Paper to be presented at the DRUID 2012

on

June 19 to June 21

at

CBS, Copenhagen, Denmark,

Division of labour in cultural production: Competences and strategies of game developers and publishers

Mirva Peltoniemi
Aalto University School of Science
Institute of Strategy
mirva.peltoniemi@aalto.fi

Henri Schildt
Hanken School of Economics
Management and Organization
henri.schildt@hanken.fi

Abstract

Cultural or creative industries are claimed to operate under horizontal differentiation and constant requirement for novelty. In the present paper we explore how competences and product strategies of developers and publishers influence the critical acclaim received by their products. We find developers with broad experience and moderate level of exploration to receive the best evaluations. Products in unfashionable ?cold? domains benefited from publishers with focused experience and low level of exploration while products launched in fashionable ?hot? domains received best evaluations when their publishers had broad experience and highly explorative strategy.

Division of labour in cultural production:

Competences and strategies of game developers and publishers

Abstract

Cultural or creative industries are claimed to operate under horizontal differentiation and constant requirement for novelty. In the present paper we explore how competences and product strategies of developers and publishers influence the critical acclaim received by their products. We find developers with broad experience and moderate level of exploration to receive the best evaluations. Products in unfashionable 'cold' domains benefited from publishers with focused experience and low level of exploration while products launched in fashionable 'hot' domains received best evaluations when their publishers had broad experience and highly explorative strategy.

Introduction

Cultural goods, such as films, music recordings, games and fashion, cater to the needs of amusement, entertainment, social display, ornamentation and aesthetics (Hirsch, 1972a; Markusen, Wassail, DeNatale, & Cohen, 2008; Power, 2002; Scott, 1999; Throsby, 2001). They tend to be horizontally differentiated, i.e. rather than being better or worse based on objective criteria they please different tastes (Power, 2010), and competition operates on the basis of subjective non-price attributes (Throsby, 2001). Such consumer taste differences are acquired rather than pre-existent and develop through consumption (Blaug, 2001; Cowen, 1989; Schulze, 2003). In addition to differentiated tastes, consumers of cultural goods desire novelty and therefore the demand for innovative concepts is constant (Mora, 2006). It is a common finding that consumers need cultural goods to have a level of novelty to enjoy them, but also a level of famialiarity to understand them (Alvarez, Mazza, Pedersen, & Svejenova, 2005; Cillo, De Luca, & Troilo, 2010; Peterson, 1997a).

Several unique characteristics of cultural industries imply that we may need to develop specific theoretical understanding for such contexts. Cultural industries tend to be populated by creative firms who create the product content and gatekeeper firms who select the product concepts to be financed, launched and promoted (e.g. Hesmondhalgh, 2002). Such division on labour within the industry is motivated by stark difference in competences required to create innovative products and to select and market them to consumers (Gander et al., 2007; Gander & Rieple, 2002, 2004). Management scholarship has provided little insight into these competences that developers and publishers require to succeed in delivering appealing cultural goods. The vital importance of novelty in cultural goods means that firms cannot easily "secure" market share, instead requiring competences that

2

enable them to constantly create new hit products. The need for cultural innovation suggest a potential tension between exploring new cultural domains and operating in familiar product areas: exploration builds broader competences while familiarity allows the firm to leverage existing competence. These considerations are further complicated by the fads and fashions that tend to characterize markets for cultural goods. Companies cannot always simultanously leverage existing competences and pursue fashionable cultural domains.

In order to better understand the competences and strategies that establish competitiveness in creative industries, we pose the following three research questions: (1) What kinds of competences enable developers and publishers to attain critical acclaim? (2) How does cultural exploration influence the success of developers and publishers? (3) Does the effect of these competences and strategies depend on the fashionability of the cultural domain the firms operate in?

We draw on the creative and cultural industries literatures as well as selected findings in technology strategy to hypothesize how the effects of firm level competences (depth and breadth of experience), product familiarity, and the pursuit of fashionable 'hot' cultural domains influence the critical acclaim received by firms' cultural products.

