



Paper to be presented at the DRUID 2011

on

INNOVATION, STRATEGY, and STRUCTURE -
Organizations, Institutions, Systems and Regions

at

Copenhagen Business School, Denmark, June 15-17, 2011

On the Choice between Creativity and Control - Lessons from the US Comic Books Industry

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Abstract

Using data from the United States comic book industry, this study investigates the drivers and interplay between creative and economic outcomes. Its premise is that while the two notions are correlated, they do not imply each other. We contend that a primary moderating factor in this relation is the allocation of Intellectual Property (IP), which in turn determine control rights.

The tradeoff between creative and economic outcomes is created because while IP allocation to the firm enhances the effect of specialized experience to economic outcomes, it reduces creative outcome. Further, the polarization between the two outcomes increases with increasing firm specialized experience. This mechanism implies two possible models of operations, with firms focusing either on synergy between projects or on creative performance. Taking into account the endogeneity of IP allocation, results show general support for our propositions, and hints at possible future research on their implications on firm strategies and their dynamics.

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INTRODUCTION

In the creative industries, the duality between art and commerce, or creative and economic outcomes, is a much discussed argument (e.g. Lampel et. al, 2000, Mezias & Mezias, 2000, & Lewis, 2000). This tension has been subject to some researches, which may focus on their polarization (e.g. Mezias & Mezias, 2000), in which firms focus solely on either novelty or familiarity, or cases where synergies between novelty and familiarity can be created (e.g. Andriopoulos & Lewis, 2000, Gilson et al, 2005).

This paper focuses on the assignment of property rights as a primary moderator that shifts the trade-off between creative and economic outcomes. Its premise is that while the two notions are correlated, they do not imply each other. There are two main sources of economic outcomes in innovation-intensive and creative industries, i.e. product creativity and firm's complementary assets/capabilities related to the product. Product creativity is a strong driver of economic outcome, and a valuable outcome by itself, especially from the perspective of artists/creators (Caves, 2000). On the other hand, some degree of complementary assets or capabilities that are co-specialized with the innovation may be needed (Teece, 1986). In the case of this paper, we contend that firm's specialized experience in a particular market (genre) is an important driver of economic performance as it implies the development of innovation and selection routines, as well as downstream market based assets (e.g. distribution power, marketing capabilities and brand image) for that particular market.

Our main argument is that while firm's control over innovations enhances the impact of its experience on economic performance, it may reduce creative performance. Further, this trade off becomes stronger with increasing specialized experience on the part of the firm. Control over innovation, which is obtained through ownership of an innovation's property rights (IP), enhances the impact of firm's specialized experience for economic outcomes, because it allows firms to be flexible in deploying capabilities to their full potential, exploiting the synergies between innovations and co-specialized capabilities. For example, control allows firms to implement their innovation and selection routines freely, capitalizing on the cumulateness of firm experience in specific areas, as well as possible economies of scale and scope. Further, over time, control over innovations allows firms to develop a coherent innovative path, synergizing the development of innovations and their co-specialized assets.

The downside of control is the stifling of project level innovativeness or creativity. Firm control reduces project level innovativeness because it reduces incentive to be innovative by depriving innovators of residual rights (Aghion & Tirole) and constrains freedom in the innovative process. In addition, control may limit the breadth of possible innovation search space, therefore limiting the range optimal results. This negative effect can become worse with increasing experience in the part of the firm, as the larger potential synergy and perceived ‘expertise’ in the field will induce firms to exert variance reducing mechanisms to increase the potential payoff and reduce risk.

Our study aims to contribute to the extant literature in the following ways. First, while there are empirical support on the link between creativity and economic performance, and numerous studies on the drivers of creativity, there is a dearth of studies that considers these two links together. This study contributes to fill the gap by taking into account creativity as a mediator, instead of solely as a dependent or independent variable separately.

Second, while the positive role of complementary assets in profiting from innovations and the negative role of control to innovativeness has often been discussed separately, there are much less studies, especially empirical studies that tackle both of them simultaneously. Our study intends to fill that gap by starting to empirically measure the degree of the tradeoff between these two mechanisms. Third, we start to investigate factors that may moderate this trade-off. In the case of this study, increasing firm experience actually makes the magnitude of the tradeoff larger. Finally, in this study we address the fact that IP allocation in itself may be endogenous contingent on inherent properties of the innovation as well as specific firm assets and capabilities. We found that even taking into account the endogeneity of IP allocation, the implied trade off mechanism between creative and economic outcomes still exist.

The propositions are tested with longitudinal data on the United States comics industry between 2000 and 2009, with a sample size of over 11000 comic book issues. The setting is ideal to test this theory due to its several features. First, it represents a setting where both innovativeness and economies of scale are important, highlighting the salience of our proposed trade off. Second, we can observe variance in the control over innovation on the project level, i.e. the allocation of property rights (IP) to the firm or the creator for each title. Third, unlike most other project based industries, comics titles are not one shot innovations, but in the form of serials, allowing us to observe behavior and performance over time within each project. Finally, the data allow fine grained measures of strategic behavior, like economic and creative performance, as well as firm, product and innovator specific variables. While these features are individually observable in several industries, we rarely see them simultaneously represented in one industry. Results show general support for our propositions, and hints at possible future research on its dynamics. While the theory was tested for the comics industry, we will shortly discuss how the basic framework may apply more generally, and should be further tested, specifically in industries where both the role of scale and scope are important.

THE UNITED STATES COMIC BOOKS INDUSTRY

The US comics industry represents a promising setting to study the interaction between creative and economic outcomes. Specifically, as both a creative industry with constant demand for novelty, and a media industry in which economies of scale and synergies on firm assets are important, the industry represents a setting in which both creativity and the use of firm assets and experience are vital for performance.

Second, we can observe variance in the control over innovation on the project level, i.e. the allocation of property rights (IP) to the firm or the creator for each title. Additionally, in

contrast to most other creative industries investigated in the strategy literature (e.g. movies or music industry), the serial nature of comics represents a continuing innovation path for each product, while the existence of spin off comics titles represents derivative innovations, making it possible to explicitly test the development of each capabilities impact over time and spillovers between related innovations.

