



Can creative firms thrive without copyright? Value generation and capture from private-collective innovation

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Abstract Accounts of the copyright industries in national reports suggest that strong intellectual property (IP) rights support creative firms. However, mounting evidence from sectors such as video game production and 3-D printing indicate that business models based on open IP can also be profitable. This study investigates the relationship between IP protection and value capture for creative industry firms engaged in collective/open innovation activities. A sample of 22 businesses interviewed in this study did not require exclusive ownership of creative materials but instead employed a range of strategies to compete and capture value. Benefits for some firms resemble those for participants in private-collective innovation (PCI), originally observed in open-source software development. Advantages of PCI include the ability to commercialize user improvements and a reduction in transaction costs related to seeking and obtaining permission to innovate existing ideas. Some creative firms in this study were able to generate and capture value from PCI in two directions: upstream and downstream. These dynamics offer a mechanism to understand and articulate the value of openness for creative industries policy and management of creative organizations.

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1. Shaking off the dependence on IP

Widespread practices of sharing and follow-on innovation have introduced new management

concerns for creative firms (Bechtold, Buccafusco, & Springman, 2016; Boudreau & Lakhani, 2015). As creative firms seek to engage audiences by making it possible to digitally reshape and share content, they risk losing control over intellectual property (IP) assets they own (Jenkins, Ford, & Green, 2013). An unanswered question in creative industries

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management research relates to the strategic conditions under which firms should adopt open approaches to developing and marketing products. Mounting anecdotal evidence suggests that however beneficial the exclusive rights provided by intellectual property law, certain firms have found it possible to limit reliance on protections such as copyright, raising the question of how such creativity is sustained (Boyle, 2003). Examples of openness include Microsoft's fan license for video games, which permits derivative reuse of video game content by its users, and the open hardware-licensed Prusa i3 consumer 3-D printer that innovates upon the collective RepRap hardware project and is fully openly licensed, including for use by commercial competitors.

Since the protection offered by copyright is considered necessary for subsequent investment—being directly implied in the policy definition of copyright industries—the ability to sustainably generate and capture value from public domain inputs is a puzzling feature of the digital economy (Alexy & Reitzig, 2013; Raasch & Herstatt, 2011). Examples of public domain inputs include the works of Shakespeare, books published by Charles Darwin, and folk songs with origins that predate the modern copyright framework. Anyone may use and distribute expressions residing in the public domain, including competing firms.

To understand the use of open IP by creative industry firms, this article draws on existing research on private-collective innovation (henceforth PCI), which was initially proposed to explain the behavior of open-source software communities (Lerner & Tirole, 2000; von Hippel & von Krogh, 2003). The simple but profound observation from PCI research is that open sharing will take place when the private benefits of doing so outweigh the costs (Dahlander & Magnusson, 2008; Lopez-Berzosa & Gawer, 2014; Stuermer, Spaeth, & von Krogh, 2009). I analyze the activities of a sample of creative industry firms that have successfully commercialized products residing in the public domain, paying attention to the costs and benefits of using freely available IP inputs for creative businesses. I adopt an activity-system perspective on firm behavior (Troxler & Wolf, 2017; Zott & Amit, 2010), which locates value generation and capture activities both within and outside of firm boundaries. I observe interesting findings on the varying impacts of the absence of exclusive IP rights on commercialization opportunities to creative firms under different conditions. Finally, based on these findings, I offer specific management and policy considerations with an emphasis on lessons for practitioners and avenues for future research.

2. Link between copyright and creative industries

Creative industry firms generate and capture value through activities of creative human endeavor (Oakley, 2004; Schlesinger, 2009). In major national accounting exercises, such as those performed by the Department of Culture, Media, and Sport in the U.K., the creative industries are understood to encompass the activities of advertising and marketing, architecture, crafts, design, film, television, video, radio, photography, software, publishing, museums, music, and the performing arts. In both Europe and the U.S., these activities are often referred to as copyright industries (Manfredi, Nappo, Ricci, & Maggioni, 2016), emphasizing the perceived importance of copyright protection for their sustainability.

The role of IP in creative industries differs from other industries in several important ways. One important distinction is that copyright applies automatically to a work once it is made in a fixed form. Unlike patent and trademark, no initial registration is necessary; copyright resides automatically with the person who first created the work. To build further upon a copyrighted work, any follow-on user needs to obtain permission from the copyright owner. This involves the cost of any license as well as search costs involved in tracking down the appropriate owner(s), which can increase the cost of using copyrighted material (Baldia, 2013). The term of protection offered by copyright is longer than other IP rights. In Europe and the U.S., copyright protection generally lasts for 70 years from the year of the creator's death. In the case of works made for hire (e.g., within a business), copyright protection in the U.S. currently lasts for 120 years from the creation date or 95 years from first publication, whichever is shorter. At the time of copyright expiry, the work falls into the public domain.

