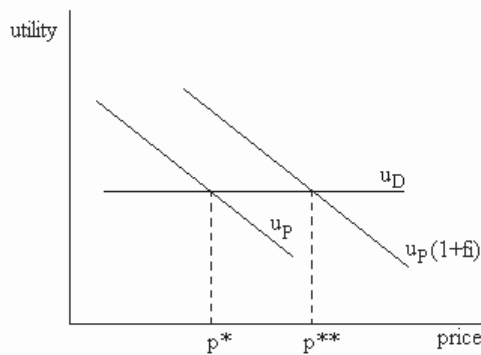
This behavioral profile is consistent with Granovetter (1985) and his claim that “[actors’] attempts at purposive action are [...] embedded in concrete, ongoing systems of social relations”. On the one hand, the consumers in this framework adjust their “kindness” according to what they believe the producer’s moti-

<sup>1</sup> For a comprehensive discussion on the notion of fairness, see Rabin (1993). In Rabin’s words, “people are willing to sacrifice their own material well-being to help those who are being kind”.

<sup>2</sup> A different configuration for the utility function would not alter the analysis as long as the qualitative properties are preserved.

vations are; this adjustment does not necessarily follow any socially predetermined rules, but rather, happens in an ad-hoc manner, according to the consumers' perceptions on who they are interacting with, and after having taken into account the implications of their actions in a social and cultural context.

The introduction of kindness functions allows for a proof of the claim made earlier that  $p^{**} > p^*$ : let us fix the quality at some level  $b_0$ , and suppose, at first, that  $f_i = 0$ . Then,  $p^*$  is the price defined by  $u_D(0, b_0) = u_P(p^*, b_0)$ . If we now assume that  $f_i$  takes some positive value, then  $p^{**}$  shall be defined by  $u_D(0, b_0) = (1 + f_i) \cdot u_P(p^{**}, b_0)$ . It is obvious that these two definitions imply that  $u_P(p^*, b_0) = (1 + f_i) \cdot u_P(p^{**}, b_0)$ . Because  $1 + f_i > 1$  and the utilities from purchasing are decreasing functions of price, it follows that  $p^{**} > p^*$ . An illustration of this appears on Figure 2.



**Fig. 2. Diagrammatic illustration of threshold values  $p^*$  and  $p^{**}$ , with  $p^{**} > p^*$**

What is interesting to notice is that the consumer discriminates against record companies by setting a corresponding value for  $f_i$ . At the same time,  $f_i$  depends on the record company's profile and can, therefore, be understood as a kind of a "reaction function" of the consumer towards the record company's attitude; the more profit-making the producer is thought to be, the more  $f_i$  decreases and approaches zero. Obviously, the value of  $f_i$  the consumer decides upon need not reflect the record company's intentions with accuracy; it is a parameter that reflects the intentions that the consumer believes that the record company has. The implications of this are discussed in the next Section, where we examine the record companies' best responses to the new consumer behaviors of the digital economy.

### 3. The types of record companies as signals for their intentions

In the previous Sections, it was argued that the recording industry is a heterogeneous population, consisting of big record companies and independent labels. If we assume that this distinction is always clear to the consumer, and if we further let the consumer believe that big record companies are profit-making, while independent labels are not, it follows from the

framework described in the previous section, that the respective products will be evaluated differently, even when they will not actually differ in price or quality.

For reasons of simplicity, let us initially assume that there is a population of record companies normalized to 1, consisting of two types only, A and B. Firms of type A belong to the corporate industry, while firms of type B are independent. If  $q$  is the population of firms of type A, then the population of firms of type B is  $1 - q$ , where  $q \in [0, 1]$ . When consumer  $i$  evaluates a product, coming from a company of type A, their  $f_i$  is equal to zero, while when they evaluate a product, coming from a company of type B, their  $f_i$  has some positive value, denoted  $f_{iB}$ . If we take qualities of products by both companies to be the same, then, because  $p^{**} > p^*$ , companies belonging to type B would enjoy more profits than companies of type A, if demand was the same across A and B. The assertion that demand might be the same only makes sense because of the very existence of the internet, which allows promotion and exposure of independent artists in almost equal terms as the artists represented by bigger companies; before the internet, it was only natural that demand for independent releases was, in general, substantially lower than the demand for mainstream releases.

It would then seem, by this analysis, that this discrimination upon record companies helps independent labels, and this accordingly would mean that the Internet can be seen as an enabler for artistic creation that is not directly or primarily linked with profit-making. Nevertheless, this result would only be valid provided the actions of the consumers who did not have an impact on the strategies of the firms. If, now, record companies acknowledge the consumers' incentive to "reward" independent labels and can infer, because of this, that profits shall be greater for those labels, then  $1 - q$  will understandably rise, for newer firms wishing to enter the recording industry shall find it optimal to belong to type B (for example, by advertising themselves as being "independent"); of course, a rise in  $1 - q$  is not a problem in itself, but what shall happen is that these entrants shall prefer to be tagged as "independent" and be of type B, regardless of whether they are profit-maximizing or not.