We used data from the console games industry, where games are developed by small firms and financing, distribution and marketing are handled by large publishing firms (Grantham & Kaplinsky, 2005; Johns, 2006). Our dataset consists of 1739 video games, their critical evaluations, and data on developers and publishers to test hypotheses. Automated content analysis of product descriptions allows us to quantify the breadth of firm competences, to assess the novelty of the products, and to establish the 'hotness' of the cultural domain the

3

products are in. While manual content analysis has been applied in the cultural domain to study stylistic innovation in fashion (Cappetta, Cillo, & Ponti, 2006), we use an automated procedure in order to produce quantitative indicators that allow hypothesis testing. We rely on the number of unique word dyads appearing in product descriptions to signal diversity, and the appearance of new word dyads to signal novelty.

The results from our linear regression analysis suggest that developers with broad experience and moderate level of exploration tended to receive the best evaluations. Products in unfashionable 'cold' domains benefited from publishers with focused experience and low level of exploration while products launched in fashionable 'hot' domains received best evaluations when their publishers had broad experienced and highly explorative strategy. In all cases, cultural products released in 'hot' domains, i.e. resembling the content of highly acclaimed recent products were better received than those published in 'cold' domains.

Theory: Competences and strategies in cultural industry

The markets for cultural goods are highly unpredictable meaning that products tend to diverge into hits and misses (e.g. De Vany, 2004). There are no proven methods of estimating beforehand which products will end up in which category. This is described as "throwing mud at the wall and seeing what sticks" (Hesmondhalgh, 2002) or through the 'nobody knows' principle (Caves, 2000). Research on audience response has dealt mainly with critical acclaim. Critics tend to allocate their attention towards categories in which they have expertise (Hsu, 2006) and consumers are more susceptible to the reviews by such

expert critics (Ravid, Wald, & Basuroy, 2006). Hence specialists of certain areas are perceived as more reliable quality evaluators.

To provide a basis for developing hypotheses concerning the critical acclaim of cultural products, we briefly introduce three domains related to cultural production and critical acclaim. First, we discuss the competences required in cultural production and the prevailing focus on breadth of knowledge as a key predictor for innovativeness both in technological and creative domains. Second, we discuss the level of exploration as a key product strategy – the extent to which the firms deviate from the familiar. Finally, we introduce fashionability ('domain hotness') as a central determinant of critical acclaim in cultural and creative industries.

The success in creative industries is largely a function of the ability to formulate and implement new ideas. In the technological innovation literature the diversity of knowledge held by a firm has been shown to increase the number and impact of its inventions (Ahuja & Katila, 2002; Leipola & Helfat, 2010). Similarly, the diversity of knowledge sources is identified as an enabler of innovations in the cultural industries literature. Creating many kinds of interactions with customers, competitors and distributors (Cillo, et al., 2010) and collaborating with a broad portfolio of external designers (Dell'Era & Verganti, 2010) increase the innovativeness of creative firms, and forming horizontal ties with other artists improves the artistic merit of the firm's products (Delmestri, Montanari, & Usai, 2005).

Innovation and novelty have a special role in the cultural and creative domain: consumers expect each product to offer a level of innovation to be valuable (Cillo, et al., 2010; Mora, 2006; Peterson, 1997a). Jeffcutt and Pratt (2002) label cultural industries as chart

5

businesses that "live or die by the volume and success of their output being valued as 'best' in the market place for a limited period". In consequence the firms face the constant pressure to come up with new styles and concepts to please the audience's need for novelty. Hence cultural or stylistic exploration appears indispensable for creative firms. As has been found in technological domains (Katila & Ahuja, 2002; Rosenkopf & Nerkar, 2001), firms that lack exploration risk operating in obsolete niches and accumulating experience in obsolete competences also in cultural industries.