Creative industry firms deal largely in intangible goods that may be more susceptible than physical products to information spillovers, reducing firms' ability to profit from innovation (Teece, 2010). This problem is amplified in digital media for which it can be harder to appropriate value from creative products (Hesmondhalgh, 2007; Teece, 2010). A first wave of research on the effects of digitization on the creative industries dealt primarily with the impact unauthorized copying (piracy) had on firms' ability to invest in new products (Landes & Posner, 1989; Watt, 2000). More recently, research expanded to consider the role of digital inputs to the production process, the rise of audience participation, network effects arising from interactivity, cost

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savings in production, and effects of competition from new market entrants (Aguiar & Waldfogel, 2015; Hearn, Roodhouse, & Blakey, 2007). Much of the current research considers user and audience contributions to works in which a firm holds a copyright and can therefore control downstream use.

One IP management challenge involves choosing between work for hire (WFH) or original creative production to generate revenue (Hotho & Champion, 2011). WFH arrangements may be attractive to small firms because they represent a more stable source of revenue and can establish a firm's reputation. While this may bring in revenue in the short term, it may fail to provide creative incentives for workers and can inhibit long-term sustainability (Hesmondhalgh & Baker, 2010). Knight and Harvey (2015) characterized the challenge for creative firms as a tension between exploration and exploitation of innovative ideas. In her ethnographic account of design firms, Noren (2014) found that creative workers view WFH commissions as "fine and good" projects, which, while carried out to sustain the commercial viability of the business, fall short of the ideal vision of creative work. Many firms engage in a hybrid model of in-licensing and original creative production, using the former to sustain activities while aiming to produce an original hit that will permit growth and greater autonomy. A third option, explored in this article, is that firms adopt business models that take advantage of public domain inputs; that is, they build upon preexisting material that is not protected by IP rights.

3. Innovation without IP: Private collectives

Neighboring research on open-source software has called into question the role of IP in firms' ability to generate and capture value from innovation (Dahlander & Magnusson, 2008). Firms and individuals participating in open source report a range of benefits from engaging with private-collective innovation (PCI) originating from beyond the boundaries of the firm (von Hippel & von Krogh, 2003). Incentives for engagement include cost savings, increased speed to market, and better customer information (Garriga, Aksuyek, Hacklin, & von Krogh, 2012). Economic theory suggests that, due to its benefits, there may be a race toward openness, which contradicts the traditional incentives theory of IP (Harhoff, Henkel, & von Hippel, 2003). Since the influential article by von Hippel and von Krogh (2003), one focus for empirical research has

been to identify the costs and benefits that may affect firms engaging in PCI. A summary of research on commercialization of PCI is presented in Figure 1. Innovation activities can occur upstream of a commercializing firm and downstream of a firm that openly reveals its innovation.

3.1. Benefits to commercializing upstream PCI

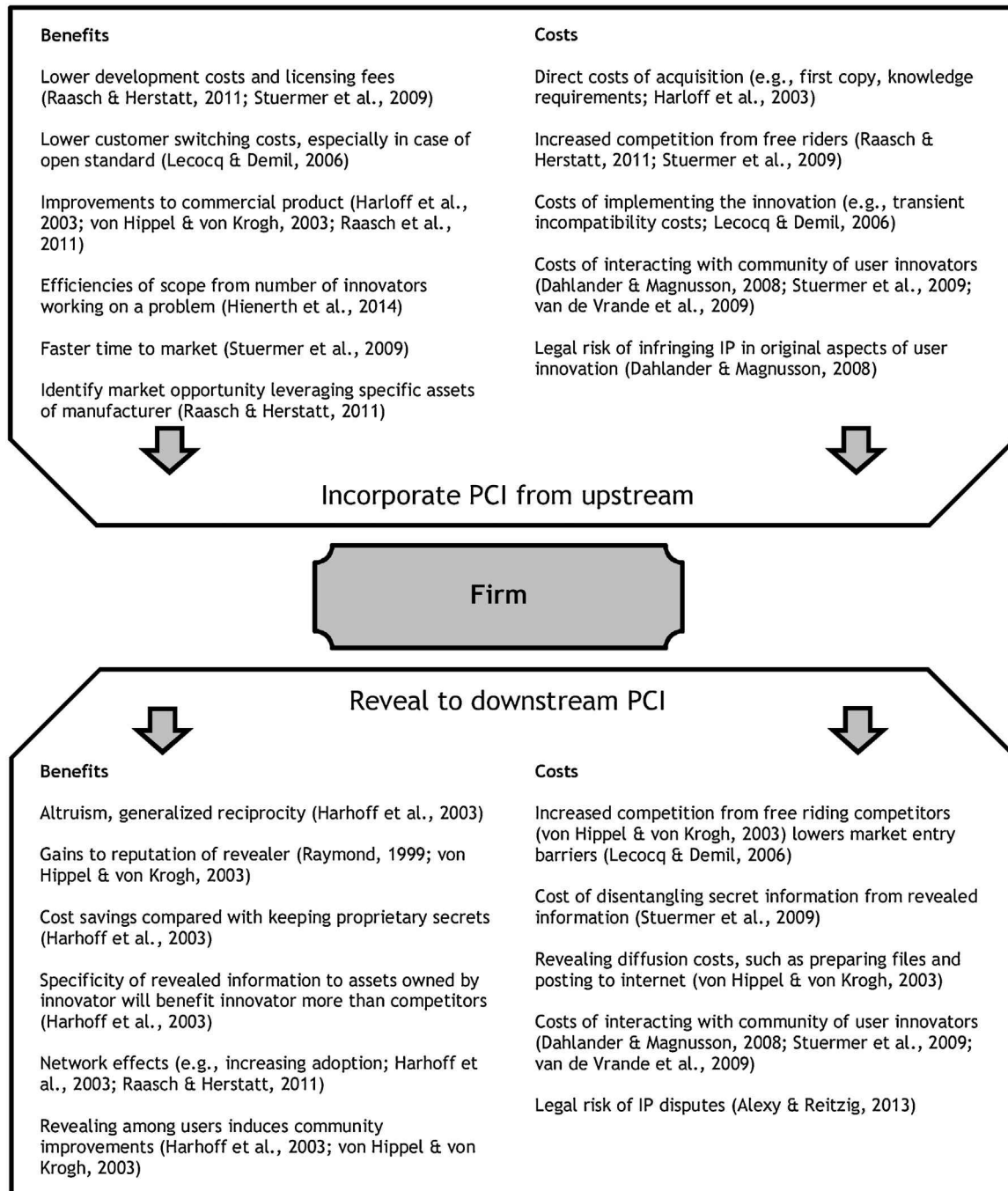
The benefits to commercializing an existing PCI (e.g., open-source software) include product improvements and cost savings (Harhoff et al., 2003). A manufacturer may find that a community of users found a useful solution and may choose to incorporate that design into future products. Thus, one incentive to commercialize a freely revealed innovation is the promise of selling it to other similarly situated customers (von Hippel & von Krogh, 2003). Market knowledge may be generated by crowd participation in the development of new products. Hienerth, von Hippel, and Jensen (2014) identified efficiencies of scope in the design and testing of innovative possibilities. The authors describe how kayak manufacturer Hollowform incorporated improvements from users in the design of a new type of plastic kayak hull, an idea that was initiated among the enthusiast community. Overall, the authors found that 87% of all major innovations in whitewater kayaking from 1955 to 2014 originated from user-innovators (Hienerth et al., 2014).