In the United States, the industry is roughly divided into two main groups, the mainstream comics segment and the independents comics segment. To some extent, the two groups represent the polar opposites of the trade-off between firm synergy and diversity of innovations. ‘Mainstream’ comics, representing the strength of firm assets and capabilities, are dominated by the “big two” companies, holding 75% of market share and characterized by superhero genre comics featuring families of firm owned IP. Creators are largely ‘work for hire’ freelance employees paid on a per page rate, and there is a standard specialization in production process supervised by editor (separation of writer, penciller, colorist, letterer).

In contrast, the ‘independents’ segment employ a more diverse strategy of differentiation, by having a portfolio of mixed genres and business models relying more on innovativeness of individual titles. Firms generally operate in a mix of creator owned and publisher owned IP. Work practices are also accordingly diversified, i.e. a mix of integrated production (stand alone artists or more stable ‘production teams’) and specialized modular production (similar to the mainstream segment)

Typically, each firm in the industry will offer a lineup of title serials across differing genre configurations as appropriate to their market segments. Although there are some slightly different classifications, as in various entertainment-content industries (e.g. movies, books, tv series), some basic genres has been identified to characterize the majority of offerings in the

comics portfolio. These classifications may differ subtly between countries, but a relatively standard classification exists within the US. Therefore we rely on a categorization of 24 genres as per described in the Comicbase Database. As is there in movies, each genre represents a loosely prescribed distinctness in terms of plot, character, setting, thematics and style (Shamsie, et. Al., 2009, Buscombe, 1977, Gomery, 1991, Mast, 1992, Schatz 1981, Solomon, 1976). The difference in elements of both contents and physical style of presentation determined the kinds of people and skills needed to produce it, and naturally its target markets.

A particular title may be associated with more than one genre, and in fact this is becoming increasingly common as a mode of intermediate innovation, with elements of a secondary genre being reflected in a story line or setting. We emphasize that both firm and individual level capabilities are at least to some degree genre specific, enabling us to identify the particular capability configuration and trajectory that a firm are building by publishing books in a given genre.

THEORY AND HYPOTHESIS DEVELOPMENT

I. Demand for Innovations in creative/cultural industries: between familiarity and novelty for taste valuations

Before going into the central theoretical argument, we would like to highlight distinct properties of innovation in a typical cultural industry, which is the setting of this research. In most traditional industries, it is assumed that functional utility is the main driver of product features, allowing systematic comparison and the establishment of relatively objective quality standards. Cultural/creative industries for the most part do not comply with this assumption. They rely on ‘symbolic’ or experiential goods, which puts less emphasis on functionality and derive value instead from subjective experiences, relying heavily on symbols to manipulate

perception and emotions, making basic notions of quality contestable (Lampel, et. al, 2000, Capetta et al, 2006). In addition, cultural goods are also solidarity goods, in which the value created by consumption increases the more other people consumes the same product.

Due to this high uncertainty, in this context value is –paradoxically enough- drawn from a blend of familiar and novel elements (Lampel, et. al, 2000). Novelty is needed for the differentiation and enjoyment of cultural goods. However, consumers also need familiarity firstly to put into context what they are offered, i.e. creating relevant schemas or categories substituting for a ‘quality standard’ of valuation. The higher the degree of novelty for a product, the less usable existing schemas and symbols are for interpreting it, thus the fewer are the individuals that can cope with the unfamiliarity. However, if the new product is too similar to existing ones, then there is less value to be derived from it. This uncertainty of quality standards and heterogeneity of preference regarding novelty-familiarity leads to two relevant properties distinct to demand in cultural industries, i.e. the ‘nobody knows’ property, where demand patterns are highly unpredictable, and the ‘infinite variety’ property, where there are potentially no limit to creative offerings (Caves, 2000).

The comparative value consumers put into novelty against familiarity is presumably heterogeneous within the market. Gans and Caves (2000, pp.185) categorizes consumers of the creative industry into according to their level of involvement into a continuum of ‘buffs’, or novelty-oriented consumers (e.g. lead users) and ‘casual consumers’ (mass market consumers), who value familiarity and the solidarity effect of consumption more.

Importantly, he posits that the “buffness” distribution of the market will affect the mix of creative activities, i.e. the proportion of viable space for ‘cutting-edge’ vs more ‘mainstream’ products. In general, buffs/novelty oriented consumers experience less incongruity in their

schemas for a high-novelty/low familiarity product than mass market consumers, thus being more likely to form positive perceptions of the value of a new product. Their experience then contribute to the process of difference resolution at the collective level, reducing the uncertainty and serving as a bridge to turn novel categories of goods or styles into ‘familiar’ mainstream goods (Dougherty 1990, Caves, 2000, Lampel et al. 2000).

This balance between the need for novelty and familiarity creates the various tensions that are prevalent in the cultural industries, from the distinct ‘artistic values’ and ‘mass entertainment’ battle to the more common problems of demand analysis vs market construction, as well as between vertical integration versus flexible specialization (e.g. Lampel, et. al., 2000, Mezias and Mezias, 2000, Starkey, et.al., 2000, Anand & Peterson, 2000).

Further, the distinct properties of consumer valuations and supply incentives highlights the important balance between two kinds of outcomes in cultural industries, i.e. between creation of novelty and fulfillment of mass market demand, which can be translated roughly into creative and economic outcomes.

Creative outcomes are important both because its intrinsic value as a driver of demand, and in so much that it is recognized, manifestations such as critical appraisal and awards drives demand by signalling quality and reducing uncertainty/increasing visibility for consumers, thus driving demand in another way. While large firms with a coherent stock of innovation IP portfolio may be able to leverage synergies across their properties, if they attempt to pursue this too far they may stifle the creativity that they depend on, at least to some extent (Lampel, et al.). Firms can attempt to balance this tension either by focusing more on one aspect, or attempting a measure of ‘ambidextrity’ between the two factors.

