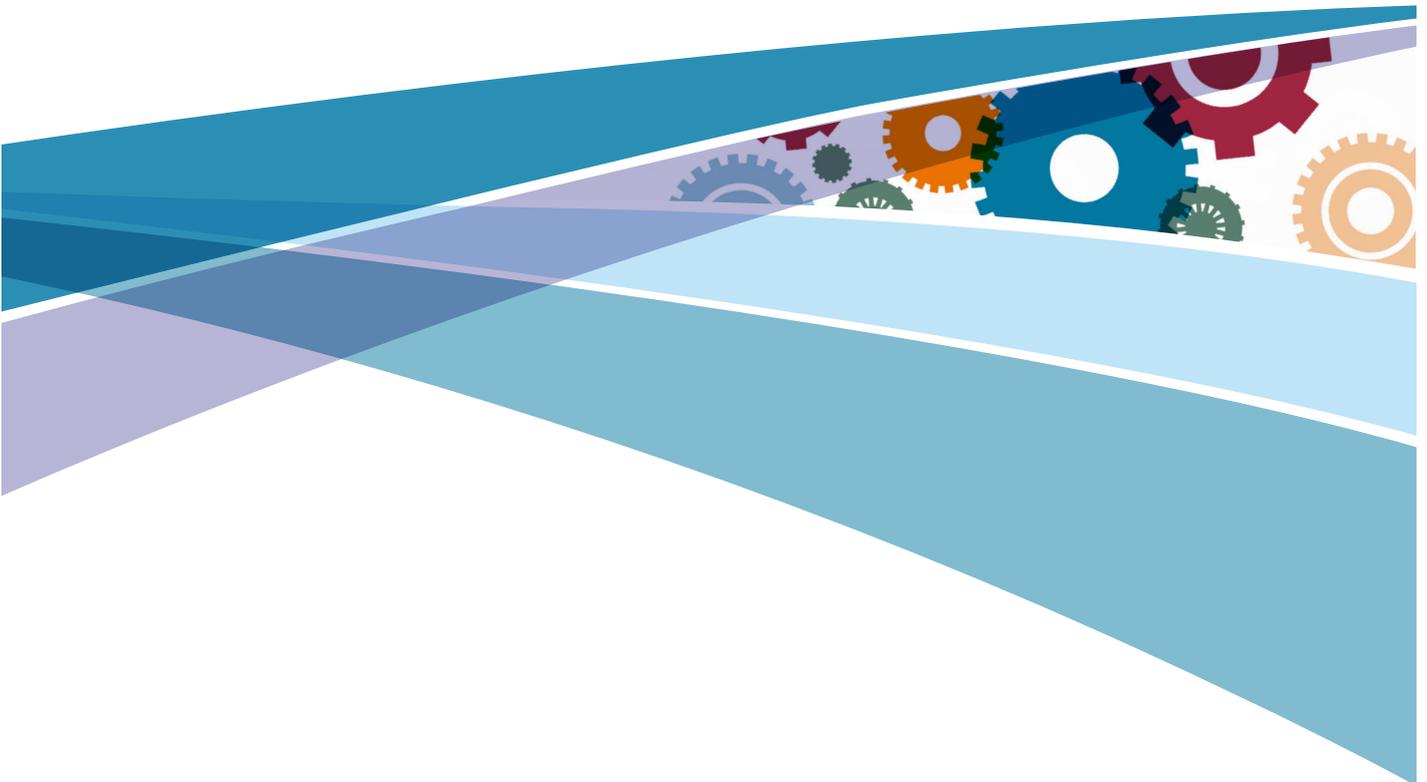




Intellectual  
Property  
Office

# Copyright and the Value of the Public Domain

## An empirical assessment



Research commissioned by the Intellectual Property Office and carried out by:

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*Kris Erickson, Paul Heald, Fabian Homberg, Martin Kretschmer and Dinusha Mendis*

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This document reports on the results of a 12-month knowledge exchange collaboration between researchers led by the RCUK Centre for Copyright & New Business Models (CREATe), University of Glasgow, Bournemouth University, the Intellectual Property Office, and UK creative businesses.

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# Executive Summary

This research report documents the results of a year-long knowledge exchange initiative undertaken between the Intellectual Property Office, researchers at the University of Glasgow CREATE Centre, and more than two dozen UK businesses and innovators, to explore how value is generated from the public domain. The study was supported by the Economic and Social Research Council (ESRC) and the Intellectual Property Office (IPO). The core research team consisted of Dr. Kristofer Erickson (Lord Kelvin Adam Smith Research Fellow, CREATE, University of Glasgow), Professor Paul Heald (College of Law, University of Illinois), Dr. Fabian Homberg (Business School, Bournemouth University), Professor Martin Kretschmer (CREATE, University of Glasgow) and Dr. Dinusha Mendis (School of Law, Bournemouth University).

The overall purpose of the project was 1) to map the size of the public domain and frequency of its use; 2) analyse the role of public domain works in value creation for UK businesses; 3) assist creators and entrepreneurs to identify business models that benefit from the public domain. In addition to these outputs, the intellectual contribution of this project was to arrive at a sufficiently precise definition of the public domain that would permit measurement of its value, and secondly, to critically appraise theories of creativity and innovation that explain how value might be generated from non-exclusive use of ideas and works available to all. The non-rival, non-excludable nature of the public domain would seem to limit its appeal to creators in a competitive market. Any observed commercial uptake of public domain material consequently raises important questions: What stimulates creators to invest in transforming or re-publishing public domain works? How do firms gain and sustain competitive advantage when exploiting freely available public domain materials? What policy options are available to promote market uptake of public domain materials, and what are the likely impacts?

In order to address the objectives of the project, a number of specific empirical field sites were chosen. Each of the studies is expanded in detail in the following report. The studies consisted of 1) an analysis of strategic choices by UK firms to exploit public domain materials; 2) a quantitative, computer-assisted study of uptake and reuse of public domain materials by independent creators on Kickstarter; 3) a matched-pairs analysis of the effect of inclusion of public domain images on selected sub-pages of Wikipedia, to assess the value added to the platform by the availability and use of such works.

Following a symposium with legal experts, media and communication researchers and economists held in October 2013<sup>1</sup>, the project adopted a definition of the 'public domain', focusing on the practicability of use by all potential users (both commercial and non-commercial) without requiring permission from a rightsholder. Our adopted definition (specific to the UK context) contains four main types of materials (more fully explained and justified in the introductory 'legal background' section):

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1 See Erickson, K. and Kretschmer, M. (eds) (2014) Research Perspectives on the Public Domain: Digital Conference Proceedings. CREATE Working Paper Series 2014/3:  
<http://www.create.ac.uk/publications/research-perspectives-on-the-public-domain/>

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**1) Copyright works which are out of term of protection**

(Literary and artistic works created by authors who died prior to 1944)

**2) Materials that were never protected by copyright**

(Works from antiquity and folklore)

**3) Underlying ideas not being substantial expression**

(Inspiration taken from pre-existing work that may include genre, plot or ideas)

**4) Works offered to the public domain by their creator**

(Certain free and open licensed works without restrictions)

## Study 1: Commercial uptake by creative businesses:

This study consisted of interviews with 22 creative businesses that used public domain materials to create commercial products. Research explored why firms made decisions to invest in development of public domain projects, finding 4 main types of use: 1) engagement with fan community of existing literary work; 2) inclusion of public domain material to complement a technological platform or subscription service; 3) conscious entrepreneurial strategy based on identification of existing demand; and 4) partnership with a public institution to celebrate and engage the public about an event or anniversary of significance. Researchers identified the following issues relating to public domain uptake:

- Creators working with visual or multimedia content reported difficulties in locating and securing high-quality sources of public domain works (image resolution, digital format). This was a significant challenge to commercialisation.
- Archives, museums, and libraries were frequently cited as useful partners when seeking access to public domain works, able to provide access to source material and data needed to ascertain copyright status of work.
- There was little concern about competition due to non-excludability of source material, but firms worried about costs of marketing and sustaining PD projects when initial development cost and investment was also low.
- Clarity on legal use (e.g. requirements for 'diligent search' when using orphan works) would improve commercialisation potential.

## Study 2: Public domain projects on Kickstarter:

Crowdfunding platforms such as Kickstarter appear governed by an ethos which rewards originality and niche production. However, not all intellectual property (IP) on the platform is new and original. Often, pitch creators incorporate IP from a third party rightsholder, as well as material from the public domain. In order to assess the role of public domain material in a

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crowdfunded creative marketplace, the team performed quantitative analysis on 1,933 Kickstarter projects from January to April 2014. Researchers employed statistical techniques to model likelihood of success of projects when different underlying copyright or public domain material was present. The main findings were as follows:

- Use of both public domain and third party licensed material were significantly associated with higher likelihood of project success.
- Influence of public domain status on success rate was most pronounced in the mediums of Comics and Theatre, compared with Publishing and Video Games. This suggests that the role of PD materials differs across mediums. Direct re-publication of public domain literature does not seem to be rewarded – adaptation to another medium may be more attractive to backers.
- Explicitly obtaining copyright permission to use a third party work in a Kickstarter pitch was significantly associated with higher funding levels achieved.
- Previous experience and status of pitch creator was also significant to project success, suggesting that familiarity of both underlying work and its creator is important to Kickstarter funders.

### Study 3: Impact of availability of public domain images on Wikipedia:

Wikipedia is an important global resource and is itself emblematic of the digital public domain, being free for uptake by commercial and non-commercial users alike. Much of the written content on Wikipedia is supplied by volunteer contributors. However, supplemental material such as photographs and illustrations must be used in such a way to ensure the openness and availability of articles to downstream users. Consequently, the Wikipedia platform potentially benefits from availability of photographs and illustrated material in the public domain (either due to copyright term expiration or open and unrestricted licensing). To assess the value of public domain images in the context of this resource, researchers studied the presence and impact of public domain images on biographical Wikipedia pages of 1,700 literary authors, lyricists and composers. Broadly, the study finds that the ‘background’ availability of public domain (PD) material has an effect on the rate of inclusion of images, as well as a measurable impact on the performance of those article sub-pages benefitting from visual enhancement offered by PD images.

- Public domain availability makes a significant difference to inclusion of images on Wikipedia. Biographies for notable authors born prior to 1880 have a greater likelihood of containing an image than those born more recently, even though camera technology became widespread in the 20th Century. Less than 58% of authors in the sample born after 1880 have images associated with their Wikipedia pages.
-

- Controlling for notoriety of authors, composers and lyricists using a matched-pairs technique, we found that pages with public domain images attracted between 17% and 19% more visitors than pages where no image was available, reflecting the value those images contribute to the Wikipedia resource.
- Using commercially equivalent licence fees obtained from Corbis and Getty for images relating to the biographical sample, we estimate a total value of USD \$208 million (GBP £138 million<sup>2</sup>) per year for the 1,983,609 English-language Wikipedia pages in appropriate categories which contain public domain images.

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2 Based on exchange rate calculated on 25th January 2015.

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# Introduction

Creative practices in the digital era and access to the vast reservoir of works and ideas that we call 'the public domain' are intertwined in complex and complementary ways (Samuelson, 2003; Pollock, 2006; Dobusch, 2012). Digitalisation has made it possible for the first time for users to access a near infinitude of works – including copyright works – as well as to create and distribute digital copies of works across borders and through a range of technical devices. The features of digital technology that make this possible include standardisation (for example, the capability of a device to display images encoded in a standard format) and convergence (the ability of a single digital device to perform many tasks). From a digital point of view, a book, a painting and a video game are broadly equivalent – they can be reproduced as files containing binary information about how to display them to a user.

A number of legal scholars and economists have discussed the public nature of digital information goods (Benkler, 1999; Rose, 2003; Boyle, 2009). A major feature of new media markets is that one user's consumption of a digital copy does not impede another's use or enjoyment of the same work. Because of the global, interconnected nature of the Internet, information goods are also non-excludable: it has proven difficult to limit access to information goods once a single initial copy has been made available in a digital format, a feature of concern to traditional media industries and rightsholders.

Works legally in the public domain are public in the manner of digital information goods discussed above, however they possess further public goods qualities related to creative transformation. Works and ideas in the public domain may be taken up and used by others in the creation of new expressions, without the need to obtain permission or pay a licence fee. The status of the public domain is therefore significant to both consumers and producers. Consumers may enjoy works in the public domain lawfully without infringing copyright. Producers may freely take inspiration from an underlying public domain expression or idea without creative or financial restrictions. The original creator (or successor in title) of a copyright work cannot refuse permission to a creator who wishes to adapt or transform the work, potentially leading to innovation and new creativity.

This report is concerned with the production of new cultural products which use or draw inspiration from ideas and works in the public domain. Three areas of production are examined: uptake and adaptation of public domain works by small creative firms in the UK, uptake and reuse of public domain materials by creators on Kickstarter, and inclusion of public domain images by contributors to Wikipedia. Before embarking on a description of each of the empirical research studies, it is first necessary to provide an overview of the public domain, defining its contours, both in a legal sense and in a practical one that can be captured empirically. As the research findings in this report demonstrate, defining the boundaries of the public domain in a way that is publicly understood, is key to ensuring that society can derive value and benefit from its contents.

Broadly, there are two underlying conceptualisations of the public domain implicit in the literature; both are valid, depending on the perspective of the user and on one's particular view of the relationship between law and practice.

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On one hand, certain legal scholars have described the public domain as a negative space defined by the absence of formal intellectual property rights (Landes & Posner, 2003). In this conceptualisation, the public domain exists where copyright does not – either because the subject matter is beyond the scope of copyright, or because the time-limited monopoly granted by copyright has lapsed. Enumerating the size and value of such a public domain involves large-scale cataloguing of works outside of copyright protection and measuring their availability and use (see for example Pollock & Stepan, 2010; Heald, 2007).

On the other hand, a different view of the public domain adopts what may be called a ‘behavioural’ approach, focussing instead on all activities possible by users without seeking permission. This includes the range of uses enabled, or tolerated, on an individualised and context-specific basis (Benkler, 1999; Dobusch 2012). This approach expands consideration about what materials can be in the public domain, but renders more complex the meaning of ‘public’, since certain types of use are privileged according to one’s location and intent. For example, the size and shape of the public domain shifts depending on the territory of the creator as well as the territories in which one seeks to exploit a derivative work, with important implications for users how to determine possible permitted uses. Dobusch cautions that “[a]n empirical assessment of the relevance of the public domain must therefore also take into account actual practices of contribution to as well as usage and appropriation of these different public domain phenomena.” (2012: 6).

The present research project seeks to address the call by Dobusch to empirically address the value of the public domain in relation to actual practices on the use level. We proceed by first providing an overview of current ambiguity in the boundaries of the public domain in recent UK and selected international case law, as well as resulting challenges raised for potential users. We then elaborate our working definition of the public domain, which includes works, portions of works and materials which are available to uptake by all, regardless of the context of intended use. We do this to simplify the complexity of the usage-constituted public domain so that it becomes measurable, and to ensure that our research findings are relevant to actual UK creators and entrepreneurs.

## Legal Background: definitions and uses of the public domain

There has been much debate and much written about the definition of the public domain and its relationship with copyright law. These debates have mainly focused on defining the meaning/concept and the contours of the public domain against an advancing copyright regulatory framework<sup>3</sup> on the one hand whilst taking into account the technological landscape on the other. Although a brief overview of the meaning and boundaries of the public domain is needed, the aim of this introduction is not to restate or summarise the arguments, which have already been established by leading commentators in this field<sup>4</sup>. Rather the aim is to explore the ‘boundary’ between copyright law and the public domain, and identify from concrete examples

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3 See C. Waelde & H. MacQueen, *The Many Faces of the Public Domain* (Cheltenham: Edward Elgar; 2007).

4 See commentaries by C. Waelde, R. Deazley, F. McMillan, G. Davies, F.M. Grosheide, G. Dutfield, J. Gibson, R. Susskind, J. Cahir and others in C. Waelde & H. MacQueen, *The Many Faces of the Public Domain* (Cheltenham: Edward Elgar; 2007). Also see Erickson, K. and Kretschmer, M. (eds) (2014) *Research Perspectives on the Public Domain: Digital Conference Proceedings. CREATE Working Paper Series 2014/3*.

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where the uncertainties lie. Some uses of public domain work are straightforward, such as re-publication of old, out-of-copyright literary works. However, much current digital creativity involves remix and recombination of work that may incorporate ideas or elements from others. The scope of protection offered by copyright is therefore significant in determining what ideas or aspects of an expression remain available for uptake in the creation of new works. Furthermore, the position of copyright with respect to historical facts and common elements has raised interesting and complex legal and regulatory questions.

Ronan Deazley (2007) defines the contours of the public domain as a series of categories incorporating i) those works which do not qualify for copyright protection; ii) those works which do but are out of copyright term; iii) those works where permission to use has been granted by the copyright owner *a priori*, and iv) such parts of works which fall on the unprotectable side of the idea-expression line, which are allowed for within the statutory framework (taking of an insubstantial part, the permitted acts), or which are permissible as a result of judicial intervention with the regime at common law (on public policy grounds, or as being in the public interest) (2007: 4). In the section below, we further expand on each of these interrelated definitions, with reference to legal decisions concerning actual use where the legal boundary of copyright protection was uncertain.

## 1) Copyright works outside of term

In the UK, copyright in literary, dramatic, musical and artistic works lasts for 70 years from the death of the author, with the work entering the public domain on the 1st January of the calendar year following the anniversary of their passing. When a work has more than one author, the term is calculated from the date of death of the last surviving author. For works of anonymous authorship copyright term lasts for 70 years from the date of first publication. UK copyright in previously unpublished work does not presently expire until 1st January 2039.<sup>5</sup>

Due to the length of copyright term and the relatively recent technological developments in broadcast and digital media, the bulk of work presently in the public domain consists of literary texts, musical compositions, illustrations and photographs (Pollock & Stepan, 2010). The majority of television programmes, sound recordings and films from the 20th Century remain in copyright since they rely on relatively recent technological developments and media. No digital interactive materials or software (protected as a literary work) have yet entered the copyright public domain through term expiration. It is conceivable that software will begin to enter the public domain from the year 2017, when more than 70 years will have elapsed since the earliest computer software was developed post-WWII.

### Uses and challenges

Once a work enters the public domain via term expiry, contents of the expression may be used freely, by anyone, without the need to seek permission from the original rightsholder. The work may be used commercially or non-commercially.

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5 The current term expiry of 31 December 2039 was introduced by the UK Copyright Designs and Patents Act 1988 and applies to all works created, but not published before 1 August 1989, where the author died before 1 January 1969. Policy options are being explored to address older unpublished material at the request of archive institutions and other users.

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Because the entire contents of the original expression are available for uptake once a work enters into the public domain, downstream users of the work may seek to reproduce it or make it available to the public in its entirety. One set of users of public domain works are archival institutions wishing to preserve and share works of historical importance. Legally permitted uses might include scanning, digitising, exhibiting and distributing copies of the work.

Other users of a work in the public domain may include commercial publishers or broadcasters who wish to make the original work commercially available in its entirety. In the case of publishing, a new typographical copyright will exist in the new edition upon re-publication. However, other publishers are free to work with the same underlying public domain source material to create their own editions.

A third set of users of out-of-copyright work includes creators wishing to adapt or transform a substantial part of the original in the creation of a new derivative work. Derivative users may seek to do this with works that are still in copyright, by obtaining permission of the rightsholder. However, some rightsholders may choose not to make their work available for derivative uptake.<sup>6</sup> Once the copyright term has passed, these works become freely available for use, which may include adaptation from one medium to another, or recombination with other works.

In our interview research sample, we found many examples of creative firms using copyright works that were out of term (see Study 1). For example, one dance and theatre company organised a production of *Dracula*, drawing inspiration from the original gothic novel by Bram Stoker. A children's book publisher created a series of books reproducing artwork by famous European painters, some still in copyright and others out of copyright. Another entrepreneur raised £75,000 on Kickstarter to create an interactive 3D world called EverJane where players may act out scenes from novels by Jane Austen. Each of these undertakings was inspired and facilitated by the out-of-copyright status of the underlying source material. To elaborate further, a product such as an interactive game based on a third party copyright work may be possible to develop by obtaining a licence from the rightsholder, but designing the product to allow unscripted and unmoderated user-generated inputs could make such an arrangement impossible from the point of view of branding, and other reputational or moral concerns. Public domain works are not subject to such creative constraints.

While the duration of copyright term is largely straightforward, complications often arise when seeking to determine the status of a work (for example to seek permission from the rightsholder). Works of collaborative authorship present the most difficulty. In the case of cinema, in the UK copyright term is calculated from the date of death of the principal director, the author of the screenplay, the author of the dialogue, and the composer of any original music for the film. Consequently, it is often cost prohibitive to determine the public domain status of old films. A result of the high cost of rights clearance for certain types of works, as explored in the literature on orphan works, is that a large amount of material that is actually in the public domain remains unavailable and under-used because its status has not been ascertained (Pallante, 2012; Deazley & Stobo, 2013). Further complications concern the territoriality of copyright term. A work may be in the public domain in the United Kingdom, but remain in copyright in a different jurisdiction. Due to the global nature of the digital media industry, this can result in legal risk to

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6 As was famously the case with the works of James Joyce, which were not widely licensed for adaptation prior to their entry into the public domain on 1st January 2012.