If an innovation is related to a product under development, the open inputs may increase speed to market by providing a head start to R&D. This has been a feature observed widely in the literature on the adoption of open-source software, which posits that contributions can help a firm swiftly achieve the credible promise of a prototype (Haefliger, von Krogh, & Spaeth, 2008). Even when competition is high, a firm may still be able to profit from incorporating a PCI if it enables it to access new markets or entice new consumers to adopt a standard (Lecocq & Demil, 2006). Finally, there may be cost savings due to the absence of licensing fees if the innovation is in the public domain.

3.2. Costs of commercializing upstream PCI

Even though PCI collaborations are typically free and open, commercial users still may bear costs related to exploitation. On one hand, there may be start-up costs associated with establishing and managing a new community (Dahlander & Magnusson, 2008; Stuermer et al., 2009). On the other hand, if a firm seeks to commercialize an existing innovation

Figure 1. Costs and benefits to commercial users of private-collective innovation (von Hippel, 2005)



that they do not control, there may be search and acquisition costs. In either case, there are likely to be knowledge capacity requirements to understand how to use the information. Adopters of a new system or standard may run into “transient incompatibility costs,” even when the material is freely available (Lecocq & Demil, 2006). Costs may be mitigated depending on the adaptive capacity of the commercial firm and the nature of the PCI (Raasch & Herstatt, 2011).

When collective innovations are non-excludable, commercial adopters may face increased competition. A major concern is the arrival of free riders who similarly exploit the collective innovation (Stuermer et al., 2009; von Hippel & von Krogh, 2003). This may deter firms from commercial investment in a PCI for fear that competition from subsequent entrants will result in future losses. Research with users and non-users of PCI has identified that some firms worry about differentiating their

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product from competitors when both are based on freely available innovations (van de Vrande, de Jong, Vanhaverbeke, & de Rochemont, 2009).

The IP environment may introduce management costs. For example, open-source software licenses may persist down into developed products and require shareback of proprietary improvements. Furthermore, free and open alternatives may persist alongside closed forks as competitors (Dahlander & Magnusson, 2008). A user community may continue to improve an open-source project long after its appropriation by the commercial user, leading to a more appealing and freely available product. For firms that commercialize, there is a legal risk of infringing a copyright belonging to an upstream user/innovator. As the principal software architect at cloud company Box has stated, he would not use open-source projects without an explicit license:

Simply saying “this is open source” doesn’t make it so, nor does sharing your code publicly on GitHub or BitBucket automatically mean it can be used. Any code that doesn’t explicitly have a license specified is considered “all rights reserved” by the author. . . . [Inappropriate licensing] is a showstopper for businesses wishing to incorporate code from these projects. (Zakas, 2015)

Gaining full understanding of the IP licensing environment is therefore critically important for firms, as IP ownership can act as a source of costs as well as risk for commercial users of collective innovations.