The next section will discuss the role of firm specialized experiences to creative outcomes and demand, and then proceed develop propositions on how allocation of IP drives the tradeoff between these two outcomes, as well as some moderating factors. The final section in the theory development discusses how IP allocation in itself is endogenous as an alternate side of the story, but still argue that on top of selection process, the tradeoff still exist/ is a distinct mechanism.

II. The role of specialized firm experience to Outcomes

Firm's specialized prior innovative and product experience in a specific market segment (e.g. a certain genre of content) precludes a benefit to both economic and creative outcomes. This is because experience contributes to the development of innovation routines, downstream market resources and knowledge specific to a particular segment of the market (Towse, 2001, Caves, 2000) and. Firm innovation/product experience in certain segments of a product market confers segment specific capabilities that develop by organizational learning, specifically 'learning by doing' (March). Experience in certain segments would enable firms to develop better routines for product development, selection and marketing know-how, as well as establish a consumer base of 'familiarity' in the market. It will give firms superior capability and know how on what possible synergies exist, and how to exploit them.

III. The Tradeoff between creative and Economic Outcomes: the moderating role of Property rights allocation

1. IP allocation and Supply incentives in Creative Industries

In the cultural industries, the IP for a work – generally a copyright – is naturally assigned to its creator, except for 'work for hire', in which a firm hires creators to create a work that will be owned by the firm. Once created, copyrights can be reassigned or licensed to other parties,

including firms, and in practice usually the final allocation of copyright is a process of negotiation between creators and 'publishing' firms (e.g. book publisher, distributors, music labels, etc.). There may be several factors driving the assignment of copyrights.

One of the distinct properties of the cultural industries is the adage that creative workers *care* about the traits and features of their products, not only about monetary rewards and efforts exerted as is the general assumption in most traditional industry's analysis. This is often called the 'art for art's sake' phenomenon (Caves, 2000). This leads to the well debated source of friction between artists and firms, i.e. their difference in preferences. In particular, firm managers are said to care relatively more about economic performance, while creators (artists, scientists or academics) also enjoy utility from other factors. This friction, in addition to high expectation of reward, produces misalignment between creative and economic performance, and causes creators to prefer to keep their right of ownership despite higher possible risk.

However, even if both artists and firms are concerned strictly by economic motives, their incentives are still not necessarily aligned. Towse (2001) contend that creators (artists) and firms (publishers) differ in their attitude to time preference, risk and reputation. The underlying cause for differences are that firms tend to have a portfolio of innovations and resources, while creators tend to have fewer innovations and resources to bank on. Therefore, firms would tend to have a longer time horizon, has a different risk function (due to risk distribution between items in their portfolio), and has a lower (perhaps more realistic) perception of the probability of success for a particular innovation.

As a comparative analogy, the same reasoning applies to small startup technological firms and large established firms in choosing their innovation. Similar to the artist-publisher case, here the main trade off is between the sharing of ownership (IPR), control rights and risk

bearing. For example, one theme that rise potentially interesting questions is the fact that companies typically have several competing projects, while creators have one project at a given time. Thus, companies may have interests in delaying or storing one project, while creators have strong incentives to keep rights to control the development of the project to implement it. Recent work in the biotech industry shows for example that this is a crucial issue in the relationships between small biotech concerns and larger pharmaceutical manufacturers (e.g. Guedj et al. 2004). Quite often the manufacturers give such control rights to the biotech firms in exchange for stronger property rights on the compound. These issues may illuminate on the different tools that parties in a contract can use to align incentives and create more efficient solutions.

We contend that these differences may be further exacerbated for product tied innovations that are not one-off innovation process, and may be used to create derivative product creations (this differs from innovations such as songs or paintings, which to some extent may be redone/remixed but not to the extent of narrative artistic products). The difference between firms/publishers and artists we can add considering this factor include that, with the limited time constraints of artists, firms can diversify with more manpower than artists, thus creating more derivative creations. Further, the development of correlating innovations in the case of the artist are limited by their own cognitive capability and vision towards the innovation, while firms may have more opportunities to recombine the capabilities of diverse experiences.

Due to this misalignment of incentives, control rights matter. The simplest means to control is allocation of property rights, which includes control rights and systems of remuneration. When creativity is important for profit, artists need to be able to benefit from the success of their work or freedom to express their artistic vision. This can happen through the buy-out (where firms buy all rights to a 'finished', but expandable property), or royalty

mechanism. Towse (2001) contends that due to transaction costs in royalties over time and further development of IPRs for derivative products, publishers would prefer a buy-out because it reduces transaction costs of paying royalties over time. But where authors have the choice, even if the risks are higher, they prefer to retain residual control through (potential) future payments, combined with an advance payment portion to obtain publisher commitment. Residual control provides authors with a probability of disproportionately high future payment and control over the development path of the innovations (creative control)

2. Firm Control over innovation and externalities on creating Economic Outcomes

We argue that the extent to which firms can profit from experience are positively correlated to the degree of control, and thus flexibility that it can exert in exploiting the synergies between innovations and their assets. Firms can exert control over different aspects of an innovation either on a case by case basis (e.g. on cases of creative direction, distribution, derivative use, etc.) or by obtaining the property rights of the innovation, eliminating multiple holdup potentials.

Control allows firms to be flexible in deploying its capabilities to its full potential. On the individual innovation level, control allows firms to implement their innovation and selection routines freely, capitalizing on the cumulativeness of firm experience in specific areas. Between different innovations, it allows coordination in exploiting economies of scale and scope in production, distribution, marketing and other activities, utilize experience spillovers from previous related innovations, as well as other possible synergies, with a single maximizing function for the firm. Over time, it allows firms to develop a coherent innovative path, synergizing the development of innovations and their co-specialized assets.

Conversely, if control is given to creators, conflicts of interest between creators and firms may cause firms to be unable to optimally deploy their firm level capabilities. This can happen because the scientific/artistic interest of the artist conflicts with the economic motives of the firm. One of the most touted source of friction between individual creators and firms are the qualitative difference in their preferences, with firms concerned by economic motives and creators having additional utility from the innovating process itself. The differences may be stronger especially for radical or new innovations with higher level of uncertainty.

