The Seven IP Commandments of a Crowdsourcing Community:

How Norms-Based IP Systems Overcome Imitation Problems

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Abstract

In crowdsourcing communities, thousands of users reveal their ideas in order to get feedback, obtain assistance and suggestions for further refinement, and eventually win the endorsement of their fellow voters in the course of the tournament. All this is in done conditions that maximize the risk of theft and imitation. The intangible online setting with anonymous users from heterogeneous cultural backgrounds, and the absence of effective law-based IP protection encourage opportunistic behavior. Thus we should observe frequent violations of intellectual property, and in anticipation of this, only limited participation. However, and in stark contrast to this, we observe that crowdsourcing communities flourish. We study this puzzle in the large and particularly successful Threadless community. Our core finding is that the viability of this crowdsourcing community is facilitated by a self-organized informal system of norms that governs the behavior of participants. We describe the system's elements, namely seven core norms, their interplay and functioning, document its impressive effectiveness, and explore why participants adhere to it. Overall, the view of a community emerges in which people respect IP and adhere to the norms system because they feel it is morally just the right thing to do.

1. Introduction

Crowdsourcing has become an increasingly popular model for generating innovation for companies. Instead of generating ideas internally or consulting external experts, firms increasingly rely on innovative ideas from "the crowd" (Brabham, 2008, 2010, Ogawa et al., 2006, Terwiesch et al., 2008). Companies do so by posting a problem online, such that a vast number of individuals can offer solutions (Brabham, 2010). The crowd provides firms with ideas, designs, or other solutions that are often more innovative and have a significantly higher customer benefit than ideas developed by internal or external experts (Poetz et al., 2012).

Many crowdsourcing initiatives use both competitive and collaborative elements (Boudreau et al., 2009, Bullinger et al., 2010, Hutter et al., 2011). On the one hand they are organized as tournaments, in which the best ideas are selected and their individual originators get monetary or status-enhancing rewards in return (Boudreau et al., 2009, Boudreau et al., 2013, Brabham, 2008, Fueller, 2006, Jeppesen et al., 2010). On the other hand, they involve community elements in which community members give each other feedback, assist, and help on ameliorating their ideas (Franke et al., 2003). Collaboration is particularly useful when resources for solving the underlying problem are not fully located within single individuals but are broadly distributed across them (Boudreau et al., 2009). Already Hayek (1945) argued that this is the norm rather than the exception in most circumstances. In such settings, exchanging information and complementary resources constitutes an enormous advantage as it facilitates collective intelligence (Bonabeau, 2009).

However, such "co-opetition" (Nalebuff et al., 1997) bears inherent conflicts. A major problem of such crowdsourcing communities is the issue of intellectual property. Contributors usually invests much effort and time to develop an idea until it is mature enough and ready to submit to be considered in the contest. The payoff of this effort, contributors hope, is that they either earn monetary rewards (Brabham, 2010, Ogawa et al., 2006) or other beneficial outcomes such as reputation gains, higher status and self-fulfillment (Boudreau et al., 2013, Bullinger et al., 2010, Fueller, 2006, Lakhani et al., 2003). However, the result of all this work can be completely lost if others imitate or copy their ideas. Although copyright

laws are theoretically applicable to such competitions, it is practically impossible to enforce these in such a setting. Participants come from countries with very different legal regimes, violators are largely anonymous, and international lawsuits are complex, time-consuming, expensive, and uncertain in their outcome (Oliar et al., 2008). In essence, this means that there is no effective legal protection of submitted ideas. In absence of any negative consequence, it is reasonable to expect that people exploit such a weak appropriability regime (Teece, 1986) and copy valuable ideas from other community members. In turn, if people experience such opportunistic behavior from peers or anticipate it, a public good dilemma arises (Hardin, 1968). Rational actors would not contribute because it is rational to exploit contributions. This jeopardizes the whole crowdsourcing community system.

However, crowdsourcing communities have been functioning and growing for several years now and in many cases several hundred ideas per week are submitted to a contest. This puzzle leads to the two research questions we pursue in this article. We first ask whether in crowdsourcing communities *informal* IP systems of norms exist that provide protection and shape the necessary trust in the functioning of the system. There is ample research showing that online communities develop identities and strong cultural norms (Bagozzi et al., 2006, Franke et al., 2003, Postmes et al., 2000, Sassenberg, 2002). Could it be that informal norms-based IP systems effectively substitute formal legal systems? Such systems have been reported occasionally in relatively small, tightly knit "offline" social systems such as stand-up comedians, magicians and French chefs (Fauchart et al., 2008, Loshin, 2007, Oliar et al., 2008). As anonymous online crowdsourcing communities differ systematically from them and we are not aware of any study in their context, this important question must be considered unanswered yet. Our second research question addresses the reasons for adherence. Given that IP issues in crowdsourcing communities are effectively regulated by coherent and comprehensive informal norms-based IP systems: Why do community members adhere to them? Different reasons, such as fear of sanctions, moral convictions, thoughtless imitation of behavior, or a growing socialization into the community are conceivable. Answers to both questions are of high theoretical importance as we vastly lack understanding of this new organizational form and the principles that facilitate their viability and success (Hoyer et al., 2010, Nambisan et al., 2010, Terwiesch et

al., 2008). For similar reasons they are also of managerial interest. The promise of externalizing new product ideation and design via crowdsourcing is great and frequently it is heralded as a paradigm shift in the organization of innovation (Baldwin et al., 2011, Cook, 2008, O'Hern et al., 2010, Prahalad et al., 2004, Seybold, 2009, Sheth et al., 2000, Von Hippel, 2005). Accordingly, an increasing number of firms experiment with it – only to learn that success is by no means guaranteed (Euchner, 2010, Franke et al., 2013, Gächter et al., 2010). A better understanding of the core aspect of IP rights and their effective protection thus might help many firms who plan to outsource idea generation to the mass.

To find answers to the research questions we employed a variety of methods, including netnography, a survey, and a field experiment and selected the particularly successful crowdsourcing community of Threadless as an object of our research. Threadless' whole business model is built on the integration of external designers and their creative ideas for new t-shirt designs (Boudreau et al., 2009).

The paper is structured as follows: in section 2 we review existing literature on norms-based IP systems. In section 3 we present method and findings with regard to the first research question, in section 4 we proceed likewise with the second research question. The overall discussion is provided in section 5.

2. Norms-based IP systems

A norms-based IP system is a system of social norms that regulates the intellectual property rights within collective of actors (Fauchart et al., 2008). Such systems provide the basic functions of law-based IP systems, i.e. they protect intellectual ideas and lay out processes of inquiry, judgment, and penalization in case of violation. Sanctions can involve e.g. the withdrawal of community resources, the withholding of information, the degradation of an individual's reputation in the community, or the exclusion from the community. Norms-based IP systems and their sanctions thus perform quite similar functions as formal IP systems (Fauchart et al., 2008, Loshin, 2007, Oliar et al., 2008). In several instances, norms-based IP systems exist complementary to a formal IP system (Bernstein, 1992, Ellickson, 1991), but they can also exist as solitary systems when formal mechanisms are not available (Fauchart et al., 2008, Loshin, 2007, Oliar et al., 2008). Either way, norms-based IP systems are usually found in situations where formal IP

systems such as copyright law are not fully effective. This can be the case in situations where it is costly or virtually impossible to enforce formal IP systems (Oliar et al., 2008) or in situations where formal law can easily be circumvented (e.g. by minor changes to the design, Di Stefano et al. 2010).

Extant research has observed and described such norms-based IP systems in settings characterized by small, close-knit communities of individuals, such as elite circles, professional associations, or clubs (Dreyfuss, 2010, Fauchart et al., 2008, Loshin, 2007, Oliar et al., 2008). In fact, these characteristics appear as preconditions for the effectiveness of norms-based IP systems. Only if communities are sufficiently transparent, members can observe conformance or non-conformance of other community members and thus are able to detect and sanction violations of the norms. Moreover, in such intimate communities members have an incentive to adhere to community norms if they desire to engage in continuing, long-lasting, and sustainable interactions with other community members (Ellickson, 1991, Homans, 1951, 1958, 1966). Also the typical homogeneity of community members regarding background, objectives, and values supports the functioning of norms-based IP systems (Preece, 2000). Small communities also have the advantage that access to the community can be monitored precisely, allowing both for effective selection and explicit commitment (Dreyfuss, 2010). In his study on the informal IP system operating among the profession of magicians Loshin (2007) provides compelling evidence on how difficult it is to enter such a community.

Crowdsourcing communities diverge severely from these conditions. First, they allow only very limited entry control (in fact self-selection is seen as one of the key success factors of crowdsourcing, Lakhani et al. (2007)). Basically everyone who wants to participate in the contest can join. In many cases, individuals need not even register to see submitted contributions and threads of comments on the platform (e.g. in Threadless individuals only have to register if they want to submit a design). A one-time registration with username and password is sufficient for most crowdsourcing contests to join the community, thus access quasi unrestricted. Second, in online crowdsourcing communities individuals typically act anonymously and can easily change or delete their identities (Dholakia et al., 2004) which makes it easy to escape prosecution. Third, crowdsourcing communities can become extremely large with

sometimes literally millions of members (which is again seen as a major strength of this organizational form, Afuah et al. (2012)). The resulting volume of information and the complexity entailed clearly aggravates the detection of fraud compared to a small and clearly laid out group of a few individuals (Bicchieri, 1990). Fourth, also crowdsourcing's advantage of high heterogeneity regarding participants (Estellés-Arolas et al., 2012) is a disadvantage for establishing a norms-based IP system. Different backgrounds, objectives, roles, and values make it unlikely that ex ante notions of IP norms are similar (Husted, 2000) and the complexity entailed significantly hampers the establishment of a shared and joint understanding (Conklin, 2005). Finally, many users join crowdsourcing communities only for a very limited time, potentially reducing loyalty and longtime orientation (Bayus, 2013, Dahlander et al., 2012, Fleming et al., 2007). Taken together, these differences can be seen as counterarguments against the existence and effectiveness of norms-based IP systems in crowdsourcing communities.

3. Are there effective norms-based IP systems in crowdsourcing?

3.1 Research object: The Threadless.com community

We selected the crowdsourcing firm Threadless and its community as object of our research. Threadless has a very active crowdsourcing platform, on which designers submit innovative t-shirt designs to the Threadless platform (around 300 per day, Piller (2011)). Other community members vote and give feedback on the designs. Finally, the "best" ideas with the highest community votes and the most positive evaluation by Threadless staff members get printed.

The platform reflects an ideal case for the purpose of our research: It has both strong community elements (such as user-to-user feedback) and strong competitive elements (designers submit own designs, only a limited number of ideas gets produced, incentives are the rivalry goods of money and reputation etc.). Furthermore, everyone has access to the platform, including professionals and hobbyists. Threadless has a very large community (according to Piller (2010) the website has logged 2.5 million unique visitors in August 2010) with a high level of heterogeneity regarding backgrounds, roles, and probably objectives

and values. Another advantage is that at this platform IP stays with the user until Threadless selects the t-shirt design for production, after which IP rights go over to the company. This means in turn that IP issues are highly relevant for participants. Finally, Threadless is an ideal case for our study because discussion and exchange of information is available online and thus can be accessed easily. The high "traffic" of postings, the large number of message posters, and the high degree of between-member interactions makes Threadless an ideal environment for conducting a rich and detailed study required for this type of research questions (Kozinets, 2002).