3.3. Benefits to engaging in downstream PCI

A firm may decide to open a formerly proprietary innovation and share it with downstream user-innovators; this is sometimes termed *revealing* by PCI researchers. One early explanation for revealing in open source software was “generalized reciprocity” (Harhoff et al., 2003). Since that time, new research has identified further incentives to reveal. One proposition is that revealers gain access to private benefits tied to the development of a project, with these benefits only available to active contributors (von Hippel, 2005; von Hippel & von Krogh, 2003). One basis for this claim is that many open source platforms are rather thin in social networking mechanisms, suggesting the importance of alternative private benefits (von Hippel & von Krogh, 2003). This sort of support is attractive because many successful open-source platforms such as sourceforge.net are thin in social networking mechanisms and/or

relationships between contributors. This places alternative importance on individual private benefits (von Hippel & von Krogh, 2003).

Revealers may also enjoy reputational gains, either within the community or among the wider public. Likewise, knowledge may be acquired via information sharing with other contributors, a strong motivating factor observed in many open-source software projects (Boudreau & Lakhani, 2009).

As described by Teece (1986), a firm’s ownership of specific complementary assets can improve its ability to appropriate value from a freely shared innovation and thus improve its competitive position (Harhoff et al., 2003). For example, Lecocq and Demil (2006) described how the role-playing board game manufacturer Wizards of the Coast opened its proprietary rules system to competing game creators. By placing portions of its IP in the public domain, Wizards of the Coast hoped to benefit from network effects, anticipating that competitors would contribute their private investments (i.e., new game content) to the overall catalog of products—thus increasing benefits for everyone.

Finally, revealers may experience cost savings simply because they no longer have to invest in keeping their information private. While copyright protection does not entail registration fees, trademarks and patents do carry those direct costs. And while no immediate fee is required to secure a copyright, a firm that chooses to protect its IP will necessarily spend on legal monitoring and enforcement.

3.4. Costs of revealing to downstream PCI

In general, the cost of revealing an innovation is expected to be low (von Hippel & von Krogh, 2003). Information can usually be uploaded and shared digitally at little or no cost to the revealer. Indeed, platforms like GitHub have been established to simplify the sharing between members of open-source software development projects. However, some information may be costlier to reveal. Revealed information can come in a format that is cumbersome to reproduce or transmit, such as in paper documents requiring digitization. Furthermore, proprietary information that the revealer wishes to keep secret must be disentangled from portions that are made open. Stuermer et al. (2009) described how mobile phone manufacturer Nokia incurred costs to restrict proprietary business secrets when interacting with a PCI community to develop a new tablet device. The company used nondisclosure agreements with key software developers to control information, which slowed the overall development process (Stuermer et al., 2009).

Revealing may also introduce competitive pressure. When revealers of PCI goods are also consumers (such as open-source business software), firms must consider the cost savings to competitors that adopt the improved innovation without R&D costs (Teece, 2010). The presence of a free innovation can also change the structure of a market (e.g., by lowering the barriers to entry for new competitors; Lecocq & Demil, 2006).

Another source of potential costs is the risk of assuming liability when revealers make information available. A freely revealed innovation may contain elements of protectable IP that belong to the innovator, the only one with the agency to release it into the public domain. But if the revealed information includes portions of IP belonging to a third party, then the revealer may be infringing those rights. Disputes have occurred over software packages that incorporate code libraries from third-party sources. A lawsuit initiated by database software company Oracle against Google in 2010 claimed infringement of its Java Application Program Interface (API) in Google's Android operating system, raising concerns for other commercial users of widely used APIs (Samuelson & Asay, 2017). The expansion of criminal penalties for circumventing Digital Rights Management (DRM) systems further complicated copyright law in many jurisdictions (Favale, 2011; Samuelson & Asay, 2017). Legal uncertainty can impose costs for contributors to PCIs due to the additional burden of establishing permissive licensing parameters to govern the project and its participants, and the future risk of IP disputes that may emerge if the ownership of rights is unclear.

4. Research method: Locating creative firms

Creative firms' use of open IP has received limited attention within the overall body of research on open and collective innovation (Raasch & Herstatt, 2011). One methodological challenge is sampling from an unknown population, as there is neither a list of all works in the public domain nor a list of firms exploiting them. To identify candidate firms for this study, a nonrandom sample was constructed by searching backwards from a list of known public domain materials. The top 100 downloaded books from Project Gutenberg was used as the initial seed of public domain material. This initial list of works was augmented by consulting known works in the public collections of *The Public Domain Review*, an online archive in the U.K. supported by the Open Knowledge Foundation. I worked with two research assistants to search for derivative commercial products based on

the list of fiction and nonfiction books, and recorded the producing firm's contact details when available. We performed product searches on major content platforms, including Google Play, the IOS App store, Kickstarter, and YouTube, to locate digital adaptations based on the original public domain works. A total of 45 candidate firms with business addresses and contacts inside the U.K. were identified this way. A smaller number of firms were locatable and of those contacted, 22 agreed to be interviewed.