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derivative creators and publishers, when they seek to make a work based on public domain materials commercially available in different markets.

## 2) Works which do not qualify for copyright protection

In addition to works that the copyright protection has expired, the public domain also includes works that copyright never protected.

According to Deazley, “[i]f the institution of copyright necessitates permission before use, then the public domain allows for use without the need for permission. Clearly this would include works which, for whatever reason, fail to qualify as copyright protected in the first place.”<sup>7</sup>

One category of such public domain works are those which pre-date the establishment of the modern copyright framework, and consequently were never covered by any copyright protection. These works include myths and stories from antiquity, religious iconography and texts, and a multitude of other literary and artistic expressions that were produced after the invention of writing but before the formalisation of the European copyright system, beginning during the 18th Century.

Other, more modern material can be in the public domain due to being outside of the scope of copyright law, if it does not satisfy the necessary requirements to attract copyright, such as that it is not an expression, or does not meet the threshold of originality required for protection. For example, a single word would not qualify as a literary work<sup>8</sup> and therefore is not protectable by copyright. Likewise, copyright would not subsist in an un-original artistic work<sup>9</sup>.

This category of public domain works is diverse and includes non-fixed expressions such as oral traditions and folk tales, common sayings and phrases, layperson knowledge, historical events, compendiums of facts, scientific discoveries, and other ideas that do not qualify for copyright protection (Samuelson, 2003: 151).

### Uses and challenges

Users of public domain expressions pre-dating the modern copyright framework include both public and private organisations, and their uses often correspond with the treatment of modern

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7 Deazley R., *Rethinking Copyright History, Theory, Language* (Northampton: Edward Elgar; 2006) p. 107.

8 *Exxon Corp v Exxon Insurance* [1982] Ch 119. In this case the claim was in relation to the single word “Exxon” invented by the plaintiffs. However, the court held that being “original”, “literary” and a “work” is not necessarily enough to attract copyright when it concerns a single word. Cf. *Infopaq International A/S case v Danske Dagblades Forening* (C-5/08 [2010] FSR 20) Judgement of the Court (Fourth Chamber) at [46]: “Words as such do not, therefore, constitute elements covered by the protection.”

9 *Interlego AG v Tyco Industries Inc* [1989] AC 217. This case related to the design of Lego bricks. The design of the Lego brick in question differed in technical information as to dimensions; however the visual impression remained much the same. The court held that whilst skill and labour had been expended on the changes, they did not produce any significant visual alterations and therefore were not original artistic works and not entitled to copyright.

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works where the term of protection has lapsed. For public institutions such uses might include archiving, preservation, public outreach and education.

The businesses and creators identified in our research did make use of such myths and stories pre-dating copyright. One product consisted of an illustrated bestiary comprised of Biblical creatures and illustrated using the 18th Century engravings of the Comte de Buffon<sup>10</sup>. In this example, we observe that multiple sources of public domain and third party copyright materials can often be combined in the production of new works.

Potential users of this category of public domain materials may face challenges related to the legal uncertainty and risk associated with use, even if permissible. For example, the originator of an idea not protectable by copyright (such as the populariser of a common expression) may believe that they own a copyright in the idea and may pursue legal action against parties that use the material. The perceived risk of a legal challenge may dissuade creators from making use of ideas and works in the public domain, resulting in under-exploitation.

The public domain status of folklore or traditional knowledge in some jurisdictions can be ambiguous. Folklore is based on the traditions, cultures and beliefs of a society and usually transmitted orally from generation to generation thereby being modified repeatedly through transmission.<sup>11</sup> Therefore, *prima facie*, folklore would not satisfy the originality and fixation requirements of copyright. However, the link between copyright law and folklore arises from the way folklore is expressed.<sup>12</sup>

Two Australian cases demonstrate this uncertainty. In the first matter of *Yumbulul v Reserve Bank of Australia*<sup>13</sup>, a commemorative banknote reproduced the design of a Morning Star Pole created by Terry Yumbulul, an Aboriginal artist. The Judge stated that “Australia’s copyright law does not provide adequate recognition of Aboriginal community claims to regulate the reproduction and use of works which are essentially communal in origin”.<sup>14</sup>

However, subsequently, in the matter of *Milpurrruru v Indofurn Pty Ltd and others*<sup>15</sup>, the Australian courts demonstrated a more favorable approach towards the protection of traditional Aboriginal work.<sup>16</sup> This case concerned woolen carpets sold by the respondents that reproduced artwork of Aboriginal artists, represented by the applicants. The judge, relying on section 115(4) of the *Australian Copyright Act 1968* (as amended), which provides for the additional grant of damages in a case of flagrant infringement, awarded \$1,500 per artwork against each of the respondents.

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10 See: <https://www.kickstarter.com/projects/1161793193/the-book-of-blessed-beasts>

11 Dirar L, Folklore protection in the Eritrean Context: Legal Issues and Choices (2012) 20(2) *A.J.I.C.L.* pp. 229-250 at p. 230.

12 Dirar L, Folklore protection in the Eritrean Context: Legal Issues and Choices (2012) 20(2) *A.J.I.C.L.* pp. 229-250 at p. 233.

13 *Yumbulul v Reserve Bank of Australia* (1991) 21 IPR 481.

14 *Yumbulul v Reserve Bank of Australia* (1991) 21 IPR 481 at p. 490.

15 *Milpurrruru v Indofurn Pty Ltd and others* (1994) 130 A.L.R 659.

16 Blakeney M., Protecting Expressions of Australian Aboriginal Folklore under Copyright Law (1995) 17(9) *E.I.P.R.* pp. 442-445 at p.445.

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However, more significantly, relying on the UK case *Williams v Settle*<sup>17</sup>, stating that anger and distress suffered by those around the copyright owner constitute part of that person's injury<sup>18</sup>, Judge Von Doussa awarded an additional sum under section 115(4) of \$700,000 to “reflect the harm suffered in their cultural environment”.<sup>19</sup>

A number of cases in the UK courts have hinged on the question of uptake of ‘common elements’ available to all, when one creator has previously made use of those elements in an artistic expression. For example, common elements might include the iconic London double-decker bus, a well-known street or background, or occult themes such as magic or wizardry. These cases have raised questions as to whether such elements can be protected and in what circumstances their arrangements constitutes an original expression.

Perhaps the most striking recent case in this context is that of *Temple Island Collections Ltd v New English Teas*<sup>20</sup>, more commonly known as the *Red Bus case*. In this case, *Temple Island Collections Ltd* claimed that the defendants’ work (photograph) infringed their copyright as it reproduced a substantial part of their work<sup>21</sup>. The case revolved around a London red double-decker bus against a black-and-white background of the Houses of Parliament and Big Ben.

*Temple Island Collections Ltd* maintained that it was “a clear case of infringement. At the crudest level the two images in question simply look strikingly similar. There are a myriad of ways in which a bus could be portrayed in front of the Houses of Parliament that would not have been inappropriately based upon the claimant’s work yet the defendants have done so in a way which is very similar indeed to the claimant’s work”<sup>22</sup>.

The defendants in denying infringement pointed out the widespread and publicly available images of red buses and the Houses of Parliament as well as other common themes present in the defendants’ work. The cross-examination focussed on how the defendants’ work had been produced”<sup>23</sup>.

In considering the evidence, the Court summarised it as follows:

- (1) The Houses of Parliament, Big Ben and so on are iconic images of London. So too is the Routemaster bus.
- (2) The idea of putting such iconic images together is a common one. That includes in particular the idea of an image of Big Ben and the Houses of Parliament with a London bus on Westminster Bridge (or the road nearby).

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17 *Williams v Settle* [1960] 1 WLR 1072 at pp. 1086-1087. This case involved the infringement of a photograph of the applicant’s father who had been murdered. Damages were awarded on the consideration of the “total disregard not only of the legal rights of the plaintiff regarding copyright but of his feelings and his sense of family dignity and pride.” per Sellers L.J. at p. 1082.

18 “There is continuing uncertainty as to the appropriateness of use of traditional images on products which utilise non-traditional mediums, and on carpets designed to be walked upon” - *Milpururru v Indofurn Pty Ltd and others* (1994) 130 A.L.R 659 as per Von Doussa J at p. 5.

19 *Milpururru v Indofurn Pty Ltd and others* (1994) 130 A.L.R 659 as per Von Doussa J at 86.

20 *Temple Island Collections Ltd v New English Teas* [2012] EWPCC 1.

21 *Temple Island Collections Ltd v New English Teas* [2012] EWPCC 1 at [9].

22 *Temple Island Collections Ltd v New English Teas* [2012] EWPCC 1 at [11].

23 *Temple Island Collections Ltd v New English Teas* [2012] EWPCC 1 at [15].

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(3) The technique of highlighting an iconic object like a bus against a black and white image is not unique to Mr Fielder [claimant] [sic].

(4) Whether anyone had ever produced a black and white image of Big Ben and the Houses of Parliament with a red bus in it before Mr Fielder is not clear<sup>24</sup>.

On the point of originality Judge Birss QC focused on the claimant's own intellectual creation<sup>25</sup> in accordance with the *Infopaq* case. In this regard, the Court considered the claimant's choices relating to the basic photograph itself: the precise motif, angle of shot, light and shade, illumination, and exposure and also the work which was carried out after the photograph was taken to manipulate the image to satisfy his own visual aesthetic sense. The Court went on to determine that "the fact that it is a picture combining some iconic symbols of London does not mean the work is not an original work in which copyright subsists. The fact that, to some observers, icons such as Big Ben and a London bus are visual clichés also does not mean no copyright subsists. It plainly does"<sup>26</sup>. The Court drew attention to particular elements worthy of attention in the picture, including its composition and artful visual contrasts<sup>27</sup>.

Focusing also on 'substantial taking'<sup>28</sup> the Court held that the defendants' work did reproduce a substantial part of the claimant's artistic work.

"In the end the issue turns on a qualitative assessment of the reproduced elements. The elements, which have been reproduced, are a substantial part of the claimant's work because, despite the absence of some important compositional elements, they still include the key combination of what I have called the visual contrast features with the basic composition of the scene itself. It is that combination which makes Mr Fielder's image visually interesting. It is not just another photograph of clichéd London icons"<sup>29</sup>.

In concluding the arguments, the Judge Birss QC stated that the collection of other similar works relied on by the defendants had worked against them because "the collection had served to emphasise how different ostensibly independent expressions of the same idea actually look"<sup>30</sup>.

Common elements were also the focus of a case concerning magic, wizardry and other elements used in the popular *Harry Potter* series. In this case a Dutch Court found in favour of J.K. Rowling, the author of the *Harry Potter* series and prohibited the distribution of 7000 copies of a book by Russian author Dimitry Yemets entitled *Tanja Grotter and the Magic Double Bass* derived from the book *Harry Potter and the Philosopher's Stone*. A strong resemblance between the two main characters and the structure (prologue, plot, headway, climax, anti-climax and ending) of both stories<sup>31</sup> were at issue in this case.

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24 *Temple Island Collections Ltd v New English Teas* [2012] EWPC 1 at [49].

25 *Infopaq International A/S case v Danske Dagblades Forening* (C-5/08) [2010] FSR 20 at [51].

26 *Temple Island Collections Ltd v New English Teas* [2012] EWPC 1 at [51].

27 *Temple Island Collections Ltd v New English Teas* [2012] EWPC 1 at [52].

28 *Designer Guild Ltd v Russell Williams (Textiles) Ltd* [2000] 1 WLR 2416.

29 *Temple Island Collections Ltd v New English Teas* [2012] EWPC 1 at [63].

30 *Temple Island Collections Ltd v New English Teas* [2012] EWPC 1 at [67].

31 *Joanne Kathleen Rowling, Uitgeverij de Harmonie BV, Time Warner Entertainment Company LP v Uitgeverij Byblos BV* [2003] ECDR 23 S. J. A. Rullman at para 3.

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The defendant, the Dutch publisher, argued that a plot or a storyline does not in principle fall under the scope of copyright law protection. As Rowling uses many elements in her books that are in the public domain (for example an orphan with mean step-parents, children with magic powers, magic objects, flying on broomsticks), the result is that her copyright protection is diminished. The defendant further argued that similarities with the book *Harry Potter and the Philosopher's Stone* cannot be considered an imitation as these are also elements which Dmitri Yemets, like Rowling, took from the public domain<sup>32</sup>.

The Court held, granting the application, that having regard to the high degree of similarity between the two stories, Dimitri Yemet's book was an adaptation of Rowling's book that cannot be considered to be a new and original work for the purposes of Art.13 of the Dutch Copyright Act 1912 (as amended).

"It must be assumed in these proceedings that a storyline (a worked-out plot) can have an adequate character of its own to be considered a work for the purposes of the Copyright Act. This is the case when the plot of the story is original and a place is given in the plot to not necessarily original characters and elements. Byblos' argument that Rowling has used elements from the public domain in her book *Harry Potter and the Philosopher's Stone* does not in principle affect the possibility that Rowling's book (in which the storyline is developed) is a work for the purposes of the Copyright Act."<sup>33</sup>

On the point of parody, the Court held that "by and large, a ridiculous (ironic) imitation of a work can be considered as a parody, where that work becomes the subject of laughter and when the contrast with the original work dominates"<sup>34</sup>. The aim should be humour and not competition<sup>35</sup>. The court found *Tanja Grotter and the Magic Double Bass* is not recognisable as a parody in terms of the above meaning.

## Historical Facts

Statements of historical fact can have ambiguous status with respect to copyright law. Their incorporation in derivative works has resulted in a number of legal disputes.

In *Baigent and Leigh v The Random House Group Ltd*<sup>36</sup> the Court of Appeal dismissed a claim that a work of historical fiction infringed the copyright in a work of history on which it was loosely based. The Court established that the claimants were not entitled to monopolise historical research or knowledge and prevent the "legitimate use of historical and biographical material, theories propounded, general arguments deployed, or general hypotheses suggested (whether they are sound or not) or general themes written about".<sup>37</sup>

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32 Joanne Kathleen Rowling, *Uitgeverij de Harmonie BV, Time Warner Entertainment Company LP v Uitgeverij Byblos BV* [2003] ECDR 23 S J. A. Rullman at para 4.

33 Joanne Kathleen Rowling, *Uitgeverij de Harmonie BV, Time Warner Entertainment Company LP v Uitgeverij Byblos BV* [2003] E.C.D.R. 23 S J. A. Rullman at para 5.

34 For an in-depth consideration of parody, including a consideration of the Dutch parody exception, see, Mendis D., Kretschmer M., *The Treatment of Parody under Copyright Law in Seven Jurisdictions: A Comparative Review of the Underlying Principles* (London: Intellectual Property Office; 2013), pp. 1-97.

35 *Uitgeverij Byblos BV v JK Rowling, Uitgeverij De Harmonie BV and Time Warner Entertainment Co, LP* [2004] ECDR 7. 36 [2006] EWHC 719 (Ch).

37 Laddie, Prescott and Vitoria, *The Modern Law of Copyright and Designs, Part II: Copyright and Related Rights*, 4th Ed. (London: Butterworths law; 2011) Part II: Copyright and Related Rights, Chapter 3 at 385(5).

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However, the Court recognised the difficulties arising when historical works are drawn upon later by authors, leading to potential copyright infringement based on the taking of a substantial part. “When a book is put forward as being a non-fictional book and contains a large number of facts and ideas it is always going to be a difficult exercise in trying to protect against copying of those facts and ideas because as such they cannot be protected. It is the effort and time that has gone into the way in which those ideas and facts that [sic] are presented that is capable of protection.”<sup>38</sup> Ultimately, it is the manner in which the material is ‘assembled’ and asserted to constitute the books design that is important. Historical facts, isolated on their own are considered to reside in the public domain; however the combination and presentation of those facts, when taken together may create a ‘work’, and attract copyright protection.

Consideration of these cases highlights the challenges and risks potentially faced by a creator seeking to use ideas in the public domain, which on their own would not attract copyright. It appears that UK law is ambivalent on this point, treating facts in some works as copyright material (typically directories and other compilations), but tending to treat them as unprotected when contained in a work which contains substantial amounts of expression.<sup>39</sup>

### 3) ‘Underlying ideas’ not appropriating substantial expressions

Creativity is a communicative activity, and artistic creations are in conversation with other works. But how much inspiration can be taken from an existing expression without infringing the copyright of the owner? Can inspiration which is taken, but does not infringe, be thought to exist in the public domain? If so, what is the shape of that public domain, and how can its value to society be enumerated?

Legal and literary scholars Grosheide (2007) and Rose (1993) have commented on this feature of creativity by surveying the public domain through the lens of copyright’s idea-expression dichotomy. Grosheide, referring to Erasmus<sup>40</sup>, characterises the historical ‘commonplace book’ as a ‘storehouse of the mind’<sup>41</sup>. Using the metaphor of the beehive, which enables an owner to transform stored honey into any product of its own making, he characterises the public domain as “a place where readers might store their intellectual honey in order to use it later in their own works”<sup>42</sup>.

Mark Rose (1993) uses a similar metaphor to represent the permeation, which exists between inspiration – drawn from the public domain – and creativity, which assists with literal transformation. He states, “copyright depends on drawing lines between works, on saying where one text ends and another begins. What much current literary thought emphasises, however, is that texts permeate and enable one another, and so the notion of distinct boundaries between texts become difficult to sustain” (1993: 3)<sup>43</sup>.

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38 *Baigent v Random House Group Ltd* [2006] EWHC 719 (Ch) Mr Justice Peter Smith at [260].

39 Sherwood-Edwards M., *The Redundancy of Originality* (1995) 6(3) *Ent. L.R.* pp. 94-106 at p. 94.

40 Desiderius Erasmus Roterodamus, 1466-1536.

41 F. M. Grosheide, *In search of the public domain during the prehistory of copyright law* in C. Waelde & H. MacQueen, p. 16.

42 *Ibid.*

43 Rose M. (1993) *Authors and Owners: The Invention of Copyright*. Cambridge, MA: Harvard University Press.

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The concept of 'permeation' is of particular importance in considering the public domain in the context of the digital landscape and collaborative authorship, where intertextual and collaborative authorship have become more commonplace (Jenkins, 2006; Cover, 2006). It is therefore imperative to consider the impact of copyright status on digital creativity, particularly if the objective is to stimulate innovation and creation of new works.

However, discerning creative elements which are in the public domain in a concrete sense using this definition is difficult. When considering features such as genre, plots, characters, and events, which lie at the boundary of the idea/expression dichotomy, there are no clear and general rules about what is available for uptake and what is protected.

## Uses and challenges

Creators may consciously choose to take inspiration from another copyright work for a variety of reasons, including aesthetic, political, moral or commercial. This research is focused on commercial exploitation of material in the public domain, and creators were asked about the commercial choices made when selecting and using a particular work or idea.

Some interview respondents reported that they viewed their work in relationship to a constellation of other work in a similar style or genre. For example, one creator interviewed relayed that science fiction authors working in the 'steampunk' genre had appropriated pieces of his own original research which itself was based on historical events and biographies in the public domain. The historian speculated that such borrowings offered a sense of authenticity, as well as a geographic rootedness to the new fictional work. Other creators reported that identification with a particular style (for example, Victorian London *gothic noir*) helped them connect with audiences that were already knowledgeable about other work in that style.

Genre may also function as a quality signal to potential readers. It is a way of categorising works according to themes and scenarios for a particular group of readers who find them enjoyable. In a publishing market characterised by surplus of choice, genre may help new creators connect with audiences, in a sense making it a tactical commercial consideration for an author to borrow particular genre tropes (Wolfe, 2014).

One risk facing creators who take inspiration from other work including plotlines, characters, or tropes, is that some niche creative communities of producers and audiences are governed by informal social norms that sometimes but not always coincide with the structure offered by copyright law. The result is that a taking which may be permissible to one particular group of creators and fans may not be commercially exploitable in a different market governed by more formal legal rules. This result is frequently seen in efforts to commercialise 'fan' fiction (Schwabach, 2011). Copyright disputes that have arisen have tended to revolve around takings of either structural narrative elements (plots and themes) or characters (in their entirety or as archetypes).

## Plot, theme, genre and medium

The rights conferred to authors under sections 16-21 of the Copyright, Designs and Patents Act 1988 extend beyond a simple copyright in the actual language used in an expression. This

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observation is also expressed by Laddie, Prescott and Vitoria<sup>44</sup> who provide some guidance in relation to elements such as plot, theme, genre and medium, which fall outside a creator's expressive language.

The case of *Allen v Bloomsbury Publishing Plc*<sup>45</sup> illustrates some of the complexities which exist in this area. This case concerned an action for infringement of copyright in a book called *Willy the Wizard* ("WTW") which was written in 1987 by the late Mr Adrian Jacobs ("Mr Jacobs")<sup>46</sup>. The case brought by Mr. Jacob's estate alleged that *Harry Potter and the Goblet of Fire* the fourth book in the well known *Harry Potter* series of books written by the second defendant<sup>47</sup>, Joanne Murray, popularly known as JK Rowling, reproduces a substantial part of WTW and that this constitutes infringement.

