

Norms-based intellectual property systems: the case of French chefs
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ABSTRACT

In this paper we propose that “*norms-based*” intellectual property systems exist today, and are an important complement to or substitute for law-based intellectual property systems. Norms-based IP systems, as we define them, operate entirely upon the basis of implicit social norms that are held in common by members of a given community. Within that community, they offer functionality “similar to” contemporary law-based IP systems with respect to both the nature of rights protected and the effectiveness of protection provided.

We document the existence of a norms-based IP system among a sample of accomplished French chefs. These chefs consider recipes they develop to be a very valuable form of intellectual property. At the same time, recipes are *not* a form of innovation that is effectively covered by law-based intellectual property systems. Via grounded research, we identify three strong implicit social norms related to the protection of recipe IP. Via quantitative research, we find that accomplished chefs enforce these norms, and apply them in ways that enhance their private economic returns from their recipe-related IP.

In our discussion, we compare the attributes of norms-based and law-based IP systems, arguing that each has different advantages and drawbacks. We also point out that the existence of norms-based IP systems means that many “information commons” may prove to be criss-crossed by norms-based fences, with community access controlled by community IP owners.

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1. Introduction and overview

When one thinks of intellectual property rights, one tends to think of rights encoded in law like the patent grant, copyright, trade secrecy and trademarks. In these “law-based” IP systems, detailed bodies of legislation and case law spell out the rights an owner can claim to specific types of intellectual property, and the procedures by which these rights can be claimed. The law of contracts then specifies how the rights can be licensed, and bought and sold. Claimed violations of intellectual property rights and contracts can be adjudicated and compensation determined via private legal actions in the courts.

In this paper we propose that *norms-based* intellectual property systems also exist and are important in at least some fields. Norms-based IP systems, as we define them, function within a group to provide group members with intellectual property rights based upon social norms *only*. These norms specify the nature and extent of rights that a group member can assert to intellectual property. According to our definition, a norms-based IP system must offer functionality “reasonably similar to” contemporary law-based IP systems with respect to both the nature of rights protected and the effectiveness of protection provided. Norms-based IP systems include procedures for the claiming of intellectual property rights, and community-accepted types of sanctions for violators.

Our research is related to and draws upon work by “laws and norms” scholars who have explored the roles of laws relative to norms in several arenas (e.g. Ostrom, 1990, Ellickson 1991, Rai 1999). We also build upon work by Merges (1996b, 2004) related to private intellectual property systems. Our major contribution is to provide the first documentation of a present-day IP system based solely upon norms. We do this by exploring how accomplished French chefs today protect the new food recipes that they develop. Accomplished chefs consider their recipes to be a very valuable form of intellectual property. After all, professional reputations and customer patronage at restaurants can be built around successful recipes. At the same time, recipes are *not* a form of innovation that is effectively covered by law-based intellectual property systems. Recipes are rarely patentable, and combinations of ingredients cannot be copyrighted.

Legal protections are potentially available via trade secrecy laws but, as we will see, chefs very seldom use them.

In brief overview, we find that an IP system based upon implicit social norms, and offering functions quite analogous to law-based systems, does operate among accomplished French chefs. Via grounded research, we identify three strong implicit social norms held by all chefs we interviewed. First, a very strong norm exists that a chef must not copy another chef's recipe innovation exactly. This norm has a very important role in creating a norms-based analog to important functions of law-based IP systems: it has a functional effect analogous to patenting. The community acknowledges the right of a recipe inventor to exclude others from practicing his invention, even if all the information required to do so is publicly available. A second norm mandates that, if a chef reveals recipe-related secret information to a colleague, that chef must not pass the information on to others without permission. This norm gives a chef a property right similar to that attainable via a contract under trade secrecy law. That is, protected by this norm, a chef can *selectively* reveal his secret information to another without fearing that as a result, the information will become generally known. A third norm is that colleagues must credit developers of significant recipes as the authors of that information. This norm gives an additional property right to a chef. The chef may choose to selectively or publicly reveal information about his innovation without jeopardizing the valuable related property right of acknowledged authorship.

Via quantitative research, we next show that accomplished chefs are significantly more likely to *deny* requested information to colleagues who they believe may violate the three social norms just described. This selective denial of information is behavioral evidence that a functioning norms-based IP system exists: it shows that three implicit norms that together offer functionality similar to that of law-based IP systems, are being *enforced* within the community we studied. As one accomplished chef said: "If another chef copies a recipe exactly we are very furious; we will not talk to this chef anymore, and we won't communicate information to him in the future." We conclude that information not afforded the protection of intellectual property law may nonetheless be controlled by an effective intellectual property regime based entirely on implicit norms.

Our findings open up the likelihood that norms-based and law-based IP systems are both functioning in the present-day world. The potential effects of norms-based IP systems will add a new dimension to the current scholarly research and debate on the economics of intellectual property systems. At present, much of that debate involves the possibility that extant law-based intellectual property systems may be constraining rather than supporting innovative progress (e.g., Jaffe and Lerner 2004, Benkler 2006, Bessen and Meurer 2007, Strandburg 2007). Modification or elimination of these systems is sometimes proposed, with the implicit assumption being that the law-based IP systems under discussion are the only ones at issue. Our findings indicate that, in at least some fields, the situation is different. Modification or elimination of law-based IP coverage of a field may simply reveal or even newly create a norms-based IP protection system in that field.

As we learn more about norms-based systems, we will learn how each type may complement the other, and how each can most usefully be understood and applied. We will also then be in a position to more deeply explore how ‘mixed’ norms and law-based systems can best function and best serve the intended social and private purposes of creating, defending and diffusing intellectual property.

In section 2, we review related literature. In section 3 we discuss the methods used in our case study. In section 4 we present our grounded research findings on the recipe hiding, trading and revealing choices made by French chefs. In section 5 we present our quantitative findings. In section 6 we compare the properties of norms-based intellectual property systems with law-based ones. We conclude that norms-based intellectual property systems exist today, can be effective, and should be further explored. In section 7 we offer suggestions for further research.

2. Literature review

In this section we first briefly review matters that provide a context for our study: the nature of social norms; the characteristics of law-based intellectual property systems and their lack of intersection with recipe protection. Then we review related literature on laws and norms and on private intellectual property systems.

Social Norms

Social norms are pervasive and powerful structural characteristics of groups that summarize and simplify group influence processes. They are enforced by a group upon its members and generally are developed only for behaviors which are viewed as important by most group members (Hackman 1976). Social norms can be advantageous for groups (Axelrod 1986). Social norms have traditionally been viewed by sociologists as rarely written down or explicitly discussed (Feldman, 1984, Gibbs 1965). In such cases, evidence that a norm is in place can be seen if any departure of real behavior from the norm is followed by some punishment (Bendor and Swistak, 2001; Rimal and Real, 2003). Social norms can deal with matters that both do and do not have important *economic* consequences for the group embracing them (Elster 1989). For example, workplace norms such as output restrictions directly address the economic concerns of a group. Thus, a “rate buster” who produces significantly more than the average worker in a production group could induce management to lower piece-rate pay for all workers in the group – a matter with significant economic implications for the workers. In contrast, social norms regulating such matters as mode of dress, manners at table and so forth may but need not have important economic significance for group members.