Additionally, because firms generally possess a portfolio of innovation, while individual creators would be interested in only one or few innovations, friction arises when creators, maximizing their utility over a single project are in conflict with firms maximizing their utility over the range of their innovation and product range. Again, the effect may be stronger in the case of more novel innovations, which are usually uncertain and less coherent with a firm's current innovation set.

Thus, because IP ownership allows firms to utilize their specialized experiences optimally by avoiding conflicts and holdup problems with creators, we propose:

Hypothesis 1: Firm IP ownership enhances the positive effect of firm's specialized genre experience to Economic Outcomes

3. Firm Control over innovation and its negative role for creative outcomes

We have argued that firm ownership over innovation processes and results enhance the impact of firm specialized experiences on economic outcomes. However, this implies firm's control over the innovative process and results, and may incur penalties on the outcomes at the product level, specifically on the creativity/innovativeness of individual innovations. First, it is an established argument in the incentives/contract theory literature, that if the effort of agents

matter for innovative outcomes, firms should give more incentive to be innovative for the agents by assigning residual rights of the innovation to them. (Aghion & Tirole). Taking residual rights prevents innovators from appropriating the potential extra benefit from their innovative efforts, therefore they have less incentive to put a maximal effort to the innovation.

Second, studies in creativity have found significant support on the positive effect of supporting/non-controlling behavior, developmental and non judgmental evaluation processes and restricted unwanted intrusions in the workplace to creativity. In other words, for innovators, there is a preference towards creativity and freedom to innovate, and control may introduce conflicts that decrease their innovative performance. This is especially true if we consider that generally firms care relatively more about economic performance, while creators (artists, scientists or academics) also enjoy utility from other factors (e.g. art for its own sake (Caves, 2000)). Here, friction arises if the factors driving economic performance do not completely coincide with innovative performance, which may be the case especially for radical or new innovations.

Finally, assigning control to the firm, which strives for coherence, implies a higher degree of control regarding the innovation specification, thus restricting the search space of innovation and reducing its possible maximal output. Control provided by IPR ownership will induce firms to exert variance reducing mechanisms to increase the synergy between existing assets and current/future innovations. An illustrative example would be that a firm with a successful line of serialized comics, or a strong reputation for certain types of genres/styles, may not want to deviate from the 'successful formula' and will introduce increasingly incremental and complementary innovations/product lines, which eventually will decrease performance.

In sum, ownership of IPR by the firm mitigates creative performance due to search scope limitations, reduction of intrinsic motivations, and reduced incentive to innovate due to fixed/piece-based rewards system. Therefore, we propose the following hypothesis:

Hypothesis 2: Firm IP ownership reduces Creative Outcomes

4. Moderating the tradeoff: Specialized Genre Experience, IP allocation and Creative Outcomes

The previous section argues that firm IP ownership negatively impacts product creative outcomes. Now we will argue that the degree of this negative influence varies with the specialized genre experiences that the firm has relative to a particular innovation/title. There are two opposing arguments that can be made on this. On the one hand, an accumulation of specialized experience that matches a particular innovation, combined with control provided by firm IP ownership will induce firms to exert variance reducing mechanisms to increase the synergy between existing assets and current/future innovations. This will be especially true for ‘anchor’ innovations/titles, i.e. very successful titles and titles that function as a ‘parent’ to several derivative titles. An illustrative example would be that a firm with a successful line of serialized comics may not want to deviate from the 'successful formula' and will introduce increasingly incremental and complementary innovations/product lines, which eventually will decrease creative performance.

On the other hand, working for firms with a large presence in a genre may bring up a creator's reputation and serve as a signalling effect of their quality, thus bringing effort, and possibly novelty, up. First, working for firms with a large asset and IP portfolio, especially on high profile projects, confers a reputational signal of quality for innovators, inducing incentive to exert effort. Second, firms with large assets stock may be better able to induce creative effort

with stronger incentive mechanisms (e.g. better monetary compensation). Finally, genre-specific experience based capabilities allows firms to develop better innovation and selection routines on specific genres.

The issue of which of these two mechanisms dominate may be an empirical question. However, a previous side result that may have actually indicated the existence of this moderating effect is in Taylor & Greve's (2006) who investigated the antecedents of creative performance in the comics industry. They found that publisher size, which is correlated with experience, has a negative and significant effect on (creative) performance, while generally resources are associated with better performance. This may be related to the fact that in a significant chunk of the big firms, IPR are assigned to the firm, limiting the creative performance of the creators. We argue this may be because while signaling and incentive mechanisms may increase the effort of creators, the effort is more likely to be focused on improving the quality of the product within the realm of best practice for the genre, instead of trying to create something completely novel.

Therefore we would like to propose:

Hypothesis 3: Specialized genre experience increases the negative effect of IP allocation to the firm for Creative Outcomes

RESEARCH DESIGN

Empirical Setting: The United States Comic Books Industry

Our hypotheses are tested with longitudinal data on the United States comics industry between 1998 and 2009, resulting in a sample size of over 19000 comic book issues. We utilize a combination of publicly available data, with the main source obtained from the Comicbase database, a comic book collection software compiling detailed information on titles, creators and creative performance of individual comics. Sales estimate data are compiled from

comichron.com, a compilation site which accumulates distributor's publicly reported sales figures since 1996 to present. While the theory was tested for the comics industry, the basic framework applies more generally.

Measures

Dependent Variables

Economic Outcome (SALES) - We measure economic outcome at the product level by national sales figures of individual comic book issues in its release month. (e.g. Batman #3).

Creative Outcome (AWARD) – To measure creative outcome, we use the awards given for comics titles, which measures creator peer judgments of extreme positive creative performances. We utilize two prominent awards in the American comics industry, i.e. the Harvey and Eisner Awards. While there are variances in the details, the impact of awards as a measure of creative/innovative performance has been well documented in the literature on creative industries (e.g. Gemser, et.al 2008)

Independent Variables

Control over Innovation (IP) - We measure firm control over innovations with IP Allocation for each title. IP allocation is a straightforward measure, allocating property rights to either the firm or the author, as information made available on the cover of each issue and from the database.