3.2. Method

In order to investigate if there is a norms-based IP system at work within the Threadless community and if so, how exactly such a system operates, we used a multi-method approach (Jick, 1979). First, we analyzed postings at the Threadless platform in a "netnographic" approach (Kozinets, 2002). Our reasoning is that it is possible to *reconstruct* norms regarding IP based on discussions and posts of community members. Particularly if such norms are being violated, the resulting discussion should directly or indirectly reveal expectations about "normal" behavior regarding IP. Given that there is enough coherence in the data found, it is possible to infer the gestalt of the norms-based IP system. However, as the participation in such discussions is voluntary, it cannot be ruled out that there is a bias due to self-selection. Theoretically it is possible that only individuals with extreme opinions regarding IP norms participate and the norms we reconstruct are not representative for the entire community. Therefore, we added a second data source, namely a survey among average community members. In the questionnaire, we asked in how far people felt that the reconstructed system of norms actually mirrors extant norms of the Threadless community. As questions regarding social norms may be subject to problems of social desirability (Maccoby et al., 1954), we validated survey information by analyzing the actual behavior of participants in the Threadless community with regard to the norms at question.

Still there is a risk that our study does not capture the "real" norms-based IP system. The netnographic study deals with past data and relies on positive cases only (i.e. copies identified), the survey

relies on self-disclosed data how people would behave and like the first study bears the risk of self-selection. Theoretically, it could be that we had missed a substantial dark figure of community members who do not know or accept these norms, violate them, and go unnoticed (i.e. who are not documented in the discussions underlying the netnographic study) and also did not participate in the survey. If this was the case, a conclusion regarding the functioning of a norms-based IP system would be premature. In order to complement the other two studies, we thus conducted a field experiment. In this experiment, we intentionally violated IP by copying randomly chosen user designs and posted them as new submissions. If our account of the norms-based IP system based on the first two studies is correct, then we should observe the predicted reactions by the community.

3.2.1. Study 1: Netnography

Netnography is particularly useful in our context because it is a naturalistic and unobtrusive method and thus provides researchers with a window into naturally occurring behaviors (Kozinets, 2002). The data collection and analysis for our netnographic study of Threadless followed an iterative process. Social norms in many cases are not visible, in particular if a system of norms functions very well and actors conform (Arrow, 1971). Such tacit norms become more visible only in situations of breaching the norms, as such situations produce disorganized interactions that highlight how the structures of everyday activities are ordinarily created and maintained (Garfinkel, 1991). Similarly, the detailed functioning of IP systems becomes apparent when the system becomes active in response to infringement of IP rights. For this reason, the focus of our research was on analyzing cases in which community members alleged others of violating community norms regarding IP. Because of the vast amount of data (there have been millions of posts on in Threadless forums, blogs and Q&As from 2002 until 2012) it was critical to systematically search for relevant cases. For this purpose a panel of 15 individuals, familiar with the Threadless community, developed a list of 108 key words indicating infringements of IP. From this list, we excluded terms that turned out to be too broad (e.g. 157.000 discussion threads were found for the key word “creativity”), resulting in a consolidated list of eleven key words (“already printed”, “copied my”,

"existing design", "copied design", "copied my", "copy/paste", "imitation", "intellectual property", "rip off", "same design", "zero"). Based on this refined search heuristic, we generated a data base of 1,224,579 discussion comments. As this data still included many false positives (as copy cases are quite rare within the Threadless community), a team of 15 trained students screened all discussion threads for IP issues and filtered out all relevant cases. Eventually, we identified 6,424 discussion threads in the various forums of the Threadless community (i.e. comments on submission, critique, product pages or blogs) that were concerned with IP issues for further analysis.

We coded all relevant comments in a two-step approach. We used open coding (Strauss & Corbin, 1990) to identify first order concepts, i.e. themes regarding handling of IP issues that consistently recurred throughout the 6,424 discussion threads we analyzed. We then used axial coding (Corbin et al., 1990, Miles et al., 1994) to group these first order concepts into second order concepts representing distinct norms regarding the handling of IP in the Threadless community. Moreover, we used axial coding and memoing (Charmaz, 2006) for identifying relationships between norms and to understand the functioning of the norms-based system as a whole. Throughout our analysis we paid close attention to the context of each copy case such as specifics of the copied design or particularities in the process of how the detection of the copy was handled. Because of this intense and thorough preoccupation with data, lasting several months, the research team got a profound knowledge and understanding of community dynamics and processes concerning the handling of IP within the community.

3.2.2. Study 2: Survey

We conducted an online survey within the Threadless community in order to find out whether or not the norms-based IP system we identified was also reflected in the perceptions of Threadless community members. In the questionnaire, we introduced the norms with the following text: "In the following, we have listed some rules about copying designs that might or might not apply to the Threadless community. Please give us your opinion." Then each norm was listed and participants could tell their opinion on its prevalence ("This is a well-established rule among members", 1=strongly agree, 5=strongly disagree) and

whether they would adhere this norm ("Personally, I would follow this rule under all circumstances", 1=strongly agree, 5=strongly disagree). We inserted an open section where survey participants could add norms they perceive as important regulating intellectual property within Threadless ("Are there important unwritten rules regarding copying of designs we have missed? Please describe them in the blank box below."). To ensure comprehensibility we conducted a pretest based on a convenience sample with n= 52 outside the Threadless community.

The link to the online survey was posted on the Threadless site by a Threadless staff member (community manager) together with a call for participation. The announcement emphasized that the questionnaire was anonymous and for research purpose only. The questionnaire was online for six weeks. 146 people completed the questionnaire on the first two days already, with a total of 166 participants. A comparison of early and late respondents showed that there is no significant difference between the groups except for the control variables "visits of website" ($p<.01$), "interaction with other members" ($p<.01$), and "membership length" ($p<.005$), for which we expected such a difference as a higher activity on Threadless is likely to result in an earlier response. As no exact information on Threadless community member demographics exists, we could not compare them with the characteristics of the sample (see Appendix). However, on a qualitative basis, Threadless representatives assessed the sample to be representative for the community.

Social desirability is a potential threat in such surveys. In order to analyze in how far respondents' answers were biased we made an effort to validate individual responses. We did so by tracking whether the actual behavior of individual participants in the Threadless community is in accordance with the stated adherence to the norms. This was possible as respondents provided us with their Threadless user names, which enabled us to check their user profiles and study interactions on Threadless in which they were involved. Specifically, we developed a web-crawler to search the Threadless platform for all interactions in which survey respondents were involved (85,000 threads). Based on an analysis of 1,500 comments posted by 12 users we developed a coding scheme for identifying copy cases. We then selected a randomized sample of 33 users who were involved in 21,671 threads. Out of these interactions we

identified 256 threads on copy cases (with more than 10,000 posts in total) that we analyzed in detail. Specifically, we coded the postings of the 33 users for adherence/non-adherence to norms of the norms-based IP system and compared this observed behavior with the adherence/non-adherence they had stated in the survey. The coding was done by two independent coders who both analyzed every post within those 256 threads. The coders were trained together to have a similar understanding of norms and adherence to norms, resulting in a very high accordance of 98.5%. The overall results of our validation study were overwhelmingly convincing: only in 0.9% of all cases when a user indicated strong adherence to a norm (1 or 2 on a 5-point Likert scale) we could find some discrepancy. In sum, we can state that the data from the survey is sufficiently representative and valid.

3.2.3. Study 3: Experiment

The hard test of the prevalence and effectiveness of the norms-based IP system is whether the community reacts on infringements of IP in the predicted way. With full consent of Threadless, we therefore randomly selected a total of 64 designs that had been submitted to the Threadless platform. Due to the randomness of the selection of copied designs our sample includes both more and less popular designs that were only seen and scored by very few people. We then copied them, and submitted them about 4 weeks after their original submission to Threadless under different false names. The time difference was important as the violation would be quite obvious if original and copy would be scored (almost) simultaneously by the community. The difference of 4 weeks equals roughly 8,000 designs that had been submitted in the meantime, which means that the detection of the copy was by no means trivial. We stretched the experiment over a time of almost half a year in order to avoid an "artificial" alertness due to an agglomeration of copy cases. Each week, we submitted three copies; the exact day varied randomly to avoid patterns that could be recognized by community members. Our agreement with Threadless included that as soon as someone detected the copy and reacted to the violation of community norms, both the design and the profile used for submitting the design were removed. We did not inform the original designer in order not to endanger the test.

3.3. Findings: "The 7 IP commandments"

We found that within the Threadless community a system of seven core norms regulate the handling of intellectual property. These norms include three copying norms (1-3), three norms concerning the process handling of an alleged copy case (4-6), and the sanctioning in case of a copy norm infringement (7). In this section we describe them individually.

Norm 1: You must not make a copy of a design

On Dec. 29, 2007 the user "morboislegend" submitted the design "WWMD" (Figure 1) in the Threadless "Critiques" section, a place for designers to upload drafts in order to get community feedback on how to improve the design.



Figure 1: A 1:1 copy in the "WWMD" copy case

Only 12 minutes later, a user detected that the design was a copy of the design "What would Macgyver do?" (Figure 1) by the user "Glenn Jones".

> *"DON'T SUBMIT! or else you'll be sorry."* (KDLIG)

A few minutes later the next user complained and included a link to the original design.

"OH NO YOU DI-NT! OH NO YOU DI-NT" (Tonteau)

Within less than one hour after posting the copied design, community members posted another 10 comments, all condemning morboislegend's blatancy to upload a 1:1 copy, for example:

"wtf? please tell me this is a joke" (matthijs)

"SUBMIT! I would totally wear this! - Oh wait, I wore it yesterday" (squatterjohn)

"i guess morboislegend has a good sense of humor, nah? :)" (Jebs)

The case ended on Feb. 10, 2008 with the deletion of morboislegend's design.

Although relatively rare, we found another 38 cases of complete 1:1 copies. In all of them the community reacted furiously. This allowed us to conclude that "You must not make a copy of a design!" is indeed a central norm within the Threadless community (see Table 1). Its members are designers and design enthusiasts, many of which work hard on creating unique designs they want to see winning a contest or, if they are not able to be a winner, at least gain reputation as a creative designers among their peers. They do not want free riders to gain financial or reputational awards, so they help each other in protecting original designs by commenting on designs that violate this norm:

"No one deserves 1000 dollars for ripping off another person's shirt." (Killerlamb)

"You're taking credit for something someone else did." (stellaluna530)

The importance of this norm within Threadless is also reflected in the survey. 95.0% of the participants strongly agreed that the norm "You must not make a copy of a design!" is a well-established rule among members, and 98.6% indicated that they would adhere to this norm under all circumstances (mean=1.07, SD=.29).

Central concepts of Norm 1	**Exemplary quotes**
1:1 copying prohibited	*"OBviously there are 7 people who do not know that this is ALREADY a shirt... and i mean, exactly this shirt has already been done."* (amoania) *"this is a shirt already!!!! are u insane?!"* (Robot_Lovee) *"this is a total rip-off of heartcore"* (burnthiscitydown) *"Using a similar concept is one thing, but outright plagiarism? Wow..."* (Wheels03)
Copying of design elements prohibited	*"why did you steal the hair from Lovely Face?* [link to original design]" (SuperRyan) *"I just examined both heads and They are exact. come on. The same little sprig of hair in the front? the SAME highlight in the head? The little fold in the shirt above the pants? The bulge in the tricep area of his right arm?"* (LOSMATTOCKS) *"Dude, when the cow is exactly the same shape with all the spots in the same place, it is pretty for sure stolen. Sure the original artist didn't invent the cow, but she did invent this particular cow."* (Miss Creant)
Concept copying prohibited	*"Following a particular style isn't a problem, rather it's the submissions that steal other's exact design concepts. There is nothing original, creative, or innovative about this design. Sorry to sound like a bitch, but it's true."* (ljluense) *"same exact idea."* (theycall me special K) *"dont fuck with the […tee concept]. come up with your own ideas you asshole. i feel like making 5 new acounts and giving you a zero on them all."* (twniehaus)

Table 1: Grounding of Norm 1 in the netnographic data

Besides 1:1 copies of the complete design, which are not only infringing community norms but are also against US and international copyright law as well as Threadless Terms and Conditions, there are two other forms of violation of the norm.

The first is copying of design elements created by other community members. This means that a Threadless member does not make a complete copy but only takes over parts of the original or changes it slightly as happened in the following case (see Figure 2).