Norms are enforceable when groups control stimuli that are valued (or disvalued) by the target person. The more an individual has a personal need for a social reward controlled by the group, the more he or she conforms. Group members who do not much need or care about the social rewards that can be provided by their fellows (e.g., very high status members or very low status members not committed to remaining in the group) often conform less than other group members. (Hackman 1976 p. 1506).

Bendor and Swistak (2001) use evolutionary game theory to test the conditions under which social norms are stable. The stability of a social norm, they find, is maintained when all are treated as supporting the norm unless they actually transgress – the “nice” element of a “nice but retaliatory” strategy. However, all participants must punish one who does transgress *and also punish those who do not join in punishing him* – the “retaliatory” element of the strategy. In other words, if a social norm is violated, the obligation to impose punishment must not be restricted to those who were hurt by the initial transgression; the obligation *must* be extended to

third parties if the norm is to remain stable. The “if you are not my friend then you are my foe” element of the nice but retaliatory strategy insures that it is in the private interest of third parties to participate in punishing transgressions. Although participation may involve a cost to these parties, they must participate or face the presumably greater cost of being punished too. The net result - assuming that the transgression is not engaged in by too many simultaneously – is that a norm remains stable.

Laws and norms can have interdependent effects. Research by Rai (1999) illustrates how changes in the law can impact social norms. Prior to 1980, she writes, university-based communities of molecular biology researchers operated with communitarian norms that Merton (1973) and others have argued are characteristic of and central to the functioning of academic communities. These communitarian norms discouraged assertion of property rights to scientific discovery and invention. Then, in about 1980, the U.S. Congress changed the law to enhance the intellectual property rights that universities *could* assert to discoveries by scientists in their employ. (A key element was the Bayh-Dole Act passed by Congress in 1980.) Rai found that these changes in the law soon affected the intellectual property-related norms held by university-based molecular biology research communities. “...universities and individual researchers soon began respond to the financial incentives of Bayh-Dole by rejecting communalism and increasing efforts to seek patents. In some circumstances, universities even pressured recalcitrant faculty members to seek patents. ... once a critical mass of norms violators was reached, rapid norm breakdown ensued.” (ibid, p. 109).

Law-based intellectual property rights systems

There are three distinct types of law-based intellectual property rights systems in most countries: the patent grant, the copyright, and the right to protect trade secrets. Each of these systems covers different categories of intellectual property and has different characteristics. In this section we briefly review the subject matter coverage and characteristics of each system. We also note why each has no or little applicability to the subject matter of our case study – novel recipes.

The most general form of patent is the “utility” patent. In the United States, utility patents may be granted for inventions related to composition of matter and/or a method and/or a use. They may not be granted for ideas per se, mathematical formulas, laws of nature, and anything repugnant to morals and public policy. Within subject matters potentially protectable by patent, protection will be granted only when the intellectual property claimed meets additional criteria of usefulness, novelty, and non-obviousness to those skilled in the relevant art. (The tests for whether these criteria have been met are based on judgment. When a low threshold is used, patents are easier to get, and vice-versa (Hall and Harhoff 2004).) Within their sphere and duration of coverage, patent grants give inventors exclusive rights to the invention claimed. No one else may use or make that invention without a license from the patent owner - even if they independently develop it. Unlike novel industrial food recipes for, for example, a high-protein tortilla, novel haute cuisine recipes today seldom fulfill the 3 criteria necessary for claiming a patent: usefulness, novelty, and non-obviousness. (This may change in the future, if and as haute cuisine chefs move towards recipe innovations involving novel science such as *sous vide* - cooking at low temperatures under vacuum - and “molecular gastronomy.”)

Copyright is a low-cost and immediate form of legal protection that applies to original writings and images ranging from novels to software code to movies. Authors need not apply for copyright protection; it is automatic under present-day law and “follows the author’s pen across the page.” Only the specific expression of an idea is protected, *not* – as in the case of patents - the underlying invention or idea itself. The crucial novel information in a new recipe – the list of ingredients, the proportions used and the processing methods used - cannot be protected by copyright. However, original writings and images related to presenting a recipe in a cookbook or other medium can be copyrighted.

Trade secrets are applicable to any information not generally known in an industry and of demonstrable economic value to a firm possessing the secret. Trade secret law protects only information that *can* be kept secret by a firm while being commercially exploited. Employees and others can be legally bound by contract to not reveal a firm’s trade secrets. A possessor of a trade secret may take legal steps to prevent its use by others *if* he can show that those others have discovered the secret through unfair and dishonest means such as theft or breach of a contract

promising to keep it secret. However, the holder of a trade secret cannot exclude anyone who independently discovers that secret or who legally acquires it by such means as accidental disclosure or reverse engineering.

In practice, trade secrets have proven to be effective only with regard to (1) product innovations incorporating various technological barriers to analysis, or (2) with regard to process innovations which can be hidden from public view. Aspects of recipe ingredients and preparation techniques that can be effectively hidden in a restaurant's kitchen can therefore in principle be protected as trade secrets. For example, a chef may legally require as a condition of employment that employees sign a labor contract binding them to not disclose recipe-related trade secrets. However, as we will see in grounded research findings to be presented later, chefs in our sample seldom take the steps required to legally defend the status of their recipe-related IP as trade secrets. This is because, as chef interviewees told us, they think that the benefits of doing so are unlikely to outweigh the costs.

Owners of intellectual property rights under all three of these systems can keep their rights entirely to themselves, or license or sell all or aspects of their rights to others. For example, a patent owner can grant another rights to use his patent for any purpose, or only for a specific type of application. Similarly, the holder of a trade secret can make legally binding contracts with others in which all or only aspects of the secret are revealed in exchange for a fee or other consideration along with a commitment to not diffuse the secret further. Violations to such agreements can be brought to a court of law for adjudication.

Norms-based intellectual property systems

Findings of “laws and norms” studies make it quite plausible that effective IP systems based only upon social norms might exist today. These studies explore the role that norms play in a range of fields traditionally assumed by legal scholars to be the exclusive province of law. For example, private methods of contract enforcement independent of law have been explored by several (e.g., Macaulay 1963, Bernstein 1992, Greif 1993, Zhou and Poppo 2005). Thus, Greif describes how a coalition of Maghribi traders successfully enforced contracts with their agents in far-distant lands by privately-established rules. For example, the community of traders had a

norm that none would hire an agent who had fallen short of his obligations to *any* trader. Ostrom (1990) and others have documented the quite elaborate community practices that enable communities to successfully share resources held in a commons, such as commonly-accessible fisheries. Methods by which neighbors settle disputes without recourse to the law have been studied by Ellickson (1991) and others.