Many of the firms identified in the initial sample were small or micro-sized enterprises with less than five employees. In these cases, the owner or senior manager was interviewed. For the handful of larger firms, we conducted interviews with project managers responsible for product development within the business (e.g., senior product managers or commissioning editors). All individuals were contacted initially by telephone or email and asked to participate in semi-structured interviews lasting 50–60 minutes in length. Table 1 lists the firms interviewed and their utilization of public domain input. Interviews were conducted by two research assistants—who were trained on the interview protocol—and me. Following initial transcription of the interviews, a two-step coding approach was used, first to identify common characteristics shared between firms (business models) and second to identify specific activities undertaken by firms to confront issues arising from openness.

5. Findings: Characterizing business models

A firm's business model describes how it is organized to facilitate the interrelated activities of value generation and value capture. The activity-based view of firms' business models considers activities extending beyond the walls of the organization, including among customers, suppliers, and other actors (Zott & Amit, 2010). Business models are a useful analytic “for the possibilities they give us for not only defining but also for exploring characteristic similarities and differences and the relationships between classes, as well as for developing understanding, explanation, prediction, and intervention” (Baden-Fuller & Morgan, 2010, p. 161). The business models of creative firms in this study are of particular interest because they relate to the challenge of capturing value from un-owned expressions in the public domain.

Firms were characterized according to the nature of their engagement with external PCI activities as well as internal activities that contributed to value creation and value capture. Typically, activities of creative firms include procurement,

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Table 1. Summary of creative firms interviewed

Firm	Public domain input	Commercial product	PCI activity
Little Loud	Various fairy tales	Interactive software	Non-engaged user
Rufflebrothers	Fairy tales, Charles Dickens	Animations	Non-engaged user
Cyber Duck	Bram Stoker's <i>Dracula</i>	Graphic novels	Non-engaged user
Onilo	Various fairy tales	Interactive whiteboards	Non-engaged user
Inkle	Jules Verne's <i>Around the World in 80 Days</i>	Interactive software	Non-engaged user
Nosy Crow Books	Various fairy tales	Children's books	Non-engaged user
Mark Bruce Company	Bram Stoker's <i>Dracula</i>	Theatre performances	Non-engaged user
Neil Bartlett	Oscar Wilde, Charles Dickens	Theatre performances	Non-engaged user
Intelligenti	Bram Stoker's <i>Letters</i>	Interactive software	Non-engaged user
Auroch Digital	19th century newspapers	Computer games	Upstream
Eugene Byrne	19th century photographs and text	Printed books, mobile apps	Upstream
Stephanie Posavec/ Microsoft	Darwin's <i>On the Origin of Species</i>	Interactive software	Upstream
People Like Us	Wikimedia Commons imagery	Performance	Upstream
MyVox Songs	Various folk songs	Animated nursery rhymes	Upstream
Laurence Anholt	Various artistic works (Impressionist paintings)	Printed books	Upstream
Heuristic Media	18 th and 19 th century maps of London	Mobile apps	Upstream
Abbie Stephens	Darwin's <i>On the Origin of Species</i>	Videography and animation	Upstream
I Can Make	Various architectural landmarks	3-D printing consulting services	Upstream and Downstream
Three Turn Productions	Works of Jane Austen	Computer games	Upstream and Downstream
Red Wasp Design	Works of H.P. Lovecraft	Computer games	Upstream and Downstream
Shakespeare Books	Works of Shakespeare	Printed books	Upstream and Downstream
UsTwo	Creative Commons photographs	Messaging apps, games	Upstream and Downstream

ideation, product generation, marketing, distribution, and sales (Raasch & Herstatt, 2011). In this study, collective innovation activities beyond the boundary of individual firms were also considered. Classification of firms in this manner led to identification of three main approaches to external PCI activities: (1) non-engaged users; (2) engagers of upstream PCI; and (3) engagers of both upstream and downstream PCI. Within these overall types, firms combined a range of other internal and external activities in their business models to generate and capture value, which I discuss.

5.1. Non-engaged users

Some firms used materials from the public domain but did not actively engage with outside communities

when doing so. These tended to be larger, more-established firms that developed products in traditional categories: animation, print publishing, and theater performance. Firms often used a mixture of original, in-licensed, and public domain IP depending on the specific product. Managers applied their knowledge of the market to identify opportunities and develop products to meet consumer interest. Some of these firms, such as the publishing company Nosy Crow, were vertically integrated and combined activities of product development, marketing, and distribution under the same roof. Value capture focused on product sales realized through creative product differentiation, proprietary technology, and branding. Competition required firms to be innovative in product development and to invest in market knowledge.

Non-engaged users reported that existing knowledge of copyright licensing enabled them to spot opportunities for exploitation. Mark Ruffle of Ruffle-brothers Ltd was employed as an art buyer for Oxford University Press before starting his own animation company. The founder of MyVox was a former music industry marketing employee with IP licensing expertise. MyVox produced traditional nursery rhymes with lyrics out of copyright, accompanied by original music and animations. The company captured value through its advertising-supported YouTube channel and paid downloadable mobile application.

Some non-engaged users bundled public domain material as a complementary good alongside their own proprietary technology. Onilo, a manufacturer of classroom interactive whiteboards initially used public domain content as a placeholder to develop and test its technology. The firm later commissioned copyrighted books, but found that public domain storybooks remained in high demand because educational consumers favored classic literary tales.