Genre Specific Experience (EXPERIENCE) - is operationalized by the amount of contemporary and previous comics of the same genre by a publisher firm, weighted by time such as older comics are valued less. This is a similar measure used by Taylor and Greve (2006), who also studies the US comics industry. The amount of contemporary and previous comics experience of the same genre represents two sides of firm capabilities, both on the production and demand side. On the production side, experience in a specific genre represents innovation

process and selection routines, conferring superior skills in doing specific activities. On the demand side, this represents marketing capabilities and market based assets in the form of consumers and reputation. Literature has shown that consumers tend to reduce uncertainty by preferring similar products from similar producers, reducing learning costs and avoiding switching costs between products (Priem & Butler, 2006)

The endogeneity of IP Allocation and Creative Outcomes

We endogenize two of our main variables, i.e. creative outcomes and IP allocation. For creative outcome (AWARD), the ideal variables should impact creative outcomes but not economic outcomes directly. A set of natural instruments for this in the case of comic books are the characteristics of creators. In comic books, demand is more driven by the characteristics of the product itself (e.g. comic book characters, style and storyline) as opposed to the less known creators, which change over the lifetime of a title. This is unlike movies or music, where a product is much more intertwined with its performers/artists. Thus, in our regression Creative Outcome is instrumented by creator team specific variables, i.e. the length of experience (tenure) and the variety of genre a creator has worked on. These variables have a strong support in the literature as a strong determinant of innovative performance (e.g. Taylor and Greve 2006) but should not have any direct effect for economic performance.

Given that IP ownership by the firm conveys potential advantages, especially for firms with certain competences and assets or specific types of innovations, it would make sense to argue that IP allocation is endogenous. This is the heart of the selection argument. This argument states that allocation of property rights are simply determined by which party is able to exploit the property better, resulting in the most efficient allocation of resources. Similar to the argument in Aghion and Tirole (1993), when the innovator's efforts are important, control is assigned to

the innovator, while if complementary assets matter more, control are better of assigned to firms. In this case, titles with more potential for longevity or the development of related innovations are allocated to the firm, who are better at exploiting them, while shorter, standalone titles are allocated to authors. The problem of whether the control-creativity tradeoff is simply an artifact of the selection process rises if the standalone titles are somehow inherently more 'creative', while the firm selected long titles are inherently more suited to mainstream tastes. This will cause the apparent tradeoff (with the author-owned titles being more creative and firm owned titles resulting in higher demand) is simply driven by this selection process.

In order to take into account this take of the phenomenon, we endogenize the IP allocation. To instrument for IP allocation, we need to find instruments that play a role in determining the choice of IP but can be excluded from the estimation of Creative and Economic outcomes. By the selection argument, the incentive to acquire IP for firms are determined by two main aspects, i.e. the inherent properties of the title and the firm's capabilities to exploit it.

As an inherent property of a title, potential longevity (LONGEVITY) of a title enables firms to optimally exploit titles in a longer timeframe, and increase potential for future holdups with creators if the creator owns the title. Further, both long or short titles can be equally creative and does not affect the sales of a particular issue, while still affecting total potential sales over time. Therefore, firms are more likely to own titles with a potential longer lifetime.

To assess the potential longevity of a title, we constructed a measure in cooperation with academic expert in comic books and assessed each title's potential longevity individually. To reduce bias caused by known short/long lived titles, the sample includes only relatively recent titles starting from the year 1998. The measure for longevity contains 3 items regarding i) episodic format (supports longer lifetime), ii) the concept of character aging/movement of

timeline (non existence of aging supports an indefinite title lifetime), and iii) limited series format (a limited series format is a form in comic books that has a predetermined limited number of issues from beginning to end, usually on the range of 3-6 issues, indicating a shorter lifetime)

A second instrument is the sum of IP that is already owned by a particular firm. The larger the pool of IP already owned by the firm would increase its likelihood to acquire more IP because it provides a larger pool from which to exploit synergies, and due to path dependence in part of the firm repeating a previous governance strategy. Further, it does not strictly affect the creativity of a new title, nor the popular demand for them because the scale-related reputation effects on a firm's brand and titles relies on titles that are *published* by the firm, with less regard of whether the firm *actually owns* the IP for the title.

Control Variables

Finally, empirical evidence and common face validity suggests additional factor that may affect economic and creative performance. We explicitly control for this with several additional variables. First, we control for industry variation over time by having a dummy for each years in the observation. Specific to the firm, we control for firm size by using the number of books it published in a particular year (BOOKPERYEAR), and the genre homogeneity of firm's innovative portfolio (HOMOGENEITY). For this, we use a measure akin to the Herfindahl index for each firm-year, in which shares of each genre in a firm's portfolio serves as the 'market share' variable for each firm, such that a single genre firm will have a concentration of 1. On the comic book issue level, we control for the issue number (ISSUE_NUM) and centrality of the title's genre relative to the firm's portfolio.

Analytic Approach

The regression is done on the level of comic book issues, i.e. each title (e.g. Batman) would consist of several consecutive issues (e.g., Batman #1). Considering the endogenous nature of the main variables, we conducted three steps of regression for each of the dependent variables. Firstly, we regress choice of control over innovation (IP) for all number one issues (when IP allocation is determined) over its determinants, including firm genre specific experience (EXPERIENCE). We then construct an estimate of IP (IPnew) for all titles, and use the estimate as an instrument for IP allocation into the equation determining the project's creative performance (AWARD). This is in accordance to the procedure suggested by Wooldridge (2002) for binary endogenous regressors, which is more efficient than standard IV regression for this case. From this, we create an estimate of creative outcome to incorporate in the equation for sales. As an alternative method, we also employ the regressions as a simultaneous system of equations and regular IV regressions with qualitatively similar results, not reported in this paper. The result for F values and Sargan's statistic to test for overidentifying restrictions indicated that the instruments are valid (Sargan's test P value of 0.86 and 0.51 for economic and creative outcome regressions, respectively).