Original (printed) design



Copied design

Figure 2: A copy of design elements in the "MC'80" copy case

On January 28, 2011 the user "Confusional" submitted his design "MC'80" with elements taken from another design. The next day, "SuperRyan" discovered the copied design elements and posted the comment:

"*why did you steal the hair from Lovely Face?* [link to original design]"

The copier tried to argue with SuperRyan, but more and more community members joined in the conversation and accused him of stealing the design element:

"stolen from a printed design.. 0" (Resistance)

Confusional tries to bring arguments why he thinks that the design is a reverence and no copy, but he falls on deaf ears in the community. The case ended with the slandering of Confusional on Feb. 02, 2011. Again, this is not a single case. In 34 (21.9%) of the copy cases we analyzed users referred to partial copies of designs.

Yet another form of violating the general norm "you must not make a copy of a design" is to copy the concept, i.e. the central idea behind a design. Concept copies are more subtle, thus more difficult to identify. For example, the user "bocaa" submitted the design "butter_fly" on January 23, 2006 (see Figure 3), which imitates an already existing concept punning with butter and butterfly.

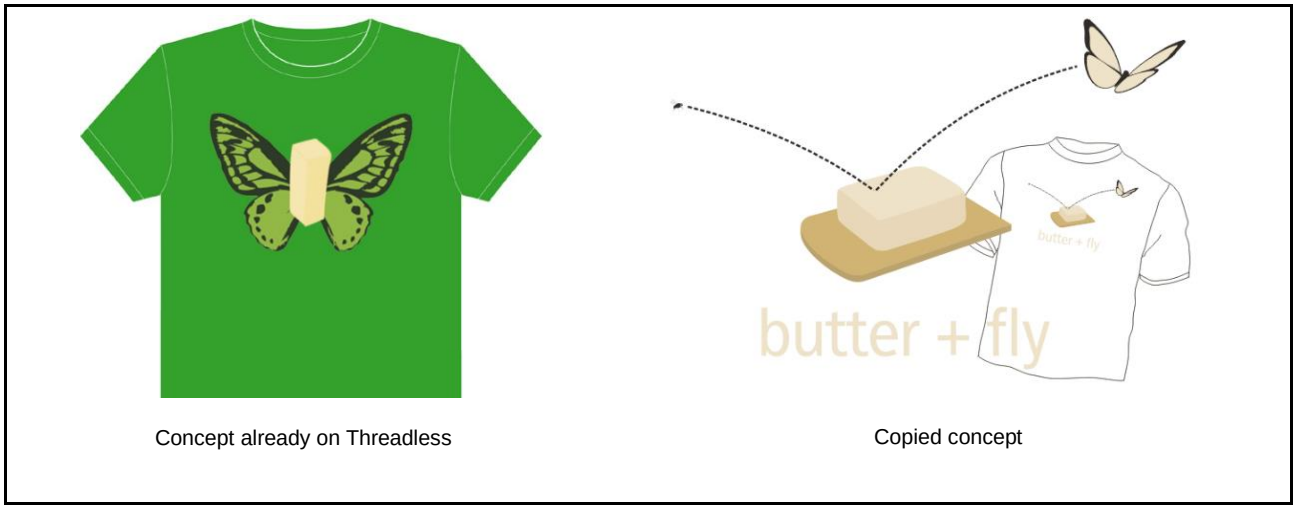


Figure 3: A concept copy in the "butter_fly" copy case

The community instantly reacted by commenting that this design had been submitted before:

> "*there have been like.. 3 subs about butterflies just like this*" (mynameisnette)

> „*Seriously, I'm beginning to think that there's some kind of secret Threadless society hell-bent on submitting the same damn mediocre ideas in (slightly) varying forms. Imitation may be a form of flattery, but we need to draw the line somewhere, right?*" (lankytom)

> "*So so overdone. 0 for originality 2 for execution*" (InYourEyes-xo)

The case ended on Jan. 24, 2006 with slandering the copier.

As copying the concept behind a design technically is not a copy of that design, formal copyright law is not applicable at all (and neither are Terms and Conditions of Threadless). Whereas formal IP systems only protect the expression of an idea, not the idea itself, Threadless' norms-based IP system even sees in the theft of the idea an infringement against which the community needs to be protected. Of course this aspect of Norm 1 is far more ambiguous than the other two. For example, often it might be difficult to delineate the border between inspiration and imitation, or it might not be clear who actually came up with the idea first:

> *"sometimes there's a thin line between copying, and coincidentally having the same idea with a different execution."* (anonymous survey response)

> *"similar concept does not equate to copied designs....know the difference!"* (anonymous survey response)

As a consequence, many of the copy cases we studied included debates whether or not a design was an illegitimate copy of another user's concept. In 89 copy cases (57.4%) we found discussions regarding a copy of a concept (210 postings). Interestingly, only in three out of these cases the issue was escalated to Threadless. We observed that users often negotiated these conflicts and settled the case within the discussion forums, whereas users alleged of submitting a 1:1 copy (complete or part of a design) hardly ever responded to such accusations. Users submitting designs based on the same or very similar concept tended to react promptly to accusations. Often they were exasperated and defended themselves. Most of the comments contained excuses of not knowing that there has been a concept like that before, that people have same ideas all the time or that their concept is much more original and better performed or interpreted. Some were sad or showed remorse for not knowing better.

> *"interesting…I must say that this is total coincidence, and only backs up my theory that there is nothing left in this world that has not been done.*
> *However I managed to include a reference to a historical event….either way I see your point, thanks for making me feel bad."* (ronlewis, Apr. 4, 2005)

In this case, again, originality and creativity are key criteria for determining whether or not a copy is legitimate. The topic of originality was brought up in 46.1% of all concept copy cases.

In short, copies of concepts are not accepted by the Threadless community when the execution is weakly done, the copy is unoriginal or there are several (unoriginal) submissions of a concept within some weeks/months ("overused concepts"). Often there are design trends, "genres" or design elements (panda bears, sunflowers, rainbows etc.) that come up very often. These concepts are well-known within the community and many new interpretations of those concepts are not welcome, unless the execution of the idea is very original.

Norm 2: If you want to copy parts of a design, you have to ask the original designer

Copying parts of designs is not generally prohibited in the Threadless community. There are extenuating circumstances as the following case shows. AlexMacDuff submitted the design "Traveling Time, Dropping Rhymes" on April 18, 2010 with the following text:

> *"For the Threadless Loves Vevo Challenge, I thought it would be cool to design an homage to the great fatheed's "Eating Brains, Throwing Shapes" tee, set to one of my favorite music videos of all time, The Beastie Boys' "Intergalactic." It's a classic video, and the Boys' crazy poses lend themselves well to this design structure. I contacted fatheed, who graciously gave me permission to rip off his legendary design. Thanks, Aled! Watch the music video HERE* [link]. *Check out the critique HERE* [link]."

AlexMacDuff indicated in his comment that he was seeking permission from fatheed, the creator of the original design he had used as inspiration. The community's reaction to this was quite positive, not just because they liked the design; several community members explicitly mentioned in their comments that they appreciated AlexMacDuff's adhering to the community norms and gave him high scores as a result:

> *"Good job, and I really like that you contacted Aled about this, it shows lots of thought and class."* (applesforjonah)

> *"Super nice combo here, both the video and the Aled original lend themselves nicely to the concept here."* (FRICKINAWESOME)

> *"I'm giving you 5 for this line: I contacted fatheed, who graciously gave me permission to rip off his legendary design. Thanks, Aled! 5*" (staffell)

In our netnographic analysis, we found 11 copy cases in which users explicitly stated that if designers wanted to copy parts of an existing design, they have to ask the original designer before (Table 2).

Central concept of Norm 2	**Exemplary quotes**
Ask for permission	*"Did you get the original guys permission? probably not... I think that's where the problem lies."* (bananaphone) *"She should have asked the artist's permission - but then, how do we know that she didn't?"* (Vindemiatrix) *"i wrote to Kooky love and he told me that it was ok for him, and that if i wanted i should submit my design. So everything's ok with Kooky.* [link]. *Peace everyone*" (alvarejo)

Table 2: Grounding of Norm 2 in the netnographic data

The prevalence of this mitigating norm can be further substantiated by two more findings. First, when broadening the netnographic focus to blog entries and to comments on cases where no accusations had been made and, we came across many more references to this norm, e.g.

> *"While working on this someone pointed out to me that something similar has been done by Brock aka 'the amazing' Laser Bread. I contacted Brock and he was okay with me submitting this! Thanks Brock! Hope you all like this design!"* (Mosquito88)

Second, results of the survey showed that 89.0% of the participants strongly agreed that this norm is well-established among members (mean=1.55, SD=.74), and 95.6% revealed that they would adhere to this norm under all circumstances (mean=1.22, SD=.55).

Norm 3: If you copy parts of a design, you have to refer to the original designer

Closely related to Norm 2 is the norm that designers have to cite the original design if they took over concepts or design elements with permission of the original creator. In the previous example, as AlexMacDuff was indicating that he got permission from the original creator, he was at the same time linking to the original design and thus complying with this norm.

Central concept of Norm 3	**Exemplary quotes**
Give detailed references when submitting a partly copied design	*"inspired by […name of original design] , i decided to do my own version. i kinda like it =)"* (classicoke) *"The fact that people mess with & modify my work & redistribute it without my permission, & without fully crediting me, really makes me mad .Copying (which amounts to theft) is not a compliment."* (karena@magicjelly)

Table 3: Grounding of Norm 3 in the netnographic data

We found references to this norm in 11 cases (Table 3). The prevalence of this norm is also reflected in strong agreement with the norm by 84.8% of the survey participants (mean=1.76, SD=..88) and 93.4% claiming to adhere to it under all circumstances (mean=1.33, SD=.73).

If people refer to the original designer, the important effects of inspiration, cross-fertilization, and accumulation are facilitated, while the achievement of the original designer is still acknowledged. In a way, this norm resembles of citations in scholarly work. If designers are inspired by someone else and make creative designs re-using some elements, it is their responsibility to comply with both Norm 2 and Norm 3.

Norm 4: If you are suspicious about the origin of a design, you have to check if it is a copy or not

Charaspower submitted the design "The night wolf" on July 25, 2008. First, the community reacted very positively to the design. However, a few people stated that the design reminded them of something. One community member suggested that the design was quite similar to a band album cover:

> *"Oh my gosh. I like this so much. Reminds me of the rat creatures from the Bone series by Jeff Smith."* (koalakiwi49)

Then, six days later, a user came up with the results of an accurate analysis.

> *"so it was bugging me and I went to my comic shelf and sure enough battlechasers,* [link to battlechasers, a fantasy comic series] *and an overlay of your blacks - overlay* [link to overlay] *I am not happy about this but it appears that you have totally ripped off joe madureira - it would not line up so well if you had not"* (ISABOA)

The user ISABOA did not spare any effort in order to find out if this design is a copy or not: She made an overlay of the original and the copy in order to check if it is really a copy and prove it (Figure 4).



Figure 4: Checking of a copied element in the "night wolf" copy case

The norm exemplified in this case is a further "security instrument" that no copied design gets printed. But it also demonstrates that community members support each other against copiers and everyone should take

part in it. Everyone is expected to check whether a submitted design is copied. Especially, before making an accusation it is the duty for every member who has doubts to check the design and look for evidence that it is a copy – or not. Ideally, this should be done before making the copy case public. We found 42 references to this norm in the cases we analyzed by means of netnography (Table 4). Again, results of the survey confirmed that this is an accepted norm (85.6% strong agreement, mean=1.72, SD=.85) people generally adhere to (92.8% adhere to it under all circumstances, mean=1.36, SD=.71).