Often in these studies, implicit norms are found to play a dominant role. Thus, Ellickson, in exploring how rural neighbors allocated the costs of maintaining the fences that separated their properties and herds of cattle, found that essentially none were aware of Section 841, the California statute that specifies how boundary-fence costs are to be allocated. He therefore sought to identify "...the norms to which [adjacent rural property owners] were dancing." "Although," he writes, "rural residents could quickly resolve simple hypothetical fence-cost disputes posed to them, they never articulated general principles of fence-cost allocation. Their statements and practices revealed, however, that they tend to follow a norm of proportionality. This norm calls for adjoining landowners to share fencing costs in rough proportion to the average density of livestock present on the respective sides of the boundary line" A second norm is that ranchers (large land owners) will never ask for a contribution to fencing costs from owners of ranchettes (small land owners) even though the law would sanction it (ibid pp.71-5). In other words, Ellickson found that the boundary fence maintenance norms actually followed by rural neighbors differed in a number of respects from the law.

Ellickson argues that law is often unimportant relative to norms in shaping many types of social interactions, saying: "I didn't appreciate how unimportant law can be when I embarked upon this project." His book, he says, "seeks to demonstrate that people frequently resolve their disputes in cooperative fashion without paying any attention to the laws that apply to those disputes." (ibid, p. vii). A study by Walsh et al. (2005) supports Ellickson's emphasis within the arena of intellectual property rights. These authors studied the IP-related practices of biomedical researchers in universities, governmental and nonprofit institutions. Most, they found, simply ignore the legal rights of patent-holders whose claims might impede their research. They found that only 5% even bothered to check to determine whether their work might be infringing upon existing patents. "Our research thus suggests that "law on the books"

need not be the same as “law in action” if the law on the books contravenes a community’s norms and interests. . . . our results suggest that [patent] infringement remains of only slight concern [to non-commercial biomedical researchers].”

More general studies of IP-related norms in scientific communities have been conducted by a number of scholars. These norms generally involve *restrictions* upon the claiming of IP rights by scientists. Thus, Merton (1973) documented the existence of a “communitarian” norm in such communities, mandating the open sharing of the “intellectual property” of scientific research results and research methods used to obtain them. Others have explored the detailed workings of this norm and how it is limited in some circumstances by implicit or explicit assertion of property rights by scientists and their employers (e.g., Dasgupta and David 1984, Rai 1999, Merges 1996a)

Ellickson and some others argue that norms can sometimes be used in place of law. But Rai (1999) argues that this portrait has been overdrawn by early research on the topic. “Subsequent law and norms scholars” she writes, “have argued that law and norms do not generally operate in separate spheres. Rather, they typically operate either to support or subvert each other.” For example, she points out, laws prohibiting smoking in public places can be supported by social norms that condemn such behavior – or can be subverted by social norms that are supportive of smoking in public.

Merges (1996b, 2004), has studied the role of norms in the functioning of “innovation institutions.” He says (2004 p.3) “I see guilds as one example of a larger set of informal institutions that facilitate innovation by virtue of shared norms. Sometimes these norms take the form of reciprocity: an understanding that all members of a circle have the right of access to at least some common techniques and information. . . . At other times, they take the form of limited exclusivity: recognizing the right of individual members of the circle to exclusive use and possession of self-generated information.”

“Guilds” he says “may have been the first such institutions, but they were by no means the last.” He then lists a number of additional examples, including “collective invention” (Allen 1983), patent pools, and standard-setting organizations. He also includes “private intellectual property systems” - which he defines (1996b) as systems involving *no* state-granted intellectual

property rights. Examples of these he mentions are 1930's fashion guilds; "the contemporary entertainment industry, which relies heavily on industry-wide norms and informal (non state-backed) enforcement mechanisms such as arbitration." He also includes informal know-how trading (von Hippel 1987) because its functioning involves norms of reciprocity. He also includes the open source software movement because it too "...depends in part upon reciprocity and other informal norms, which I would argue makes it a contemporary variant on these institutions."

Merges' examples all do have an intellectual property component in which norms play a role. Several are useful examples of "mixed" law and norms-based systems. But, for our present purposes of establishing an "existence proof" for a pure, norms-based IP system as we have defined it, these examples won't do. Recall from our definition that we seek to document the existence IP systems that are based *entirely* upon social norms, and that have functionality similar to that offered by law-based systems. Thus, open source software, one of Merges' examples, is based upon norms only in part: It also is built upon software authors' state-granted copyrights. Similarly, the private IP systems of the Fashion Guilds may reflect the norms of the community of fashion designers and manufacturers – but enforcement was by contract law based upon written agreements. (Fashion designs, like recipes, are not protected by law-based intellectual property rights. In response, there have been several attempts over the years by fashion designers and manufacturers to create private intellectual property systems. See a description of the Fashion Originators' Guild of America, in Merges 1996b p 1363).

With respect to norms-based IP systems that offer functionality similar to law-based systems, Merges examples can best be seen as potential *components* of what we are calling norms-based IP systems. Thus, informal know-how trading is a mechanism for exchanging secret information based upon reciprocity norms. It enables the profitable exchange of trade secrets. However, it does not offer traders control over information that is publicly known – a form of control that is offered by patents. Similarly, collective invention involves only the norm that invention-related information will be "freely revealed" so that all – whether inside or outside of a given community – can have free access. This too can play a role in a norms-based private intellectual property system offering the functionality similar to a law-based one, but is not such

a system by itself. (Free revealing occurs when all intellectual property rights to specific information are voluntarily given up by an information owner, and all interested parties are given access to it—the information becomes a public good. For example, placement of non-patented information in a publicly accessible website or television program would be free revealing under this definition (Harhoff et al. 2003)).

3. Case study context and methods

Our case study explores the operation of a social norms-based intellectual property system among accomplished haute cuisine chefs working in France. Specifically, we focus on norms-based IP related to recipes developed by these chefs. We have selected this arena for a field study because it combines two characteristics useful for our purposes. First, intellectual property in the form of novel recipes has high economic importance to accomplished chefs. Second, as we saw in our literature review, extant law-based intellectual property systems are today not applicable and/or are little used to protect this form of intellectual property. As a result, we expect that chefs will rely largely upon a norm-based IP system to protect their recipe-related intellectual property if and as this is feasible for them. In turn this will – we hope - simplify our task of understanding the operation of and effects of an IP system of this type.