The case specifically focused on aspects of the plot, sub-plots, themes and incidents in WTW as opposed to word-for-word copying. In considering whether there can be copyright infringement in relation to such elements, the Court took the following view:

"Copyright does protect the content of a literary work, including the selection, arrangement and development of ideas, facts, incidents and the like. In assessing the crucial question as to whether a substantial part has been taken, the court must have regard to all the facts of the case including the nature and extent of the copying; the quality and importance of what has been taken; the degree of originality of what has been taken or whether it is commonplace; and whether a substantial part of the skill and labour contributed by the author in creating the original has been appropriated ... Applying these principles in the context of the present case, the similarities upon which Mr Allen relies seem to me to constitute ideas which are relatively simple and abstract and I strongly incline to the view that they are at such a high level of generality that they fall on the ideas rather than the expression side of the line."<sup>48</sup>

The issues has also been debated in cases such as *Sun Trust Bank v Houghton Mifflin*<sup>49</sup> (*Gone with the Wind*) in the USA and *Cinar Corporation v Robinson*<sup>50</sup> in Canada. However, similarly to the *Willy the Wizard* case above, these cases have also followed suit finding in favour of the defendants.

Each of the above cases focused on lesser-known works created *prior* to the popular work. However, what of those works such as tributes, homages and 'fan' works which take from existing popular work? In this regard, it is interesting to note the lack of UK cases. As Schwabach states:

"The uneasy and unofficial accommodations that exist between many content owners and their fandoms are fragile; eventually a misunderstanding can lead to a lawsuit, and one lawsuit

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44 Laddie, Prescott and Vitoria, *The Modern Law of Copyright and Designs, Part II: Copyright and Related Rights*, (4th ed.) (London: Butterworths; 2011) Part II: Copyright and Related Rights, Chapter 3 at 3.87.

45 [2010] EWHC 2560 (Ch); [2010] ECDR 16 (Ch. D).

46 *Allen v Bloomsbury Publishing Plc* [2010] EWHC 2560 (Ch); [2010] ECDR 16 (Ch. D) at [1].

47 First defendant was Bloomsbury Publishing Plc, publishers of the Harry Potter series.

48 *Allen v Bloomsbury Publishing Plc* [2010] EWHC 2560 (Ch) [at 85]-[86].

49 *Sun Trust Bank v Houghton Mifflin* 60 U.S.P.Q. 2d. 1225 (2001) (11th Cir (US)).

50 *Cinar Corporation v Robinson* 2013 SCC 73, [2013] 3 SCR 1168.

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can turn a fandom against the content owner, causing financial damage<sup>51</sup> ... As more people ... share their impressions with other readers, a fandom coalesces; this fandom is the most powerful marketing tool a work ...can have<sup>52</sup>.”

This may explain why creators of very popular creative works have been slow to take an action of copyright infringement against collaborative creators within specific fandoms. However, at the same time, fictional characters have proved to be at the forefront of this issue, also in terms of litigation, more so than in the case of plot, theme, genre and so on.

## Characters

In considering the protection of characters, under copyright law, it can be purported that “it is not impossible for copyright to be infringed by the parasitic use of another author’s character”<sup>53</sup>. This in turn suggests that the individual characteristics of a literary character draws copyright protection, which if copied (‘parasitic use’) infringe the creator’s right. However, as with all copyright works, the protection of literary characters also does not rest on ‘individual elements’ attributed to a character. Instead, it is the *collection of attributes*, features, well-known quotations and so forth which go to make up the imaginary world in which the character moves that amount to a ‘substantial part’ of the author’s original work. However, as UK case law reveals, this complex composition of literary characters and their protection under copyright law has met with much uncertainty.

Examination of the UK case law reveals varying approaches to characters and their protection. For example in *Kelly v Cinema Houses Ltd*<sup>54</sup> it was held that there was no copyright protection in the UK for literary characters. In contrast, in *Bolton v British International Pictures Ltd*<sup>55</sup> the Court held that reuse in a later play of two comic telephone repairmen who appeared in eating, drinking and broadcasting scenes of an existing play constituted infringement.

In the same manner, in a case involving the character *Popeye* in 1941, it was held that *Popeye* could be protected as an artistic work. The House of Lords was of the opinion that the reproduction, which was based, albeit indirectly, on a number of drawings of the character, was an infringement of the *artistic copyright* in those drawings and therefore of the character<sup>56</sup> (*emphasis added*).

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51 Schwabach A., *Fan Fiction and Copyright* (Surrey England: Ashgate Publishing Ltd; 2011) p. 92.

52 Schwabach A., *Fan Fiction and Copyright* (Surrey England: Ashgate Publishing Ltd; 2011) p. 7.

53 Laddie, Prescott and Vitoria, *The Modern Law of Copyright and Designs*, Part II: Copyright and Related Rights (4th ed.) (London: Butterworths; 2011) at chapter 40.27.

54 *Kelly v Cinema Houses Ltd* [1928-35] MacG. C.C. 362 at 368 per Maugham J., “If, for instance, we found a modern playwright creating a character as distinctive and remarkable as Falstaff ... or as Sherlock Holmes would it be an infringement if another writer, one of the servile flock of imitators, were to borrow the idea and to make use of an obvious copy of the original? I should hesitate a long time before I came to such a conclusion.”

55 [1936] MacG. C.C. 20. Farwell J. held that: “broad comedy characters into a film of this kind, which is based on a telephone exchange, I cannot think that there is anything very original about making the comedy characters telephone wire men”.

56 *King Features v Kleeman* [1941] 2 All ER 403.

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Although the UK Courts in 1936 and 1941 took a more reserved approach establishing copyright infringement, later cases in 1949, 1991 and 1998 reflect a relaxed approach. Cases, such as *Conan Doyle v London Mystery Magazine*<sup>57</sup> held that Sherlock Holmes' name and address were not protectable whilst in *Tyburn Productions Ltd v Conan Doyle*<sup>58</sup> the Court held that Sherlock Holmes and Dr Watson as literary characters are not protected under UK law. In *BBC Worldwide Ltd v Pally Screen Printing Ltd*<sup>59</sup> the BBC failed to obtain summary judgment on its claim for copyright infringement of its artwork depicting the *Teletubbies* against a defendant that printed T-shirts featuring the characters.

Therefore, it is fair to surmise that the copyright status of characters in the UK remains unclear – particularly in comparison to countries such as the USA, which has specific tests to determine this concept and which has resulted in courts upholding protection of a number of fictional characters.

Adopting the 'sufficiently delineated' test and the 'story being told' test, the Courts in USA have protected characters under 'literary works'<sup>60</sup>. However, a recent ruling relating to *Sherlock Holmes* demonstrates that the American courts are reluctant to extend the copyright in characters where the copyright term has clearly expired.

In *Leslie Klinger v Conan Doyle Estate*<sup>61</sup>, Judge Posner established that it is not possible to "find any basis in statute or case law for extending a copyright beyond its expiration. When a story falls into the public domain, story elements – including characters covered by the expired copyright – become fair game for follow-on authors".<sup>62</sup>

Judge Posner went on to elaborate stating that "Holmes and Watson were distinctive characters and therefore copyrightable. They were 'incomplete' only in the sense that Doyle might want to (and later did) add additional features to their portrayals. The resulting somewhat altered the characters ... the alterations do not revive the expired copyrights on the original characters".<sup>63</sup>

## 4) Works where permission is granted a priori

A fourth category of material in the public domain consists of work which has been offered to the public by its creator via unrestricted licence such as the GNU Lesser General Public Licence (LGPL) or Creative Commons (CC) licensing systems. These licensing mechanisms have emerged from within user communities as a response to perceived restrictiveness inherent in copyright: a prospective derivative user of a copyright work must ordinarily request permission from the originator in order to build upon and re-publish portions of the original work. Seeking

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57 *Conan Doyle v London Mystery Magazine* (1949) 66 RPC 312.

58 *Tyburn Productions Ltd v Conan Doyle* [1991] Ch. 75 CA.

59 *BBC Worldwide Ltd v Pally Screen Printing Ltd* [1998] FSR 665.

60 Massey R., & Tian N., Caught Coming Through The Rye – A Purely Literary Character Protected by US Copyright [2010] Ent. L.R. pp. 6-9; McGee & G, Scanlan, Copyright in Character, Intellectual Property Rights and the Internet: Part 2 [2006] Ent. L.R. pp. 15-20.

61 No. 14-1128 (7th. Cir.) June 2014.

62 *Leslie Klinger v Conan Doyle Estate*, No. 14-1128 (7th. Cir.) June 2014 Judge Posner at p. 8 referring to *Silverman v CBS* 870 F.2d 40, 49 -51 (2d Cir. 1989).

63 *Leslie Klinger v Conan Doyle Estate*, No. 14-1128 (7th. Cir.) June 2014 Judge Posner at p.13.

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permission entails costs which some communities deem unnecessary and restrictive of creativity in collaborative settings. Free and open public licences allow creators to specify under which conditions a work made available to the public may be further used.

Free and open public licences derive their enforceability from the underlying copyright which the original creator possesses in the work. Consequently, only works which are protectable under copyright, and are the sole creation of the licensor, may be issued under such a licence. Creative Commons licences are non-revocable, meaning that even if the owner of the work seeks to change the conditions of the licence for new users in the future, anyone who accessed the work under the original terms may continue to use and distribute the work. Under the heading 'Indemnification for Breach of Terms of Use' in Creative Commons Licence, it states:

"You agree to indemnify and hold harmless the Creative Commons Parties (defined above) from and against any and all loss, expenses, damages, and costs, including without limitation reasonable attorneys fees, resulting, whether directly or indirectly, from your violation of the Terms. You also agree to indemnify and hold harmless the Creative Commons Parties from and against any and all claims brought by third parties arising out of your use of any of the Websites or Services and the Content you make available via any of the Websites or Services by any means, including without limitation through a posting, a link, reference to Content, or otherwise.<sup>64</sup>"

Lawrence Lessig, co-founder of Creative Commons explains the position as follows:

"In non-technical terms, the Court has held that free licenses such as the CC [Creative Commons] licenses set conditions (rather than covenants) on the use of copyrighted work ... when you violate the condition, the license disappears, meaning you're simply a copyright infringer. This is the theory of the GPL [another widely used free software licence] and all CC licenses. Put precisely, whether or not they are also contracts, they are copyright licenses which expire if you fail to abide by the terms of the license.<sup>65</sup>"

Put another way, free software licences "invoke intellectual property rights as the basis for a licensing strategy aimed at preserving the digital commons that the program's developer wished to establish for it." (Samuelson, 2003: 167)

Because free and open licensing schemes allow creators to specify the types of re-use which are permitted, not all works licenced under such schemes can be thought to exist wholly in the public domain. For example, it could be argued that works licenced expressly for non-commercial purposes are not truly 'public', since many downstream commercial applications of the work would be prohibited. In the context of the free and open source software movement, such non-commercial restrictions reflect the desire to keep software innovation free from enclosure by proprietary users. However, the result is that the size of the 'public' that can make unrestricted use of a work is diminished (Samuelson, 2003).

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64 <http://creativecommons.org/terms> at paragraph 13.

65 Accessed 25 Jan, 2015: <http://www.lessig.org/2008/08/huge-and-important-news-free-/>

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Certain open licenses (such as GPL and Creative Commons Share-alike) are viral, meaning that any derivative work created from the original must be issued under the same open licence. This may be beneficial from the point of certain users, for example software maintainers wishing to have access to subsequent modifications by third parties which improve and expand the original software code. However, in certain contexts, viral licences may restrict the re-use of the original work. For example, it would be difficult to recombine software code from proprietary sources with other code originating under a GPL licence, since any licence obtained from a third-party copyright owner would not likely allow the derivative user to further offer that code to others on an unrestricted, viral basis (Samuelsson & Ulstein, 2007). The Free Software Foundation has issued a Lesser General Public Licence (LGPL) which addresses this problem by allowing use of LGPL-licensed code in proprietary software without the requirement of making the entire combined work available, as long as the LGPL-licensed portions remain free and open.

For the purposes of this study, we limit our definition of free and open licenced public domain works to those which are licenced on an unrestricted basis which allows both commercial and non-commercial uptake and use. This definition therefore excludes strictly viral licences such as GPL and CC Share Alike, as well as versions of these licences which restrict use to non-commercial purposes. However, our definition includes licences where the licensee is still under some obligation (for example to provide attribution for the portions used) but may freely combine it with new work, whether commercial or not.

## Uses and challenges

None of the creators or firms interviewed in this study reported using work under a free public licence. Similarly, less than 1% of the creative projects analysed on Kickstarter specified that Creative Commons or other freely licenced work formed part of the creative pitch. Several factors might explain the low levels of reported use of free and open licenced work by our sample. First, public licensing systems emerged from the Free and Open Source Software movement, where there was a strong initial demand for alternatives to copyright, before later being adapted to other types of creative work. The practice may simply not have had time to propagate to the wider creative community. Since both our creative industries and Kickstarter samples included a range of creators working in different mediums (publishing, theatre, illustration, apps and interactive games) the overall proportion of those exposed to open public licensing is likely low. On the other hand, in those domains where free and open licensing is common, such as software, the practice may be so interwoven into the underlying production environment that it goes unnoticed and unreported. There is some evidence for this in our study on Kickstarter. A number of interactive game projects report using the Unity game engine as the basis for their software. The Unity engine is proprietary, but the software includes the open source Mono scripting functionality which is freely and publically available. Other selected components of the software have been made available by the developers under the unrestricted MIT/X11 licence. Since our Kickstarter content analysis methodology relied on statements made in the pitch narrative about the intellectual property status of projects, some uses of freely licenced software may have gone unreported by pitch creators, while nevertheless remaining vitally important to the success of the eventual product.

One area identified in our research which made frequent use of free and open licenced work was Wikipedia. Some 12% of the images contained in our sample of biographical pages of

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authors, lyricists and composers were used under unrestrictive open licences such as Creative Commons. The actual rate of use of Creative Commons licensed images on Wikipedia is likely higher, since our sample comprised a large number of subjects whose death occurred more than 70 years ago and where alternative public domain sources were available. The high frequency of free and openly licensed public domain material on the Wikipedia platform likely reflects the non-profit status of the collaborative endeavour as well as infrastructure built around related services such as the Wikimedia Commons, which simplifies and channels the contribution of public domain works.

## Defining the Public Domain

In summary, the traditional legal definition of the public domain takes the copyright term as the starting point, and defines the public domain as 'out of copyright', i.e. all uses of a copyright work are possible. A second and third more fine-grained definition still relies on the statutory provisions of copyright law, and asks what activities are possible with respect to a copyright work without asking for permission (e.g. because works do not qualify for copyright protection, or use relates to 'underlying ideas' not appropriating substantial expressions, or because use is covered by specific copyright exceptions). A fourth definition includes as part of the public domain all uses that are possible under permissive private ordering schemes (such as creative commons licences). A fifth definition moves into a space that includes use that would formally be copyright infringement but is endorsed, or at least tolerated by certain communities of practice (e.g. 'machinima' cinematic production of computer games or fan fiction).

Such an expanded view of the public domain would include many more potential uses, such as those enabled via complex boundaries to copyright law or even uses which are invisible to rightsholders. The wider the definition, and the more it focuses on specific legally privileged or tolerated acts, the more difficult it becomes to determine whether a given usage is permitted in every case, producing a lack of clarity for downstream users. One conceptual innovation of this research is that we intend to capture an understanding of the public domain that focuses on the commercial potential for derivative products. In order to assess value, the definition needs to be (i) understandable for participants in the media and entertainment markets, (ii) cover commercial as well as non-commercial downstream uses. In summary, this study relies on the following definition of the public domain:

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**Table 1.1: Definition of public domain for empirical study**

Type	Examples (UK)	Included in definition?
<b>Works out of copyright</b>	Term has expired (e.g. literary and artistic works created by authors who died prior to 1944, as beyond life of author plus 70 years term)	Yes
<b>Works that do not qualify for protection</b>	Works never protected (myths, folklore); Ideas, not expression (e.g. facts, inspiration for genre, plots and characters)	Yes, needs specific assessment for individual derivations, but then commercial exploitation is unrestricted
<b>Privileged uses of works (by statute)</b>	Exceptions (e.g. fair dealing for news reporting, review and criticism)	No, since only specific uses are covered (making exploitation of derivative artefacts commercially problematic); Orphan works could be included in future study after implementation of UK legislation (October 2014)
<b>Permitted uses of works (by licence)</b>	Creative Commons and Open Source (e.g. GPL) licences	Yes, if permitting commercial and non-commercial uses, without downstream restrictions
<b>Tolerated uses of works</b>	Some machinima and fan projects (e.g. comics, books, translations, games)	No, since toleration is uncertain, and may be revoked

The preceding legal discussion has outlined our rationale for selecting a definition of the public domain which enables empirical capture of works and ideas which are available for uptake by all (commercial and non-commercial) users, and impose no restrictions on downstream exploitation.

## Introduction of empirical studies

The next section presents the results of three interrelated research studies which examined different aspects of uptake and re-use of works from the public domain. The first study is focused on small and medium sized creative firms in the UK that have used public domain materials as part of their commercial activities. This study uses a qualitative interview method, and seeks to develop understanding about decision making process within the small firm when it comes to the choice of using material in the public domain, developing original content, or licencing work from elsewhere. The second study focuses on a different group of users – small independent producers on the Kickstarter crowdfunding platform. This is a large-scale, quantitative study on a selection of 1,993 projects pitched in the first quarter of 2014. This study explores the rate of uptake and performance of public domain materials when they are incorporated in new Kickstarter projects, compared with original and third-party copyright works. Finally, the third study considers the role played by the public domain status of images in the rate of their usage on Wikipedia and attempts to assign a value to that availability based on measurements of the improvement of page visitorship after the addition of an image is detected. Observations from the three research activities are then discussed, and implications for policy are used to generate recommendations for future action.

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# Study 1: Uptake and Exploitation of Public Domain Materials by UK Firms

The management of intellectual property has emerged as an important site of strategic decision making for creative firms (Reitzig, 2007; Russel, 2009). The interest by both managers and management scholars in intellectual property has been driven by a number of factors, notably the continued salience of the information economy and the associated growth of value in intangible assets, the political importance ascribed to the ‘creative industries’ as an engine for national economic development, and the activities of audiences and users, whose behaviours have in some cases disrupted traditional broadcast and distribution businesses. The effective management of intellectual property has therefore taken pride of place as a necessary core competency and source of competitive advantage for media firms of all sizes.

From the point of view of ownership and exploitation of intellectual property, small creative firms can be characterised as facing a number of choices. Firms might wish to develop original, proprietary intellectual property but for a variety of reasons may instead devote most of their resources to fulfilling contracts for larger rightsholders in a work-for-hire arrangement (Hotho and Champion, 2011). Such contractual arrangements may be attractive to small firms because they represent a more stable and less temporally variable source of revenue, and because they can help build the reputation of young creative businesses. The common refrain heard by researchers is that studios take on commercial licensed projects in order to bring in revenue in the short and medium term, but that these tasks don’t stimulate the creative imagination of staff or lead to long-term sustainability of the company. American sociologist Laura Noren (2014) suggests that creative people view these work-for-hire jobs as ‘fine and good’ projects, which, while carried out to sustain the commercial viability of the business, fall short of the ideal creative work envisioned by teams.

This issue has been identified as a potential problem for development of a strong, independent media sector in the UK. Assisting small firms in retaining and exploiting IP assets has been the focus of a number of initiatives, including notably the Communications Act 2003, which compelled broadcasters to adopt terms of trade enabling independent producers to retain and exploit rights in commissioned work<sup>66</sup>. In 2012, the UK Intellectual Property Office published a report on the intellectual property management capability of small firms, finding that there was a lack of strategic business advice available. The report argued that smaller firms had a particular challenge with monetising intellectual assets, and that for “[...] start ups, when minimising costs is a priority, IP is often not seen as a critical factor, despite evidence that shows that those companies that effectively use their IP have a better chance of survival and growth” (2012: 19).

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66 See BBC’s Revised terms of Trade 7 July 2014: <http://www.bbc.co.uk/commissioning/tv/how-we-work/business-requirements/terms-of-trade.shtml>

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Between the two poles of developing completely novel intellectual property and working on a contract basis to develop third party properties, there exist a range of other possible configurations. A media company may, for example, seek a licence to distribute a media property in a particular territory or channel, where a market opportunity is identified. Here, while the firm does not own the underlying IP, it may reap additional rewards from value added in the marketing and distribution of the third party content. Alternatively a firm may seek a licence to adapt or transform an underlying work, in which they will hold new rights. Finally, an under-explored possibility is that a firm may choose to re-publish or transform a work which exists in the public domain.