The conclusion is that the type alone of a record company cannot be a reliable signal about the company's motivations. If the listeners use it as such, in an attempt to reward non-profit-making firms, then the evolution of the system will bring about a population of type B actors only ( $q = 0$  in the long run) that shall incorporate profit-maximizing companies too, and therefore, the type shall eventually reveal nothing to the listeners: therefore, although the recording industry may still be heterogeneous, the consumers are unable to engage into different strategies because they cannot know the firms' true intentions.

Consumers can then only have probabilistic expectations and fix their own  $f_i$  according to any subjective criteria they find appropriate.

It is interesting to notice that this conclusion is on par with Burt (2003), who asserts that network closure can be critical for benefits from bridging a structural hole to be realized. Indeed, had we assumed a closed network, the dynamic structure of the system would disappear and the heterogeneity, as seen from the consumer's viewpoint, would not collapse.

#### 4. Allowing for multiple record company types

The assumption of the previous Section that record companies can either be of type A or of type B made the whole setting seem somewhat "binary" and unrealistic. As was mentioned in the introduction, it is often not easy to distinguish between big record companies and smaller independent labels with accuracy. In reality, there are the big corporate businesses (such as EMI or Universal) and their numerous imprints (such as Maverick or Reprise), which are considered to be smaller firms within bigger firms. Then, there is a multitude of independent labels that range from companies that seem as strong and wealthy as the corporate firms (such as Beggars Banquet or Sub Pop) to negligible (in size) attempts (such as the self-called "micro-label" label Hinah, whose releases are burnt on CD-R individually, and in very few copies). The point here is that it would be more appropriate to assume a heterogeneous population like before, but rather than only have types A and B, also include every other type in-between. In theory, there would be a number of types equal to  $n$ , and if we let  $n \rightarrow \infty$ , we could even have a population of infinite heterogeneity, where consumers could encounter every possible firm profile between the two extremes.

If we now normalize the space between A and B to be the interval  $[0,1]$ , all is needed is a one-to-one mapping from any value of that interval to a value of the kindness function such that  $f_i(0) = 0, f_i(1) = f_{iB}$  and  $f_i(x) > f_i(y)$  if  $x > y$ . This mapping obviously captures the fact that the closer a record company is to the extreme B, the more the consumer is willing to reward them. This is based on the reasoning that the closer a firm is to the extreme A, the more profit-making its intentions are believed to be (by the consumer). Let us also recall that the kindness function is subjective, and so is the consumer's belief about where exactly in the interval  $[0,1]$  one company is located.

The main difference with the previous case is that while in the "binary" setting the consumer could tell one firm's type with certainty, such judgment here can only be an approximation based on the consumer's beliefs (which are, in their turn, generated

by the media, including the Internet). To draw an analogy, one can certainly tell the difference between black and white, but it is often not easy to tell the difference between two nuances of gray.

Since being as close as possible to the extreme B is the best strategy for profit-making firms (*ceteris paribus*), record companies shall try and create a reputation for being more on the right of the interval  $[0,1]$  than what they actually are. And in reality, this is what they do exactly: no record company, no matter its size, ever affirms they are "in it for the money"; in contrast, everyone, from the multi-million selling corporations to the standalone artist who runs a tiny business from home, seems to be in angst for creating an "artistic profile" that goes beyond profits.

Nevertheless, record companies cannot send signals that are as misleading as perhaps is possible in the two-type case: in a binary setting, all a record company has to do in order to belong to type B is to choose and convey any value in the interval  $[0,1]$  above (and including) the threshold value 0.5. Therefore, if a company's real type was located around 0.5 and above, the consumer could perceive it to be of type B. Now that there is an infinity of types, if the real type of a company is a value  $t$  in the interval  $[0,1]$ , the company can only signal types in an interval  $[t, t + \delta]$ <sup>1</sup>. The rationale behind this is that, no matter how the record company chooses to promote itself, and no matter the profile it wants to create, it can never deviate too much from the actual profile, because the consumer has access to information (and various other signals) that cannot make them formulate a belief beyond  $t + \delta$ .

Consumers then expect a shift of types to the right, which will be at most equal to  $\delta$ , and can therefore adjust the values of their kindness function accordingly. In essence, the agent who believes that a firm  $j$  is of type  $t_1$ , knows (courtesy of common knowledge of rationality) that the true type of a firm shall be within the interval  $[t_1 - \delta, t_1]$ . Thus, while they were planning to set a value equal to  $f_i(t_1)$  before, they can now adopt a strategy of setting a value for the kindness function in the interval  $[f_i(t_1 - \delta), f_i(t_1)]$ , according to their probabilistic expectations of firm  $j$ 's strategy. In other words, the consumers are prompted to follow a mixed strategy, where any value within  $[f_i(t_1 - \delta), f_i(t_1)]$  might be chosen, subject to the expected probability density of  $[t_1 - \delta, t_1]$ .