Our study proceeded in two major phases. First, we conducted grounded field research to identify important social norms dealing with recipe-related intellectual property. Second, we conducted a quantitative, questionnaire-based study to determine whether innovators deployed these norms to gain private economic advantage, and to determine whether violators of the norms were in fact sanctioned by accomplished haute cuisine chefs.

Our samples for both studies consisted of the chefs de cuisine in restaurants that had received “stars” and/or “forks” from the Michelin Guide as a sign of their culinary excellence. The Michelin Guide is an independent evaluation agency for restaurants and the award of stars by the Guide is a major honor. Forks are also prestigious, but less so than stars. (Forks are given to “good gastronomic restaurants” that also have a good balance between gastronomic level and price of the meal. Awards can range from 1 to 5 forks.) In the 2005 Michelin Guide there are 26 three star, 70 two star, and 405 one star restaurants in France. Michelin stars are

given to restaurants and not to chefs de cuisine. However, the award is in the main based upon factors related to the performance of the chef de cuisine. Hence, when a chef de cuisine leaves a restaurant, the stars are “suspended” until the next examination by the Michelin experts.

A major criterion for awarding stars or forks to a restaurant is “renewal” - the ability to offer creative and new recipes on a regular basis. By focusing on the chefs de cuisine who have actually created these recipes, we are focusing on chefs who presumably regard innovation as important to their professional and economic success. Typical comments by awardees and others support this expectation. Thus Thierry Thiercelin (2005) said after gaining his first star: “Now there is no room for error anymore, I must be at 100% of my capabilities and able to answer my customers’ expectations for innovative and renewed recipes.”

Losing or gaining a star has substantial economic consequences. Johnson et al. (2005) report that "the loss of a star is catastrophic - causing [restaurant] sales to drop as much as 50% in some cases". Chefs who have been responsible for winning stars for restaurants often are in a position to profit from increased restaurant sales, and have other types of opportunity to benefit financially as well. There is demand for chefs believed able to help an establishment gain a star: in particular, luxury hotels in Paris seek such chefs. Also, enhanced reputation may enable a chef to profit from lines of prepared food bearing his label in food stores, consulting to agribusiness firms, consulting to restaurants in foreign countries, participation in TV shows; increases in book sales, and so on. An anonymous gastronomy expert summed up the situation nicely for the *Nouvel Observateur* (2005): “Gaining a Michelin star ensures that your banker will be kind to you.”

In our grounded research phase we interviewed 10 accomplished chefs who had a place of business geographically near to Paris, and so could be conveniently visited by the first author of this paper. Requests for a meeting were made to 12 chefs, and 10 responded positively. Seven of these were interviewed face-to-face, and 3 were interviewed by email. Seven of the 10 chefs interviewed had Michelin stars. Three had no stars, but were listed in the Michelin guide as chefs de cuisine in “good gastronomic restaurants.”

In the quantitative phase of our study, we again elected to focus on obtaining information from very accomplished chefs. We therefore distributed our questionnaire to chefs given some

form of recognition in the Michelin Guide. These included chefs holding 1, 2, and 3 stars, “rising stars,” and chefs holding from 2 to 5 forks. (Rising stars are chefs listed in the Guide as likely to receive their first star within the next year.) Questionnaires were mailed to all sample members at their places of business and respondents were asked to return them by mail. No follow-up was done to increase the rate of response: We did not want to annoy the chefs, and decided to take non-response as a ‘no’. Of 485 questionnaires sent out 104 were returned, a response rate of 21.4%. Ten of these contained essentially no data and so were not included in our analyses.

When chefs did fill out our questionnaires at all, they tended to do so quite completely. However, some questions solicited responses only under some conditions. (For example, “Please only answer the following additional questions about action X if you *did do* action X.”) For this reason, the sample size given in our tables is significantly less than 94 in the case of some analyses.

4. Grounded Research Findings

Chefs interviewed in our grounded research phase told us without exception that the development of novel haute cuisine recipes is a very important activity for them and similarly accomplished chefs. We also learned that these chefs and their colleagues seldom attempted to gain legal protection for their recipe IP. As was noted in our literature review, recipes seldom rise to the level of novelty required to qualify for a patent grant, and copyright is not applicable to the content of recipes, so it is reasonable that chefs would not attempt to apply these forms of protection. However, aspects of recipes can be kept secret even when a recipe is in use at a restaurant – for example, food preparation techniques not visible to diners, and “secret ingredients.” This recipe-related IP *can* in principle be protected by trade secrecy law. Interviewees informed us that accomplished chefs do sometimes send a written notice to those hiring a former employee saying that that person is prohibited from revealing trade secrets learned from his former employer. However, we were told, if such a trade secret is revealed by a former employee or by some other means, chefs who suspect their legal rights have been violated will very rarely seek redress through the courts. Probably instances of turning to the

courts do exist, but our interviewees could not recall any such case. This is generally regarded as too difficult and too expensive to be worth attempting.

Intellectual property-related norms

When we raised the issue of whether or how rights to recipes *could* be protected given the absence of applicable and effective laws, we were told examples and stories of “proper professional behavior” in this regard. Applicable social norms that appear in these stories have not been clearly codified or written down by chefs – they are implicit. However, three major norms consistently emerged in all our interviews. We encode the first norm as follows: *It is not honorable for chefs to exactly copy recipes developed by other chefs*. Chefs were vehement about how very wrong it was to copy the recipe of a colleague. As was mentioned earlier, one interviewee said: “If another chef copies a recipe exactly we are very furious: we will not talk to this chef anymore, and we won’t communicate information to him in the future.” It is, however, acceptable to develop creative variations on recipes developed by others. How different a new recipe should be to avoid the prohibition against exact copying is not precisely specifiable, but chefs think they know a too-close copy when they see it. This anticopy norm seems to us to offer intellectual property protection somewhat similar to that offered by a patent grant or a copyright. Accomplished chefs will often be perfectly able to duplicate a valuable recipe developed by a colleague by using only public, legally unprotected information (see data in table 1) – but the norm will prevent them from doing it. The anticopy norm benefits innovating chefs whose restaurants might well lose sales and profits if their novel recipes were copied by others.

The second important norm that emerged in our interviews is that *a chef who asks for and is given proprietary information by a colleague will not pass that information on to others without permission*. This norm applies only to information that *can* be kept as a trade secret if not revealed. The requirement “to not pass it on” is important but is generally not stated when information is transferred in response to a request – it is implicit: As one of our interviewees said: “If I give information to another chef I trust him to not pass it on. I do not have to say this.” This norm gives holders of proprietary information the freedom to *selectively* reveal aspects of what they know. That is, a chef can choose to reveal information to colleague A and

at the same time feel confident that A will not tell others. Freedom to selectively and conditionally reveal information seems to us to offer functionality similar to legal contracting related to trade secrets: one can contract to reveal a trade secret to A with the stipulation that A will not pass that information on to others.