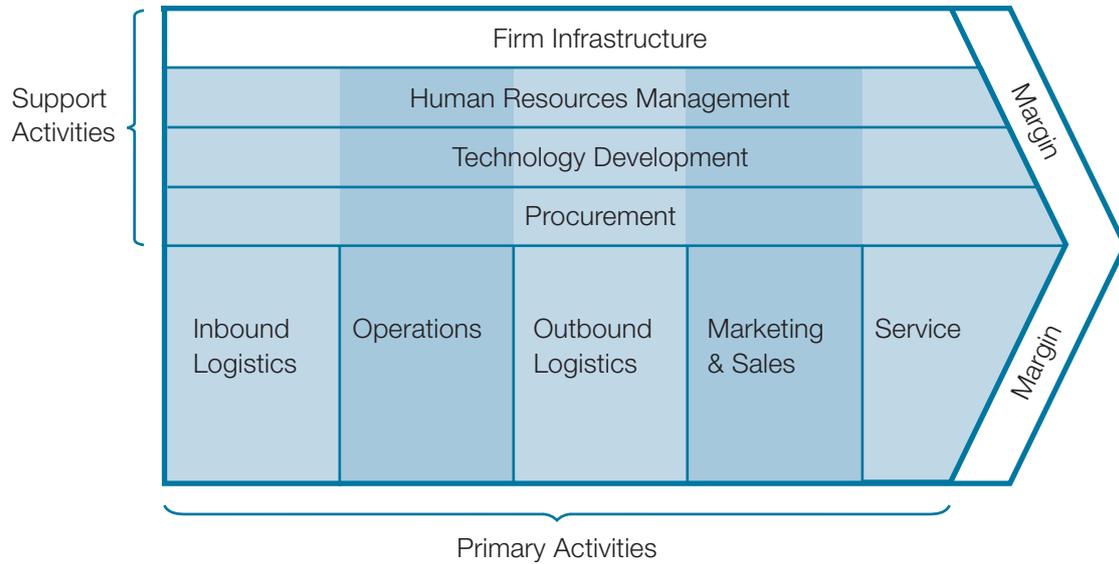
How does working with public domain material differ from exploitation of other types of intellectual property? In what ways do firms working with public domain material add value for consumers and retain competitive advantage when the underlying source material, by virtue of being in the public domain, remains available for uptake by all?

### Media Value Chains

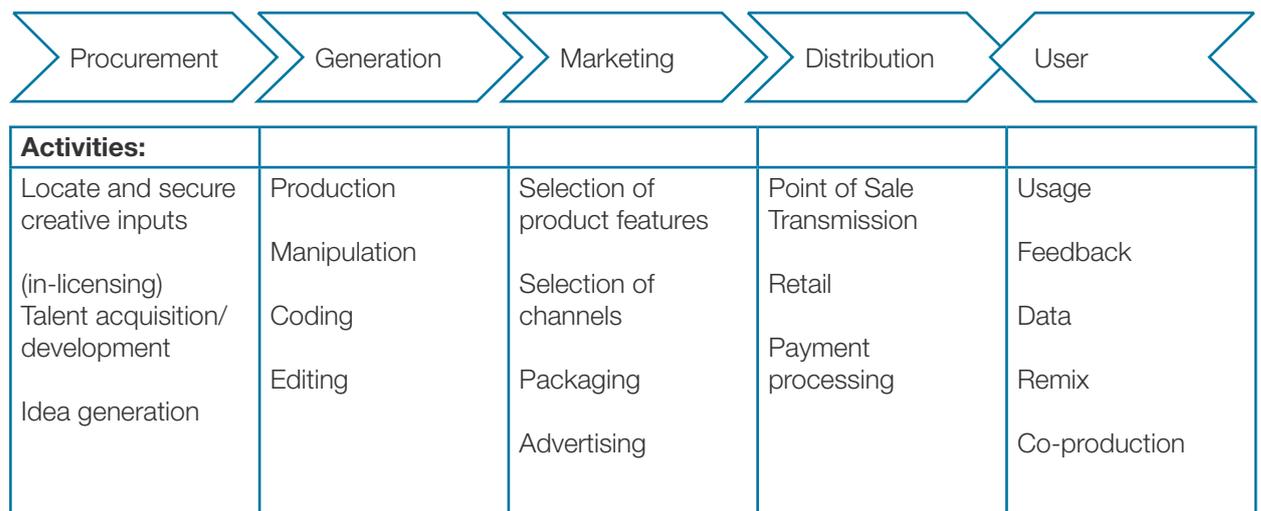
The value chain concept describes the process through which a business generates value by transforming raw materials and ideas into a consumer product (Porter, 1985; Aris & Bughin, 2006; Kung, 2009). Originally developed by Porter as a conceptualization of business operations to aid in strategic decision making, the concept has proven to be an adaptable tool for identifying and understanding sources of competitiveness and value creation within a range of firms (see Figure 2.1). The model consists of a series of interconnected but distinct primary activities and four support activities spanning each step in the value creation process. Since its original conception, the value chain model has undergone numerous transformations and adaptations in order to make it suitable to analysis of a range of different industries, including media and entertainment products. More recent media value chain models have tended to combine the primary and support activities described by Porter into a single sequence focused on the media product itself and with fewer distinct steps (Wirtz, 2011). This framework acknowledges the information-intensive nature of media products, with technology, procurement and human (talent) management embedded directly in product creation in specific operations at each step. It also better represents the project-based nature of much media work, which unites flexible creative teams around specific projects. We might characterise a typical media business value chain as consisting of (i) content procurement, (ii) content generation, (iii) product marketing and (iv) distribution. We follow Bloore (2009) and others by including the activities of the user (v) as a final step in the value chain, reflecting the value added by co-productive practices by certain audiences and prosumers (see Figure 2.2).

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**Figure 2.1: Porter’s Value Chain Model (1985)**



**Figure 2.2: A Generalised Value Chain for Creative Businesses**



Adapted from Kretschmer et al (1999), Feller et al (2006), Aris & Bughin (2009) and Wirtz (2011)

## Procurement

In media businesses, the content procurement step is concerned with acquiring the raw materials – ideas, concepts, stories – that will be transformed into a commercial media product. As previously discussed, there are two main forms procurement can take in a typical creative enterprise. The first approach is to acquire the human capital (talent) needed to generate original ideas that can subsequently be commercialised. The second approach is to procure existing source material, for example through in-licensing from a third party copyright owner, which is later transformed or re-published. Value is then typically added to the underlying work by the firm at the marketing and distribution stages.

In the first approach, value can be added by acquiring skilled talent ('star power') whose reputation or creative abilities lend value to the finished product from the perspective of the eventual consumer. This may be a risky strategy, inasmuch as it can be difficult to account for either popularity or the likelihood of continued creative success at the inception phase of a creative product (Caves, 2000; Hesmondhalgh, 2012; Towse, 2014). However, the production of exclusive, high-quality content can be a competitive advantage for the media firm. The second approach depends upon acquiring an existing work that has appeal which can be exploited by the media business. This approach may attract less risk, particularly if the underlying licensed work has an established record of success in other markets. However the royalty price paid to the original rightsholder in the case of copyright licence will reflect this popularity, at added cost to the licensee. Or, in the case of work-for-hire arrangements, the commissioned firm will make a decision to engage in partnership with a particular rightsholder client on the basis of an agreed fee, and according to choices that reflect the needs of the firm to secure contracts with other rightsholders in the future. The in-licensing approach represents less of a competitive advantage for the licensee if the underlying content can in turn be licensed by others.

## Generation

The content generation phase involves the further refinement of ideas and source material, via creative inputs, into expressions which can later be marketed as products. In the case of firms working with original concepts and ideas, the generation phase is likely to be the longest and the most resource-intensive step in the value chain. For example, in the case of film, this would include the shooting and production of the motion picture, while for a book publisher it would describe the long process of working with an author as they complete a manuscript. Competitive advantage in the content generation phase is derived from efficiency and effectiveness of the firm's creative workflow – in other words the speed and quality with which work can be produced. Core creative competencies for media firms also involve the ability to identify and exploit creative ideas which are likely to resonate with audiences and consumers (Wirtz, 2011). The competitive advantage of a creative firm is difficult to precisely locate and quantify, because the value and attractiveness of the media product is linked to emotional, cultural and psychological factors rather than simply to cost-savings in the production process (Crissey, 2010).

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## Marketing

For media companies, the marketing step describes the process of making a product available and attractive to potential consumers. Marketing operations include activities related to packaging, formatting, pressing and bundling media products, either in physical or digital form. This step also includes activities associated with promoting and advertising the media good. The marketing activities undertaken by a given firm will vary widely depending on the medium concerned. Books and films are often marketed as standalone products, while TV programming and subscription-based services often depend on trust built in a particular brand over time (Wirtz, 2011).

Where firms own the underlying IP rights, the marketing and distribution operations can only be carried out internally if the firm is sufficiently vertically integrated, which is often not the case with small and micro-sized creative firms. In these cases, the majority of value has often been added in the content creation step, so the firm enters into arrangements with other companies in the marketing and distribution of the work. A common example would be the sale and distribution of music via the iTunes online store, or the use of a print-on-demand publishing house for ordering and distribution of print books. One impact of digitisation has been the proliferation of marketing channels, as well as the possibility of dis-intermediating traditional retailers by selling direct to the end consumer. Where firms have acquired a licence to use a third party copyright work or have licensed some of their rights to others, marketing may be largely dictated by the terms of the licence contract.

## Distribution

The distribution step in the value chain consists of activities that enable the end consumer or audience to consume the media product. This step concerns the processing, transmission and sale as well as the technological conditions of consumption of media. In traditional media markets such as television and film, this traditionally involved large-scale coordination of infrastructure (cinemas and broadcast networks) with limited 'shelf space' in which to show content. Digitisation has led to the proliferation of a large number of distribution technologies and business models, including online subscription based services, freemium model services, integrated 'app' stores, as well as traditional e-commerce and retail distribution networks (Hesmondhalgh, 2012). The overall effect of digitalisation on distribution has been the introduction of effects that some have termed 'long tail' dynamics whereby unlimited catalogue size of online databases has made niche content more viable than it was for brick-and-mortar retailers with limited inventory (Anderson, 2006)

## Users

In Porter's original conceptualisation of the value chain, the position of the user was important as far as willingness to pay depended on the value added by firms at the preceding steps in the value chain. However, recent work has highlighted the extent to which users are increasingly implicated in co-production of value, and therefore might themselves constitute an additional step in the value chain. While Porter suggested Customer Relationship Management (CRM) and service operations as potential sites of competitive advantage for firms, the rise of co-

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creation and produsage have more radically reconfigured the relationship between firms and their customers (Ritzer & Jurgensen, 2010; Bruns, 2013).

The web 2.0 paradigm demonstrates how, although the activities of users remain external to the firm, the aggregate behaviour of users can be carefully cultivated and encouraged so as to add additional value to the content offering. Social networking sites such as Facebook, Instagram, Twitter and Vine depend on the contributions of users' personal stories, photographs, updates and creative expressions and in return supply a platform on which these contributions can be viewed and rated by others. In a more general sense, audiences empowered with digital communication tools increasingly take a role in circulating information about media products via word-of-mouth, adding to the promotional efforts of the firm.

Economic theory suggests that audiences and users add utility to certain media propositions due to a network effect (Kretschmer et al, 1999; Potts et al, 2008). For this type of product, the marginal utility gained by a new user is proportional to the number of users already using the product or service. This effect has been described in social networking sites as well as online forums, games and user-generated content platforms. While the network effect may be larger or smaller for certain product types, and while the role of the user in the value chain will differ across different media and product offerings, there are increasingly compelling justifications for treating users and audiences as a distinct value-creating step in the chain.

## Description of research methods

The researchers employed an inductive, qualitative approach consisting of semi-structured interviews with managers of 22 small and medium sized businesses operating in the UK. A narrow-but-deep approach was deemed the most appropriate method to assess the factors influencing management decision making inside of creative firms. The research design draws upon other established qualitative methodologies employed in research on innovation practices among creators and small firms (Haefliger et al, 2010). Quantitative techniques such as surveys have been applied elsewhere when seeking to assess organisational capabilities in entrepreneurial settings, however these approaches were judged to be less effective in addressing the core research question (see for example strategic capabilities research: Branzei & Vertinsky, 2007; Kyläheiko et al, 2011).

While intellectual property management capabilities have been widely studied (particularly focusing on patent innovation, with less literature on copyright industries) the research sample was not suited to quantitative empirical study. The number of UK firms consciously exploiting public domain materials is small, and the population of such businesses is unknown. A probabilistic sampling method would be needed in order to measure total uptake of PD materials across certain sectors, and such an approach may be appropriate to future studies. We recommend a further, large scale quantitative survey as a follow-on to this pilot qualitative work, which was designed to generate hypotheses about the factors which may encourage or inhibit uptake of public domain works within the small creative firm.

An initial sample of 40 candidate firms was selected on the basis of previous experience working with and commercially exploiting public domain materials. The candidate list was constructed by starting from a list of well-known literary and artistic works from the 19th century and

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searching on publicly available sources to find recent commercial adaptations of those works. Consequently, the selection of firms is likely to favour companies working in transmedia, defined as the adaptation of content from one medium to another, usually from analogue to digital formats. The sample of candidate firms also included traditional re-publishers of public domain material, such as theatre companies putting on performances of Shakespeare and children's book publishers releasing new editions of out-of-copyright fairy tales. A total of 22 firms from the initial candidate list agreed to be interviewed, reflecting a response rate of 52%, which is high when compared to similar management studies and social science research, but likely reflects the targeted nature of the study sample and the informal organisation structure of many of the respondent firms.

Because research was focused on strategic decision-making, only those with management roles in a given firm were approached: in all cases either the sole proprietor, owner, or creative director of the business was interviewed. Interviews were conducted face-to-face or over the telephone, and lasted from 45 minutes to one hour and thirty minutes. An interview protocol and list of participants is included in Annex 1.

## Discussion

In this section, we discuss the observations generated from interviews with owners and managers of creative SMEs. We have organised the discussion to reflect each stage in our generalised value chain model, in order to identify where the uptake and exploitation of public domain materials differs from use of other forms of intellectual property at each stage in the process. A summarised table of results can be found in Figure 3.

Each of the respondents in our sample had made a strategic decision to work with public domain materials, but expressed different motivations for doing so. However, over the course of the research, four categories of firm emerged with respect to their use of public domain materials.

One group of creators had been led to working with PD source material through partnership with a public funding body such as an Arts Council or University. In these cases, the creative business was engaged to supply a product as part of a wider provision to serve a public interest, but later may have commercialised parts of the new IP. We might term this approach the *public partnership model*.

A second group of firms began as technology innovators, for example by developing a digital interactive platform or device for displaying content. Their use of public domain materials reflected an early focus on technology – either they lacked the creative personnel in house, or licensing copyright material was deemed cost prohibitive. In these cases, the firm concentrated on building a technology 'wrapper' around public domain material, used in a first instance as a placeholder. Later iterations of the product often retained and added more public domain content to the offering, after it was discovered that there was commercial demand for out-of-copyright works. We use the term *platform innovators* to refer to this group.

A third origin point for respondents was as members of an existing fandom for a work which happened to already be in the public domain (Jane Austen, Sherlock Holmes, the works of H.P.

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Lovecraft). For these creators, the motivation was often to satisfy a latent demand within the community, for example by supplying digital adaptations of existing works or creating new stories based on the source material. In these cases the advantage of working with public domain material was the lack of creative restrictions on transformative use as well as the large existing fanbase for the material. We have termed this the *fan community* model.

Finally, some respondents reported using public domain material as part of an entrepreneurial strategy to reach consumers in a new market. These creators normally used PD materials in combination with a wider portfolio of products, including original and third party copyright work. These companies included book publishers and mobile app developers that were engaged in a range of product development activities. Their interest in public domain materials reflected the amount of pre-existing demand they believed to exist in the market for which they had knowledge. With respect to public domain exploitation, we refer to these users as *entrepreneurial users*.

The following section describes in detail the approach taken by respondent firms to procuring, developing, producing, marketing and distributing products based on materials in the public domain.

## Procurement

At the procurement stage, respondents identified a range of advantages associated with using public domain materials which factored into strategic decision making.

The advantage of cost was an issue for some creators but not others. The lack of requirement to seek out a rightsholder and pay a licence fee for use of a copyright work was often balanced in the case of public domain materials with other costs, such as search and manipulation of the underlying work. But for some smaller producers, the licence-free availability of public domain materials was cited as an advantage. Plenitude and searchability of digital archives of certain types of public domain material was cited as an advantage by many of the firms interviewed. Respondents saw these archive resources as a source of creative potential for new product development. For companies working on well-known public domain stories, in particular those serving a fan community, the existence of a large and knowledgeable fan base was identified as an incentive to develop products, as well as a potential source of raw material (plotlines and ideas based on the source text).

Disincentives to working with public domain materials at the procurement stage were identified by a high proportion of our respondents, despite the fact that all firms had successfully commercialised a public domain work previously. The cost of time associated with ascertaining the copyright status of old works was consistently raised as an issue, particularly with respect to multi-territorial licensing opportunities. Worldwide distribution, particularly involving digital apps, made an understanding of the territorial differences in public domain status a challenge for both small- and medium-sized firms. Another disadvantage from the point of view of procurement was the lack of fidelity or quality of public domain materials once located. Firms often struggled to find and secure access to commercially viable copies of public domain work, particularly in the case of audiovisual and illustrated works. In order to overcome this issue, some businesses reported forging partnerships with museums and other archive institutions who could help source high-quality material for projects, sometimes for a fee.

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## Generation

Production methods differed widely across the respondent firms, however intellectual property remained an important factor in strategic decision making for all firms during the production/generation phase.

For firms and creators working in partnership with public funders, the production phase offered a relatively high degree of creative autonomy, and they reported freedom to innovate and creatively add value to the commissioned project without the ordinary constraints of working for a commercial client. Here, the concern was to deliver the commissioned work to a high quality while retaining artistic control and integrity. The view by some firms was that the publically funded project may eventually form part of a portfolio of other work and leading to future commissions. In an artistic sense, creators saw themselves as interpreters of an existing PD work, with the new product reflecting their creative choices. In all cases in our sample, firms receiving public funding ensured that they retained secondary rights in this derivative new product in negotiations with the funding body or university, although the path to future commercialisation was often unclear.

Technology innovators in the production phase focused on ensuring that the underlying platform functionality was in place. Investment in content at this stage was typically minimal. Intellectual property considerations for these businesses focused on ownership of the underlying source code in interactive products or patent protection for hardware devices. Partnerships with other firms and contractors were structured to ensure that ownership of the core technology remained with the commissioning firm.

Fan community innovators often undertook production in collaboration with particularly engaged fans, for example through crowdsourcing campaigns or by canvassing ideas from online forums. Ownership of copyright was consequently less clear and less formally structured. Two creative firms in our sample in-licensed third party content and technology at this point to complement their own product ambitions. One creator sought further investment at the production stage from an angel investor that was also a fan of the underlying work, reflecting the community focus of this type of production.

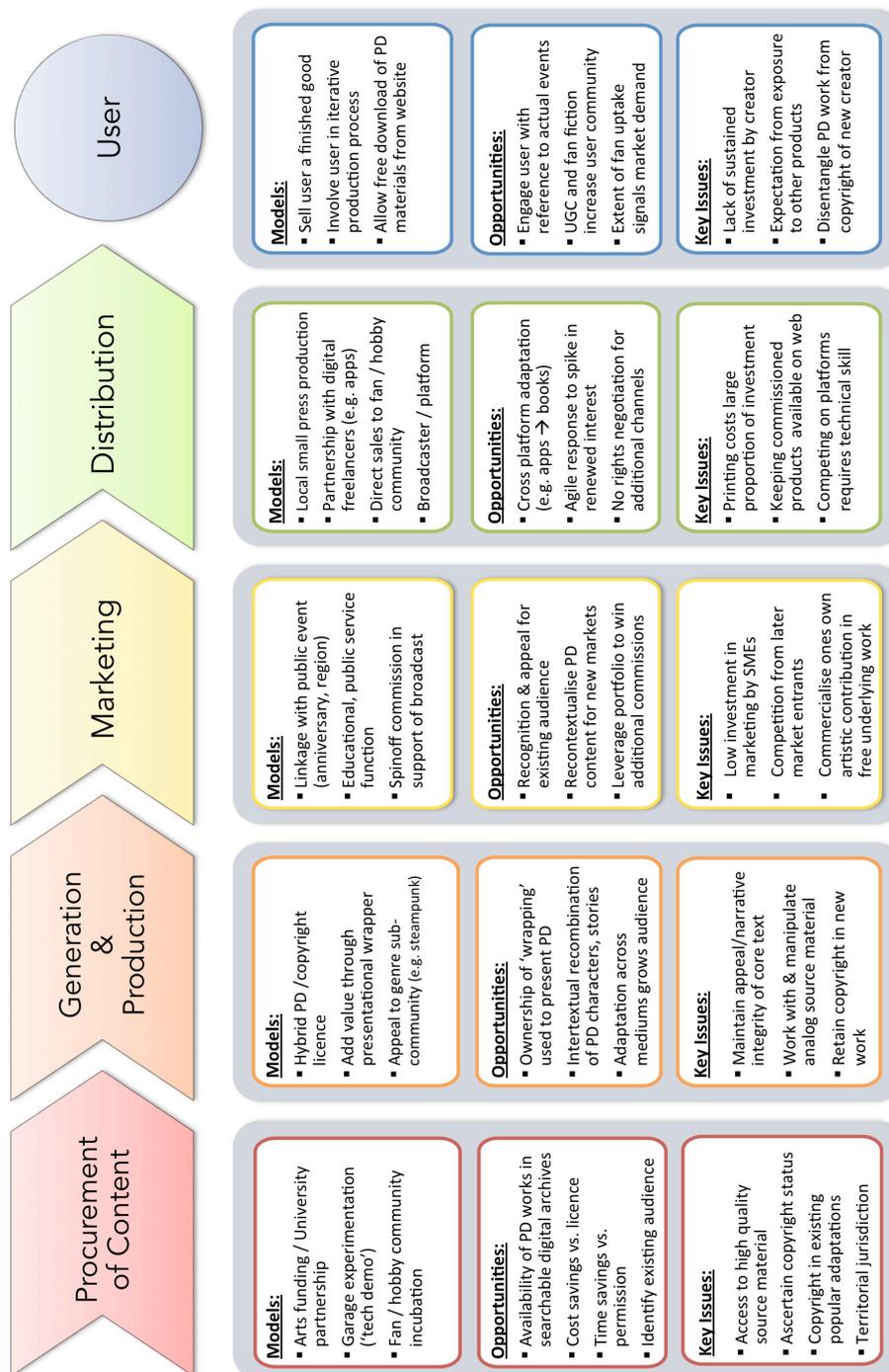
Finally, entrepreneurial firms undertook intensive transformation of underlying PD material, often combining it with original content of a high quality, obtained internally or under contract with freelance creators. Entrepreneurial firms often possessed experience in copyright licensing obtained during previous projects, so PD work was sometimes layered with other third party in-licensed material or technology. Entrepreneurial users in our sample expressed the highest degree of confidence in their knowledge about intellectual property law and their ability to make strategic decisions on the basis of that understanding.