Central concepts of Norm 4	**Exemplary quotes**
In case of suspicion look for original source	*"Hmm, that vampire bat sure looks familiar...I wonder why I could TRACE it back to... google image search vampire bat anyone?"* (laughics, June 24, 2010) *"This one might be changed enough but it looks familiar [link to original and suspected copy]. This one looks familiar, but I'm not sure [link to original and suspected copy]"* (ibyes, blog entry)
Threadless "Police" members that are especially suspicious	*"!!!RIP OFF ARTIST STEALING WORK - PLEASE HELP!!! Caught this dude on Society6 ripping off well known Threadless artists including myself and thought I might take a stronger stance on this matter."* (murraymullet, blog entry) *"Threadless police force crackdown strikes again"* (olie!) *"get over yourselves, plagiarism police"* (taz-pie)

Table 4: Grounding of Norm 4 in the netnographic data

Widespread adherence to this norm implies that the Threadless community can rely on multilateral monitoring and enforcement of social norms, a mechanism that many researchers have found to be highly effective (Ostrom, 1990). Communities that self-organize to monitor compliance with social norms can be more effective than authorities or markets because peers have crucial information about other members' behaviors, capacities and needs (Bowles et al., 2002). Community members can use this insider information to uphold norms.

A very interesting aspect of the norms-based IP system of Threadless and particularly of this norm is that there is some division of labor and specialization of roles going on. Some people engage in enforcing the norms more than others. They are sometimes even called the "plagiarism police". These

"policemen" very actively search for and engage in detecting stolen designs. When validating our survey results we found that among the 166 participants there was a small cluster of 3 users who appeared to fall into this category. They were all long-term members of the community (mean 5.75 years) and had submitted between 45 and 121 designs, which are very high numbers. They were also highly active members, interacting with other community members almost on daily base and each had scored on average around 80,000 designs. They reported that they strongly adhered to the norms-system, closely watched other members and made copy cases public, if necessary. These police members "patrolled" Threadless submissions and watched out for copied designs, and if they were not sure whether or not a design had been copied they posted about the suspected copy in a forum dedicated for copy cases and asked the community if anyone had evidence that the design had indeed been stolen. In case of arguments which designer came up with an idea first, the police not only checked submissions but also tried to trace back early draft designs in critique sections or blogs to evaluate who had been the original creator. Particularly blatant copiers could end up on a watch list be checked more regularly for potential violations.

The community approves the work of the "plagiarism police" and the valuable function they perform for Threadless by enforcing the norms-based IP system. This is visible in many comments such as:

"you deserve a badge for this stuff." (thompson98)

"Whoah... good catch Christina!" (Pyne)

"damn...nice catch" (BeanePod)

However, community members feel ambivalent about the force and power exercised by this police. Not everyone in the community likes their fierce and aggressive behavior, sometimes resulting in false and unsubstantiated allegations. In such cases it often happens that other community members sympathize with the individual illegitimately attacked by the police and start to slander the plagiarism police that failed to act appropriately.

Norm 5: If you find that a design was copied, you have to make the copy case public

On April 15, 2013 the user "Justcreative" submitted the design "The Dreamer Skateboarder". After first initial compliments by the community, within half an hour after submission "daciandaytripper" posted:

> *"I don't want to be mean but* [link to original]" (daciandaytripper)

In his reaction, Justcreative pretends to be the same person as the original designer:

> *"You know what, I'm the same illustrator"* (Justcreative)

However, other community members checked the identity of the original creator and found out that this was not true. Eventually, the original creator also joined the thread:

> *"This is stolen. I know you claim to be the same artist as the […] ..but i'm sure Threadless user Robert Farkas aka astro_naut, would beg to differ."* (mechanicalrobotpower)
>
> *"BUSTED"* (Morkiki)
>
> *"Justcreative, that wasn't creative:) And go and fckyrslf!:)"* (astro_naut, original creator)

As the community went on condemning the allegedly stolen design and also started referring to the copy in other Threadless blogs, Justcreative acknowledged the infringement, offered an apology, and begs the community to stop commenting on the case. Justcreative indicated that she asked Threadless to remove the copied design. In all copy cases included in our study, the case was made public by a community member either by directly pointing out a violation as in the example above, or in less obvious cases by raising their suspicion.

As Table 5 indicates, the norm "you have to make the copy case public" has two important functions for the community. First, making the case public should alert to community in order to make sure that copied designs are identified as such. This is an important element for enforcing the norms-based IP system, as without knowledge of a copy case the community would not be able to engage in sanctioning behavior. Moreover, alerting the community triggers further attention of other community members and helps to prove a copy case, or in some instances even uncover potential other violations by the same community member. The second function of this norm is to give due credit to those who deserve it. As already seen with norm 1, there is a strong community sense among designers. They feel the

obligation to help protect one another's designs and want to support designers whose creative work had been stolen. In no case, credit should go to individuals who copied someone else's work.

Central concepts of Norm 5	**Exemplary quotes**
Alert community	*"Hi all! I stumbled across this design [link to copy] and instantly recognised it as being very similar to [link to original] by Rachel Caldwell. Rachel is extremely talented and very supportive to other artists so this was crap to see. Just thought I'd let you guys know here as not too sure where else to report it. Happy drawing!" (Mat Miller, Aug. 22, 2013)*
Call attention to original designer	*"The person who created this is named Brianne Tweddle. I know as I shared a brief artistic discourse with her many years ago when I still used DA. You need to take this down. Now." (Smokingornon)* *":o You stole that, practically it's the same from Roluart, you just make it a stupid doodle and changed the phrase >:("* (Just_Lucas, Mar. 11, 2013)

Table 5: Grounding of Norm 5 in the netnographic data

This norm also shows the preference of the community to self-enforce the handling of IP issues: rather than escalating issues to an authority by reporting IP violations to Threadless, community members prefer to post comments about allegedly stolen designs to the community for evaluation, fair trial, and eventual sanctioning. Indeed, 85.0% of survey participants stated that the norm "you have to make the copy case public" is a well-established rule among members (mean=1.75, SD=.87), and 85.4% indicated that they would adhere to this norm under all circumstances (mean=1.73, SD=.97).

Norm 6: The public trial must be fair

On May 11, 2006 community members commented on a newly submitted design. Two users found that they had seen it before and speculated that it could be a resubmission. The user "theworldinyour_eyes" joined the conversation; he did not believe it was a resubmission and accused "FlshWonder" of having stolen the design:

> "*well, she only had one other sub and it looks nothing like this, so i'd say--ripoff!*"

Other community members instantly jump in and advise thewolrdinyour_eves that it is not appropriate to accuse someone of copying a design, if one cannot provide a link:

> "*theworldinyour_eyes, it's not fair to shout ripoff if you don't provide a link to the design you believe is being ripped off. so...*" (spencekarl)

> "*Calling something a ripoff without a link is SO unfair - can someone link this? Won't it show on the profile if it's a resub?*" (na-nu)

The falsely alleged designer thanked na-nu and other users for their supportive comments and used the opportunity to clarify. It turned out that it was indeed a resubmission of a design he had submitted before. Threadless had removed the original design upon his request because it had some flaws that he wanted to fix with the resubmission. In short, the allegations had no substance.

In our netnographic analysis, we found in 101 more cases in which community members allowed us to conclude that fairness of the public trial is a core value within the Threadless community. Based on this variety of cases we specifically identified three aspects that are central to this norm (Table 6). First, community members must never falsely accuse someone, neither on purpose, nor because they were negligent researching the case. As Threadless user "xiv" indicated in a blog entry:

> *"If you called out a design in the submission comments, then later apologized for false accusation, its too late. The damage has already been done.*" (Jun. 08, 2011 – blog entry)

The second aspect of this norm is, if you are convinced that someone has stolen a design, you have to make the proof available to other members of the community. This is important for other members to be able to decide themselves on the case and whether or not they would like to take any action. This is important in the Threadless community, because the verdict is not made by a higher instance; rather, each community member has to judge for himself about right and wrong and whether the copier should be sanctioned.

Third, it is also important that alleged copiers have the possibility to defend their cases and explain how the "copy" happened or why they do not think that it is a copy. If it turns out, as in the above example, that a user erroneously has been accused, other community members often feel sorry or even ashamed about what happened. In the cases we studied it happened several times that the community

backfired if a member made accusations without presenting a proof. Interestingly, as in formal IP regimes, the burden of proof lies with the plaintiff, such that the alleged copier is not guilty until proven otherwise. We even came across a community member who had developed a bad reputation for denouncing several submitted designs with very little substance in each case. In such cases the community often reacted by defending the alleged copier.

Central concepts of Norm 6	**Exemplary quotes**
Never falsely accuse someone!	[reference to a case, where someone was accused falsely] "that was shameful shit on behalf of the community"(tesco, Jun. 09, 2011 – blog entry) "It's impossible not to make mistakes from time to time, but the persons that participate in the rip blog I think we do it for doing the better for all and not the wrong, we could jump and say that's not yours! but we prepare our case, we research before we say something." (ivanrodero, Jun. 09, 2011 – blog entry)
You have to provide prove (in form of a link or a reference) – do not accuse without proof!	"I dunno, I see the similarities, but is there an iron clad picture to this story? I mean, it looks like they both draw creatures. So does Brian Froud... where is the theft? I am not saying that anyone is innocent or guilty, I just want to see exactly where the proof of a rip off is." (MissIchigo, Sep. 20, 2006) "I require proof before I take any sort of action." (Outlaw01, Jun. 09, 2011, blog entry) "yeah, i don't think people should start yelling 'rip' until they know for certain. that's really lame." (myteemo, Jun. 08, 2011 – blog entry)
Give the copier the chance to defend him-/herself!	"If someone has a design very close to someone else it doesn't mean that it's copied. Great minds think alike very often. Give the designer the right to explain himself." (Mosquito88, open section in survey) "If a designer is accused of copying a design, it's fair and appropriate to give them the opportunity to defend their actions and/or refute the claim." (lunchboxbrain, open section in survey)

Table 6: Grounding of Norm 6 in the netnographic data

Besides the fact that we found references to the importance of a fair trial in 65.8% of all copy cases, the importance of this norm is also reflected in the survey. The results showed that 90.0% of the participants strongly agreed that this norm is well-established among members (mean=1.50, SD=.71), and 96.8% revealed that they would adhere to this norm under all circumstances (mean=1.16, SD=.46).

Norm 7: If someone has been caught copying a design, you have to join in a collective sanctioning of the copier

When the public trial comes to an end after arguments and facts have been exchanged, typically some form of a verdict results. As mentioned above, the verdict is not made by a higher instance; rather each community member has to judge for himself whether or not the alleged copier is guilty and thus should be sanctioned. In case a community member is convinced that a violation of the "you must not make a copy" norm has been proven and that there are no mitigating causes, the community member is expected to follow the norm to join in a collective sanctioning of the copier.

When the Threadless community found that the design "Mr. & Mrs. Spring" submitted by the user "thedesignsavvy" on January 1, 2007 was an exact copy of the design "Spring" by "treebeans" except of color and few design element changes, the collective sanctioning was slandering and downvoting:

"u must be a complete idiot to think u could get away with that 0" (BrandonB11)

"what a silly asshole you are" (lemonalle)

"OMG! BASTARDO...- 0" (label)

"-100" (littlem)

"uncool... way uncool... I'm ashamed to be a fellow Asian..."(MeLa de Gypsie)

"die slowly and painfully.". (joshamman)

As one community member, stephenstudios, did not sanction the copier (potentially because he did not read the comments and recognize the design as stolen) but indicated that he had scored 4 points for the design, the community immediately warned him that the design was stolen and he should reconsider the vote:

"then I suggest re-scoring it a big fat "0"" (melhel86)

"yeah stephenstudios, read all the other comments on this design" (staffell)

Eventually, the community was very pleased to see that 2,197 members had voted for the design resulting in a very low average score of 1.78 and, after a while, several users posted comments urging Threadless to delete the submission from their website:

"i can't believe this is still up! HELLOOOO THREADLESS!!! take it down!" (jillpettipas)

"thanks poeple for your reactions. i hope that threadless will remove it!" (treebeans, original designer).