Insert Tables about here

RESULTS

Hypothesis Testing: Statistical and Economic Significance

The descriptive statistics and correlation matrix for the variables are presented in Table 1 and 2. Results of the regressions testing our main hypotheses are reported in Table 3, 4 and 5. In general, the data lends support to the set of hypotheses proposed.

Table 3 presents the probit regression to determine the probability of a title to be owned by the firm, as opposed to being a creator-owned title. We can see that consistent with our prediction, potentially longer titles are more likely to be firm owned.

Model 1-2 on Table 4 displays the regression on creative outcome. The coefficient for firm IP is negative and statistically significant, giving support to Hypothesis 2, i.e. that allocation of control to the firm reduces innovative performance. From model 1 without the interaction effect, given allocation of IP to the firm, the expected decrease in log count of awards are 0.915. With the standard deviation for the log of award count being 0.24, this reduces the probable number of awards obtained by more than three times the standard deviation, indicating a significant magnitude of effect, keeping all other variables constant.

The negative and significant coefficient on the interaction between IP and firm capabilities supports Hypothesis 3, and means that the negative effect exerted by firm's variance reducing mechanism is empirically stronger than possible reputational or incentive attenuating effect conveyed by increasing firm experience. It should be noted that with the interaction effect, the direct effect of IP is no longer significant, indicating that the negative effect of firm IP ownership is less important when firms are new to a genre, and thus have no prior knowledge to enforce any variance reducing mechanisms. This also goes against the incentive argument, indicating that creators care more about their work quality and exerts effort regardless of residual

rewards allocation. The magnitude of the effect (-0.272) is also significant, with a change of one standard deviation in experience (2.8) altering the number of awards obtained by roughly three times of the award's standard deviation.

The regression results with demand as the dependent variable are presented in model 5-6 on Table 5. Consistent with our prediction, both firm's genre specific experience and product creativity on their own have positive impact on economic performance. The interaction effect of IP and firm specialized experience is positive, in accordance to H1. This indicates that control/ownership over innovation allows firms to exploit their experiences better in creating economic outcomes. Interestingly, the effect of experience by itself, after considering the interaction effect, becomes negative. This result indicates that conflicts between creator and firms exists, therefore firms are only able to utilize experience optimally if they control the innovation. The further implication is that the mechanism by which experience is used given control of IP is by aligning the product according to the demand tastes, which may not always be aligned with creator interests.

Regarding the magnitude of the effect of creative outcomes compared to firm experience in creating economic outcomes, we can see that both are economically significant. Without the interaction, an addition of one award leads to roughly 18,000 expected increase in sales, while the increase of one experience point adds about 4500 points in expected sales. Bearing in mind variations and means for these variables, the results supported a relatively strong economic impact for both factors.

Further Analysis: Specialization in value creation mechanism between promoter and picker firms

As have been discussed in the theoretical section, the industry can be roughly generalized into two types of firms, i.e. picker firms – good at selecting innovators, and promoter firms – good at exploiting them. The promoter firms are generally large firms that derive value from a portfolio of related innovations, leveraging economies of scale and scope in distribution and consumer base. In the US comics industry a rough cut would classify the big 2 firms – dominating 70% of the market share – as promoters, with the rest of the sample functioning mostly as picker firms. By separating the two segments of the market, we can observe whether the effects observed is an artifact of the “giant two” firms, or if it applies through the whole market. The results for firms other than the “big two” are presented in Model 3 & 4 for creative outcomes and in Model 7 & 8 for demand. While similar results hold, the interaction between firm ownership of IP and experience is not significant for creative outcomes. This may indicate that excessive control of creativity happens only above a certain experience/scale threshold (e.g. on the “big 2” firms).

Further, the impact of creative outcome is stronger, and the impact of specialized experience weaker, when we take out the effect of the “big 2” firms that rely heavily on their experience and IP portfolio. This further supports the existence of specialization between different firms, with large firms focusing on exploitation-based practices based on their specialized experience and existing IP portfolio, and smaller firms specializing on innovative titles.

DISCUSSION

Using data from the United States comic book industry, this study investigates the drivers and interplay between creative and economic outcomes. Our premise is that while the two notions are correlated, they do not imply each other. We contend that a primary moderating factor in this relation is IPR allocation, which in turn determine incentives and strategies in the use of firm's market experiences and development of new creations. We find tradeoff effects between creative and economic outcomes, even accounting for the endogeneity of IP allocation.

The result of this study contributes to the extant literature in the following ways. First, unlike most studies, we investigated the role of creativity as both a dependent and independent variable. This highlights the conditional benefit of product creativity. While on its own creativity creates economic outcomes, the mechanism driving creativity may be incompatible with another mechanism driving economic performance. In this case control over innovation allows optimal use of firm experience and resources, but reduces creativity. This brings the second contribution of the study. While the positive role of complementary assets in profiting from innovations and the negative role of control to innovativeness has often been discussed separately, there are much less empirical studies that tackle them simultaneously; much less what moderates their relationship. Our study contributes to fill this gap by measuring the magnitude of the tradeoff, which is found to be economically significant, and found a moderating effect in which increasing firm experience actually makes the magnitude of the tradeoff larger. Finally, in this study we address the fact that IP allocation in itself may be endogenous, contingent on inherent properties of the innovation as well as specific firm assets and capabilities. We found that even taking into account the endogeneity of IP allocation, the implied trade off mechanism between creative and economic outcomes still exist.

Naturally, this paper has limitations to its theory and empirics that may lead to further research avenues. Our analysis is static and confined to one industry. Further, our theory supplies what happens to outcome variables in the product level, not in the aggregate firm level performance. However, we deem this level of analysis relevant to first explicate the mechanisms of the tradeoff, which functions mainly on the product level, and a single industry approach allows us to observe detailed mechanisms and variables driving a more general framework. research may explore more the dynamics of how this affects firm strategies over time.

On generalizability, we can see the contrast between mainstream and independent segments in various creative industries (e.g. movies, literature and music), each of them favoring either a portfolio of relatively standardized fare, or alternatively focusing on being ‘different’.