Advantages of working with public domain materials at the generation/ production stage were often expressed in terms of creative autonomy. Creators stated that they felt unburdened and able to make bolder artistic choices when working with out-of-copyright ideas. They could adapt work to new mediums and combine freely with other work without needing to seek permission from rightsholders at any step. Artistically this suited a certain kind of recombinatory aesthetic and producers reported that such intertextual treatment of works often proved

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successful with audiences. From a technical production point of view, entrepreneurial users of PD works reported little difference compared to working with copyright works. Conscious entrepreneurial users tended to possess more sophisticated copyright knowledge and their workflow was designed to deal with layering of contributions with different legal restrictions.

Figure 2.3: Public domain materials in the media value chain



The key challenges identified when working with public domain materials at the production stage were artistic, technical and legal. Artistic challenges included retaining what was understood to be the 'integral' spirit of a work while adding new creative elements. Some creators saw their role as stewards of a PD work rather than exploiters: they felt a duty to respect the artistic vision of the original, even without the legal requirement to ask for permission. Technical challenges included difficulties when manipulating analogue works. Many projects required high-quality digitisation and adaptation of PD works in order to be used in a new product, which was sometimes costly or technically challenging. Finally, firms were concerned about delineating and protecting their own creative inputs in a new hybrid work, some of which remained in the public domain.

## Marketing

Marketing strategies employed by respondent firms was highly variable and differed by medium, product type and firm size. However most firms reported allocating a minimal marketing budget to projects based on public domain materials, even when those products were eventually successful in the marketplace. While other research suggests that small firms generally devote less resources toward marketing due to a variety of factors, when asked to compare relative marketing budgets for different types of products, respondents reported favouring original IP with greater marketing effort, perhaps reflecting the need to create an audience for unknown work. The firms in our study tended to rely on word-of-mouth or online reviews when marketing products based on public domain materials, as these were deemed low-cost approaches and, in the case of fan community innovators, the most effective means of reaching a niche audience.

Marketing of projects with public funding was often undertaken initially by funding institutions, and often coincided with a major public anniversary or event, for example the 150th anniversary of publication of Darwin's *Origin of Species*. Some entrepreneurial respondents also reported employing this strategy, by collecting intelligence about upcoming anniversaries or events that could serve as promotional opportunities and developing PD products around those opportunities.

Firms working within existing fan communities reported that community feedback was important in terms of setting marketing strategy as well as allocating resources to marketing activities. For example, one firm that was designing a digital roll playing game based on *Call of Cthulu* was intending to rely heavily on word-of-mouth generated by fans of H.P. Lovecraft's original story, and had directed a small marketing budget toward reaching those readers. The firm intended to respond to fan demand for cross-platform media such as graphic novels and books based on their own digital property. Another start-up was beta-testing an interactive video game based on the novels of Jane Austen with a small number of Kickstarter backers who were providing bug testing and development feedback to improve the commercial product.

Technical platform innovators in our sample reported allocating very limited budgets to marketing of public domain content. However, a number of firms later discovered that public domain content was accessed frequently or was a strong selling offering compared with other original or in-licensed offerings. One interactive education company reported that classic fairy tales and other public domain stories were among the most popular in their product catalogue because they corresponded to themes covered in the national primary school curriculum. Later the firm

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adapted their strategy to supply more content targeting curriculum themes, based on original copyright and public domain works.

Overall, the advantage of working with public domain materials from a marketing perspective was that in most cases the public domain work was familiar to a pre-existing audience. This aided firms by helping to minimise the risk of a new product launch, providing a community of early-stage 'beta-testers', and facilitating word-of-mouth marketing by engaged consumers.

## Distribution

The majority of interviewees in our sample relied on arrangements with third party distributors or platforms to bring their products to consumers. One exception was the group of technological platform innovators who relied on a subscription base of users, built over time, who accessed new product offerings usually as a digital download. Other common distribution methods used by respondents were mainstream mobile app stores such as the Google Play service, advertising-supported content aggregators such as YouTube, along with more traditional arrangements such as brick-and-mortar book retailers.

A number of respondents, particularly those working in the public partnership model, reported seeking new international markets for distribution of their work, often through licensing arrangements with foreign distributors. Three responding firms reported that editions of their books and graphic novels had been translated and used in foreign markets, often for different purposes than originally intended, such as for teaching English as a Second Language (ESL). While revenues from these agreements were reported to be small, the view expressed was that this represented unanticipated secondary revenue streams since the original commissioned work had already been financially supported. Product extension into additional markets increasingly meant digital adaptations (mobile apps) based on the original analogue work. Firms reported uneven success with this approach, citing high competition on digital marketplaces and the expense of hiring interactive development talent.

Challenges facing firms in the distribution of products based on the public domain related to the lower overall investment in marketing described in the previous section. Because initial product development costs were often lower for public domain works, firms reported that fixed costs of distribution were higher as a proportion of the overall development budget. Printing, transporting and distributing products ate into profit margins, while digital distribution was often seen as more favourable due to lower marginal costs.

## Users

The extent to which users were involved in co-creation was identified as an important criteria for success by a number of the reporting firms.

For companies working in a public partnership model, the public user was conceived as a stakeholder in the design and success of the product and its provision. Availability of local community support was often cited as an ingredient in the success of a given project, a concept which included not only custom, but also logistical and other intangible forms of support which enabled a project to take shape. Specifically when working with public domain materials, this

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support often came in the form of access to and assistance from museums, libraries and archives.

Fan communities were similarly important as both consumers as well as co-producers in the product development cycle. Firms working in this model reported using an iterative design process similar to open-source software development, in which ideas are first tested with a community of users and improvements made. The public domain status of the underlying source material likely facilitates this approach, non-excludability of the source text meaning that anyone from the community can freely work with the material. Producers reported an ability to commercially benefit from synergies with other fan-made products, as collective interest in a particular sub-genre grew by word-of-mouth over time. The transformation from fan or hobbyist to later become a commercial supplier has been observed in other domains in the literature on user-led innovation and user entrepreneurship (Shah and Tripsas, 2007; Haefliger et al, 2010)

Challenges facing firms wishing to reach and engage with users related to the sustainability of investment in work with underlying public domain elements. Firms in partnership with public institutions worried that partners would be unable to sustain access to the output over time (for example maintaining online video archives of a theatre performance or public showing). Creators wishing to use their public domain-inspired creations as part of a product portfolio to attract future commissions were particularly concerned by the ephemerality of publically-funded projects that did not have lasting support for preservation.

Finally, some creators expressed disappointment that audiences had been exposed to earlier and more commercially successful adaptations of public domain work, shaping their expectations about new product offerings (for example comparing the public domain literary version of the Wizard of Oz with the more well known but in-copyright 1939 film version).

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## Conclusions

### Copyright knowledge

- Most firms had low knowledge of copyright principles. Some were 'accidental' users of public domain materials.
- Entrepreneurs with conscious knowledge of copyright term were best positioned to identify and exploit PD opportunities.
- Clarity on legal use (e.g. orphan works requirements for 'diligent search') would improve commercialisation potential.

### Access to source material

- Firms working with visual or multimedia content reported lack of quality source material a significant challenge to commercialisation.
- Role of museums and archives frequently raised.

### Barriers to investment

- Some products based on public domain materials had low overall development costs.
  - Some firms perceived marketing and distribution of PD projects as costly.
  - Many firms uncertain about investing in further development of initial products (e.g. digital adaptations).
-

## Study 2: Performance of Public Domain Inspired Works on Kickstarter

Crowdfunding describes the process of raising capital by appealing to a large number of supporters who each contribute a small portion of total funds, either charitably or in exchange for a reward. A number of different configurations and thematic foci exist in practice, with some crowdfunding platforms adopting the approach of charitable giving while others enable exchange of products or services. One example of a popular crowdfunding platform is Kickstarter, where creators present their project ‘pitches’ with the aim to motivate a number of investors (i.e. ‘backers’) to commit funds to their projects. The creator sets a request for the minimum amount necessary for the project to be realized and projects get funded if the amount of money asked for is reached within a set time period.

With the passage in the United States of the Jumpstart our Business Start-ups (JOBS) Act in 2012, the regulatory door was opened to direct participation of crowdfunders in venture capital investment. In the UK, the status of venture capital crowdfunding remains , however, use of consumer crowdfunding platforms such as Kickstarter is legally permitted and accessible by UK creators and project funders.

Nearly all crowdfunding platforms share an ethos of collective peer production and a conviction by users that projects initiated by those seeking crowdfunding could not be realised through existing, traditional financing. Attempting to capture the range of motivations for participation in crowdfunding, researchers Kuppaswamy and Bayus (2013) have referred to the crowd of supporters of a given project as ‘consumer-investors’, highlighting their dual role in the eventual success of a crowdfunded endeavour. Some backers may contribute to a project because they support the cause of the creator, seeing their investment as essential to disseminate an idea that would not otherwise be realised through traditional market mechanisms. A second and sometimes related role played by backers is that of consumers and early adopters of a product, with financial support tied to a promise by the creator to deliver goods once produced.

The potential societal impact of crowdfunding, by enabling production of new goods to meet demand from under-served consumers, has been widely discussed. However, the precise economic dynamics of crowdfunding remain contested in the literature. Some have characterized crowdfunding as a disruptive innovation which allows disintermediation of redundant stages in the value chain, resulting in overall efficiency gains. For example, in some media industries such as publishing, the gatekeeping role traditionally played by commissioning editors is no longer essential if crowds can coordinate to determine which products are worthy of funding and which are not. Additional efficiencies may be gained from the ability of crowds to identify and promote valuable early-stage ideas, as well as to locate potential flaws in a business model or product before investment occurs. Literature highlights the democratising features of crowdfunding which include the ability for new market entrants to compete with minimal barriers to entry, lowering costs and enabling the service of niche demand.

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On the other hand, a growing body of research suggests that crowds may not be the most efficient way to identify and reward innovation, particularly if markets are subject to herding behaviour and other effects which can distort the value of a project. Preferential attachment and other rich-get-richer effects have long been observed in sociological studies of online social networks (Hindman, 2008; Mislove et al, 2008), but their effect in crowdfunding markets remains under-explored. One impact of crowdfunding is that innovative ideas may be withheld from crowdfunding markets because the owner is fearful of losing competitive advantage by revealing their intentions. Crowdfunding platforms may enable the funding of lesser-quality goods as they become overpopulated with projects that could not attract traditional means of funding (Agrawal et al, 2013: 7). Research from cultural economics and policy studies has questioned whether the burden of crowdfunding disproportionately falls on niche audiences, for example supporters of independent film, while traditional funding bodies such as arts councils retreat from their supporting role (Sørensen, 2012). Crowdfunding success may not be an optimal way to fund merit goods, as the aggregated outcome of crowdfunding decisions may not reflect non-market political objectives such as promoting pluralism.

Finally, research in economics and management studies has focused on the potential for failure in crowdfunding markets due to the presence of information asymmetry (Akerlof, 1970; Agrawal et al, 2013). Unlike a traditional market where goods can be inspected and compared, early investors in a crowdfunded product have limited information about the quality of the final good as well as the capacity of the project owners to successfully deliver the product. The result is that consumer-investors may misallocate resources to projects that never bear fruit, at the expense of more productive investment in traditional market alternatives. Another possibility arising from a lack of information signals is that crowdfunding platforms may generate perverse incentives by rewarding fraudulent behaviour and misrepresentation of projects' aims and capabilities.

This study contributes to existing literature on information asymmetry in crowdfunding markets to explore the role on intellectual property as a potential quality signal in crowdfunded media goods. The role of intellectual property rights remains under-theorised in the literature, even though the majority of production undertaken by creators on these platforms consists of protectable intellectual property. This includes media products in the copyright industries such as literary and artistic works and performances, as well as innovative product inventions and consumer goods protectable by patent and design rights. The present study is focused on copyright and its effect on crowdfunding success for media projects on Kickstarter, the largest rewards-based crowdfunding platform.

## IP rights in crowdfunding markets

Creators of crowdfunded media projects normally choose from among four options when bringing a new project to a crowdfunding market: 1) develop and publish original content of their own creation; 2) obtain a licence to re-publish or adapt an existing copyright work; 3) re-publish or adapt an existing work from the public domain; or 4) significantly remix or transform any of the above resulting in a new derivative work.

The intellectual property rights underlying a given crowdfunded project may complicate existing theoretical propositions about the impact of information asymmetry in a number of significant

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ways. Firstly, in cases where the creator faces a choice between crowdfunding or seeking funding via more traditional routes, the extent to which they are able to retain and exploit their rights in the completed project may be a factor of importance. For example, in the case of an independent film creator, the traditional route to funding often involves relinquishing ownership of rights in exchange for investment capital, thus limiting creative and entrepreneurial control over the final project (Sørensen, 2012). Crowdfunding finance, to the extent that it can replace the sale of rights, may therefore be advantageous to certain types of creator. Secondly, the protection of crowdfunding innovation may be complemented by knowledge about intellectual property on the part of the creator. The extent to which a project creator is confident in their ability to secure and assert intellectual property rights in their creation may be a factor in their willingness to publicly reveal an innovation on a crowdfunding platform. Thirdly, intellectual property rights may act as a quality signal to potential backers in the absence of other information about the quality of goods and the capabilities of the producer. For example, the ability to secure the rights to re-use a well known commercial property may signal the professional capabilities of the project creator, or act as a form of endorsement. A new product based on an existing work, either in copyright or in the public domain, may attract backers who are familiar with the qualities of the original work.

In this study, we are interested in comparing the performance of projects based on different types of underlying IP, to determine the extent to which intellectual property rights serve as a quality signal in an environment of information asymmetry. Specifically, we seek to compare projects where there exists an exclusive property right – either because it is a new original creation or because the creator has secured a licence – against those where the underlying ideas remain in the public domain. Traditional economic theory suggests that the non-excludable and non-rival characteristics of the public domain will result in lower incentives to take up and re-publish these works, because competition from producers will drive down profits (Landes & Posner, 2003).

### **Effect on transaction completion (success)**

On Kickstarter, a project is successful if the pitch creator manages to secure the amount of money requested through individual supporter pledges before the pre-determined cut off date (usually 30 or 60 days). If the amount requested by the creator is not raised within that time, any funds received will be returned to backers and no fees will be taken. The creator must therefore set a price that is sufficient to meet the requirements of the project, but attractive enough that it does not exceed the collective willingness to pay of a group of potential backers.

Each pitch contains quality signals such as experience and status of the creator. For example, when creators are lesser known or when they have less experience in the medium, the underlying intellectual property right should be important. Copyright and PD works, which are known by a wider potential audience, could compensate the lack of quality signals originating from the unknown status of amateur creators. The analysis must control for the other major signal of quality in a pitch – the experience and status of the creator.

We hypothesise that intellectual property has an effect on the outcome of successful transactions in the following ways:

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1. The intellectual property status of projects serves as a quality indicator to potential backers, increasing their confidence in the quality of the final goods and therefore their willingness to pay.

Hypothesis 1a: Public Domain works are positively associated with the amount of money raised.

Hypothesis 1b: Copyrighted works are positively associated with the amount of money raised.

2. The Intellectual property status of projects provides some information about price which helps creators (sellers) and backers agree on the value of goods, prompting higher likelihood of a successful transaction. Thus:

Hypothesis 2a: Public Domain works are positively associated with successful pitches.

Hypothesis 2b: Copyrighted works are positively associated with successful pitches.

### Effect on price and willingness to pay

Pitch creators (sellers) come to Kickstarter with limited information about the size of audience and willingness to pay of contributors, and must set a price in the absence of those signals. We propose that intellectual property status of a given project will inform the price set by sellers. If the only factor under consideration were labour costs, we would expect to see public domain inspired works priced lower than competing original work, because some creative labour already exists freely within the public domain material. Copyright works where a licence fee has been paid should be priced accordingly (higher than untested original works by the pitch creator). In works where there is recombination of public domain and copyright materials, we would also expect to observe price tracking the amount of transformative labour introduced to an altered public domain work. If the status of the creator is an important signal of quality to potential backers, then we should expect to see a corresponding price increase related to the status and fame of the creator, represented by the personal brand value that they bring to the project, above and beyond any IP related price considerations.

## Field Site and Research Methods

In this section we introduce the data source, the players acting in the market, i.e. pitch creators and backers, and describe the variables used in the analysis in detail.

### Platform characteristics

Kickstarter, like other crowdfunding platforms, functions as a two-sided market. Pitch creators may use the service to set up a page outlining details of a project to potential backers. Important contents include a description of the project, the amount of funding requested, the amount of time that the campaign will run, and the rewards that will be given in exchange for pledges from potential backers. To the user, i.e. an individual who wants to invest money into creative projects

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presented on the website, Kickstarter functions as a shop window: backers may browse through current projects in different categories, looking for those they wish to support, either charitably or in exchange for a reward. Rewards often but not exclusively include a pre-order for a product once completed, so in this sense Kickstarter functions as an e-commerce site for innovative niche products, where buyers assume a higher degree of risk than they would on a traditional e-commerce website where returns are possible. The platform offers social networking capabilities in the form of project updates and messaging, as well as tracking of user involvement across different projects, either as a creator or backer. Kickstarter claims 5% of total project funding raised upon successful completion of a finding campaign. An additional fee of 3%-5% is taken to cover third party payment processing depending on the country of origin of the project. If a project does not raise the requested amount by the end of the campaign (normally set by the creator to 30 or 60 days) then all pledged money is returned to individual backers and the project fails.

The managers of the Kickstarter platform have an incentive to maximise the flow of high-quality, fundable projects, and to ensure as much as possible that projects are represented accurately to potential backers. Repeated fraudulent behaviour or failed transactions could reduce the legitimacy of the platform. This problem has been underlined by a number of high profile failures of Kickstarter projects after funds were raised.<sup>67</sup> In response to these issues, Kickstarter has added information to its website to warn users about the potential for misrepresentation and to emphasise its limited liability for failed projects. In August 2014, the website added a link to every project page titled 'Learn about accountability on Kickstarter'. On the website's blog, platform operators further warn users,

"Kickstarter does not investigate a creator's ability to complete their project.

On Kickstarter, people ultimately decide the validity and worthiness of a project by whether they decide to fund it."<sup>68</sup>

## Pitch Creators

Project creators may seek crowdfunding on a platform like Kickstarter for a variety of reasons. In the emerging literature, creators have been characterised as i) amateur producers lacking access to traditional financing to support a niche, unpopular or untested new idea; or ii) entrepreneurs that select crowdfunding from among other financing options because it enables low cost access to capital and permits price discrimination when testing a new product with early adopters. It is likely that both types of producers use Kickstarter and that there is further diversity in project creators' motivations. Agrawal et al (2013) have proposed that informational aspects of crowdfunding are important to pitch creators. Firstly, lowered barriers to communication enabled by digital two-sided markets like Kickstarter allow for access to larger numbers of potential consumers, resulting in better 'matches' between sellers and buyers than in traditional, geographically constrained markets. Secondly, the response of crowd supporters

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67 For example, in 2014 the Attorney General's Office of the State of Washington filed suit against a Kickstarter project creator who failed to deliver a finished product funded in 2012, under that state's Consumer Protection Act. See *State of Washington v Altius Management, LLC; Edward J. Polchlopek III* (No. 14-2-12425-SEA).

68 Accessed online 12 January 2015: <https://www.kickstarter.com/blog/accountability-on-kickstarter>

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may provide market signals to the producer, helping them to make better decisions about product features and marketing, “reducing the variance of post-launch demand” (2013: 12). This second feature is particularly relevant for copyright industries where research has pointed to the high risk of creative product development and demand uncertainty (Hesmondhalgh, 2012; Towse, 2014).