Central concepts of Norm 7	**Exemplary quotes**
Downvoting	"big fat zero. its not cool, funny, or interesting." (los lobos, Jul. 15, 2005) "I OWN THIS SHIRT FROM HARDCORE . ZERO FOR YOU." (theyspunaweb, Aug. 24, 2006) "Boooo complete zero for stealing an idea" (mszunefan, Aug. 18, 2007)
Slander	"ZERO ZERO ZERO ZERO ZERO ZERO ZERO Go slit your throat and stop stealing t-shirt designs." (Kidwiththechemicals, Aug. 25, 2006) "get your own ideas kids,..... really. Have you no Shame? You baffle me." (dubpapa, Sep. 08, 2005) "BAD BAD BAD BAD BAD BAD BAD PERSON YOU! FOR SHAME! BAD BAD BAD BAD BAD BAD BAD! BAD! STUPID BAD NO NO NO NO NO BAd PERSON YOU!" (whimsybatt, Jan. 19, 2005)
Warn other members on voting	"If it's proved that a design is a complete copy, the community members should be warned before voting on the copier's other designs." (Threadless user, open section in survey) "EVERYBODY VOTE THIS AS A 0!!!!!!" (shibby558899, Jan. 13, 2008)
Observe copier	"If I know that one design has been plagiarised, I will look much more critically at other designs, as there is reason to suspect that they are not the submitter's original work. That being said, I don't deliberately give lower scores to the other submissions if they appear to be original." (mismonaut, Jun. 08, 2011, blog entry) "Get caught once, and be placed under the microscope from then on." (xiv, open section in survey)
Involve Threadless	"[posted link] Like the others said, it s stolen. I've informed the artist that you used his picture. I'm not sure how to report a copyright violation on threadless but I'm definitely going to find out." (Michael_Joseph, Jan. 17, 2005) "Threadless should definitely follow up on this one!!" (ladykat, May 05, 2007)

Table 7: Grounding of Norm 7 in the netnographic data

These various forms of sanctioning used by the Threadless community (Table 7) have in common that, in order to be effective, they require collective action by a sufficiently large number of community

members. Particularly in the case of downvoting, the most frequently found sanctioning, it would not really hurt if only a few individuals who recognized a design as copy gave a low score. Collective downvoting, however, results in very low average scores signaling there was something wrong with the design. Similarly slander or putting the copier on a watchlist only become powerful instruments if there is a larger collective endorsing and participating in the sanctioning, and Threadless usually would not intervene if only one or a few individuals request to delete a design or a user profile. For this reason, the norm that "If someone has been caught copying a design, you have to join in a collective sanctioning of the copier" is central to enforcing the overall norms-based IP system in Threadless.

We found evidence of collective sanctioning in 49 out of 155 cases (31.6%). Despite the importance of widespread participation to make sanctions effective, our survey results suggest that adherence to this norm is somewhat lower than for all other norms. Only 79.2% survey participants stated that they would adhere to this norm under all circumstances (mean=2.04, SD=1.16). 77.8% of the participants strongly agreed that this norm is well-established among members (mean=2.11, SD=1.10).

Part of the relatively low adherence to this norm may be related to mitigating circumstances that we observed in many cases. For example, if copiers are able to demonstrate their good intentions by offering a sincere apology and showing understanding, the community reaction may be mild. After the copier had posted this comment, for example, the slandering by the community stopped instantly:

> *"My dear critics, fellow designers and tee shirt coinsures, I would like to formally apologize. It was never my intention to deceive anyone. […] Please don't think of me as a dishonest person. I submitted this design with the purist of intentions. Thank you all for you comments."* (brenden_strang, Mar. 05, 2007)

The community seems to be particularly forgiving if a copier is a newbie and it is apparent that he is not yet familiar with the norms of the community. In particular if the member demonstrates understanding and willingness to learn the rules of the Threadless community, the community reaction typically is not very harsh. It is quite common, for example, that experienced members explain the norms to the accused member, in particular if they had been socialized in communities other than Threadless.

This suggests that despite the existence of a strong norms-based IP system, including norms for collective sanctioning, Threadless appears to rely on positive values and a strong community spirit.

3.4. Findings: The norms-based IP system at work

We observed in our netnography that the functioning of the norms-based IP system is complex. In hardly any case there was just one norm that helped to protect IP of Threadless community members; rather, we typically observed that in each case the various norms were interwoven with one another. Therefore, it is important to look at the interplay of the different norms in order to understand how this norms-based IP system functions as a whole.

An intuitive way of explaining how the overall norms-based IP system works is to describe how an ideal typical copy case plays out from submission to sanction (Figure 5). Right after submission of a design, the community checks whether or not there might be any IP related issues. Specifically, Threadless members make sure the design is indeed an original creation, i.e. it is not a complete copy (Norm 1: You must not make a copy of a design), or if design elements have been borrowed from other designs the submitter has obtained permission to do so (Norm 2: If you want to copy parts of a design, you have to ask the original designer) and that you clearly attribute to the original designer (Norm 3: If you copy parts of a design, you have to refer to the original designer). Community members check designs in a check suspicious designs in a decentralized and self-organized way (Norm 4: If you are suspicious about the origin of a design, you have to check if it is a copy or not). If the submission passes this test, there won't be any further discussion. However, if the community finds that any of these norms has been violated, a process of prosecution (similar to a criminal justice process) will be set in motion.

The first step of this prosecution is to make the allegations public by posting a comment on the submission page (Norm 5: If you find that a design was copied, you have to make the copy case public), giving the original creator and other community members a chance to participate in the trial and to demonstrate publicly how the community is dealing with violations of its norms. But equally important, the alleged copier needs to be heard in this process and prosecutors must make their case without

prejudice; for failing to do so, prosecutors might get sanctioned themselves (Norm 6: The public trial must be fair). This process can take time and have multiple iterations, but in many instances the case is obvious and a verdict will emerge instantly. Eventually, once the community collectively has made make a verdict and the alleged copier is found guilty, there will be a collective sanctioning of the copier (Norm 7: If someone has been caught copying a design, you have to join in a collective sanctioning of the copier).

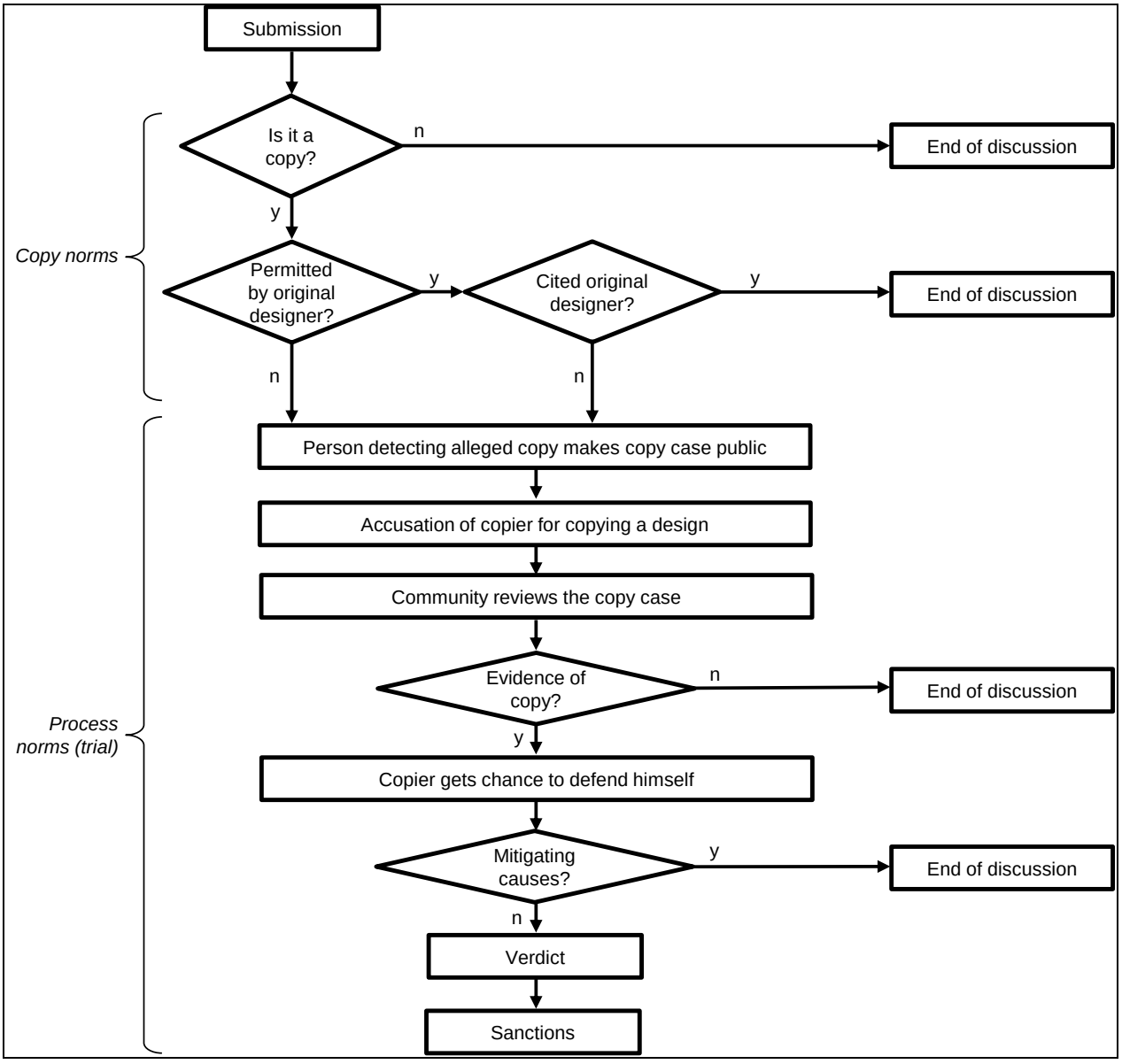


Figure 5: Stylized process of a copy case from submission to sanction

In the 155 copy cases of our netnography we frequently encountered an interplay of the seven norms, or subsets thereof, that ideally fit the ideal typical process outlined above. We can assume that this is an accurate representation of the norms-based IP system of Threadless, as we reached theoretical saturation in our qualitative study (no new norms were identified after analyzing 155 copy cases) and the patterns of how the different norms were related with one another were highly consistent across all cases. In addition, 142 survey participants (83.6%) indicated that they "agree" or even "strongly agree" that the system of norms we described is well established in the Threadless community. Moreover, the responses to an open survey question (asking for additional informal rules regarding copying that we had missed) did not suggest any norms beyond the ones we identified.

The ultimate proof of the existence and functioning of the norms-based IP system within the Threadless community is the experiment in which we deliberately violated the copying norm. If and only if these violations are effectively identified and the process sketched above is started, we can conclude that within this community a norms-based IP system solves the imitation problem that inevitably arises when great IP is accessible and is not protected by formal law. The results are impressive. From the 32 copies of more popular originals (originals exceeding the median score) more than two third (22 copies) were immediately detected by the community. The reaction fully corresponded with the process described above: The imitation was immediately made public, often proven with links to the original, negatively commented, etc. (however, we deleted the posting immediately after the first comments as explained in the Method section). Naturally, the less popular designs receive somewhat less attention, resulting in an overall detection rate of almost 50% (30 of the 64 submitted copies). Given the many thousand submissions during the time of the experiment, this result can be considered a substantial clearance ratio.

4. Why do crowdsourcing community members adhere to norms?

In the former section we have described the astonishingly effective norms-based IP system within the Threadless community. The obvious next question concerns the "why". Why do members adhere to the

norms? We develop four rival hypotheses, each grounded in different literatures and offering an alternative explanation, and test their individual explanatory power quantitatively.

4.1. Four rival hypotheses

The classic explanation for the adherence to norms is that people fear sanctions. Deterrence theory suggests that punishment certainty and punishment severity have a negative influence on the likelihood of the violations of norms (Elster, 1989, Peace et al., 2003, Posner, 1997). This is fully in line with economic thinking. If the expected utility of violating the norm is greater than the expected utility of adhering to it, a rational actor will prefer to violate the norm (Savage, 1954, von Neumann et al., 1944, Vriend, 1996). The tenets of this theory underlie legal systems (Polinsky et al., 1999, Posner, 1985), strategic affairs (Achen et al., 1989), and military policies (Huth et al., 1993).