Non-engaged users expressed concerns about competition but these were not specifically linked to the public domain status of material they used. Instead, they saw imitation as an overall feature of the market, requiring constant reinvestment in new products. One respondent characterized her product strategy in the following way:

When you find something in the public domain, at the time of your discovery it is less known as a public domain item. You use it creatively so that it becomes known. That's fine because you've moved on by the point when everyone is catching up with you. (MyVox Songs)

Most non-engaged users made significant alterations to the public domain material they used, such as adapting stories to new mediums, or adding elaborate new features. Mobile app developer Inkle produced a multiplayer, interactive version of Jules Verne's *Around the World in 80 Days*. A lead product developer reported that "people compete on what are essentially details of execution; we're competing on actual quality of content, which is a lot safer . . . We try to find holes in what's out there, fill them well, and then move on."

5.2. Upstream PCI engagers

Some firms engaged actively with upstream PCI communities to generate value. These tended to be smaller, less-established firms that benefitted from the activity of PCI communities to locate, adapt, and improve public domain material. Upstream PCI activities included volunteer physical

and digital archives, enthusiast fan communities, and initiatives such as the Wikimedia Commons. Engagement with external PCI communities at the procurement stage helped firms reduce acquisition costs, improve the quality of inputs, and generate new product ideas.

Some firms became involved with external PCI activities after being commissioned for a specific project (work for hire). For example, creator Stephanie Posavec was commissioned to create interactive visualizations based on the works of Charles Darwin. When searching for digitized versions of Darwin's work, her team came across the Darwin Online archive, a volunteer digital database. Becoming involved with upstream PCI with the archive allowed Posavec to obtain accurate digitized text to use in her visualizations. She later contributed to the upstream PCI by sharing back her own dataset.

To remain competitive over time, firms reported investing in talent acquisition, workflow efficiency, creative technology, and innovation/knowledge capacity. Firms invested in their relationships with upstream PCI communities, viewing them as a valuable source of input to future product development.

One entrepreneur, Eugene Byrne, was initially commissioned by a U.K. Arts Council to create a graphic novel based on the life and accomplishments of Isambard Kingdom Brunel. This success led to his firm exploring its own products based on other upstream public domain inputs. Byrne worked with local historical societies and the openly available Internet Archive to source material about other historically important figures. Developing new products this way helped his firm move away from the WFH model by reducing creative development costs and reducing risk at a point when the firm was resource constrained. Some firms combined multiple internal and external activities. Auroch Digital was commissioned to create a simulation game based on the Jack the Ripper mythos. The firm relied on volunteer public archives of newspaper materials from the 19th century to source content for the game. Later, Auroch worked with a commercial board game manufacturer to adapt a video game. Commercial licensing, original development, and engagement with upstream PCI all became ingredients of Auroch's business model.

5.3. Fully engaged (upstream and downstream)

Certain firms were open at both ends of the value chain, using inputs from upstream PCI and revealing aspects of their own products to downstream user-innovators. These firms were both consumers

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and producers in a niche market, using knowledge gained from the community to improve their own product offering. Interviewees reported being fans of the products they developed in a collaborative relationship with audiences made up of other consumer/creators. These firms reported benefits in terms of product development and marketing, from their status as community members and familiarity with the underlying social norms governing communities. For example, the founder of Three Turn Productions and creator of a computer game called *Ever, Jane* was a member of the Jane Austen Society and familiar with fan readings and expectations about functionality required for an interactive video game. While in open beta development, her game was free to play and she used suggestions from players to refine and improve the game before release. Initial value capture was accomplished through advance product sales on the crowdfunding platform Kickstarter.

These firms drew upon expertise from downstream community members to improve and refine products. Shakespeare Books was founded by a former educator who taught English literature and identified an opportunity to improve the appeal of Shakespeare in schools. Through knowledge acquired via consultation with other teachers, the firm developed graphic adaptations of Shakespeare and teaching aids for the educational community. Red Wasp design produced a computer game based on the public domain stories of H.P. Lovecraft, and reported benefiting from a large and passionate fan base of which the firm was also a member.

Firms in this group relied heavily on volunteer communities to beta test and improve their offerings. As a result, products were released unfinished, with the expectation that developers and users would improve the product over time. While this approach appealed to some consumers who valued the experience of inclusion in product development, it limited size of the overall market.

Engagers tended not to invest heavily in marketing or distribution and instead rely on community dynamics to attract new consumers. Respondents noted that a small market size likely deterred larger competitors from entering, even with superior products. The firms in this group invested heavily in communicating with communities of user-innovators, both in product development and after sale. They actively maintained blogs, Twitter feeds, and product support forums to converse with users.

6. Discussion: PCI in creative firms

Interview respondents reported varying levels of benefit to using open and freely available inputs,

which mirrored findings from research on PCI in neighboring industries. For non-engaged users, there were some cost savings from using public domain materials as inputs to product development, although these firms tended to have larger product development budgets overall. Other benefits included absence of a license payment to a preexisting rights holder, as well as reduced transaction costs related to locating and asking permission to use a work. Cost savings and availability helped certain firms to achieve the “credible promise” of a prototype and bring a new product to market (Haefliger et al., 2008).