## Backers

Previous research has identified a range of motivations for participating in a crowdfunded project as a backer. A proliferation of different crowdfunding platforms with distinct rewards systems ranging from charitable giving to pre-purchase of goods likewise suggests heterogeneity in the motivations of crowdfunding communities. Kickstarter does not offer backers an investment stake in start-up companies, but it supports both charitable donation and product exchange through its open-ended rewards tier system. As such, a variety of backer motivations are likely present across Kickstarter projects. Kuppuswamy and Bayus (2013) found different types of behaviour in specific project categories, leading them to speculate that product type may influence the motivation of backers (purchasing a good rather than supporting a cause). Crowdfunding backers may be motivated by a range of extrinsic and intrinsic rewards. Intrinsic rewards include the feeling of supporting a worthy cause or idea, or self-actualisation through participation in a shared community. Extrinsic rewards offered by crowdfunding may be tangible or intangible. These may include utility gained from pre-purchase of a product directly or from prestige gained by being an early adopter. Other prestige rewards include recognition by the project creators in production credits, special ‘flair’ or status in interactive settings, early access or other VIP benefits. Additional extrinsic rewards highlighted in literature on innovation include the ability to shape the outcome of a collective project or gain competitive advantage in other markets due to insider status. Additionally, as backers are likely to buy the products of the projects they funded one can reasonably assume that an increase in utility is associated with the consumption of those outputs.

Due to the confluence of intrinsic and extrinsic rewards for participation in a crowdfunded project, backers on Kickstarter require information about not only the quality of goods purchased, but also the identity and capabilities of the producer. Many Kickstarter rewards consist of goods to be delivered to backers once the project is funded and some development time has elapsed. The goods may arrive on time and meet the quality described in the original pitch, or they may be delayed or suffer from a lack of quality compared to the initial description when a pledge was made. Sometimes, goods may never arrive at all. In addition to goods quality, Kickstarter backers are potentially interested in information about the project creator. This information may enable backers to make a judgment about likelihood of delivery (creator experience, capabilities, social network). The information may also be used to judge the worthiness or authenticity of the project creator, which is linked to the intrinsic rewards described above and the ethos of crowdfunding as an alternative financing scheme.

## Sample selection

This study is based on computer-assisted content analysis of a sample of completed media products on the Kickstarter platform. We selected a sample of all projects in the categories of publishing, video games, theatre and comics, which ended their funding period between 1st

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January and 31st March (Q1) 2014. This sampling method yielded 1,993 projects in total (see Table 3.2). The sample included successful, unsuccessful and cancelled projects with a funding cut-off date within the study range.

The sample categories were chosen for their status as copyright industries and for the diversity of works represented within this selection of media (print photography, illustration, fiction and non-fiction literature, entertainment software, and theatrical performance). The sample excluded projects within these categories that did not involve a copyright work (such as fundraising to build a new theatre or purchase studio equipment).

Selecting and recording information about the sample of projects presented challenges. The Kickstarter website does not permit reliable access to the total population of projects hosted on the platform. Non-transparent human and algorithmic curation techniques sort projects according to their popularity and other factors. Unsuccessful and cancelled projects are buried deep in the search results and not systematically organised. In order to ensure that the sample included all projects submitted to the website, a software tool was created using the unpublished Kickstarter Application Programming Interface (API) to extract a list of all projects in each category from the Kickstarter website, for the duration of the study period.

Projects were then analysed on an individual basis and data about each one were entered into a database via an electronic questionnaire instrument. In total, six research assistants were trained for coding and participated in the data collection. The latter was facilitated by the SNAP software which all coders used. The questionnaire consisted of 22 questions related to variables that the research team constructed based on the available information contained in each project pitch. Table 3.1 summarises the list of variables used, the values recorded for each and the abbreviation used in regression models.

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**Table 3.1: Description of variables**

Variable	Values	Abbreviation
Dependent Variables:		
Success	1 = project successful 0 = unsuccessful	Success
Funds Raised (GBP)	Amount in £ GBP that was received, regardless of success outcome	GBPreC
Number of Backers	Number of individuals contributing to the project	Backers
<b>Independent variables:</b>		
Media category	1 = Comics 2 = Film & Video 3 = n/a 4 = Publishing 5 = Theatre 6 = Video Games	
Main source of Inspiration	1 = Original, 0 = otherwise 1 = Public Domain, 0 = otherwise 1 = Third party Copyright, 0 = otherwise	Orig PD ThirdPCR
Inputs Present in transformative work	1 = Original 2 = Public Domain 3 = Copyright 4 = Creative Commons	
Type of Public Domain	Dummies: 1 = Term expired, 0 otherwise 1 = Not appropriating substantial 1 = Not protectable, 0 otherwise 1 = CR exception, 0 otherwise	Coded during data collection but not used in analyses

Licence status	1 = sought already, 0 = otherwise 1 = to be sought after fundraising, 0 = otherwise 1 = fair use, 0 = otherwise 1 = not indicated, 0 = otherwise	Permission sought Sought after funds Fair use
Fiction	Dummies: 1 = fiction, 0 = otherwise 1 = non-fiction, 0 = otherwise 1 = unsure, 0 = otherwise	Fiction Non-fiction
Open Source or Creative Commons	Dummy 1 = OS or CC, 0 = otherwise	
Previous experience of backer	Number of projects launched Number of projects backed	
Funding time period	Number of days	
Team Size (categorical)	1 = single creator 2 = pair of creators 3 = group of 3-10 4 = group larger than 10	
Pitch creator characteristics	Gender dummy: 1 = male, 0 = female Status dummies: 1 = obscure, 0 = otherwise 1 = known to a specific community, 0 = otherwise 1 = known beyond community, 0 = otherwise 1 = widely recognizable, 0 otherwise Previous Crowdfunding experience: 1 = unsure, 0 = otherwise 1 = no previous experience, 0 = otherwise 1 = some previous working experience, not necessarily known to backers, 0 = otherwise 1 = successful previous experience that would be known to backers, 0 = otherwise	Gender  Cstat: obscure Cstat: Community  Cstat: beyond  Cstat: recognizable  No experience  Some experience  Successful exp.
Presence of video in pitch	1 = Project pitch contained a video, 0 = otherwise	Video

While gathering numerical data on variables such as the total amount of funding raised was straightforward, the research team faced the task of additionally coding categorical variables from qualitative data such as the type of intellectual property underpinning a particular project.

For example, the variable 'licence status' was constructed to determine whether the creators of a Kickstarter pitch based any part of their project on copyright work belonging to others, and whether they obtained a licence to do so. Such information is not collected systematically by Kickstarter, so the research team mined pitch narratives for that information. Pitch creators might have used a third party copyright work wittingly or unwittingly. Examples of borrowings of copyright work from others might include a theatre production to perform a play written by somebody else, a comic book adaptation of a literary novel, a video game based on a literary character or TV show; etc.

We further sought to determine whether the Kickstarter project had obtained or intended to seek a licence from the copyright owner to use that aspect of the work. Sometimes this was mentioned explicitly in the Kickstarter pitch, for example, 'We have obtained permission to adapt this work' or 'We will use the money raised to purchase the licence'. If licence information was nowhere mentioned, the research team recorded that as such – these cases may indicate conscious or unconscious infringement, since not all project creators understand what is allowed in copyright law.

After judging various IP related elements present in each pitch the coders were asked to make an overall judgement about the main source of inspiration underlying the specific project. This variable takes the following values (1) original work, for projects where the bulk of creative inputs come from the project creator themselves (2) public domain work, for projects that seek to re-publish or make available a public domain work without substantial transformation, and (3) copyrighted work consisting of re-published work owned by third party rights holders. The coders were trained by working on overlapping subsamples which enabled us to control for inter-coder reliability. No issues emerged.

Table 3.2 summarises the sample according to the main source inspiration present in the projects.

**Table 3.2: Summary of Kickstarter sample by primary IP status**

	All categories	Comics	Theatre	Video Games	Publishing
Original	1657 (83%)	242 (79%)	144 (59%)	215 (91%)	1056 (87.5%)
Copyright	220 (11%)	22 (7%)	67 (27%)	12 (5.5%)	119 (10%)
Public Domain	116 (6%)	44 (18%)	33 (14%)	8 (3.5%)	31 (2.5%)
<b>Total</b>	<b>1993</b>	<b>308</b>	<b>244</b>	<b>235</b>	<b>1206</b>

## Discussion

This section presents the analysis of the dataset generated from kickstarter.com in Q1 2014. The estimation strategy is as follows: First, we investigate hypotheses 1a and 1b by using the log-transformed 'Funds raised' (i.e. the amount of money measured in GBP) as dependent variable in an OLS regression. Second, we analyse hypotheses 2a and 2b using a binary dependent variable (1=success, 0 otherwise). In this analysis we employ a logistic regression model.

### Analysis of funding levels

Table 3.3 below presents the results for the full sample. We estimate 3 models in different subsamples. The first one includes IP status only, the second one adds a variety of project characteristics, the third adds creator characteristics. Coefficients have to be interpreted as percentage change in the dependent variable when the independent variable changes by one unit. Model 1 only includes the IP status when third party work is used, i.e. public domain or third party copyright. The reference category is original work by the pitch creator. Model 1 does only explain a low amount of variation (adj-R2.= 1%) therefore we ignore it. Model 2 performs better. It shows significant effects on many variables (third party copyright, permission sought, no experience, successful experience and gender). Most interestingly the coefficient on the third party copyright variable implies that copyrighted works generate approximately 70% less funds than original works<sup>69</sup>. Additionally, backers prefer clear indications of the fact that permission to use a copyright work is sought already. Model 3 indicates that projects using public domain works as their main inspiration attract 56% more funding as compared to projects based on untested original works. Further, excluding the licence status from the model brings the creator status to the front. The more the creator is known the more funds he or she tends to attract.

Overall, these results provide support for hypothesis 1a suggesting that public domain works are associated with higher funding levels whereas hypothesis 1b, that copyrighted works are associated with higher funding levels, can be rejected.

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69 To arrive at this value the coefficient (-0.350) needs to be exponentiated. This is due to the fact that the dependent variable is log transformed. This is also the case in model 3.

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Table 3.3: Funds raised and IP Status

VARIABLES	(1) log Funds raised (GBP)	(2) log Funds raised (GBP)	(3) log Funds raised (GBP)
PD	0.804*** (0.217)	0.412 (0.378)	0.450*** (0.169)
ThirdPCR	0.514*** (0.168)	-0.350** (0.171)	-0.0382 (0.148)
Fiction		0.167 (0.165)	
Permission sought		0.569*** (0.195)	
Sought after funds		0.180 (0.184)	
Fair use		1.294 (0.890)	
Cstat: Obscure		-0.650 (0.723)	-0.330 (0.256)
Cstat: Community		-0.205 (0.734)	0.482* (0.273)
Cstat: Beyond		0.279 (0.768)	1.121*** (0.311)
Cstat: recognisable		0.339 (1.444)	2.070 (1.283)
No experience		-1.149*** (0.378)	-1.121*** (0.187)
Some experience		-0.384 (0.399)	-0.362* (0.197)
Successful exp		1.412*** (0.475)	0.915*** (0.258)
Male		-1.002*** (0.161)	-0.724*** (0.0972)
Constant	6.066*** (0.0580)	7.671*** (0.703)	7.010*** (0.237)
Observations	1,878	652	1,878
R-squared	0.011	0.234	0.199
Adj.-R-squared	0.011	0.217	0.195

Note: Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Model 2 includes only observations indicating licence status therefore has a reduced number of observations.

Next, we look into the various categories of projects in order to see if the relations hold in those subsamples. The projects contained in the dataset fall into the categories comics, video games, publishing and theatre. Table 3.4 summarises the results, which point towards varying effects of IP elements across media categories. For example, exploitation of public domain elements in projects is beneficial in the comics category but negatively associated with funding for video game projects. Funding level in the categories of publishing and theatre appears to be unaffected by the IP status of the project. Overall, the results relating to the project categories fail to reject hypothesis 1a (i.e. for comics) but clearly reject hypothesis 1b.

**Table 3.4: Funds raised and IP Status per project category**

	1 Comics	2 Video Games	3 Publishing	4 Theatre
VARIABLES	log_GBPrec	log_GBPrec	log_GBPrec	log_GBPrec
PD	0.731** (0.308)	-1.905* (0.981)	0.134 (0.273)	0.0553 (0.231)
ThirdPCR	0.111 (0.478)	-0.558 (0.682)	-0.127 (0.211)	0.0909 (0.225)
Cstat: Obscure	0.243 (0.327)	-1.741 (2.430)	-0.925 (0.588)	–
Cstat: Community	0.846** (0.395)	-0.891 (2.207)	0.486 (0.583)	
Cstat: Beyond	0.872* (0.485)	–	1.191* (0.636)	1.371*** (0.368)
Cstat: recogniseable	-0.326 (0.566)	3.437 (2.426)	3.001*** (0.643)	–
No experience	0.286 (0.351)	-1.066** (0.414)	-0.375 (0.752)	–
Some experience	0.679** (0.294)	0.599 (0.488)	-0.0951 (0.751)	0.191 (0.323)
Successful exp.	1.513*** (0.345)	-0.192 (1.118)	1.436* (0.779)	1.735** (0.704)
Gender (1=male, 0+female)	-0.607*** (0.220)	-1.294*** (0.334)	-0.738*** (0.129)	-0.357 (0.223)
Constant	6.250*** (0.309)	9.145*** (2.423)	6.583*** (0.882)	6.152*** (0.227)
Observations	298	221	1,087	228
Adj.-R-squared	0.195	0.184	0.211	0.142

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, (-) variables excluded due to multicollinearity

## Analysis of project success

We now test hypotheses 2a and 2b focusing on project success. In this case the dependent variable is the success of the project which is a binary variable. Therefore, we use a logistic regression model to analyse the hypothesised relationships. Results are displayed as odds ratios with values above one indicating increased odds of success. We estimate 5 models. The first model includes IP status only, the second one adds a variety of project characteristics, the third adds creator characteristics. Models four and five are variations omitting various project characteristics and can be considered robustness checks. As before we start with analysing the full sample (i.e. across project categories) and subsequently take a more detailed look into the project categories.

Table 3.5 presents the results. In all models public domain inspired projects and copyright material inspired projects have significantly higher chances to succeed than projects presenting exclusively original work. As in the previous set of analyses the piece of information indicating that permission is sought boosts the odds of success. Overall these results provide strong support for hypotheses 2a and 2b.

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**Table 3.5. Full sample, Success Chances**

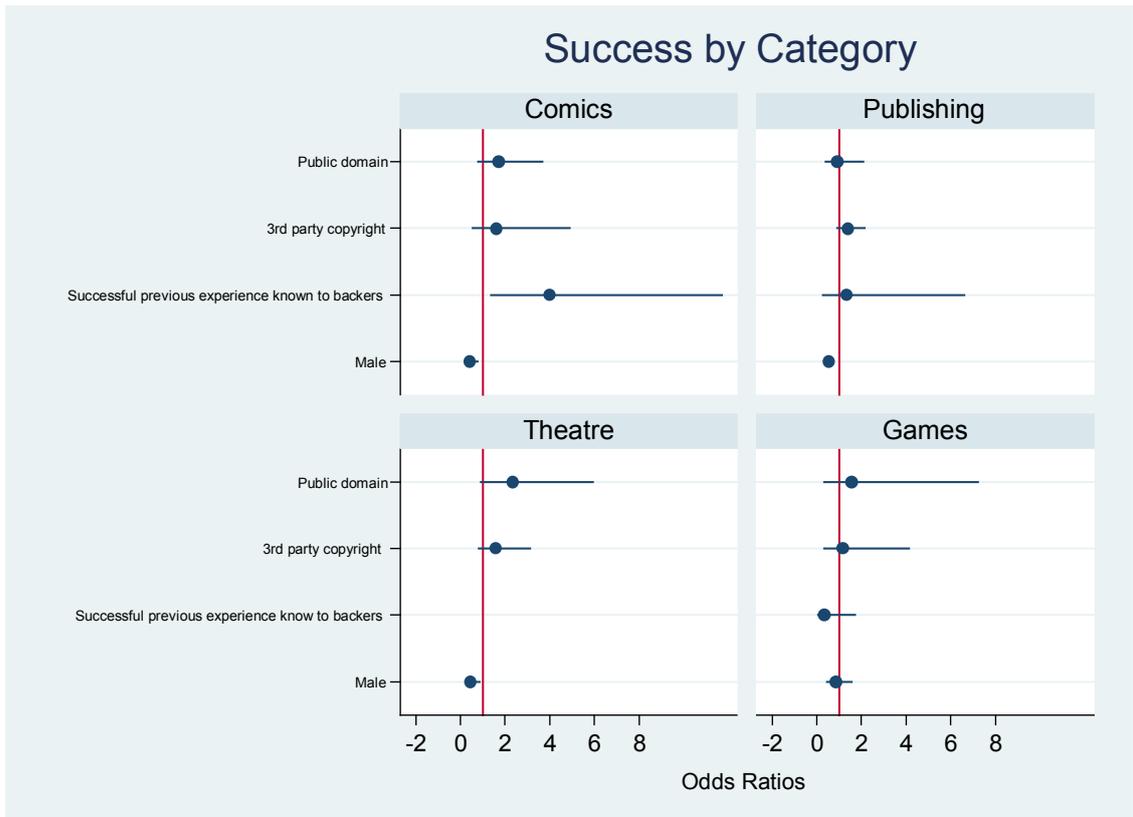
	(1)	(2)	(3)	(4)	(5)
suc_dum1	Success	Success	Success	Success	Success
VARIABLES	odds ratio	odds ratio	odds ratio	odds ratio	odds ratio
PD	2.786*** (0.532)	2.990** (1.479)	3.082** (1.602)	2.820** (1.440)	2.321*** (0.470)
ThirdPCR	2.353*** (0.343)	2.268*** (0.391)	1.798*** (0.329)	1.741*** (0.316)	1.705*** (0.267)
Fiction		1.018 (0.305)	1.115 (0.351)		1.193 (0.239)
Non-fiction		0.682 (0.221)	0.732 (0.248)		0.826 (0.178)
Permission sought		2.076*** (0.454)	2.184*** (0.507)	2.217*** (0.512)	
Sought after funds		1.044 (0.185)	1.262 (0.241)	1.270 (0.242)	
Fair use		3.138 (2.790)	2.886 (2.701)	2.804 (2.634)	
Cstat: Obscure			0.472 (0.327)	0.482 (0.333)	0.464*** (0.118)
Cstat: Community			0.729 (0.517)	0.713 (0.504)	0.970 (0.265)
Cstat: Beyond			0.945 (0.731)	0.879 (0.676)	1.990** (0.688)
Cstat: recognisable			0.390 (0.634)	0.422 (0.686)	1.550 (1.926)
No experience			0.364** (0.156)	0.337** (0.143)	0.536*** (0.109)
Some experience			0.566 (0.248)	0.539 (0.235)	0.889 (0.184)
Successful exp.			1.251 (0.690)	1.238 (0.680)	1.437 (0.419)
Male			0.555*** (0.0926)	0.554*** (0.0919)	0.587*** (0.0575)
Constant	0.640*** (0.0319)	0.645 (0.194)	2.471 (1.729)	2.618 (1.659)	1.595 (0.468)
Observations	2,040	696	696	696	2,040
McFadden R2	0,022	0,044	0,105	0,100	0,108

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3.6 (see Annex 2) breaks the analysis down into project categories and reveals a more nuanced picture. According to these results public domain inspired projects have a significantly higher probability to succeed in the theatre category (2.3 times higher as compared to original projects). While the other categories also display values above one indicating increased odds to succeed they fail to achieve significance. Thus, the effects need to be considered with caution. Overall the results partially support hypotheses 1b.

Figure 3.2 represents these main results visually. Please note that figure 3.2 displays the odds ratios and associated confidence intervals. The Public Domain Odds Ratios in the categories comics, publishing and games miss the statistical significance only marginally as indicated by the short ends of their confidence intervals crossing the red reference line. Consequently, these results are also included.

Figure 3.2 Odds Ratio Plots



## Conclusions

This research investigated how IP status elements contained in Kickstarter projects are related to funding levels and success chances. In addition to IP status of the underlying work, the analysis included various project and pitch creator characteristics. Hypotheses 1a and 1b linked the intellectual property status of works to funding levels received by the pitch creators. Hypotheses 2a and 2b focused on the success probabilities thus capturing slightly different information.

With respect to funding levels, we find that the amount of previous experience possessed by the pitch creator is a driver of funding received (as indicated by highly significant coefficients in table 3.3, models 2 and 3). We find only moderate support for the role of IP status in supporting funding levels, with counterintuitive results (public domain projects raising more funds than licensed third party work). However, we find that the presence of a licence to use a work is a strongly significant factor and positively associated with funding levels achieved. The signal transmitted by the fact that a pitch creator has taken steps to clear copyright appears to be very strong and important for potential backers. Backers may also interpret it as conveying external support for the project (but this is speculation as we have not surveyed backers themselves). Overall, the hypotheses are partially supported because we fail to reject hypothesis 1a (public domain work associated with higher funding) but have to reject hypothesis 1b. These relations appear to be especially dominant in the comics and theatre categories.

Hypotheses 2a and 2b are more strongly supported by these results. Since Kickstarter allows pitch creators to effectively set their own price, project success is dependent upon their ability to price their goods appropriately. A project can be successful if creators and backers all agree that it is worth £500 or £50,000. Uptake and reuse of third party copyright and public domain works are both significantly correlated with higher likelihood of project success when controlling for other factors, suggesting that intellectual property status of a project is a robust signal of quality. The information conveyed by the underlying intellectual property in a work may be important for both pitch creators (sellers) and backers, which could help to explain the strength of these results. The impact of underlying IP on the price set by sellers is worthy of further investigation.