Does this provide an explanation to the prevalent adherence to the norms within the Threadless community? Evidence for this can be seen in other studies on norms-based IP systems where the fear of sanctions is the dominant explanation. For example, Fauchart et al. (2008) show in their study that chefs transgressing the norms are "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" (Fauchart et al., 2008:193f). Another argument stems from the norms-based IP system itself, as we had described it in the previous section. Not only does the system contain an element of punishment in case of proven infringements, we also observed that collective sanctioning in form of slandering or downvoting actually takes place within the Threadless community.

On the other hand and as a counterargument, we have to note that the costs induced by punishment in large, anonymous, and loose-knit crowdsourcing communities are relatively low. Unlike Chefs or Magicians (Fauchart et al., 2008, Loshin, 2007) for whom community punishment might constitute a major blow to their career, being downvoted in a crowdsourcing contest is not a major threat. Recall that very many submitted designs receive relatively poor votings and are not chosen for being printed by Threadless anyway. The downvoting punishment and other sanctions such as slandering also

refer only to the submitted design and the identity used by the submitter. This means that it does not necessarily extend to future submissions. It is easy to create a new identity within Threadless, thus the "resocialization" of a delinquent would take only a few mouse clicks. If the infringing users fear the loss of reputation capital associated with their former identity, it would be very easy to create a novel identity for the IP theft from the outset. In summary, there are arguments in favor and against the core argument of deterrence theory in our context. Therefore, we formulate the following testable hypothesis:

Hypothesis 1: *The higher the perceived expected costs of being punished, the more a crowdsourcing community member adheres to the norms-based IP system.*

A totally different explanation for the adherence to norms is given by the literature on morality. There are many incidents in which people adhere to norms without economic incentives to do so (Paternoster, 1987, Paternoster et al., 1996) . Reasons are inner moral sentiments: "Most people give little or no consideration to the possible gains and losses associated with illegal behavior. Instead, they simply engage in behavior that they think is morally right" (Tyler, 1996:226). One stream of literature explains that people obey the law because of the feeling that it is – morally – just the right thing to do (Jackson et al., 2012, Tyler, 1990, Tyler, 2006). This moral intuition is often emotional (Hauser, 2006, Trivers, 1971), e.g. sympathy in response to suffering, anger at non-reciprocators, affection for kin and allies. Beyond this moral intuition humans engage in moral thinking: when making decisions, humans consider aspects such as "(i) harm, care, and altruism (people are vulnerable and often need protection) or (ii) fairness, reciprocity, and justice (people have rights to certain resources or kinds of treatment)" (Haidt, 2007). Durkheim (1965 [1915]) found that morality constrains individuals and ties them to each other to create groups. As a consequence, even self-interested individuals do sincerely want peace, decency, and cooperation to prevail within their groups.

There are several studies reporting the prevalence of strong binding norms and ideology in online communities (Bagozzi et al., 2006, Franke et al., 2003, Stewart et al., 2006, Ven et al., 2008). In fact,

communities are usually defined as social units that share common values that tie them internally and distinguish them externally (Cohen, 2002). The Threadless community appears to be no exception to this. Brabham (2010) finds its members are very attached towards the brand and members feel love to the community. This is also reflected in many comments we received in the survey:

> *"i just wanna say and I think this is kinda the spirit of threadless (or part of the spirit) we all respect the system so much, we watch out for it. We participate in it and are it and help people follow the rules not in order to seek out rule breakers but to maintain the magic as a whole (…) it's not easy to quantify magic" (survey response)*

On the other hand, it has often been found that anonymity loosens people's willingness to act according to moral standards (Bandura, 2002). In anonymous groups individuals cannot be held accountable for their actions, which might lead to "de-individualization" effects like vandalism, aggression, mob violence etc. (Bandura, 2002, Kelman, 2006). As only an empirical test can tell whether moral sentiments provide an explanation for the adherence of norms or not, we formulate as a second potential explanation:

Hypothesis 2: *The higher the tendency to experience a moral obligation, the more a crowdsourcing community member adheres to the norms-based IP system.*

A third explanation for the adherence to norms is herd behavior, meaning a thoughtless and automatic following of the crowd (Hoffer (1955). Bikhchandani et al. (1998) illustrates this human tendency by a citation of Machiavelli (1988 [1514]): "Men nearly always follow the tracks made by others and proceed in their affairs by imitation." There are many accounts of this behavior, ranging from stopping at red lights to strategic decisions of companies (Epstein 2001, Sabates 2012, Chartrand et al. 1999, Kendon, 1970, LaFrance, 1982, Sabates, 2012, Bailenson et al., 2005). A theoretical explanation within organization theory has been provided by the concept of mimetic isomorphism (DiMaggio and Powell 1983). It describes how institutions copy the behavior of others in unclear situations in order to obtain legitimacy.

In a crowdsourcing community like Threadless, where all interactions are accessible to all members and even to the public, the behavior of other participants is highly visible. People will observe in

many instances that IP is well respected among participants. The few cases of IP infringement and the uproar they cause in the community, on the other hand, are so highly visible that any member will easily conclude that respecting each other's IP is the "normal" behavior. This suggests that also thoughtless following might explain why community members adhere to the norms.

Hypothesis 3: *The more a Threadless community member mimics the behavior of other community members, the more a Threadless community member adheres to the norms-based IP system.*

A final explanation that is somehow related to the second and the third refers to membership tenure and the process of socialization that is typically associated with the time an individual is part of a social group. According to Durkheim (1956), the mechanism by which new members internalize the norms of the group is socialization. Socialization is the process of adopting norms and values that become our motives for action from people we interact with (Bicchieri et al., 2011). In organizational socialization this describes how newcomers get to know the values and norms of the organization (Ashford, 1986, Katz, 1981, Korte, 2009, Morrison, 1993, Van Maanen, 1978). Van Maanen (1978) shows that the community has a great influence on the socialization of new members. But it takes time until one has learned what the norms are, why they are important until they are internalized, meaning accepted and followed by the new member (Ahuja et al., 2003, Korte, 2009). Role models play an important role. As Durkheim (1956) explained, "Society can survive only if there exists among its members a sufficient degree of homogeneity; education perpetuates and reinforces this homogeneity by fixing in the child, from the beginning, the essential similarities that collective life demands" (Durkheim, 1956:70). Also from organizational sociology we know, that when being educated by other people, role models play an important role (Filstad, 2004). This is also the case for crowdsourcing communities like Threadless: the longer one has time to observe and watch other community member's behavior and also get taught and learn from more mature members of the community, the more one starts identifying with and internalizing the norms of the community. We

also found that members who have been in the Threadless community for a long time are role models for newcomers and they teach the norms to younger members:

> *"but for the most part, the young ones are happy to learn, and the old dogs are happy to teach."* (Goldendust, Jun. 09, 2011)

Hypothesis 4: *The longer a Threadless community member is part of the community, the more he or she adheres to the norms-based IP system*

4.2. Method

For the empirical test of the rival hypotheses we used the survey data described in section 3.2.2. The key variables of the hypotheses were measured as follows:

Adherence to the norms-based IP system. We measured the dependent variable similar to the individual norms, in listing the complete system of norms found and asking survey respondents to state their opinion to its prevalence: "Personally, I would follow this system of rules under all circumstances" (1=strongly agree, 5=strongly disagree). We validated the adherence to the norms-based IP system and found only 0.9% of the users stating complete adherence to the norms-based IP system deviated from their stated behavior. Finally, the findings reported below are robust if we use different indices constructed on the basis of adherence to the individual norms.

Perceived expected costs. We measured this construct by building a multiplicative index of punishment certainty and punishment severity (Becker, 1968). Items were taken and slightly adapted from existing literature (Peace et al., 2003). The items read "I personally think that the likelihood a copier is being caught is…" (punishment certainty, 1=very low, 5=very high), as well as "I personally think that the typical sanctions a copier faces are…" (punishment certainty, 1=not at all severe, 5=extremely severe). Note that the alternative of building a traditional additive index does not alter the findings reported below.

Moral obligation. The inner moral attitude of a person "to do the right thing" and adhere to the norms was measured in line with existing literature (Coleman, 1990, Elster, 1989, Etzioni, 2000, Paternoster,

1987, Paternoster et al., 1996, Posner et al., 1999, Tyler, 1990). The items read "In my opinion, people violating the Threadless community rules are morally bankrupt", "Risks to another should never be tolerated, irrespective of how small the risks might be.", "One should never psychologically or physically harm another person." as well as "If an action could harm an innocent other, then it should not be done." (measured on 5-point scales, 1 = strongly agree and 5 = strongly disagree; Cronbachs alpha = .70).

Thoughtless following. The "blind" of thoughtless following of the mass was measured in line with extant literature (Bikhchandani et al., 1992, 1998, DiMaggio et al., 1983, Epstein, 2001, Hirsch, 1997, Lennox et al., 1984, Scott, 1995). The items read "With regard to rules, I simply look at what the others are doing and act accordingly" as well as "I behave similarly to how other community members behave" (measured on 5-point scales, 1 = strongly agree and 5 = strongly disagree; Cronbachs alpha = .75).

Membership tenure. The number for membership tenure was taken directly from the publicly available information on each user's profile on the Threadless.com website and thus measured precisely.

Control variables. We included the following variables that potentially also influence the dependent variable in the analysis: the number of all designs a user has submitted to Threadless (in all categories: submissions, critiques and products). This number is visible on each user's profile on the website. Furthermore, we asked in the survey for how often members visit the Threadless website (1=daily, 2=weekly, 3=monthly, 4=less frequently) and how often they interact with other members (1=daily, 2=weekly, 3=monthly, 4=less frequently). Further control variables were age and sex. A detailed description of the control variables can be found Table A1 in the appendix. Our checks for potential issues of multicollinearity all showed variance inflation factors below 1.69, indicating that multicollienearity is not an issue in our study.

	Variables	**Mean**	**S.D**	1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Perceived expected cost [a]	6.27	3.85	-								
2.	Moral obligation [b]	1.69	.69	-.08	-							
3.	Thoughtless following [b]	2.69	1.06	-.05	.12	-						
4.	Membership tenure in months	40.15	24.68	.02	.26*	.12	-					
5.	Number of submitted designs	44.52	57.72	-.08	.02	.02	.08	-				
6.	Visits of website	N.A.	N.A.	-.04	.05	.20*	-.05	-.10	-			

7. Interaction with others	N.A.	N.A.	.03	-.05	.24**	-.04	-.19*	.62**	-		
8. Gender	N.A.	N.A.	.14	.04	-.17*	-.04	.21*	.01	-.12	-	
9. Age	28.12	6.82	-.06	-.14	.18*	.16	.18*	-.01	-.04	-.08	-

[a] Multiplikative index of punishment certainty (likelihood of punishment 1= is very high, 5=very low) x punishment severity (perception of sanctions 1=severe, 5=not at all severe)
[b] 5-point Likert scale (1=high agreement, 5=low agreement)
* p <0.05; **p <0.01; (two-tailed tests of significance)

Table 8: Correlation matrix

4.3. Findings and discussion

The results from the OLS regression analysis are quite clear (see Table 9): We find that the moral obligation (H2) influences the adherence to the norms-based IP system strongly (.34, p<.001). The rival explanations of the duration a person is member of the community (membership tenure) (H4) does receive only marginal support (.15, p<.10). The other two rival hypotheses of cannot be confirmed. This is particularly astonishingly with regard to perceived expected costs (H1), the classic explanation of adherence to norms.

In sum, our findings tell us that community members adhere to the norms-based IP system because of an inner moral sentiment of doing the right thing. This "moral obligation" not to "wrong-do any fellow artists" with whom one has become friends with influences – much in contrast to the fear of punishment – why people adhere to the norms-based IP system.