Often, as we will see in our quantitative data, chefs selectively reveal secret information to colleagues in expectation that they will not pass it on *and* that the information recipients will be more likely to reciprocate by revealing valuable information in return. When they behave in this way they are engaged in “informal information trading.” The phenomenon has been documented by several scholars (von Hippel 1987, Schrader 1991, Kreiner and Schultz 1993, Bouty 2000). Informal information trading has been shown to increase participants profits under some conditions. The basic argument is that revealing a unit of secret information to another reduces the monopoly profits that an innovator can obtain from its information – because now a rival is also using it. However, a trade will nonetheless pay whenever that reduction in monopoly profits is more than offset by the increase in profits gained by receiving in reciprocation a new unit of secret information from the trading partner. When this is so, it has been shown that information trading fits the conditions for a Prisoner’s Dilemma (von Hippel 1987). Given repeated plays, cooperation will be the most profitable long-term strategy for those engaged in the practice (Axelrod 1984).

A third norm had to do with the *right to be acknowledged as the author of a recipe one has created*. This norm applies to a recipe that one may observe at a creator’s restaurant or ask the developer about, and also when the innovator publicly reveals his innovation by, for example, publishing it in a cookbook or a magazine or describing it on TV. This norm offers a functionality offered by copyright and also by law on the ‘moral rights’ of authors and artists to have the paternity of their work acknowledged (Hansmann and Santilli 1997).

A chef that presents the recipe of another as his own is considered not honorable. As illustration, consider an excerpt from a letter of reproach written by a famous chef to a former employee who presented one of the chef’s recipes on TV without proper attribution. The chef also distributed his letter to a number of his colleagues, so that the community as a whole would

learn of his former employee's violation of an important norm. A copy, written in French, was given to us by an interviewee and we translate a portion of it as follows:

"Sir: First, I must tell you that seeing on TV a former employee showing things I have taught him is a real pleasure. Unfortunately this pleasure was brief, as your presentation has revealed a rare ingratitude. Never did I hear you say what you owe to the master I have been for you. You should admit that presenting recipes that are mine and that I taught you without referring to my name constitutes an unacceptable indelicacy. ... I hope that in your future presentations you will repair these errors and shall credit me with what I have taught to you. Only after this honest acknowledgement will I be happy that you receive a share of my notoriety."

The norm requiring acknowledgement of authorship enables chefs to profit more than free riders when they reveal their innovations to all. Given known authorship, a chef can use free revealing to raise his reputation with the general public and thus, for example, increase his profit from selling cookbooks and/or from increased traffic to his restaurant. Chefs often select their more important and interesting recipes to reveal in this public way, reasoning that their reputation will be more effectively enhanced by revealing major rather than minor innovations.

Chefs interviewed clearly thought that adherence to the norms described above was very important. Thus: "[If someone were to violate an important norm], ...my esteem for the guy becomes very low. I think the chef has no self-esteem, and does not respect the code of honor." Transgressions of the three norms we identified – and presumably of any additional norms that may also exist in this community – are, we were told, punished by negative gossip within the community, by a related lowering of a violator's reputation, and by a decreased likelihood that additional requests for information will be answered by community members. Famous chefs do not necessarily need to take personal action to insure transgressions are noticed and appropriately punished by their community. As one interviewee said: "The community knows my style and can recognize when someone is copying me. Therefore I do not need to intervene in any way."

Note that our interviews did not necessarily evoke a *complete* set of IP-related norms. We could have entirely missed an important norm simply because our questions did not happen to trigger stories related to it from our interviewees. (By way of analogy, we could learn about

the norm ‘thou shalt not kill’ from interviewees without necessarily triggering any discussion of the norm ‘thou shalt not steal’.) Fortunately, completeness is not necessary to our present purpose. We simply want to understand whether *some* social norms exist that can serve to at least partially protect the IP of recipe developers.

Note also that Chefs’ IP-related strategies are complex, and further work will be required to map and understand them fully. As illustration, an interviewee told us that chefs who publicly reveal a recipe may not necessarily reveal *all* the information required to exactly reproduce it. “Usually, a chef does not disclose everything when publishing a recipe in a cookbook. The published version may exclude important “tricks” (elements of technique), and may even omit some ingredients.” Interviewees also say that some cookbooks they write are intended for an audience of peers primarily rather than for home cooks. One important function of these professional books is to convey information about priority. If an imitator publishes a recipe that a famous chef developed, that chef may later publish the same recipe in a professional cookbook of his own. In this way he signals to colleagues that he believes that he, rather than the first to publish, has priority. Chefs often use the various intellectual property strategies available to them in sequence or as required by events to maximize their private returns. Thus, they often choose to keep exclusivity on new recipes served in their restaurants for a period of time before publishing them in a cookbook.

5. Findings from quantitative research

In overview, our quantitative research is designed to explore two matters: (1) whether the norms that we identified via grounded research are actually being enforced by chefs, and (2) whether chefs are enforcing the norms in a way likely to increase their private innovation-related profits. Our test of the first matter draws upon patterns of selective information revealing in our sample of chefs. We first determine whether some of our respondents’ recipe-related information *is* secret – and so is potential subject matter to be selectively revealed at the discretion of our respondent chefs. We then test whether chefs selectively *deny* requested information to colleagues they think are likely violators of the three IP-related norms. If they do this, we have evidence that the norms are being enforced. Our test of the second matter involves

determining whether patterns in the selective and free revealing of IP can increase chefs’ innovation-related profits – the goal of law-based IP systems. If both of these elements can be seen, we think it is reasonable to conclude that a functioning norms-based IP system exists in the field of recipes.

Are norms being enforced by chefs?

Chefs in our quantitative sample judged that novel recipes were *very* important to their professional success. When asked about the “importance your customers place upon finding original recipes (your own creations) on your menu,” the average importance ranking given by our respondents was 4.52 out of 5 (std dev : 0.72), where 5 was “very important.” Chefs also reported that a significant fraction of the recipes they develop would be difficult for others to reproduce without their help (table 1). This means that chefs *do* have recipe-related IP that can be kept secret for some period of time unless they choose to reveal it.

Table 1 : Many recipes are difficult to reproduce without help from the innovator

“% of your recipes that another chef would find it difficult to reproduce without your help”	0% of my recipes	25% of my recipes	50% of my recipes	75% of my recipes	100% of my recipes	Do not know	N
% of chefs in total of respondent chefs who ticked the above category	10.5%	39.5%	29%	5.2%	0%	15.8%	94

IP that can be kept secret by innovators can also be revealed if innovators elect to do this. In the case of accomplished chefs, one type of opportunity to make such a decision occurs when colleagues working in other restaurants request specific items of recipe-related information. As can be seen in table 2, this type of event happens often. Ninety percent of the chefs in our sample report being asked for such information at least once in the past year, and 28% report being asked at least 6 times.