Yet, while firms' attempts to explore new product areas may create highly valuable competences needed to create innovative products, the immediate reception of new explorative products may be poor because the firm lacks established competence in satisfying the critical audience's expectations is domains it has not previously operated in.

The final theoretical construct central to cultural industries is fashion. The purpose of fashion is to produce social distinction between consumers and coherence within them, as well as to allow actors to construct and signal their identity and image to others. As social groups strive to imitate each other, they are forced to adopt new cultural markers and hence a new fashion. Such a process produces an ever changing stylistic landscape (Simmel, 1905). Many of the cultural goods markets are prone to fads and fashions that change the landscape in fundamental ways (Hesmondhalgh, 2002; Hirsch, 1972a; Throsby, 2001). The attractiveness of certain styles and genres changes through time in unpredictable ways (Anand & Peterson, 2000; Cappetta, et al., 2006). Firms that search far from their expertise are best equipped to survive fashion changes (Cillo & Verona, 2008). However, firms' attempts to pursue new fashionable domains are likely to deviate from their existing competences and potentially undermine their ability to satisfy the critical audiences.

Hypotheses

We outline five sets of hypotheses linking developer and publisher competences, product exploration and domain hotness to the success of their products, measured as critical acclaim. In the cultural domain, critical acclaim has been a popular research topic. Critical acclaim has been found to affect sales (Dempster, 2006; Elliott & Simmons, 2008; McKenzie, 2009) or to correlate with them (Eliashberg & Shugan, 1997; Gemser, Van Oostrum, & Leenders, 2007). In the present study we use critical acclaim to signal the acceptability and desirability of cultural goods. Fashions tend to originate from social elites and thereafter diffuse to other groups (Bourdieu, 1984; Simmel, 1905). Professional critics represent elites in their respective fields and therefore critical acclaim is a purposeful variable when studying changing fashions. In the absence of sales data, the other alternative would be to use data on awards received by the products. However, awards and sales have been found to be conceptually distinct and empirically uncorrelated aspects of success (Holbrook & Addis, 2008). Therefore, we prefer critical acclaim to signal product acceptability and desirability.

Depth and breadth of experience and critical acclaim

The successful execution of cultural productions requires complex combinations of creative and commercial competences (Caves, 2000). Such integration gives rise to several management complications. Firstly, the intensity with which novelty needs to be introduced forces managers to give considerable autonomy to creative employees (Hesmondhalgh, 2002). In consequence, their work is challenging to monitor and asses. Secondly, the production of cultural goods is non-linear and incorporates multiple redesigns (Tschang,

7

2005). Video game development is especially challenging because it entails a complex mix of technology, art and interactive story-telling (Cohendet & Simon, 2007). These characteristics highlight the importance of execution competence that develops cumulatively as the firms finish projects. Based on the above, we posit that cumulative learning plays a significant role in firms being able to produce cultural goods that fulfil the expectations of their audiences. Successfully completing such projects is a difficult task and therefore prior experience helps a firm in producing a desirable outcome. This applies to both developers and publishers, who work in close collaboration in game projects.

Hypothesis 1a: Depth of experience increases the ability of developers to create cultural products that are acceptable and desirable for critics.

Hypothesis 1b: Depth of experience increases the ability of publishers to create cultural products that are acceptable and desirable for critics.

In addition to the cumulative learning on project execution, firms require cultural competence to develop and choose acceptable and desirable cultural content. As discussed above, there is a high level of uncertainty concerning demand for any particular product (Hesmondhalgh, 2002; Hirsch, 1972a). Still some firms are consistently better at attracting audiences to their products than others. Miller and Shamsie (2001) have shown that cumulative learning in product line experimentation enables film executives to better choose the novelty-containing projects that will please the audience. This experience relates to the broadness of their cultural repertoires.