Dependent variable: adherence to the norms-based IP system		
	Beta	Sig. (2-sided)
Independent variables:		
Perceived expected costs (H1)	.03	.70
Moral obligation (H2)	.34	.00
Thoughtless following (H3)	.13	.12
Membership tenure (H4)	.15	.07
Control variables:		
No. submitted designs	.07	.40
Visits of website	.02	.82

Interaction with other members	-.04	.73
Gender	.01	.89
Age	-.09	.28

R^2=.22, Adj. R^2=.16, F=3.96, Sig.=.00

Table 9: Regression analysis: Influence on adherence to norms

5. General discussion

Our study shows that an informal IP system based on seven social norms has emerged within the Threadless community that helps to protect the original creations of designers in a setting where formal IP law alone is not sufficient. This norms-based IP system is surprisingly effective as community members respect each other's IP and help each other to uphold their community norms by monitoring and enforcing conformant behavior in a decentralized and self-organized way. Interestingly, although the risk of detecting norm violations is very high, our findings suggest that compliance with community norms is not driven by the "Sword of Damocles", the imminent collective sanctioning by the community. Rather, members comply with norms because they feel part of the community and they feel that it is morally just the right thing for a designer to adhere to the norms and not steal a design from a fellow artist.

5.1. Theoretical contributions

With this article we heed the call by Fauchart et al., (2008) for more research into norms-based IP systems in order to enhance our knowledge of this surprising and fascinating phenomenon. But the results of this research project go beyond a replication of extant research that focused on small, close-knit, "offline" communities (Dreyfuss, 2010, Fauchart et al., 2008, Loshin, 2007, Oliar et al., 2008).

The crowdsourcing context is systematically different from these conditions. Communities here are open, anonymous, very huge and complex, and their members highly heterogeneous and stem from very different cultural backgrounds, with quite different notions of IP and ownership. This means that the intuitive understanding of "what is right" should differ vastly, IP infringements should have a much higher chance of going unnoticed and sanctions are relative toothless – both of which Fauchart et al., (2008)

suggest as prerequisites for effective norms-based IP systems. The finding that in such unfavorable conditions among literally millions of users a clear, comprehensive, effective, and fully self-organized IP-protection system is prevalent should be seen as a major surprise. Due to the different context, it also operates differently than systems described in extant studies. The major difference is that the basis of its enforcement is not sanctions (i.e. the process norms 4 to 7), but an inner moral commitment to the norms referring to the mutual respect of each other's IP (norms 1 to 3). However, also the process norms and the startling emergence of a self-organized institution as the "Threadless Police" play an important role as they effectively identify the few outliers who do not adhere the core commandment stating that imitation is forbidden. They also preclude the dangerous impression that "honesty doesn't pay" that might easily damage the balance of the system (Bhide and Stevenson 1990). We see the strong attachment towards the brand and the community as a whole as the core facilitator of this "magic".

We find that the evidence of the possibility of an effective norms-based IP system in crowdsourcing is quite important for two reasons. First, the concept of externalizing new product ideation and design to the mass is often seen as a paradigm shift in the organization of innovation (Baldwin et al., 2011, Cook, 2008, O'Hern et al., 2010, Prahalad et al., 2004, Seybold, 2009, Sheth et al., 2000, Von Hippel, 2005) – but at the same time, IP issues pose a major threat to their viability (Euchner, 2010, Franke et al., 2013, Gächter et al., 2010). Second, there are many other forms of online communities fulfilling various functions such as user-to-user assistance, recommendations, mutual help, jointly building products like open source software or online encyclopedias etc. The world is connected, and the number of potentially beneficial applications of collective intelligence and creativity is by far not exhausted. All of them are – at least theoretically – very vulnerable to opportunistic behavior. Our finding suggests that communities have the power to overcome such problems successfully, without a central institution, and in absence of formal law.

5.2. Managerial insights

Crowdsourcing communities have been proposed as new source of innovation (Brabham 2008, Terwiesch et al. 2008, Afuah and Tucci 2012), but to set up and sustain a functioning community often remains a challenge that many organizations fail to overcome. A better understanding of how to successfully implement a crowdsourcing platform is of high managerial relevance. One key element in this puzzle is to ensure effective protection of participants' IP.

Our analysis suggests that a norms-based IP system can achieve this task by delegating the task of IP protection to the crowd itself. Due to their insider knowledge, communities that self-organize to monitor compliance with IP norms can be more effective than formal IP systems. Moreover, norms-based IP systems may be able to regulate IP in contexts where formal IP law is either not applicable or impossible to enforce. For these reasons, "crowdsourcing" the task of IP protection to members of the crowd represents a promising alternative. This option is not limited to the context of creating original t-shirt designs; a similar system can be implemented for any crowdsourcing community, where users submit contributions that are reviewed by their peers and at the same time their "audience" or "customers" (e.g. book or music self-publishing sites such as Amazon's Kindle Direct Publishing or Soundcloud).

But how can platform operators foster such a self-governance of IP by its community members? What we learned is that a positive community spirit is very important for the development of an effective norms-based IP system, even more important than draconian sanctions. A positive community spirit can be encouraged designing a crowdsourcing model with an emphasis on fairness, e.g. community members participating in sales instead of offering a one-time compensation (Franke et al., 2013). A positive community spirit can further be fostered if users retain the IP rights to their ideas until they are chosen for production (Franke et al., 2013). This is the case in the Threadless community we analyzed. As Threadless does, platform operators could also introduce special "alumni" programs or clubs for very active members, e.g. with offline events or promotion programs. This nurtures the identification with the community and incentivizes others to be active in the community as well. These members could also be role models in promoting a positive community spirit. Furthermore, a platform operator could sponsor a few high-status individuals to spread the wanted behavior within the community, so other people can learn

from them. Another aspect enhancing a positive community spirit is the introduction of explicitly made statements on constructive behavior, similar to a netiquette.

Limitations and suggestions for further research

All our analysis is based on a single case, the crowdsourcing community of Threadless. Naturally, all generalizations should be undertaken with care. Other crowdsourcing communities have different organizational forms, different underlying products, and different functionalities of crowdsourcing communities. Threadless is one of the largest as well as one of the most successful crowdsourcing communities today and has been for several years. Studying such a case is a disadvantage and an advantage at the same time. It is a disadvantage because Threadless is certainly not representative for other crowdsourcing communities and the conclusion that similar systems operate in all crowdsourcing communities dangerous. On the other hand, it is also an advantage as it may be that the success of this specific crowdsourcing community is due to the existence of this well-functioning norms-based IP system, which suggests that much can be learned from this "best practice" case.

A second limitation is that we did not study how the norms-based IP system of Threadless came into being. Our depiction of the community is static, which is certainly a simplification of a system that is self-organized. It would be fascinating to observe how different norms evolve, develop, and change over time.

REFERENCES

Achen, C. H. and D. Snidal (1989). "Rational deterrence theory and comparative case studies." World Politics **41**(2): 143-169.

Afuah, A. and C. L. Tucci (2012). "Crowdsourcing as a solution to distant search." Academy of Management Review **37**(3): 355-375.

Ahuja, M. K. and J. E. Galvin (2003). "Socialization in virtual groups." Journal of Management **29**(2): 161-185.

Arrow, K. (1971). Political and Economic Evaluation of Social Effects and Externalities. Frontier of Quantitative Economics. M. E. Intriligator. North-Holland, Amsterdam.

Ashford, S. J. (1986). "Feedback-seeking in individual adaptation: A resource perspective." Academy of Management Journal **29**(3): 465-487.

Bagozzi, R. P. and U. M. Dholakia (2006). "Open source software user communities: A study of participation in Linux user groups." Management Science **52**(7): 1099-1115.

Bailenson, J. N. and N. Yee (2005). "Digital chameleons automatic assimilation of nonverbal gestures in immersive virtual environments." Psychological science **16**(10): 814-819.

Baldwin, C. and E. von Hippel (2011). "Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation." Organization Science **22**(6): 1399-1417.

Bandura, A. (2002). "Selective moral disengagement in the exercise of moral agency." Journal of moral education **31**(2): 101-119.

Bayus, B. L. (2013). "Crowdsourcing new product ideas over time: an analysis of the Dell IdeaStorm community." Management Science **59**(1): 226-244.

Becker, G. S. (1968). "Crime and punishment: An economic approach." Journal of Political Economy **76**(2): 169-217.

Bernstein, L. (1992). "Opting out of the legal system: Extralegal contractual relations in the diamond industry." The Journal of Legal Studies **21**(1): 115-157.

Bhide, A. and Stevenson, H.H. (1990), "Why be honest if honesty doesn't pay", Harvard Business Review, **68**: 121-1299.

Bicchieri, C. (1990). "Norms of cooperation." Ethics **100**(4): 838-861.

Bicchieri, C. and R. Muldoon (2011). "Social norms." The Stanford Encyclopedia of Philosophy.

Bikhchandani, S., et al. (1992). "A theory of fads, fashion, custom, and cultural-change as informational cascades." Journal of Political Economy **100**(5): 992-1026.

Bikhchandani, S., et al. (1998). "Learning from the behavior of others: Conformity, fads, and informational cascades." The Journal of Economic Perspectives **12**(3): 151-170.

Bonabeau, E. (2009). "Decisions 2.0: the power of collective intelligence." MIT Sloan management review **50**(2): 45-52.

Boudreau, K. J. and K. R. Lakhani (2009). "How to manage outside innovation." MIT Sloan management review **50**(4): 69-76.

Boudreau, K. J. and K. R. Lakhani (2013). "Using the crowd as an innovation partner." Harvard business review **91**(4): 60-69.

Bowles, S. and H. Gintis (2002). "Social Capital And Community Governance." The Economic Journal **112**(483): F419-F436.

Brabham, D. C. (2008). "Crowdsourcing as a Model for Problem Solving An Introduction and Cases." Convergence: The International Journal of Research into New Media Technologies **14**(1): 75-90.

Brabham, D. C. (2010). "Moving the crowd at Threadless." Information, Communication & Society **13**(8): 1122-1145.

Bullinger, A. C., et al. (2010). "Community-Based Innovation Contests: Where Competition Meets Cooperation." Creativity and Innovation Management **19**(3): 290-303.

Charmaz, K. (2006). Constructing grounded theory: A practical guide through qualitative analysis, Pine Forge Press.

Chartrand, T. L. and J. A. Bargh (1999). "The chameleon effect: The perception–behavior link and social interaction." Journal of personality and social psychology **76**(6): 893.

Cohen, A. P. (2002). Symbolic construction of community, Psychology Press.

Coleman, J. S. (1990). The emergence of norms. Social Institutions: Their Emergence, Maintenance and Effects. e. Hechter, Opp and Wippler, Berlin, New York: Walter de Gruyter**:** 35-60.

Conklin, J. (2005). Dialogue mapping: Building shared understanding of wicked problems, John Wiley & Sons, Inc.

Cook, S. (2008). "The contribution revolution: Letting volunteers build your business." Harvard business review **86**(10): 60-69.

Corbin, J. M. and A. Strauss (1990). "Grounded theory research: Procedures, canons, and evaluative criteria." Qualitative sociology **13**(1): 3-21.

Dahlander, L. and L. Frederiksen (2012). "The core and cosmopolitans: A relational view of innovation in user communities." Organization Science **23**(4): 988-1007.

Dholakia, U. M., et al. (2004). "A social influence model of consumer participation in network-and small-group-based virtual communities." International Journal of Research in Marketing **21**(3): 241-263.

Di Stefano, G., et al. (2010). Kitchen confidential? Knowledge transfer and social norms in gourmet cuisine. Working Paper.

DiMaggio, P. J. and W. W. Powell (1983). "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields." American Sociological Review: 147-160.

Dreyfuss, R. C. (2010). "Does IP need IP? Accommodating intellectual production outside the intellectual property paradigm." Cardozo Law Review **31**: 1437-2521.

Durkheim, E. (1956). Education and sociology, New York, Free Press

Durkheim, E. (1965 [1915]). The Elementary Forms of the Religious Life, The Free Press.

Ellickson, R. C. (1991). Order without law: How neighbors settle disputes, Harvard University Press.