Recall from our section 4 grounded research discussion that French chef interviewees said that norms violations were punished by negative gossip within the community, by a related lowering of a violator’s reputation, and by a decreased likelihood that additional requests for

Table 2: Most chefs receive recipe-related information requests from colleagues

	Never	1 to 5 times	6 to 10 times	More than 10 times	NA	N
How frequently did you receive recipe-related information requests from colleagues in the past year?	10.2%	61.4%	14.8%	13.6%	3	94

information will be answered by community members. Via our questionnaire, therefore, we sought to determine whether chefs’ decisions to reveal their information to a specific requester was related to expectations that that requester was a likely norms violator. This approach had the advantage of linking expectations of norms violations to a type of punishment behaviour that had been reported by our interviewees – selective denial of requested information.

Our research strategy on this matter was to ask each respondent to tell us about *two* cases where he had been asked for recipe-related information. First, we asked a number of questions about the most recent case where a chef had been asked for information and *had* provided it. Second, we asked the same questions about the most recent case where a chef had been asked for information and had *not* provided it. We then analyzed the chefs’ responses to see if there is an association between expected adherence to the three norms we described earlier and willingness to provide secret IP.

As can be seen from table 3 we found that IP holders were significantly more likely to deny secret IP to requesters they thought likely to violate each of the three social norms. We also found that this association was strongest when information of high value was being requested. Note that the decision to withhold proprietary information from a colleague judged likely to not adhere to community IP-related norms may be intended as norms enforcement and/or it may be a private attempt to protect IP likely to be at risk if revealed to that person. Either way, the behavior by these individuals serves to enforce community norms: access to

requested information is selectively being denied by community members to individuals with past or anticipated norms violations.

Table 3: Chefs are significantly more likely to give information to chefs they think will adhere to IP-related community social norms.

I expect that:	Effect of expected adherence to norms on decision to provide versus not provide requested information ^(a)	N
1. The information recipient will credit me as author ^(b,d)	P < 0.014	72
2. The information recipient will ask my permission before passing on the information I gave him to another ^(b)	P < 0.063	65
3. The information recipient will NOT copy my recipe exactly ^(c)	P < 0.0035	61

(a) Marginal homogeneity test, paired samples, one-tailed.

(b) 5-point Likert scale

(c) Respondents chose one option from 3 descriptions of increasingly-exact copying behaviors.

(d) Recall that our qualitative field research identified a norm requiring acknowledgement of authorship for recipe-related information that was privately *or* publicly-revealed. However, our questionnaire asks information providers only about their expectations that a specific information requestor will adhere to that norm in the case of proprietary information selectively revealed to him as an individual.

Note also that there is some possibility that this finding reflects *post-hoc* cognitive dissonance reduction on the part of the chefs rather than norm-related choicemaking. That is, when answering our questions, a chef could simply be thinking: “I did refuse to give this person information. I would only have done this if he is a bad person or undeserving in some way – so I will respond to the questionnaire accordingly.” To reduce the risk of this type of artifact, nothing in our letter of introduction to chefs or in our questionnaire indicated we were interested in studying social norms. In addition, we scattered our norms-related questions among others, did not identify questions as norm-related, and asked the questions in a non value-laden way. We simply asked, for example, how likely the chef thought it was that the specific chef who had requested information from him would exactly copy the recipe he was asking about. Finally, we should point out that we know nothing about the *actual* norms-related behaviors of information

seekers because we did not obtain information from information recipients – only providers. However, this does not affect the validity of our finding. The decision to provide or withhold IP is in the hands of the chef holding that IP, and is related to his or her *perceptions* of the attributes of the information seeker, and not to the actual attributes of that person.

Are patterns of revealing likely to increase innovators’ private economic returns?

As was discussed earlier, social norms do not always have to do with the economic advantage of individual group members or the group as a whole. But intellectual property law is designed specifically to enhance innovators’ likely private economic returns from innovation, and so to increase their incentives to innovate. In this section we explore whether norms-related patterns in the information revealing and hiding behavior of the chefs in our sample are consistent with a goal of increasing innovators’ economic returns from their innovations. If so, we have evidence that a norms-based IP system exists in this community.

We first see that chefs who *selectively* reveal recipe-related information to a colleague appear to be engaging in informal information trading rather than altruism. As table 4 shows, they expect their decision to provide or not provide requested information will affect the likelihood that the information seeker will reciprocate at a future time. As was discussed in section 4, “informal information trading” can increase profits for participants assuming that there is reciprocity, and assuming also that information recipients adhere to the norm of not passing on the secret that has been shared with them.

Table 4: Chefs feel that their decision whether to reveal or refuse to supply information requested by a colleague will affect the likelihood of getting information from that individual in the future

Expected change in willingness of requester to provide information in the future :	Decrease	No change ^(a)	Increase
Chef provided requested information	4	42	22
Chef refused to provide requested information	23	43	2
Chi-square = 32.472		p = 0.000	

^(a) “No change” was in most cases chosen when chef and requester had shared information equally in the past. In such cases there was already a trading relationship between the partners involving reciprocity. Under these conditions, there would be no reason for an information provider to expect that a particular exchange in a series would materially affect a recipient’s willingness to provide information in the future.

We asked chefs about the value of the information that they would be willing to freely reveal in two contrasting ways: (1) free revealing “to everyone at once” in a public forum and (2) sequential, person-to-person revealing to “any one who asks.” Chefs were more likely to present high value recipe information in a public forum. In sharp contrast, they were significantly more likely to reveal low-value information privately to anyone who asked (table 5). This makes sense to us as an economically reasonable strategy: increased reputation is likely to result from publicly revealing a recipe only if something valuable and interesting is revealed. In contrast, private but non-selective revealing of information (“to anyone who asks”) may not yield the reciprocity benefits associated with more selective revealing of information.

Table 5: Value of recipe information revealed privately “to anyone who asks” versus revealed to all in a public forum

Decision to:	High value information ^(a)	Low value information ^(a)	
Reveal in a public forum	78%	22%	100%
Willing to privately reveal to “anyone who asks”	26%	74%	100%
Chi-square	p < 0.000		

(a) The value of the information is an index: high value information is information that is related to a recipe that is both a “must” of the chef’s menu and that is “unique among direct competitors” (rated 4 or 5 on a scale of 5 for both items).