We find variation in effects of IP across different media categories, suggesting different roles for IP in terms of quality signal. We observed the highest likelihood of success for public domain works in theatre, video games and comics categories, while the presence of public domain work did not effect likelihood of success in the publishing category. This may be because consumers are interested in adaptations of original public domain stories (mainly literary works) into new mediums rather than straight re-publication of public domain material, which may be available elsewhere. The impact of the amount of transformative use of an underlying work on likelihood of success requires further consideration.

We conclude that the findings support the idea that both public domain and third party licenced works deliver significant benefits to entrepreneurs operating in crowdfunding markets. However, this effect is conditional on the medium and creative sector.

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## Study 3: Assessing the Value of Public Domain Images on Wikipedia

Wikipedia is the world's largest and most successful online encyclopaedia. It is also notable for being one of the most successful examples of an open, collaborative, peer-produced digital resource (Benkler, 2006; Hill, 2013). Rather than depend on salaried experts or paid freelancers to produce the estimated 33 million<sup>70</sup> entries currently accessible on the website, Wikipedia has grown through the voluntary contribution of thousands of unpaid, non-professional editors. These contributors have carefully written, curated and linked content on myriad topics while remaining largely unseen and uncredited to the average user of a Wikipedia article. Wikipedia's organisers have successfully managed the project through formal and informal social norms designed to maintain consistency and accuracy across what could otherwise become an ungovernable mass of contributions. Chief among these is the requirement that contributors adopt a detached, neutral tone and that all assertions are supported by reference to third party (not primary) data sources (Nagaraj, 2013).

As a non-commercial platform motivated by a voluntarist ethos, Wikipedia does not pay for use of any third-party copyright material, which includes images or illustrations that may accompany an entry (although contributors may upload content from any source). The website aims to make its content as freely available to downstream users as possible, by only including material "that does not bear copyright restrictions on the right to redistribute, study, modify and improve, or otherwise use works for any purpose in any medium, even commercially".<sup>71</sup> Instead, contributors are encouraged to make fair use of copyright materials or locate content that resides in the public domain, using items such as photographs only after carefully ensuring copyright status via an online checklist.

According to Wikipedia's image use policy, content which is permitted for use includes: i) images owned by the contributor and made available under a free and unrestricted open licence (such as Creative Commons ShareAlike 1.0); ii) images created by a third party but similarly made available under a free and unrestricted open licence; iii) images which have entered the public domain due to copyright term expiry or failure to observe certain formalities such as notice, registration, or renewal; and iv) images which are not freely available but where a fair use rationale can be made. In the case of fair use, contributors must first ensure that non-free content meets 10 additional criteria which include respect for commercial exploitation of the work by its original rightsholder, use of lower-quality versions when possible and inclusion of metadata indicating the source of the image and the original rightsholder.<sup>72</sup>

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70 Total number of pages in all languages. Statistics gathered from Wikimedia.org gathered 14 November 2014: <http://stats.wikimedia.org/EN/TablesArticlesTotal.htm>

71 From the Wikipedia content guidelines accessed 5 December 2014: [http://en.wikipedia.org/wiki/Wikipedia:Non-free\\_content](http://en.wikipedia.org/wiki/Wikipedia:Non-free_content)

72 From Wikipedia's non-free content criteria accessed 5 December 2014: [http://en.wikipedia.org/wiki/Wikipedia:Non-free\\_content\\_criteria](http://en.wikipedia.org/wiki/Wikipedia:Non-free_content_criteria)

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It would seem that the availability of public domain content is significantly important to improving the quality of Wikipedia as a resource. The project organisers' insistence that freely available content be used whenever possible reflects a concern for downstream derivative uses of Wikipedia content, which may include commercial applications. Its guidelines are therefore shaped in order to encourage contributors to use public domain works instead of copyright works whenever possible (Wikipedia acknowledges that its 10 criteria are more narrowly drawn than the fair use provisions in US copyright law).

How might we ascertain the actual value that public domain works add to Wikipedia, and what might such an exercise tell us about the value that public domain works provide to other, equivalent online information services? In order to address this question, it is necessary first to establish whether the public domain status of images, rather than some other factor, determines their uptake and use on Wikipedia. For example, if contributors regularly rely on fair use of non-free images without regard to the content guidelines, then the public domain status of an equivalent image would seem to be inconsequential. If topics of high interest feature more images, then their use on those pages would appear to be driven by demand (regardless of licence type) rather than image availability. In that case it could be that Wikipedia's content guidelines induce the generation of new Creative Commons licenced images by amateur enthusiasts to satisfy demand on suitable pages. While the sociological effects of Wikipedia guidelines on contributor behaviour are interesting and worthy of future study, we are primarily interested in measuring whether the lack of a suitable public domain image would mean that no image could be used at all. Consequently, we have tried to select sample entries where new images cannot be readily sourced or produced: biographical pages of deceased writers; lyricists and composers from the 19th and early 20th century.

Second, if it can be determined that Wikipedia contributors do indeed seek out and use images from the public domain when available, what is the impact of such usage for Wikipedia as a whole? This might be calculated in terms of either a) cost-savings associated with use of a freely available work and/or b) increase in visitor traffic as a result of increased quality, searchability or authoritativeness of a page containing an image, which in a commercial context could translate to advertising revenue.

Finally, by establishing the likelihood of uptake of a public domain image when available, only when the alternative is the use of no image at all, and by estimating the value (either in terms of increased visitorship or cost-savings) of such an addition, we might arrive at a total value added to Wikipedia by the availability of public domain images.

To summarise: In order to estimate the value that public domain images contribute to Wikipedia, we explore the following research questions:

1. Are Wikipedia web pages more likely to contain an image when a public domain work is available? (In other words, does supply rather than demand or some other factor contribute to the practice of including images?)
  2. Does the availability of public domain images lower the cost of web page building either in terms of saved licensing costs or in terms of lowered costs to source an alternative image?
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3. Does the addition of an image to a web page increase traffic to that page?
4. Given a rate of use and an estimate of cost-savings, can we estimate the total value by reference to the characteristics of a random sample of Wikipedia pages?

## Research Methods

The empirical study of the public domain is a fairly recent phenomenon, likely prompted by debates over its diminishment through copyright term extension. Most of the extant research has focused on the frequency of exploitation and distribution of works once they fall into the public domain, in order to answer questions about whether and how public domain works retain value for society. For example, Heald (2007) has shown that when out-of-copyright books enter the public domain, they are more likely to be in-print and available from more publishers than copyrighted books, contradicting claims that the extension of copyright term is the best way to ensure availability of works. Studying out-of-print books still in copyright, Smith et al (2012) found that a large number of in-copyright books remain unavailable in electronic format, for a variety of reasons. The authors calculated that making the world's estimated 2.7 million out-of-print books available electronically would produce \$860 million USD in consumer surplus in the first year after publication (2012: 25). In fact, public domain materials seem to be more widely available in the marketplace, suggesting an under-exploitation effect associated with copyright protection after a certain period of time. Buccafusco and Heald (2013) have demonstrated that public domain bestsellers from the first part of the twentieth century are more likely to have audiobook versions than bestsellers from the same period still under copyright. In the case of music, Heald (2009) has shown that public domain songs are no less likely to appear in movies than comparable copyrighted songs from the same era.

The present study is the first attempt to place a pound value on the particular contribution of a class of public domain works (historical biographical photographs) in a specific setting. We follow Smith et al (2012) in adopting a matched pairs methodology to compare the likely performance of two sets of pages on Wikipedia: those where a public domain image is available and was added since 2009 (when visitor statistics can be tracked) and those without such an image.

We identified the Wikipedia pages of 362 authors who had at least one bestseller on the *New York Times* bestseller's list from 1895-1969 (Hackett, 1977). These authors were born between 1829 and 1942, and constituted a wide mix of subjects. In the United States, all works published before 1923 are in the public domain, so one group of authors could be represented only by a public domain image (those who died before 1923), while a second group could only be represented by a copyright-eligible photo (those born after 1923), and a large group could be represented by either (the subset whose lives spanned the 1923 date).

We collected data on the birth and death dates of each author; the year of his or her first bestseller; the number of bestsellers; the date (if any) an image of the author was added to his or her Wikipedia page; the source of the image; the legal status of the image; the legal justification offered by the web page builder for the presence of the image; the number of views of the author's page during the months of March, April, and May 2009; the number of views of the

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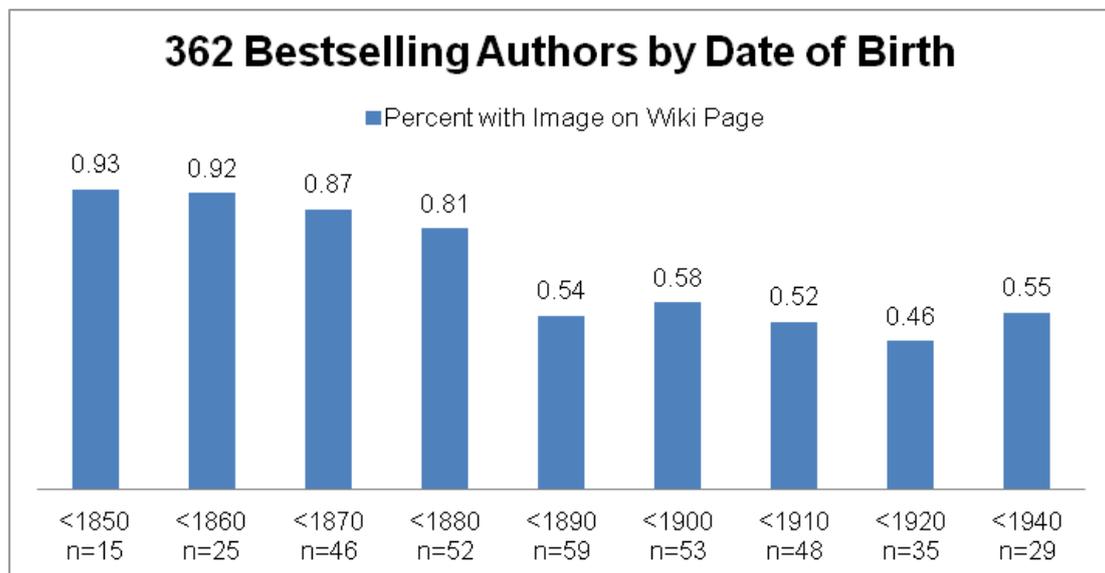
author's page during the months of March, April, and May 2014; the number of views during the lowest traffic month of 2009 and the lowest traffic month of 2014 for each author; and number of book reviews for the author's most-reviewed book on Amazon.com. We also collected data on changes in word count between authors' pages from June 2009 to June 2014.

In addition, we used the Wikipedia random page search function to generate a list of 300 random web pages in order to measure image use and traffic for the purposes of extrapolating any findings from our research on the author's pages to Wikipedia as a whole.

## Discussion

**Finding #1:** The reservoir of free public domain works increases the likelihood that an author web page will contain an image. This is seen most clearly when considering the birth dates of the authors in our sample whose Wikipedia pages contain an image. All things being equal, one would assume that the authors with earlier birthdates would have relatively fewer images of them on their web pages. After all, a person born in 1830 should be less likely to be represented in a photograph than someone born in 1900. Photography has become cheaper and more popular over time, and the older a photograph, the less likely it is to survive. Our data, however, show the opposite trend:

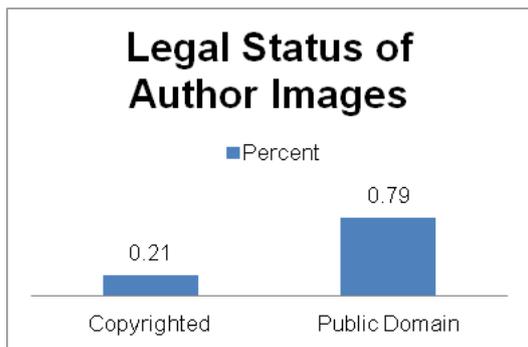
**Figure 4.1: Presence of image on Biographical Wikipedia Page**



As the figure above shows, the earlier the author’s birth date, the more likely a viewer will find an image of that author on his or her Wikipedia page. This is surprising given that photographic technology improved and became more widespread during the twentieth century, and consequently a greater number of photographs should exist for more recent authors. The most likely reason for this surprising trend is the reduced availability of public domain images for the newer authors. Only half of the 112 authors born after 1910 have images on their Wikipedia pages. The image shortage does not stem from a lack of photos of more recent authors, but rather higher acquisition costs associated with the copyrighted status of the later pool of photos.

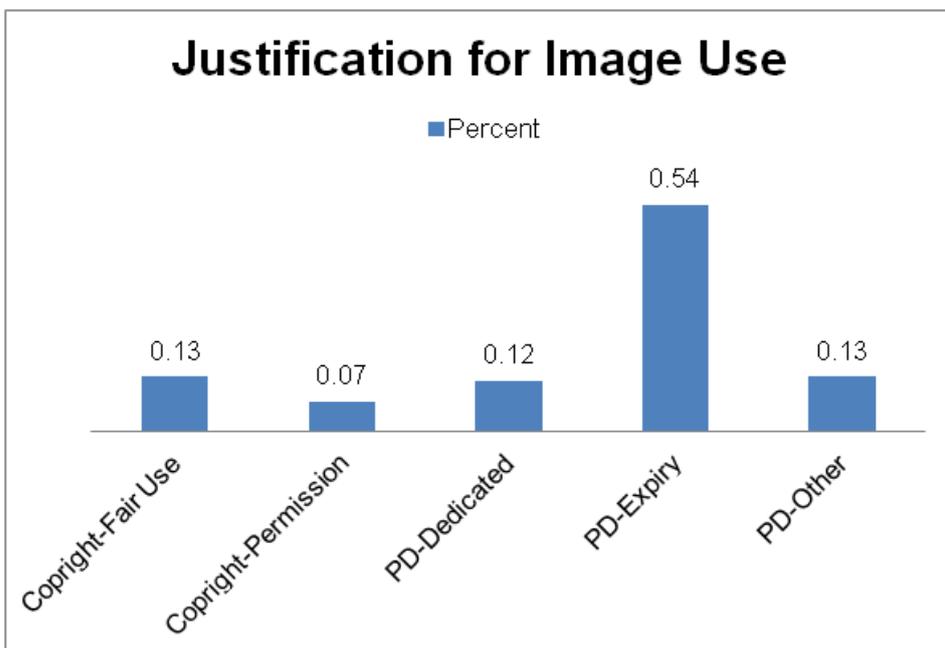
The relevance of the public domain is borne out by legal status of the photos used on the author Wikipedia pages.

Figure 4.2



Web page builders typically justify their use of an image in five different ways.

Figure 4.3



Most commonly, the copyright on the image has simply expired (PD-Expiry), while in other cases the person taking the photograph has dedicated it to the public domain, usually by referencing a form of Creative Commons licence (PD-Dedicated). Some page builders take advantage of photographers who fell afoul of U.S. formalities that at one time required publishers to register or renew their works or publish them with certain notice requirements (PD-Other). Within the smaller realm of copyrighted images, the page builders typically claim fair use or obtain permission from the rights holder.

The existence of a large and vibrant public domain clearly increases the number of images available on author's web pages. Data from the random page search supports this conclusion. Some fifty per cent of 300 random pages collected from Wikipedia's random search function contained images. Approximately 87% of the time, web builders cited the public domain as the source of an image. Approximately 8% of the time, the web builder relied on fair use of a copyrighted image, while 5% of the pages contained both copyrighted and public domain images.

**Finding #2.** Web page builders on Wikipedia save a significant amount of money by using free public domain images. Sixty-six per cent (240/362) of the author Wikipedia pages sampled contained images of the author, and 79% of those images were in the public domain. The value of these images to the page builders can be calculated by examining the prices for equivalent photos charged by the two largest licensors of images to web pages: Corbis Images (library of 100 million images) and Getty Images (library of 80 million images). Both Corbis and Getty licensed images of many of the authors in this study, and sometimes they license exactly the same public domain image as used by Wikipedia page builders.<sup>73</sup>

Corbis regularly charges \$105 per year to license an author image to a web site for a year, while Getty regularly charges \$117 per image for a year's use on non-commercial web sites. More than 10% (25/240) of the exact same public domain images used on the author Wikipedia pages are currently being licensed by Corbis or Getty at the above rates. For 104 other public domain author images, Corbis or Getty license similar, but not exact, images of the authors. The average charge was approximately \$120 per year per image.

For the tiny slice of the Wikipedia that constitutes our sample of 364 authors, page builders saved approximately \$77,400 over a five-year period (129 public domain images x \$120/year x 5 years).

**Finding #3.** There is debate in academic and trade literature about the impact of an image on traffic to a web page (Visser and Weidman, 2011). Images may improve user experience and therefore organic popularity arising from in-bound links from human users. On the other hand, it is unknown precisely how search engines such as Google rank pages according to image content, which cannot readily be understood by algorithms attempting to align page content with textual search queries.

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<sup>73</sup> For example of equivalence, compare the public domain image of George du Maurier ([http://en.wikipedia.org/wiki/George\\_du\\_Maurier](http://en.wikipedia.org/wiki/George_du_Maurier)) with one offered through a commercial licence by Corbis: <http://licenc.corbisimages.com/stock-photo/rights-managed/42-17716718/portrait-of-george-du-maurier?popup=1>

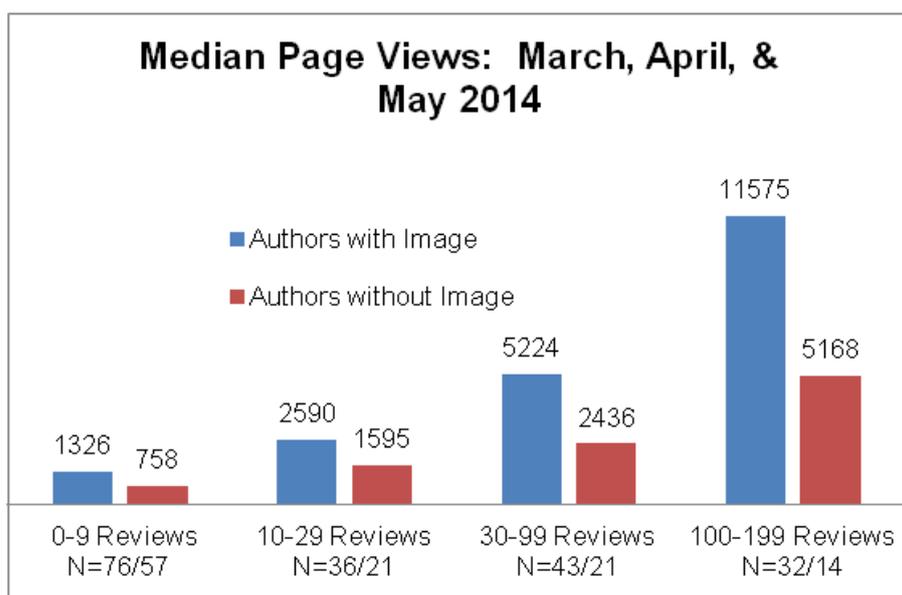
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In our study, pages with images generated substantially more traffic than pages without images. The 240 Wikipedia author pages with images were viewed 6,764,981 times (an average of 29,000 views per page) during the months of March, April, and May of 2014, while the 122 pages without images were viewed only 385,673 times (an average of 3260 views per page) during the same time period. Most of this difference is likely due to inequalities in the relative popularity of the authors with images. More popular authors are likely to attract more interest from web builders (and page viewers) and are more likely to have an image on their Wikipedia page. For example, the most viewed pages of authors with images were Ernest Hemingway (641,000 views during March, April, & May of 2014), F. Scott Fitzgerald (321,000 views), and Ayn Rand (301,000 views). The most popular authors without images over the same period are a less distinguished crew: Catherine Marshall (28,000 views), James Clavell (24,000 views), and Adela Johns (17,000 views).

A number of adjustments were made in order to isolate the effect of the presence of an image from the relative popularity of the authors in the study.

A. Author popularity was measured in terms of the number of reviews for his or her most reviewed book on Amazon.com. More popular books garner more reviews, and the market response to an author is a good proxy for public stature.<sup>74</sup> Authors with and without images were grouped together in four groups—those with 0-9 reviews, 10-29 reviews, 30-99 reviews, and 100-199 reviews. The results show a fairly consistent 100% increase associated with the presence of an image across all groups of authors based on popularity.

**Figure 4.4**



<sup>74</sup> Using revenue data would be ideal, but those figures are usually proprietary. Using sales rank on Amazon as a proxy for revenue is made impossible because many of the most popular works of the authors studied are in the public domain. Works in the public domain are represented by dozens and sometimes hundreds of different editions on Amazon (Heald, 2014) stymying the estimation of overall sales.

This large increase is at the very upper bound of claims about the value of adding images to web sites; therefore, we employed a more sophisticated matched pairs analysis in order to estimate the impact of the presence of an image.

B. A set of authors was identified whose pages initially received an image after June 1, 2009, and the number of views for these authors' Wikipedia pages for the three months immediately prior to June 1, 2009, were counted. These authors were paired with authors of similar popularity whose pages never contained an image. The popularity pairings were based on a comparison of the relative viewership levels during the months of March, April, and May 2009, a point in time when none of the paired authors had an image on their Wikipedia pages. For example, Frank Spearman (342 views during March, April, and May of 2009) was paired with Mary Stanberry (338 views for the same period). A total of 40 tightly matched pairs were identified and the net increase in traffic from March, April, & May 2009, to March, April, & May 2014 was calculated.