Another group of firms made enhanced use of PCI in the procurement phase. These tended to be smaller firms that relied on upstream PCI communities to curate and improve the quality of inputs prior to commercialization. Using upstream PCI helped firms to reduce acquisition costs further. Firms solved the problem of acquiring high-quality inputs by tapping in to voluntary collective projects, finding that open crowdsourced data were highly accurate and useful. PCI communities themselves benefitted from contact with commercial firms. The Stephanie Posavec/Microsoft Research collaboration returned their improved data back to the volunteer Darwin archive from which it initially was obtained. Such shareback of innovation has been observed in other PCI efforts, notably in the return of software code to an open source project by commercial users. Reasons given include bug fixing, reputation, marketing, and complementarity (Henkel, 2006).

Some firms found it profitable to engage with upstream as well as downstream PCI (open at both ends). In a copyright-restricted environment, audiences are limited in their ability to quote, reuse, and adapt a product outside of narrow fair dealing exceptions to copyright. However, when a product originates from the public domain, its users may contribute their own derivative adaptations more freely: fans of Jane Austen or H.P. Lovecraft can write their own fictional scenarios, teachers may improve and share lesson plans based on Shakespeare, and coders may build upon and improve software under an open license. For certain engaged firms and consumers, the benefits of co-creation outweighed the costs of releasing an unfinished product lacking mainstream features.

Fully engaged firms viewed the involvement of audience members and fans as critical to improving their products and increasing the market for future releases through word-of-mouth marketing. For example, when choosing to adapt a video game based on the public domain works of H.P. Lovecraft,

the creators explained the value of the preexisting fan community (Red Wasp Design, n.d.):

If a public domain story has nothing interesting done to it, and people just kind of venerate it, it essentially traps it in amber. I think it is important that you're growing something for fans, because obviously they want to see more stuff come out. When they don't get it they'll make it themselves, and where they do get it, they'll make it themselves anyway, but more so.

The primary dynamic described in research on PCI—increased private benefits accrue to free revealers in a collective project—appears to hold in the case of certain creative firms. They are uniquely able to generate and capture value from openness by investing in relationships with communities that improve and circulate their products.

7. Final summary

The experiences related by creative industry firms in this study offer insight into the relationship between IP regimes and PCI. Like the maker-entrepreneurs described by Troxler and Wolf (2017), creative firms that engage PCI communities are linked to value generation activities beyond their boundaries. Previous research on PCI overlooked the importance of IP licensing environments in the success of collective projects. This study illustrates that an open IP environment can enable business models that rely on user co-creation. For certain PCI-engaged firms, the requirement for strict IP protection appears lower than for firms pursuing traditional product-based strategies. This is somewhat counterintuitive, because openness requires that works circulate widely beyond creators' direct control, making them easier to copy. However, the absence of copyright protection offers opportunities for PCI by inviting audience circulation, reuse, and product enhancement.

Strong copyright protection has been considered necessary for creative industries to thrive by giving firms the ability to fully control downstream uses of their IP. Copyright remains important for many traditional firms that rely on revenue from licensing or selling their products. This study has shown that some creative businesses rely on alternative mechanisms of value generation and value capture. These firms do not use public domain materials only because they are free. The ability to freely and openly use material is critical to business models in which value is generated or captured via the collective participation of users.

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References

- Aguiar, L., & Waldfogel, J. (2015). *Revenue, new products, and the evolution of music quality since Napster* (No. 2015-03). Seville, Spain: Institute of Prospective Technological Studies, Joint Research Centre.
- Alexy, O., & Reitzig, M. (2013). Private–collective innovation, competition, and firms' counterintuitive appropriation strategies. *Research Policy*, 42(4), 895–913.
- Baden-Fuller, C., & Morgan, M. S. (2010). Business models as models. *Long Range Planning*, 43(2), 156–171.
- Baldia, S. (2013). Transaction cost problem in international intellectual property exchange and innovation markets. *Northwestern Journal of International Law and Business*, 34(1), 1–52.
- Bechtold, S., Buccafusco, C., & Springman, C. J. (2016). Innovation heuristics: Experiments on sequential creativity in intellectual property. *Indiana Law Journal*, 91(4), 1251–1307.
- Boudreau, K., & Lakhani, K. (2009). How to manage outside innovation. *MIT Sloan Management Review*, 50(4), 69–76.
- Boudreau, K. J., & Lakhani, K. R. (2015). "Open" disclosure of innovations, incentives, and follow-on reuse: Theory on processes of cumulative innovation and a field experiment in computational biology. *Research Policy*, 44(1), 4–19.
- Boyle, J. (2003). The second enclosure movement and the construction of the public domain. *Law and Contemporary Problems*, 66(1/2), 33–74.
- Dahlander, L., & Magnusson, M. (2008). How do firms make use of open source communities? *Long Range Planning*, 41(6), 629–649.
- Favale, M. (2011). Approximation and DRM: Can digital locks respect copyright exceptions? *International Journal of Law and Information Technology*, 19(4), 306–323.
- Garriga, H., Aksuyek, E., Hacklin, F., & von Krogh, G. (2012). Exploring social preferences in private–collective innovation. *Technology Analysis and Strategic Management*, 24(2), 113–127.
- Haefliger, S., von Krogh, G., & Spaeth, S. (2008). Code reuse in open source software. *Management Science*, 54(1), 180–193.
- Harhoff, D., Henkel, J., & von Hippel, E. (2003). Profiting from voluntary information spillovers: How users benefit by freely revealing their innovations. *Research Policy*, 32(10), 1753–1769.
- Hearn, G., Roodhouse, S., & Blakey, J. (2007). From value chain to value creating ecology: Implications for creative industries development policy. *International Journal of Cultural Policy*, 13(4), 419–436.
- Henkel, J. (2006). Selective revealing in open innovation processes: The case of embedded Linux. *Research Policy*, 35(7), 953–969.
- Hesmondhalgh, D. (2007). *The cultural industries*. London, UK: Sage Publications.
- Hesmondhalgh, D., & Baker, S. (2010). *Creative labour: Media work in three cultural industries*. London, UK: Routledge.