Finally, we asked chefs *why* they would reveal some of their recipes to the public at large (table 6). We did not offer chefs a complete list of possible motives in our questionnaire. However, it can be seen that respondents did tend to agree with the motives we listed that clearly involved direct personal gain in the form of increased restaurant sales and increased personal reputations. In an open response section in the questionnaire, some chefs provided additional motivations for revealing recipes in a public forum, and most of these also had to do with enhancing private profits. Chefs wrote that they were motivated to present their IP to the public at large because doing so would: Increase their personal reputation; generate publicity for their

restaurant; inform potential patrons about what is offered in their restaurant; enable them to claim the “innovation space” before another chef got a related idea; be an enjoyable experience for them; increase likelihood they will receive information requests from chefs they appreciate; be an opportunity to promote regional products. Again and in summation, it appears to us that free revealing of recipes by chefs is often motivated by expectations of private benefit – benefit that is predicated upon adherence to the norm that innovation authorship will be acknowledged by community members.

Table 6 : Motivations for publicly revealing recipes

Motivations :	Mean (a)	Std dev	% of high agreement (b)
Attract more customers in your restaurant	3.86	1.12	80%
Increase your reputation	3.91	0.90	80%
Increase the reputation of French gastronomy	3.58	0.96	64%

(a) Scale 1 (totally wrong) to 5 (totally right)

(b) High agreement means a choice of 4 or 5 on a scale from 1 to 5

6. Discussion

We have now documented that accomplished French chefs both espouse and enforce IP-related norms. Given these empirical findings, can we conclude that a norms-based IP system worthy of the name *really* exists among these French chefs? We approach this question by listing the characteristics of the three major law-based IP systems. We also list the analogous characteristics of a norms-based IP system for easy comparison (table 7). Clearly, norms-based IP systems have characteristics very different from law-based IP systems. However, both types do enable innovators to establish and enforce rights to some types of IP to their economic advantage. So we do think it reasonable to dignify norms-based IP systems as “real” IP systems worthy of consideration along with their law-based counterparts.

Table 7: Comparison of law-based and norms-based IP Systems

	Patents	Copyright	Trade Secrecy	Social Norms Based IP
Source of Authority	Legislation	Legislation	Legislation	Community social norms
Subject Matter Covered	Inventions as specified in patent law	“Writings” as specified in copyright Law	Secrets having business value	Information regarded as proprietary property by a given community
Nature of Control	Right to control use of publicly revealed invention	Right to control production of copies of work	Right to prevent employees from revealing secret	Right to use and call for sanctions against violators of norm-granted property rights
Ownership Rights established by	Date of first filing or Date of Invention	proof of authorship	Proof that secret “not generally known”	Community consensus that an individual is the owner of specific information
Conflict Resolution Method	Court Decision (or out of court settlement)	Court Decision (or out of court settlement)	Court Decision (or out of court settlement)	Community member(s) agreement that norm-sanctioned property rights of A have been violated by B
Av. Time and Admin Cost To determine If violation Has occurred and assess penalty	Several years \$2mm/case paid by litigants*	Several years \$440K/case paid by litigants*	Several years \$1mm/case paid by litigants*	Can be very rapid (days) Cost low and distributed across community.

* Litigation costs for U.S. cases with from \$1mm to 25mm at risk (middle range of cases reported) as reported by American Intellectual Property Association Law Practice Management Committee (2005) based upon a survey of their membership. Bessen and Meurer 2007 report that the *business* costs of a patent suit – lost revenue, management time consumed, etc. – are much higher than the litigation costs documented by AIPLA. They estimate the total costs for a public firm being sued for patent infringement at \$28.7 million in the mean and \$2.9m in the median (Chapter 6, Table 2).

With respect to some system characteristics listed in table 7, norms-based systems appear to have some major advantages relative to law-based IP systems. Recall that social norms are developed by communities to deal with matters of importance to that community. As can be seen from table 7, getting final resolution of a complaint via a law-based system on average costs millions of dollars and take years - at least in the United States. (AIPLA 2005, Bessen and Meurer 2007). Indeed, given these high costs one is entitled to wonder what proportion of IP violations nominally covered by law-based systems are actually being adjudicated on the merits by those systems. Kesan and Ball (2006) find that only 5% of all cases filed are eventually adjudicated on the merits – the rest are settled before adjudication. This low figure, the authors reason, is because it is often cheaper for both sides to settle than it is to complete a very expensive legal contest. The associated loss to social welfare is that the validity of contested – and often very questionable - patent claims is seldom judicially established.

In contrast, a complaint can be brought in a social norms-based system by simply bringing the matter to the attention of influential members of the community. If these members view the case as having merit, explanations may be requested of the apparent violator of the norm, and/or sanctions are applied very quickly. (Of course, this system can also function poorly in some or many instances: “whistleblowers” may be punished along with violators; only a small fraction of norms violations may in fact be detected and/or punished by a community, and so on.) As an example of rapid community norms enforcement among chefs, consider the recent community judgment that “Chef Robin” had violated an anticopying norm. The discussion took place on an on-line forum hosted on eGullet.com, a website for chefs and other serious “foodies.” The entire episode, from the discovery of the violation to the close of discussion, took only 5 days.

On March, 2006, Forum participant tb86 reported apparent recipe copying by “Chef Robin” (March 14, 2006, 04:02 PM). “I am an Australian Chef in NY and was looking at the interlude [a Sydney restaurant] website and realized that a lot of the food has been copied identically from some of the top chefs here.” In his message, tb86 provided links to Interlude restaurant food photos, and also those of famous U.S. restaurants showing apparently identical presentations of identical recipes. The Interlude chef, Chef Robin, quickly took down the incriminating photos from his restaurant website. He then replied (March 15, 2006, 4:53PM): “Thought i should post my reply. “My trip to America and staging [working as an intern] at Alinea [a famous Chicago restaurant] gave me ideas and

i saw new techniques that after cooking for over ten years in some pretty good restaurants i had seen before. ... Of course people are going to imitate it and evolve it.”

Many eGullet members quickly posted responses, with the great majority condemning Chef Robin’s behavior in strong terms. Excerpts from three responses convey the flavor: “The "evolution" part might be where you are coming up short.” (Willie Lee, March 14, 06, 7:17PM); “Why don’t you also check out the menus at Cru and Guilt restaurants in NY for some more "evolutionary" ideas for your next menu.... Why were the links to the photos removed in the last 24 hrs? New York is watching you” (Aussiechef76, Mar 14 2006, 09:31 PM); “Great...thanks to this my plans for ripping off Sandra Lee's Ranch Dressing and puke covered Frito Lay chips is never gonna come to fruition.” (peteswanson, March 15, 2006, 03:37 PM). Things continue in this vein for 5 days, at which point the site managers close the discussion. <http://forums.egullet.org/index.php?showtopic=84509&st=0&p=1149705&#entry1149705>

Norms-based IP systems may also have major *disadvantages* relative to law-based systems. For example, recall from our literature review that norms-based IP systems are only effective in controlling behaviors “... when groups control stimuli that are valued (or disvalued) by the target person.” (Hackman 1976 p. 1506). In contrast, law-based systems have access to a type of sanction – confiscation of financial resources - that presumably would be of concern to all would-be violators within a particular laws’ zone of jurisdiction. This may mean that norms-based IP systems apply to a more limited scope of actors than do law-based systems.