Further, though the tensions investigated in this research is most notable in the cultural industries, they are becoming more prevalent in a growing a number of other industries, especially where creativity/innovation and cumulateness are both key for competitive advantage. Many industries are gravitating towards a combination of symbolic, in addition to utilitarian value to create competitive advantage, notably for markets with mature or standardized technologies. Examples of these may be as diverse as consumer electronics (with stylistic innovations such as the iPad dominates) or even the symbolic value of ‘green’ products.

The interaction between these two types of value creation sources is still a scarcely explored, and may be a path for continuing research. While the results in this paper confirms the old wisdom in the organizational learning literature that exploitation and exploration do not mix well, it may be that the trade off can be attenuated to some degree with appropriate mechanisms. Therefore, it will be interesting to find more general concepts of what factors may attenuate the trade-off, or even in which cases the trade off can be turned instead into complementary synergy.

Multi industry studies in other cultural industries may further develop our insights by examining variations which are not visible in the single industry. A particularly interesting issue is the effect of production process complexity. Comic books by nature are relatively simple to produce, as opposed to more complex products such as movie or television series production. Complexity in production may moderate the tensions presented in this paper in distinct interesting ways that merit further investigation.

Explicitly, we can see parallels between novelty-focus and familiarity/synergy focus of mainstream-independent productions in the structure of technological based industries, such as the distinction between proprietary software giants and small companies and the open source segment in software (e.g. Giarratana, Fosfuri, 2007), as well as the archetypal big pharma companies with their portfolio of patents and complementary assets, and the small, innovative biotech firms.

Conceptually, the two ways of making profit in the cultural industries is similar to the “picker” vs “promoter” firms, as is described by Caves (Caves, 2000) using the example of art galleries and music studios. “Picker” firms focus on screening of artists and their care and feeding in personal relations. Their main function includes recruiting new artists, identifying and promoting new styles and types. On the other hand, promoters focus on economies of scale, especially on the downstream side (e.g. promotion, distribution). Promoters generally cannot function well as pickers, but they may buy up established artists (or IP) and invest in subsidiaries run by successful ‘pickers’. The emphasis on economies of scale makes mobility from pickers to promoters harder, since attention is scarce, and promoters rely on large scale promotion and distribution apparatus, supplemented by a library of past titles that could be efficiently marketed along with new ones. New competitors could replicate the distribution system, but cannot use it

efficiently without a backlist and painstaking build up of new titles. However, pickers may sometimes morph into promoters if find blockbusters, or create a “promoter” subsidiary, in a mirror of the opposite promoter strategy. This mobility and coexistence between two ways of profiting, in any case, is an interesting venue for further study. Some directions in which this line of investigation may follow include firm's balance or migration between the two strategies and how firms manage their portfolio between 'mainstream' and 'novel' contents, or making up 'middle' projects, which can be called 'mainstream rebels'.

In conclusion, in this paper we have used fine grained product level data to investigate the tradeoff between creative and economic mechanisms, highlighting conflicting processes that have been implicitly assumed but not often explicitly tested in the literature on innovation. Our findings are consistent with and extend the existing literature by starting to investigate how firm's specialized experience moderates the conflict caused by allocation of control rights over innovation. Further, results hint at future research avenues, including extension of research towards the mechanisms dynamics and extension to firm level mechanisms.

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Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
IP	0.53	0.49	0	1
AWARD	0.10	0.79	0	12
prchange4	1.68	5.29	0	501.67
Revenue	77684	108074	1692	1159083
EXPERIENCE	3.92	2.80	0	7.65
amount_year	554.24	427.62	1	1231
homogeneity	0.37	0.24	0.0011	1
centrality	0.35	0.34	0	1
issuenum	95.82	9187.04	0	1000000
Yearly Sales	5.01E+07	5.55E+07	2259.7	1.63E+08
parent	0.179	0.38	0	1
_2008	0.15	0.36	0	1
_2007	0.13	0.34	0	1
_2006	0.16	0.37	0	1
_2005	0.14	0.35	0	1
_2004	0.12	0.32	0	1
_2003	0.07	0.25	0	1
_2002	0	0	0	0
_2001	0	0	0	0
_2000	0	0	0	0
_1999	0.11	0.31	0	1
Editor Genre Count	0.28	0.48	0	1.79
Editor Issue Count	0.96	1.69	0	6.50
Artist Publisher count	1.69	0.75	0	3.55
Artist genre count	1.65	0.65	0	3.04
Artist Issue count	3.25	1.38	0	6.90
Writer Genre Count	0.99	0.91	0	2.77
Writer Issue Count	4.59	1.78	0	7.18

Table 2. Correlation Matrix

	IP	AWARD	SALES	EXPERIENCE	amount-r	Homogeneity	Centrality	Issue-num	Firm yearly sales	parent	Editor genre count	Editor issue count	Writer issue count	Artist genre count	Artist issue count
IP	1														
AWARD	0.0211	1													
Inrev	0.2089	0.0208	1												
EXPERIENCE	0.2025	0.0566	0.0728	1											
Book per year	0.3523	0.0241	0.4873	0.2776	1										
homogeneity	0.4442	0.0875	0.3532	0.1094	0.5358	1									
centrality	0.3477	0.0762	0.1162	0.7876	0.2207	0.3529	1								
Issue number	0.0096	-0.0013	0.0078	0.0104	0.0072	0.0051	0.0091	1							
Firm yearly sales	0.4452	0.0376	0.4771	0.2369	0.8826	0.753	0.2963	0.0032	1						
parent	0.0477	0.1342	0.2152	-0.0697	0.1821	0.1599	0.0318	-0.0036	0.1795	1					
Editor Genre Count	0.0198	0.0102	0.1296	-0.042	0.1239	0.1558	-0.0214	-0.0054	0.1407	-0.0033	1				
Editor Issue Count	0.0142	0.0142	0.1468	-0.0603	0.1424	0.1321	-0.0497	-0.0049	0.1368	0.0501	0.9039	1			
Writer issue count	0.0349	0.0983	0.1832	0.0066	0.2003	0.1467	0.0025	-0.0122	0.1775	0.056	0.0719	0.0764	1		
Artist genre count	0.0484	0.1133	0.1449	0.0017	0.1473	0.0878	-0.0127	-0.0135	0.1245	0.0628	0.0504	0.0655	0.9023	1	
Artist Issue count	0.0905	0.0822	0.1432	0.0288	0.1618	0.1348	0.039	-0.0078	0.1645	0.0632	-0.0104	0.0207	0.7917	0.7994	1