Over the five-year period studied, the pages with images added saw an increase in traffic of 32%, while the pages without images saw a net increase of only 26%. The increase in overall traffic on Wikipedia during this time period was 22%. The matched pairs analysis therefore showed a significantly lower net image effect (+6%) than the popularity groupings based on Amazon data set forth above.

In order to control for the possible effect of increased verbiage on the web pages over the five-year period studied, the number of words present on the web pages in June 2009 was compared to the number of words present on the pages in June 2014. The change was virtually identical for the set of web pages with images and without images. Over five years, the pages with images saw an increase in word count of 66% while the pages without images saw an increase in word count of 67%. Any increase in traffic to the web pages with images does not seem to be driven by increases in word count as opposed to the addition of the image.

C. A second matched pairs analysis was conducted to further account for variations in web traffic caused by factors other than the addition of an image to a page. The first set of matched pairs had demonstrated substantial volatility in month-to-month web traffic, indicating a variety of exogenous factors could be affecting traffic levels. For example, a large school assigning an author's book or a re-release of a film based on an author's book could result in one-month spikes in web views. As a method of minimizing the impact of external factors, the lowest month of page views for the year preceding June 2009 was identified for each author. The slowest month of traffic for any author should be a good measure of the author's ambient popularity, relatively unaffected by exogenous spikes in interest. As in the earlier matched pairs analysis, authors without images as of June 2009, were selected, and those authors with images added after June 2009 were paired with similar authors whose Wikipedia pages never contained an image. In this case, Frank Spearman (76 views in lowest month preceding June 2009) was paired with Frances Little (81 views in the lowest month during the same period).

The lowest page-view month in the year preceding June 2009 was compared with the lowest page-view month preceding June 2014. A comparison of 42 tightly-matched pairs saw an 36% increase in traffic to the author pages containing an image, while traffic to pages without an image increased only 19% over the same five-year period. This matched pairs analysis therefore netted a 17% increase in traffic associated with the presence of an image.

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D. The researchers further analysed a database of well-known composers and lyricists from the same era as a robustness check and to increase the number of data points.<sup>75</sup> We repeated both matched pairs techniques used with our dataset of authors. We established 77 pairs and compared the number of page views during the period of March, April, and May 2009 before any composer or lyricist page acquired an image, with the number of page views in March, April, and May of 2014, after half of the pages acquired an image. The pairs were very tightly matched. Pages that never acquired an image had 209,116 aggregate page views in March, April, and May of 2009, while pages that later acquired an image had 209,294 aggregate pages views over the same three-month period. Between 2009 and 2014, the traffic to pages with images increased 56% while the traffic to pages without images increased only 34%, resulting in a net increase in traffic to pages with images of 22%.

Although the March, April, May comparisons of page traffic on composer and lyricist web pages showed much less volatility than the same parallel comparisons made on the author web pages, we proceeded to engage in the comparison of the lowest traffic months in 2009 and 2014 that earlier resulted in the 17% net traffic increase figure for the authors. We were able to assemble 68 tightly matched pairs based on the lowest traffic month for each composer and lyricist in 2009 before any sample page contained an image.<sup>76</sup> Over the five-year period, traffic to pages with images increased 40% while the traffic to pages without images increased only 21%, resulting in a net increase for the lyricist and composer sample of 19%.

Finding 4. The analysis of the random sample of 300 Wikipedia pages facilitates extrapolating the data about bestselling authors to Wikipedia as a whole. We offer a rough estimate of the total value of public domain photographs on Wikipedia.

A. Public domain photographs clearly save page builders substantial sums of money outside context of bestselling authors. As noted earlier, 50% of random Wikipedia pages contain images, and 87% of those page builders cite the public domain as the source of the image. If the random sample is representative of Wikipedia as a whole, then public domain images can be seen on 1,983,609 Wikipedia pages (4,560,201 [total Wikipedia pages as of July 18, 2014] x .50 x .87). Given that Corbis and Getty routinely charge USD \$105 and \$117 dollars (GBP £70 and £78) respectively to license a photographic image for a year on the internet, this suggests a net savings of USD \$208 million to \$232 million (GDP £138 million to £154 million) per year.<sup>77</sup>

This estimate is rough for several reasons. In many circumstances, neither Corbis nor Getty will have an appropriate stock photo available for use on a page. In that case, the savings accruing to the page builder who uses a satisfactory public domain photo would best be measured in terms of the cost saved by not having to take the photo. This could be quite small. For example, one of the random pages is about 'Netley Heath', a location in England. If the page builder can walk out his front door and snap a picture of the heath, then the costs saved by the

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75 All 792 composers and lyricists were obtained from a list having hit songs from 1895-1965 in J. Mattfeld (1962) *Variety Music Cavalcade*.

76 Due to a clerical error, the year-long period was 6/2009 to 5/2010, which caused us to have 9 fewer pairs than in the prior analysis which had included 77 pairs.

77 Based on USD – GBP exchange rate calculated 25th January 2015.

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existence of an easy-to-locate public domain photo would be quite small. On the other hand, if the page builder for 'Netley Heath' is in the USA, the savings would be substantially higher.

It should be noted, however, that new photographic opportunities avail themselves most frequently in the context of the 25% percent of Wiki pages about 'places', like 'Netley Heath' or 'Ely Place' or the 'Shudehill Interchange' (all pages from the random sample). Images for biographical pages or pages about events are often impossible for any new photographer to capture. People and past events are often not available to be photographed, no matter how much the page builder is willing to spend. Among the random pages, 27% were biographical and 5% were about events in the past (for example the 'Taiyo Department Store Fire in 1973'). For the one-third of Wikipedia pages that consist of biographical or event entries, the costs savings of using a public domain photograph is best estimated in reference to saved licensing fees for existing photos.

A final category of random pages, 'things', (43% of the total), represent a mixed bag of accessibility to photographers. If one is in Texas, it would be quite easy to snap a photo of the 'Denton County Transportation Authority'. On the other hand, finding a 'Banded Kingfisher' willing to pose for a photograph poses greater difficulties.

Whether using a measure based on saved licensing fees or costs saved in locating and shooting photos, we are comfortable with estimating a cost savings in the neighbourhood of USD \$208 million (GDP £138 million) per year based on the saved fees rationale.

B. Estimating the value added by increased traffic to image-bearing web pages is even trickier because our estimate of the positive effect of images on page viewership depends on the frame of comparison used. We will apply the lower 17% increase observed in the conservative matched-pairs analysis of authors' biographical pages.

In order to derive a total value for increased traffic associated with the use of public domain images on Wikipedia, we multiply the total number Wikipedia pages by .5 (the percentage of pages in the random sample with images) and then by .87 (the percentage of random pages with images that rely on public domain works). We then estimate the average number of annual page views for each page with an image (18,966)<sup>78</sup> and credit .17 of those views to the presence of the public domain image.<sup>79</sup> Finally, we multiply by the value assigned to a single Wikipedia page view by an industry tracker service (Webindetail.com) which states that Wikipedia is currently averaging 413,270,000 page views per day with an overall advertising value of \$2,210,000. This works out to \$.0053 per page view.

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78 We identified each random page with an image and counted page views for the most recent 90-day period and multiplied by four to estimate an annual viewership for each page. The 18,966 figure is the average number of annual views per page.

79 .17 represents the increased traffic estimated from the matched pairs study of authors pages with and without images.

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In total, therefore, we conservatively estimate the equivalent commercial value of the increased traffic on Wikipedia due to the presence of public domain images to be approximately \$33,896,638 (GBP £22,613,633)<sup>80</sup> per year (4,560,021 [total English-language Wiki pages as of July 18, 2014] x .5 [percentage of pages with images] x .87 [percentage of pages with public domain images] x 18,966 [average page views per year] x .0053 [average value of a Wikipedia page view] x .17 [percent of traffic due to public domain image] = \$33,896,638).

## Conclusion

In sum, we find support for the proposition that public domain availability alone contributes to a higher proportion of images on Wikipedia pages when such use is possible. By matching pairs of pages based on similar source topics, we find that those pages containing images do perform better than their counterparts not benefitting from the presence of an image. We find a net increase of between 17% and 22% in visitorship to biographical pages containing images. Based on our analysis of digital licence costs on equivalent commercial platforms, we conservatively estimate the equivalent market value of public domain images on English-language Wikipedia to be in excess of USD \$208 million (GBP £138 million) per year, taking into account costs saved to Wikipedia page builders. Using an alternative method of valuation based on increased visitorship, we calculate that increased traffic associated with the inclusion of public domain images would represent USD \$33,896,638 (GBP £22,613,633)<sup>81</sup> in advertising revenue for an equivalent commercial website.

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80 Based on USD – GBP exchange rate calculated 25 January 2015

81 Based on USD – GBP exchange rate calculated 25 January 2015

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# Overall Findings and Recommendations

The public domain is vast and – depending on one’s definition criteria – dependent on the context and type of use envisaged. However, the public domain matters to society and the economy only when it is used. It is not only the legal status of a work itself that matters but the transformative potential (which requires awareness among the relevant communities of practice). In this report, we have attempted to define the public domain according to a set of criteria which conceptually limit the scope of the study to include only materials and works that are available for uptake by all potential users within the UK. Even using this definition, the boundaries of the public domain are not always clear. For example, court rulings leave ambiguity about which creative aspects of an expression might constitute ‘common elements’ and which takings might infringe<sup>82</sup>. The inability of potential creators and entrepreneurs to rely on criteria to ascertain, predictably, the status of materials as in the public domain is a theme which emerges strongly from the preceding analysis.

The empirical studies reported here represent choices about the most appropriate field sites for gathering data in support of a larger assessment of the ‘value’ of the public domain. We have sought to supply robust empirical evidence on the performance of public domain materials in a limited number of specific markets.

Prior to this study, there have been a number of attempts of varying methodological sophistication to calculate the total contribution of categories of economic activity to national accounts as ‘copyright industries’ (WIPO, 2003, 2004, 2012; USPTO, 2012). The present research makes no such claims to offer a total ‘value’ of the public domain in terms of UK GDP. However, the results of both the qualitative and quantitative studies undertaken point to a major flaw in previous attempts to enumerate total value represented by copyrights to the overall economy: generation and exploitation of products which attract copyright cannot easily be disentangled from other public domain ‘inputs’ to that same creative production; nor can the increasing number of creative outputs, such as those offered under free and unrestricted open licences, be easily counted as part of a tabulation of the contribution by ‘copyright industries’.

Indeed, a key finding of the research is that creative managers who report success with exploitation of public domain materials also report experience with licensing and exploitation of copyright works. The knowledge required to assess the copyright status and availability of a work in the public domain in many cases complements a business strategy of pursuing hybrid IP portfolios which incorporate a suite of products with different IP arrangements. In the Kickstarter study, some 33% of projects sampled incorporated a combination of both copyright and public domain material in the final product, suggesting that recombination of different sources of IP – some licensed and some freely available – may be emerging as a common practice.

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82 See analysis in Legal Background section pp. 14-16 (above).

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When it comes to assessing the performance and value of public domain inputs to the production practices that we observed, overall findings suggest that products inspired by the public domain do perform well. Public domain materials appear to attract a higher rate of funding and success on the Kickstarter platform, likely because public domain works are familiar to potential backers and operate as a signal of quality in a market characterised by information asymmetry and high risk. UK firms that have used public domain materials successfully report benefits at different stages in the value chain. Some firms have built proprietary technologies as wrappers around public domain material, which is later commercialised at little additional marginal cost alongside other licensed copyright works; some firms develop original content within a user community of fans and consumers of a public domain work, producing creative products which connect intertextually with other media offerings; finally, some creative firms working on public domain materials find ways of connecting with public stakeholders around issues of local and national significance, essentially enrolling citizens into the value chain as co-producers. Some firms use a combination of approaches and it is likely that new approaches will be developed. The theoretical proposition that overgrazing will diminish the value of public domain works does not appear to be a significant concern – firms are innovating with PD material despite the absence of an exclusive right in the source material. They are doing so because there are attractive aspects to working with public domain inputs which are independent of excludability.

In summary, the main empirical findings from the research projects are:

- PD is important; there is demand and innovative potential;
- There is a lack of knowledge among practitioners as well as a gap in terms of information services (archives, searchability, metadata);
- The same skills appear to be required for sourcing copyright materials as for identifying and exploiting PD;
- Overgrazing does not appear to be a concern;
- GDP accounting for the size of the ‘copyright industries’ needs to be supplemented by quantification of alternative inputs (such as PD derived economic activities).

The following three policy interventions have the potential to spur digital innovation and growth.

## 1. Assist communities in valorising UK cultural heritage

Our research with individual creators and firms reveals that users often struggle to locate public domain materials suitable for commercial exploitation. Where searchable archives of high-quality materials exist, innovators report significant benefits. A recent successful example is the British Library Mechanical Curator initiative and its various spin-out products. Unfortunately, digitisation efforts have until now taken place on an ad hoc, case-by-case basis and carry significant risk for archival institutions<sup>83</sup>. Future efforts to digitise and make available works in

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83 For empirical evidence on costs and risks to archives and other users, see Stobo et al. (2013) ‘Copyright and Risk: Scoping the Wellcome Digital Library,’ CREATE Working Paper Series 2013/10.

the public domain should be particularly attuned to commercial and well as non-commercial uses. A major finding that emerges from Study 1 is that members of the public participate as both consumers and stakeholders in relation to the public domain. As much as possible, members of the public and stakeholder communities should be offered the opportunity to be involved in curating, preserving and disseminating public domain materials. Ideally, outputs should be of professional quality and should be presented in formats which are machine-readable, manipulable, and adaptable to different mediums (to facilitate downstream use).

## 2. As far as possible, clarify legal status of public domain

Creators we observed in Study 1 possessed varying degrees of knowledge about intellectual property. All expressed uncertainty when working with public domain materials. Specific gaps in knowledge include: when it is necessary to ask permission to use a work, and from whom; whether works by foreign creators may be used in the UK and under what conditions; which expressions are protected by copyright and which ideas or sources of inspiration remain available for uptake; and finally, which copyright rules pertain to digital or photographic reproductions of famous artwork.

A number of academic initiatives in the USA and Europe in recent years have attempted to develop ‘public domain calculators’ capable of ascertaining the status of a given work, either automatically or with user input. However, these initiatives have failed to yield useful results, largely because of the complexity involved in determining the copyright status of a work, even within a single territorial jurisdiction. Government should provide guidance on those issues, in a format that is accessible to creators and businesses. Educational initiatives should be aimed at helping UK firms understand what is likely to be still in copyright and what is likely to be in the public domain. Increasing the strategic capabilities of the UK media sector with respect to intellectual property will likely increase licensing of copyright works alongside uptake of public domain materials – both types of usage require similar legal awareness and capacity.

## 3. Improve access to information

This research demonstrates that entrepreneurs have developed business models that add value to underlying materials drawn from the public domain. However, many respondents focused their concern on transaction costs: searching for and using public domain materials was often more costly than licensing a less-suitable copyright work or hiring-in a replacement original work, disinhibiting creation. Information about availability and access to public domain works will help entrepreneurs make strategic decisions. Centralised databases of works with associated metadata, such as the Wikimedia Commons project, have sought to overcome such problems in limited, specific contexts. Initiatives to increase the centralisation and searchability of public domain data will likely lower these barriers to entry and encourage innovation and new products. Government is encouraged to consider examining how open innovation may be fostered through the provision of high-quality, reliable archives and datasets. Such research should consider questions such as ease of access, transparency, portability and quality (as these are emerging as key concerns in debates about open public data more generally).

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## Annex 1: Summary of Interviews

Firm Name	Interviewee	Company URL	Media Type	PD Works
Abbie Stephens	Sole Proprietor / Freelancer	<a href="http://www.abbiestephens.co.uk/">http://www.abbiestephens.co.uk/</a>	Videography and animation	Darwin's Origin of Species
Absolutely Cuckoo LLC	Owner / Founder	<a href="http://www.absolutelycuckoo.com/">http://www.absolutelycuckoo.com/</a>	Children's TV	Various work-for-hire and original IP
Auroch Digital	Owner / Founder	<a href="http://www.aurochdigital.com/">http://www.aurochdigital.com/</a>	Interactive games	Jack the Ripper reports; Call of Cthulu
Cyber Duck	Director responsible for R&D	<a href="http://www.cyber-duck.co.uk/contact">http://www.cyber-duck.co.uk/contact</a>	Web agency	Interactive Dracula comic book, featured on Gadget Show.
Microsoft Research	Consultant Researcher	<a href="http://research.microsoft.com/en-us/projects/TextVis/">http://research.microsoft.com/en-us/projects/TextVis/</a>	Data visualisation	Darwin's Origin of Species
Eugene Byrne	Sole Proprietor / Freelancer	<a href="http://eugenebyrne.co.uk">http://eugenebyrne.co.uk</a>	Author and illustrator	Darwin's Origin of Species; Bristol historical documents
Heuristic Media	Co-founder and Co-director	<a href="http://heuristicmedia.tv/">http://heuristicmedia.tv/</a>	Mobile Apps	Museum of London archives of maps and images
I Can Make	Owner / Founder	<a href="http://www.icanmake.co/">http://www.icanmake.co/</a>	3D Print models for education	Architectural landmarks, Tower Bridge, Etc.
Intelligenti Ltd.	Director	<a href="http://www.intelligenti.com/">http://www.intelligenti.com/</a>	ebooks via app store	Bram Stoker's original letters
Laurence Anholt	Author and Illustrator	<a href="http://www.anholt.co.uk/">http://www.anholt.co.uk/</a>	Printed art books	Works by Van Gogh, Leonardo DaVinci, others
Little Loud	Co-owner and Creative Director	<a href="http://littleloud.com/who/">http://littleloud.com/who/</a>	Animation and Games	The Two Noble Kinsmen
Mark Bruce Company	Founder	<a href="http://www.markbrucecompany.com/">http://www.markbrucecompany.com/</a>	Dance Theatre	Dracula

My Vox Songs	Owner	<a href="http://www.myvoxsongs.com/">http://www.myvoxsongs.com/</a>	YouTube videos for children	Hey Diddle Diddle and other nursery rhymes
Neil Bartlett	Sole Proprietor / Freelancer	<a href="http://www.neil-bartlett.com/">http://www.neil-bartlett.com/</a>	Theatre	Romeo and Juliet, Oliver Twist, A Christmas Carol
Nosy Crow	Managing Director	<a href="http://nosycrow.com/">http://nosycrow.com/</a>	Publishing, ebooks	Three Little Pigs; Cinderella
Onilo	Business development manager	<a href="https://www.onilo.co.uk">https://www.onilo.co.uk</a>	Interactive books for education	Hans Christian Anderson tales, Alice in Wonderland, others
People Like Us (Vicki Bennett)	Sole Proprietor	<a href="http://peoplelikeus.org/">http://peoplelikeus.org/</a>	Mixed media art, film and music projects	Archival films via Prelinger Archives
Public Domain Review	Founder	<a href="http://publicdomainreview.org/">http://publicdomainreview.org/</a>	Web archive, merchandise	Various
Rufflebrothers Ltd	Sole Proprietor / Freelancer	<a href="http://www.rufflebrothers.com">http://www.rufflebrothers.com</a>	Publishing and Animation	Sleeping Beauty, works by Charles Dickens
Shakespeare Books	Owner / Founder	<a href="http://www.shakespearecomics.com">http://www.shakespearecomics.com</a>	Print comics	Shakespeare's works
Three Turn Productions	Owner + Community manager	<a href="http://www.3turnproductions.com/">http://www.3turnproductions.com/</a>	Interactive online games	Works by Jane Austen
UsTwo	Creative Director	<a href="http://ustwo.com/">http://ustwo.com/</a>	Mobile Apps	Video game mechanics, Creative Commons

## Annex 2: Supplementary tables

**Table 3.6 Success by categories**

	(1) Comics	(2) Publishing	(3) Theatre	(4) Video Games
VARIABLES	odds ratio	odds ratio	odds ratio	odds ratio
PD	1.707 (0.665)	0.904 (0.381)	2.353* (1.111)	1.543 (1.214)
ThirdPCR	1.634 (0.915)	1.405 (0.301)	1.604 (0.544)	1.160 (0.750)
fiction_dum1	1.240 (0.649)	1.183 (0.159)	1.082 (0.400)	1.695 (0.948)
cstat: obscure	0.808 (0.271)	0.584 (0.405)	1.117 (0.472)	0.189 (0.222)
cstat: community	1.410 (0.678)	1.834 (1.275)		0.801 (0.858)
cstat4: recognizeable	4.209 (3.918)	2.602 (1.945)		
No experience	1.852 (0.821)	0.454 (0.334)	0.770 (1.069)	0.595 (0.256)
Some experience	2.331** (0.767)	0.566 (0.417)	1.248 (1.637)	1.177 (0.535)
Successful exp.	4.015** (2.193)	1.335 (1.088)		0.348 (0.282)
male	0.426*** (0.124)	0.564*** (0.0745)	0.475** (0.144)	0.850 (0.262)
Constant	0.995 (0.559)	1.170 (0.861)	1.630 (2.207)	1.691 (2.138)
Observations	308	1,205	244	235
McFadden R2	0,122	0,109	0,046	0,054

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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