Elster, J. (1989). "Social norms and economic theory." The Journal of Economic Perspectives **3**(4): 99-117.

Epstein, J. M. (2001). "Learning to be thoughtless: Social norms and individual computation." Computational Economics **18**(1): 9-24.

Estellés-Arolas, E. and F. González-Ladrón-de-Guevara (2012). "Towards an integrated crowdsourcing definition." Journal of Information science **38**(2): 189-200.

Etzioni, A. (2000). "Social norms: Internalization, persuasion, and history." Law & Society Review **34**(1): 157-178.

Euchner, J. A. (2010). "The Limits of Crowds." Research-Technology Management **53**(5): 7-8.

Fauchart, E. and E. von Hippel (2008). "Norms-based intellectual property systems: The case of French chefs." Organization Science **19**(2): 187-201.

Filstad, C. (2004). "How newcomers use role models in organizational socialization." Journal of Workplace Learning **16**(7): 396-409.

Fleming, L. and D. M. Waguespack (2007). "Brokerage, boundary spanning, and leadership in open innovation communities." Organization Science **18**(2): 165-180.

Franke, N., et al. (2013). "“Does This Sound Like a Fair Deal?”: Antecedents and Consequences of Fairness Expectations in the Individual's Decision to Participate in Firm Innovation." Organization Science **24**(5): 1495-1516.

Franke, N. and S. Shah (2003). "How communities support innovative activities: an exploration of assistance and sharing among end-users." Research Policy **32**(1): 157-178.

Fueller, J. (2006). "Why consumers engage in virtual new product developments initiated by producers." Advances in Consumer Research **33**(1): 639.

Gächter, S., et al. (2010). "Initiating private-collective innovation: The fragility of knowledge sharing." Research Policy **39**(7): 893-906.

Garfinkel, H. (1991). Studies in Ethnomethodology, Polity Press.

Haidt, J. (2007). "The new synthesis in moral psychology." science **316**(5827): 998-1002.

Hardin, G. (1968). "The tragedy of the commons." New York.

Hauser, M. D. (2006). Moral minds: How Nature Designed our Universal Sense of Right and Wrong, HarperCollins.

Hayek, F. A. (1945). "The use of knowledge in society." American Economic Review. **XXXV**(4): 519-530.

Hirsch, P. M. (1997). "Sociology without social structure: Neoinstitutional theory meets brave new world." American Journal of Sociology **102**(6): 1702.

Hoffer, E. (1955). The passionate state of mind: And other aphorisms, Harper.

Homans, G. C. (1951). "The Human Group." Routledge, New York.

Homans, G. C. (1958). "Social behavior as exchange." American Journal of Sociology **63**(6): 597-606.

Homans, G. C. (1966). Social behaviour: Its elementary forms, Taylor & Francis.

Hoyer, W. D., et al. (2010). "Consumer cocreation in new product development." Journal of Service Research **13**(3): 283-296.

Husted, B. W. (2000). "The impact of national culture on software piracy." Journal of Business Ethics **26**(3): 197-211.

Huth, P., et al. (1993). "The escalation of great power militarized disputes: Testing rational deterrence theory and structural realism." American Political Science Review **87**(3): 609-623.

Hutter, K., et al. (2011). "Communitition: The Tension between Competition and Collaboration in Community-Based Design Contests." Creativity and Innovation Management **20**(1): 3-21.

Jackson, J., et al. (2012). "Why do people comply with the law? Legitimacy and the influence of legal institutions." British Journal of Criminology **52**(6): 1051-1071.

Jeppesen, L. B. and K. R. Lakhani (2010). "Marginality and problem-solving effectiveness in broadcast search." Organization Science **21**(5): 1016-1033.

Jick, T. D. (1979). "Mixing qualitative and quantitative methods: Triangulation in action." Administrative Science Quarterly **24**(4): 602-611.

Katz, R. (1981). Managing careers: the influence of job and group longevities. Career Issues in Human Resource Management. Prentice-Hall, Englewood Cliffs, NJ, Katz, R. (ed).

Kelman, H. C. (2006). "Interests, relationships, identities: Three central issues for individuals and groups in negotiating their social environment." Annual Review of Psychology **57**: 1-26.

Kendon, A. (1970). "Movement coordination in social interaction: Some examples described." Acta psychologica **32**: 101-125.

Korte, R. F. (2009). "How newcomers learn the social norms of an organization: A case study of the socialization of newly hired engineers." Human Resource Development Quarterly **20**(3): 285-306.

Kozinets, R. V. (2002). "The field behind the screen: using netnography for marketing research in online communities." Journal of marketing research **39**(1): 61-72.

LaFrance, M. (1982). "Posture mirroring and rapport." Interaction rhythms: Periodicity in communicative behavior: 279-298.

Lakhani, K. and R. Wolf (2003). "Why hackers do what they do: Understanding motivation and effort in free/open source software projects." MIT Sloan Working Paper **4425-03**.

Lakhani, K. R. and J. A. Panetta (2007). "The principles of distributed innovation." innovations **2**(3): 97-112.

Lakin, J. L., et al. (2003). "The chameleon effect as social glue: Evidence for the evolutionary significance of nonconscious mimicry." Journal of nonverbal behavior **27**(3): 145-162.

Lennox, R. D. and R. N. Wolfe (1984). "Revision of the self-monitoring scale." Journal of personality and social psychology **46**(6): 1349-1364.

Loshin, J. (2007). Secrets Revealed: How Magicians Protect Intellectual Property without Law. Working Paper, Yale Law School.

Maccoby, E. E. and N. Maccoby (1954). "The interview: A tool of social science." Handbook of social psychology **1**: 449-487.

Machiavelli, N. (1988 [1514]). The Prince, ch 6 (1514), Quentin Kinner and Russel Price, ed, Cambridge University Press.

Miles, M. B. and A. M. Huberman (1994). Qualitative data analysis: An expanded sourcebook, Sage.

Morrison, E. W. (1993). "Newcomer information seeking: Exploring types, modes, sources, and outcomes." Academy of Management Journal **36**(3): 557-589.

Nalebuff, B. J. and A. M. Brandenburger (1997). "Co-opetition: Competitive and cooperative business strategies for the digital economy." Strategy & Leadership **25**(6): 28-35.

Nambisan, S. and R. A. Baron (2010). "Different roles, different strokes: Organizing virtual customer environments to promote two types of customer contributions." Organization Science **21**(2): 554-572.

O'Hern, M. S. and A. Rindfleisch (2010). "Customer co-creation: a typology and research agenda." Review of marketing research **6**: 84-106.

Ogawa, S. and F. T. Piller (2006). "Reducing the risks of new product development." MIT Sloan management review **47**(2): 65.

Oliar, D. and C. Sprigman (2008). "There's no free laugh (anymore): The emergence of intellectual property norms and the transformation of the stand-up comedy." Virginia Law Review **94**(8): 1787-1867.

Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action, Cambridge university press.

Paternoster, R. (1987). "The deterrent effect of the perceived certainty and severity of punishment: A review of the evidence and issues." Justice Quarterly **4**(2): 173-217.

Paternoster, R. and S. Simpson (1996). "Sanction threats and appeals to morality: Testing a rational choice model of corporate crime." Law and Society Review **30**(3): 549-583.

Peace, A. G., et al. (2003). "Software piracy in the workplace: A model and empirical test." Journal of Management Information Systems **20**(1): 153-178.

Piller, F. (2010). "Open innovation with customers: crowdsourcing and co-creation at Threadless." Available at SSRN 1688018.

Piller, F. (2011). Open Innovation with Customers: Crowdsourcing and Co-Creation at Threadless. A Guide to Open Innovation and Crowdsourcing: Advice From Leading Experts. P. Sloane, Kogan Page Limited.

Poetz, M. K. and M. Schreier (2012). "The Value of Crowdsourcing: Can Users Really Compete with Professionals in Generating New Product Ideas?" Journal of Product Innovation Management **29**(2): 245-256.

Polinsky, A. M. and S. Shavell (1999). "The economic theory of public enforcement of law." Journal of Economic Literature **38**(1): 45-76.

Posner, R. A. (1985). The federal courts: Crisis and reform, Harvard University Press Cambridge, MA.

Posner, R. A. (1997). "Social norms and the law: An economic approach." The American economic review **87**(2): 365-369.

Posner, R. A. and E. B. Rasmusen (1999). "Creating and enforcing norms, with special reference to sanctions." International Review of Law and Economics **19**(3): 369-382.

Postmes, T., et al. (2000). "The formation of group norms in computer-mediated communication." Human communication research **26**(3): 341-371.

Prahalad, C. K. and V. Ramaswamy (2004). The future of competition: Co-creating unique value with customers, Harvard Business Press.

Preece, J. (2000). Online Communities: Designing Usability and Supporting Socialbilty, John Wiley & Sons, Inc.

Sabates, A. M. (2012). Social Psychology in Christian Perspective: Exploring the Human Condition, InterVarsity Press.

Sassenberg, K. (2002). "Common bond and common identity groups on the Internet: Attachment and normative behavior in on-topic and off-topic chats." Group Dynamics: Theory, Research, and Practice **6**(1): 27.

Savage, L. J. (1954). The Foundations of Statistics, New York: Wiley.

Scott, W. R. (1995). Institutions and Organizations, Sage Publications.

Seybold, P. B. (2009). Outside innovation, Harpercollins.

Sheth, J. N., et al. (2000). "The antecedents and consequences of customer-centric marketing." Journal of the Academy of Marketing Science **28**(1): 55-66.

Stewart, K. J. and S. Gosain (2006). "The impact of ideology on effectiveness in open source software development teams." Mis Quarterly **30**(2): 291-314.

Teece, D. J. (1986). "Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy." Research Policy **15**(6): 285-305.

Terwiesch, C. and Y. Xu (2008). "Innovation contests, open innovation, and multiagent problem solving." Management Science **54**(9): 1529.

Trivers, R. L. (1971). "The evolution of reciprocal altruism." Quarterly review of biology **46**(1): 35-57.

Tyler, T. R. (1990). Why people obey the law: Procedural justice, legitimacy, and compliance, New Haven, CT: Yale University Press.

Tyler, T. R. (1996). "Compliance with the Intellectual Property Laws: A Psychological Perspective." New York University Journal of International Law and Politics **29**: 219.

Tyler, T. R. (2006). Why people obey the law, Princeton University Press.

Van Maanen, J. (1978). "People processing: Strategies of organizational socialization." Organizational dynamics **7**(1): 19-36.

Ven, K. and J. Verelst (2008). "The impact of ideology on the organizational adoption of open source software." Journal of Database Management **19**(2): 58-72.

Von Hippel, E. (2005). Democratizing innovation, The MIT Press.

von Neumann, J. and O. Morgenstern (1944). Theory of Games and Economic Behavior, Princeton University Press.

Vriend, N. J. (1996). "Rational behavior and economic theory." Journal of Economic Behavior & Organization **29**(2): 263-285.

Appendix

Analyzed variables	n	Mean	Median	SD	Min.	Max.	Additional remarks
N° of designs in submission*	143	39.34	18	51.68	0	288	% of people who did not hand in any design: 18,7% (31)
N° of designs in critique*	145	2.72	0	7.71	0	70	% of people who did not hand in any critique: 55,4% (92)
N° of designs in product*	143	2.43	0	5.01	0	42	% of people who did not hand in any product: 44,6% (74)
Age**	158	28.12	27.5	6.82	17	57	
Membership length in months*		40.15	39.0				
Visits of website**	160						1=daily visit of website: 81.9% (136) 2=weekly visit of website: 13.3% (22) 3=monthly visit of website: 1.20% (2) 4=less frequently: 0% (0)
Interaction with other members**	160						1=daily interaction: 69.3% (115) 2=weekly interaction: 20.5% (34) 3=monthly interaction: 2.40% (4) 4=less frequently: 4.20% (7)
Sex**	158						% female: 28.3% (47) % male: 66.9% (111)

* Data according to information on website
** Data according survey

Table A1: Description of sample for online survey