Table 3. Results on Probit Regression on Allocation of IP

VARIABLES	Firm_IP
Longevity	0.23***
	-0.05
EXPERIENCE	0.14***
	-0.04
IP stock	0.000380***
	-5.25E-05
homogeneity	0.38
	-0.37
centrality	-0.43
	-0.32
_2003	0.72***
	-0.22
_1999	-0.24
	-0.3
_2008	0.31
	-0.23
_2006	0.27
	-0.22
_2007	0.39*
	-0.23
_2005	0.36*
	-0.21
_2004	0.37*
	-0.21
Book per year	-0.34***
	-0.08
Firm yearly sales	-0.000161
	-0.045
Constant	0.29
	-0.513

p-values: *** p< 0.01, ** p<0.05, * p<0.1

Table 4. Result of Negative Binomial Regression on Creative Outcomes

Creative Outcome	Whole sample		Without "big 2"	
	Model 1	Model 2	Model 3	Model 4
IPnew	-0.91***	-0.07	-2.27***	-2.77***
	-0.34	-0.41	-0.59	-0.80
IPnewxEXPERIENCE		-0.27***		0.17
		-0.08		-0.22
EXPERIENCE	0.18***	0.31***	0.66***	0.62***
	-0.06	-0.08	-0.08	-0.09
book/year	-0.27***	-0.23***	-0.82***	-0.86***
	-0.07	-0.07	-0.09	-0.11
Issue number	-0.04***	-0.04***	-0.03***	-0.03***
	-0.01	-0.01	-0.01	-0.01
_2003	1.58**	1.55**	0.95*	0.95*
	-0.71	-0.67	-0.53	-0.5
_2008	2.66*	2.61*	1.16	1.16
	-1.47	-1.37	-0.93	-0.93
_2006	1.69	1.57	0.51	0.52
	-1.18	-1.09	-0.99	-0.99
_2007	2.71**	2.63**	1.5	1.49
	-1.32	-1.23	-0.93	-0.92
_2005	2.59**	2.55***	1.62**	1.61**
	-1.01	-0.94	-0.7	-0.70
_2004	2.88***	2.80***	2.58***	2.57***
	-0.831	-0.77	-0.56	-0.56
Age of book	0.39**	0.37**	0.22*	0.23*
	-0.17	-0.15	-0.12	-0.12
Generality	1.13***	1.13***	0.68***	0.69***
	-0.05	-0.047	-0.12	-0.12
Centrality	-1.24**	-0.72	-2.16***	-2.30***
	-0.49	-0.48	-0.56	-0.60
Writer genre count	-0.64***	-0.58***	-1.22***	-1.22***
	-0.08	-0.08	-0.16	-0.15
Writer Tenure	0.039***	0.037***	-0.01	-0.00415
	-0.01	-0.01	-0.01	-0.0133
Artist Tenure	-0.27**	-0.27**	0.19	0.19
	-0.11	-0.11	-0.14	-0.13
Artist genre count	1.79***	1.70***	0.65***	0.64***
	-0.28	-0.28	-0.25	-0.24
Editor Tenure	0.36***	0.35***	0.61***	0.61***
	-0.08	-0.08	-0.13	-0.13
Editor genre count	-0.95***	-0.89***	-1.33***	-1.34***
	-0.29	-0.29	-0.37	-0.37

Constant	-7.37***	-7.95***	-3.53***	-3.23**
	-1.75	-1.64	-1.29	-1.32
Observations	11,492	11,492	6,166	6,166

p-values: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5. Result of regression on Economic Outcome (sales revenue)

SALES	Whole Sample		Without "big2"	
	Model 5	Model 6	Model 7	Model 8
AWARD	17,547***	18,024***	9,377***	10,579***
	-5,664	-5,690	-1,869	-1,864
IPnew	76,434***	30,327***	-18,220***	-40,966***
	-4,091	-5,618	-2,944	-4,002
IPnewxEXPERIENCE		13,516***		9,856***
		-1,132		-1,182
EXPERIENCE	4,655***	-2,895***	-1,879***	-4,666***
	-453.1	-652.8	-296.6	-445.8
_2003	-39,027***	-36,866***	-16,979***	-20,408***
	-2,542	-2,556	-1,966	-1,998
_2008	5,928*	6,956**	-4,459**	-4,761***
	-3,441	-3,418	-1,855	-1,846
_2006	-11,142***	-10,312***	-11,620***	-12,213***
	-3,051	-3,048	-1,648	-1,640
_2007	-8,961***	-6,435**	-13,296***	-13,847***
	-3,153	-3,126	-1,800	-1,791
_2005	-30,335***	-30,746***	-16,868***	-18,701***
	-2,459	-2,430	-1,628	-1,633
_2004	-41,089***	-39,713***	-21,324***	-23,299***
	-2,099	-2,092	-1,754	-1,760
agebook	3,015***	3,491***	2,667***	3,114***
	-294.8	-292.4	-208.4	-214.1
homogeneity	93,071***	87,948***	36,924***	41,666***
	-5,320	-5,238	-4,142	-4,158
centrality	-32,902***	-47,566***	-16,544***	-21,877***
	-3,603	-3,437	-2,654	-2,715
Constant	-13,801***	13,427***	46,047***	51,095***
	-3,195	-3,431	-2,060	-2,136
Observations	11,492	11,492	6,166	6,166
R-squared	0.18	0.21	0.13	0.14

p-values: *** p< 0.01, ** p<0.05, * p<0.1