Similar to the above arguments in creative industries literature, work on technology strategy has repeatedly emphasized the importance of a broad knowledge base as a

foundation for learning and innovativeness (Cohen & Levinthal, 1990; Katila & Ahuja, 2002; Leipola & Helfat, 2010). Particularly in the case of developers, who have to conceive innovative new features and solve broad range of problems that arise from the novelty of cultural products, the breadth of experience should help formulate creative solutions.

We conjecture that the cultural breadth of the past experience assists both developers and publishers in pleasing their audience with their new products.

Hypothesis 2a: Breadth of experience increases the ability of developers to create cultural products that are acceptable and desirable for critics.

Hypothesis 2b: Breadth of experience increases the ability of publishers to create cultural products that are acceptable and desirable for critics.

Cultural exploration and critical acclaim

Game developers and publishers need to balance the audience's desire for novelty and the limits of their own competence base. Consumers expect creative producers to relentlessly create and introduce new genres, styles, universes and products (Autier & Picq, 2005; DeFillippi, Grabher, & Jones, 2007; Mora, 2006; Thompson, Jones, & Warhurst, 2007). There is no room for repetition, but producers must constantly reinvent themselves. Past success with a similar product does not increase the chances of success with a new version: "no one but a fool" would use past success as an indicator of the future outcome of a similar release (De Vany, 2004, p. 261, p. 261). On the other hand, introducing cultural goods with content completely different from previous projects carries the risk of not only

9

of lower technical quality due to lack of experience, but also of decreased authenticity value. Cultural producers appear authentic when they offer a distinctive approach (Peterson, 1997b) and retain integrity in relation to their artistic vision (Beverland, 2005; Jones & Smith, 2005; Svejenova, 2005). More specifically, they should not appear to be after quick commercial gains through offering particular kinds of products (Beverland, 2005). This means that rapid changes in cultural content come with penalties from the audience. Therefore we posit that producers of cultural content succeed best when the product represent a degree of exploration of new cultural domain in relation to the firm's previous products, but retains at least some familiar cultural elements contained in their previous productions.

Hypothesis 3a: There is a curvilinear (inverted-U shaped) relationship between the similarity of a product's cultural content with its developer's prior products and the critical acclaim of the product.

Hypothesis 3b: There is a curvilinear (inverted-U shaped) relationship between the similarity of a product's cultural content with its publisher's prior products and the critical acclaim of the product.

Domain hotness and critical acclaim

The cultural and creative fields are known for being susceptible to trends and fashions (Hesmondhalgh, 2002; Hirsch, 1972a; Throsby, 2001). Research on stylistic change in fashion has shown that there are dominant styles on which fashion firms tend to converge

10

(Cappetta, et al., 2006). In the music market the rise and fall in the popularity of different genres has been documented (Anand & Peterson, 2000). We conjecture that such hot domains may be identified through content analysis of cultural products and respective critical scores. Therefore we posit that cultural goods that are stylistically similar to those that have received high ratings are more likely to receive high ratings.

Hypothesis 4: Domain hotness increases the critical acclaim of new products.

Firms taking up gatekeeper roles and firms taking up creative roles may benefit from different kinds of competences depending upon whether they operate in 'hot' domains with direct formidable competitors (within-niche competition) or whether they focus on 'cold' areas, attempting instead to innovate products in a domain lacking strong direct competitors.

Developers who producing creative content strive to create a unique pole in the complex process of differentiation (Santagata, 2004). The basis of competition between developer firms relates to execution and cultural competences in a specific area they focus on. Developers also gain in authenticity value through having a consistent creative direction. The competitiveness and authenticity accomplished through focus are likely to benefit firms that focus on products that compete with similar strong developers. When operating in a 'hot' domain, flawless execution of cultural products becomes important and deviation from prior experience threatens the ability of the firm to remain competitive. Moreover, developers introducing products in hot domains benefit from having focused experience in the product's cultural area, while breadth of competence is relatively speaking more useful

in colder domains where firms do not have to compete against specific strong competitors, but rather focus on innovating generally appealing products.