As illustration, consider the case of high-fashion clothing design. Just as is the case in recipes, law-based intellectual property systems do not protect clothing designs. Cox and Jenkins (2005) note that, unconstrained by law-based IP, mass merchandisers are quick to “knock off” many novel clothing designs created by high fashion designers. Mass merchandisers presumably do not consider themselves to be part of the high fashion designer community, and so would not be constrained by any IP-related social norms held by that group. (Of course, it is another question as to whether a more limited reach of community norms actually reduces innovators’ profits. In the case of fashion, Raustiala and Sprigman (2004) point out that rapid copying by mass market merchandisers may actually provide an economic benefit to high fashion designers. When yesterday’s high fashion items become today’s mass market items, they say, high end buyers will no longer wear the versions they purchased – because they are no longer “exclusive.” The likely consequence is an acceleration of the obsolescence cycle

in high fashion clothing designs – to the benefit of high fashion designers. Buyers within that market niche will return more often to purchase the newest, still exclusive items.)

7. Suggestions for further research

If norms-based IP systems are indeed functioning and effective in today's economies, there clearly is a great deal of research needed to better understand their ubiquity, characteristics, and economic impact.

The ubiquity of norms-based IP systems is of course an empirical matter that can only be resolved by further research. Anecdotally, however, we see interesting hints that norms-based IP systems may be present in other fields today. First, the eGullet.com online forum discussion we mentioned above suggests that IP-related norms exist among chefs beyond those specializing in French haute cuisine. Second, grounded research interviews we have conducted in the sports equipment field indicate that IP-related norms also exist among founders and cofounders of sports equipment firms. Thus, a cofounder of a snowboard firm explained in an interview with one of us how he is dealing with a competitor who has made an exact copy of one of his firm's board designs. "I have contacted him and said we consider this board to be an exact copy of our design. I said that if he tried to advertise and sell this model we would put all our weight into destroying his image. A brand heavily depends on image when it comes to selling. On the Internet an image can be destroyed very quickly. This producer has created an Internet site in order to sell his production and the slightest rumor of copying or intellectual dishonesty would make consumers who use the Internet go away from him. It is our unique weapon ... and we rely on it to protect us." (Note the interesting twist on sanctions in this example: a producer is planning to rally potential *customers* of a rival producer – customers who apparently also have an anticopying norm – to punish that producer for a norms violation.)

With respect to the characteristics of norms-based IP systems, we think it would be very useful to understand the extent to which the norms that underlie such systems are similar. A quick comparison between what earlier-cited researchers have told us about IP norms in scientific communities versus those we found in the community of accomplished French chefs suggests that further research will discover interesting differences as well as similarities. One

example of a likely difference: recall that the first norm we documented among accomplished chefs de cuisine was, ‘It is not honorable for chefs to exactly copy recipes developed by other chefs’. It is likely that this norm will *not* be found among scientists. After all, exact replication of experiments (with proper attribution) to check the accuracy of reported findings is a valued activity in science. In contrast, the second and third social norms we identified among chefs do seem similar to information exchange norms reported among scientists (Bouty 2000, Kreiner and Schultz 1993, Merges 1996b).

As a second example of a likely difference in norms among fields, recall that the third important norm we encountered among our sample of chefs was ‘the right to be acknowledged as the author of a recipe one has created’. This norm was essential to chefs who wanted to profit from *reputation*-related gains by “freely revealing” their proprietary recipe information on, for example, a television program. However, it is not obvious that this third norm will always be present in norms-based IP systems that include free revealing, because free revealing can produce private gains for one who reveals via mechanisms that are both dependent upon and independent of the recipients knowing the identity of the donor. Gains that are dependent upon knowing the identity of the donor generally relate to reputational gains. For example: ‘I am more likely to offer X a job because I know he is an innovator’ (Lerner and Tirole 2002). Mechanisms for private gains by innovators who freely reveal that are *not* dependent upon knowing the identify of the donor include network effects. For example: ‘If I freely reveal how to build telephones, more telephones will be built and used. The more telephones that are in use, the more benefit I gain from *my* telephone – because I can connect to more people’ (Harhoff et al. 2003, von Hippel 2005)

A more detailed comparison of IP-system norms and laws that seem generally similar should be made. For example, anticopying norms clearly create monopoly power for innovating chefs. As was mentioned earlier, this power is similar to that endowed by a patent grant or a copyright: chefs may be technically able to copy some recipe innovations using only public information – but the anticopying norm prohibits them from doing it. However, closer examination may show the monopoly powers granted by community anticopying norms to be more or less extensive or flexible than those granted by patent. Thus, chefs apparently do not

sell the rights to produce exact copies of their recipes to other chefs. Yet, this is common practice among owners of patents in other fields. Further investigation is needed to show whether this difference is a matter of what IP-related norms permit – or what chefs choose to do in exploiting their norms-sanctioned rights.

With respect to economic impact, it would be useful to more deeply explore the effects of norms-based IP systems relative to law-based IP systems on innovators' incentives and rates of innovation. In addition to the intrinsic interest of the findings this will, as was mentioned previously, add a new dimension to the current scholarly research and debate on the economics of intellectual property systems (e.g., Jaffe and Lerner, Benkler 2006, Bessen and Meurer 2007, Strandburg 2007). As was mentioned earlier, the current debate assumes that the only approach to the protection of intellectual property is via law-based systems. Assessment of the costs and benefits of norms-based systems broadens the toolkit for scholars and policymakers in this arena.

Analyses of effects and related costs and benefits of norm-based and law-based IP systems is by no means a simple task. For example, there is certainly a great deal of design innovation visible among high fashion designers despite the prevalence of knock-offs by mass merchandisers (Cox and Jenkins, 2005, Raustiala and Sprigman 2004). Would elite designers innovate even more energetically if knock-offs by out-of-community members were suppressed? There are likely to be several component effects. Recall the effect suggested by Raustiala and Sprigman and mentioned earlier: rapid copying by mass market merchandisers may actually provide an economic benefit to high fashion designers by accelerating the obsolescence cycle in high fashion clothing designs. In addition, perhaps the lack of law-based IP protection of clothing designs gives elite designers the freedom to knock off “street fashions” pioneered by innovating clothing end users. Further, maybe the goods created by mass merchandisers are not really substitutes for the items created by haute couture producers: clearly, clothing sold at an Armani store differs in many ways from “the same design” sold at Wal-Mart.

Again and in summation, the research we report here opens up the possibility that both norms-based and law-based IP systems exist and can be effective in the present-day world. As we learn more about norms-based systems, we will learn how each type may complement the other, and how each can most usefully be understood and applied.

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