The conclusion is, qualitatively, the same as in the two-type case: firms that truthfully reveal their type will suffer some loss and firms that send false signals shall be better off; but what is important here is that, because of the continuity of types, these imper-

<sup>1</sup> More precisely, it could signal types in an interval  $[t - e1, t + e2]$ , but signalling below point  $t$  would never be a rational decision.

fections shall be smaller. Obviously, had the consumer perfect information (that is,  $\delta = 0$ ), there would be no friction, and finally, the hypothesis that the type can be a signal for the firm's intentions would become self-confirming. In any case,  $p^{**}$  remains greater than  $p^*$ , which means that the consumer's attitude of fairness, combined with the Internet as an enabler for independent artistic creation, generates more enjoyment for consumers overall.

Obviously, a comparison between the frameworks of Sections 3 and 4 reveals that the more types available, the more accurately a consumer can infer that a type is revelatory of the firms' intentions. This happens because when there are more types, the number of types a firm can make the consumer believe it belongs to becomes smaller. Thus, an increase in the number of types brings in more accuracy, just like what happens with the number of levels used to transform an analog signal into digital. Because everything here is nothing but beliefs in the mind of the consumer, it follows that it is optimal for the listener to act as if an infinity of types existed and accordingly adjust their behavior, rather than alternate between two or three only alternative strategies. This way, the social power of consumers – in the Harsanyi (1966) sense – is enhanced, for listeners can resist believing what the recording industry wants them to believe, at no cost to them.

### Discussion and conclusion

The beginning point of this paper was that, because of the Internet, listeners have now opportunities they would not be able to experience otherwise: the very fact that consumers became aware of the structure of the recording industry enabled them to acknowledge the existence of independent artists, as well as a variety of art statements that go against the mainstream. Therefore, the Internet not only gave listeners the opportunity to become acquainted with the works of artists that were not even known to exist, but it also gave consumers the possibility to have access to the artists' creations directly, communicate with them and ultimately become an active part of the recording industry themselves by formulating psychological reactions towards the recording industry's incentives.

With considerably expanded information and choice sets, the consumer cannot be limited within the suggestions of the music press or the radio (as was the case before the internet existed), and cannot be easily tricked into buying a recording that will fail to live up to the expectations. It would, thus, make sense to assert, as the framework of Section 2 illustrates on theoretical grounds, that these new experiences made available to the listener enhance the average utility derived. Whether this increase in

utility is enough to compensate for the loss of other psychological components that happened because of the Internet (for example, digital downloads as substitutes for the physical product) is indeterminate, and it surely is consumer-specific.

Artists themselves understandably enjoy greater benefits, for their target group is expanded, which means that they can potentially reach their audience, even if they are not supported by a big record company and an expensive promotional plan. The fact that independent artists and labels multiplied over the past decade is consistent with the analysis of Sections 2 to 4, as well as with the assumption that consumers are generally willing to support them. Because of this fact, it can be observed that being independent has, up to a degree, become a "trend" that is followed by artists not on aesthetic grounds or for reasons of artistic integrity, but simply because it generates more profits for them; this is nothing but a restatement of the conclusion of Section 3. As a consequence, distinguishing between independent and mainstream artists may not always be clear, but, as was seen in Section 4, it gets all the more accurate the more the consumer understands and acknowledges the range of the differences between these two types of artists. If this happens, artists are not able to control the degree of "fairness" the consumer will show towards them, because they cannot send false signals about their motivations anymore.

One of the central statements in marketing, as well as the economic sociology literature is that the larger a network is, the more its value becomes for its members (Powell and Smith-Doerr, 1994). As was seen, this is indeed what exactly happens for independent artists and labels; however, it is unsure whether the bigger record companies benefit from being "more connected". This can be explained by the fact that connectedness eventually reveals false signals and potential attempts to sell lesser quality products.

The message for the corporate industry is then more or less clear, and intuitively plausible; in contrast to the independent artists, since the big record companies are generally assumed unable to prompt positive values for the listener's kindness function, they have one control variable less to influence the listener. What, thus, remains is the price and the quality. In other words, since the internet made the oligopoly of big record companies collapse and gave power to the listener by enabling them to have better information on quality of products and to reward the industry's good intentions, the best response of the recording industry is to either drop the prices or improve the quality of its products (or both). The former has already been adopted as a policy by a fraction of the big record companies. With reference to the latter, and given that several published works show that file-sharing has not been proved to be harmful for the music industry (as was mentioned in



the introduction), it seems that if sales in music have actually decreased, maybe it is not file-sharing that is to blame, but low quality of output. It remains to be seen if the bigger record companies are going to attempt a true shift to considering music recordings more like works of art than commodities up for sale.

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