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- Hienerth, C., von Hippel, E., & Jensen, M. B. (2014). User community vs. producer innovation development efficiency: A first empirical study. *Research Policy*, 43(1), 190–201.
- Hotho, S., & Champion, K. (2011). Small businesses in the new creative industries: Innovation as a people management challenge. *Management Decision*, 49(1), 29–54.
- Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media: Creating value and meaning in a networked culture*. New York, NY: NYU Press.
- Knight, E., & Harvey, W. (2015). Managing exploration and exploitation paradoxes in creative organisations. *Management Decision*, 53(4), 809–827.
- Landes, W. M., & Posner, R. A. (1989). An economic analysis of copyright law. *The Journal of Legal Studies*, 18(2), 325–363.
- Lecocq, X., & Demil, B. (2006). Strategizing industry structure: The case of open systems in a low-tech industry. *Strategic Management Journal*, 27(9), 891–898.
- Lerner, J., & Tirole, J. (2000). The simple economics of open source. *Journal of Industrial Economics*, 50(2), 197–234.
- Lopez-Berzosa, D., & Gawer, A. (2014). Innovation policy within private collectives: Evidence on 3GPP's regulation mechanisms to facilitate collective innovation. *Technovation*, 34(12), 734–745.
- Manfredi, S., Nappo, F., Ricci, F., & Maggioni, M. (2016). Exploring the economic contribution of copyright-intensive industries in Italy. *Technology, Innovation, and Education*, 2(1), 1–23.
- Noren, L. (2014, June 17). *Rewarding creative work: The limited value of earnings in graphic design*. Paper presented at the CREATE Technology Capacity Building Conference, Nottingham, UK.
- Oakley, K. (2004). Not so cool Britannia: The role of the creative industries in economic development. *International Journal of Cultural Studies*, 7(1), 67–77.
- Raasch, C., & Herstatt, C. (2011). How companies capture value from open design. *International Journal of Information and Decision Sciences*, 3(1), 39–53.
- Red Wasp Design. (n.d.). *Website*. Available at <https://redwaspdesign.wordpress.com/>
- Samuelson, P., & Asay, C. D. (2017, June 14). *Oracle America, Inc. v. Google Inc., Brief of Amici Curiae 42 intellectual property law professors in support of defendant-cross appellant Google Inc.* Available at SSRN: <https://ssrn.com/abstract=2982564>
- Schlesinger, P. (2009). Creativity and the experts: New labour, think tanks, and the policy process. *The International Journal of Press/Politics*, 14(1), 3–20.
- Stuermer, M., Spaeth, S., & von Krogh, G. (2009). Extending private-collective innovation: A case study. *R&D Management*, 39(2), 170–191.
- Teece, D. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing, and public policy. *Research Policy*, 15(6), 285–305.
- Teece, D. (2010). Business models, business strategy, and innovation. *Long Range Planning*, 43(2), 172–194.
- Troxler, P., & Wolf, P. (2017). Digital maker-entrepreneurs in open design: What activities make up their business model? *Business Horizons*, 60(6), 807–817.
- van de Vrande, V., de Jong, J. P., Vanhaverbeke, W., & de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives, and management challenges. *Technovation*, 29(6), 423–437.
- von Hippel, E. (2005). *Democratizing innovation*. Cambridge, MA: MIT Press.
- von Hippel, E., & von Krogh, G. (2003). Open source software and the “private-collective” innovation model: Issues for organization science. *Organization Science*, 14(2), 209–223.
- Watt, R. (2000). *Copyright and economic theory: Friends or foes?*. Cheltenham, UK: Edward Elgar Publishing.
- Zakas, N. C. (2015, December 15). Why I'm not using your open source project. *NCZonline*. Available at <https://www.nczonline.net/blog/2015/12/why-im-not-using-your-open-source-project/>
- Zott, C., & Amit, R. (2010). Business model design: An activity system perspective. *Long Range Planning*, 43(2), 216–226.