Publishers, who act as gatekeepers face different demands when operating in a fashionable cultural domain. The gatekeepers need to succeed in choosing the concepts with the best potential from a large population (Bystryn, 1978; Denisoff, 1975; Elsbach & Kramer, 2003). They benefit from venturing out to content areas where they have no experience provided that competitors are not operating in such areas (Shamsie, Martin, & Miller, 2009). Therefore we conjecture that the publishers' selection competence in targeting hot domains is not dependent on having experience from similar cultural content. Rather, we expect publishers to benefit from broad cultural experience which enables them to understand the demands of audiences, helping them select the appealing developers and products.

Hypothesis 5a: Domain hotness increases the effect of the similarity of a product's cultural content with its developer's prior products on critical acclaim.

Hypothesis 5b: Domain hotness decreases the effect of the similarity of a product's cultural content with its publisher's prior products on critical acclaim.

Hypothesis 5c: Domain hotness decreases the effect of developer breadth on critical acclaim.

Hypothesis 5d: Domain hotness increases the effect of publisher breadth on critical acclaim.

Data and method

To study the critical evaluations of creative products, we focused on the video game industry. Our data comes from the Metacritic database (http://www.metacritic.com/games). The Metacritic data is based on game titles. For each game title the following information is available: release date, name of developer firm, name of publisher firm, average score of reviews by critics, average score of reviews by consumers, and a short textual synopsis of the content of the game. We analyze the critical acclaim of games published between 2002 and 2011, although games dating back to 1996 are used to calculate key independent variables, such as the novelty of games, the diversity of company's product portfolio, and the depth and breadth of experience the publishers and developers have.

We sampled a set of games published for the major consoles of the fifth, sixth and seventh generation: Dreamcast, GameCube, Nintendo 64, PlayStation, PlayStation 2, PlayStation 3, Wii, Xbox and Xbox360. This selection was made for three reasons: (1) the market structure among console manufacturers and the technological environment for developers and publishers remained similar during the chosen era, (2) games released for major consoles have passed corporate oversight and hence the gatekeeping phenomenon typical for creative industries is present in this context, and (3) the number of games published for these consoles and covered in the database is considerable.

To analyze the cultural content of the games, we retrieved the official synopses for the games from the database. We first removed very rare and very common words after which the game descriptions had on average 38 unique words. We analyze firms with some industry experience from the previous seven years by only including games with developer

and publisher having prior releases within that time period. Many developers release games several years apart, which means that prior experience should be taken into account from a time period that encompasses two console generations. Moreover, excluding games whose developers or publishers have no prior experience was necessary to analyze the difference between different levels of experience rather than between no experience and some experience. Moreover, many of the variables could not be calculated at all for developers and publishers without prior releases, inviting potentially complex imputation problems. Finally, given that our dependent variable was average critic ratings, we excluded games with less than five reviews by critics in order to avoid unreliable estimates of game quality. The highest number of different professional critic scores given for a single game was 107 (*Heavy Rain* on PlayStation 3, published by SCEA).

Dependent variable

We measured the critical reception of games with the average of scores given by professional critics for a game, a variable tracked by Metacritic (*Average critic score*). The database includes a broad range of evaluations from gaming-focused websites and trade magazines, recording scores in normalized scale from 0 to 100. With games published on multiple platforms, we used the highest average score (Metacritic tracks scores independently for each platform).

Independent variables

The measurement of innovation and diversity in cultural content has proven a challenging task. In the early work on cultural diversity in music recordings the number of artists reaching top positions in a sales chart was used as a proxy for the cultural diversity of the

market and new artists as a proxy of cultural innovation (Peterson & Berger, 1975; Peterson & Berger, 1996). This was challenged by Alexander (1996) who measured cultural diversity with the help of musicological characteristics. Moreover, the emergence of new genres has been interpreted as a signal of innovation film (Mezias & Mezias, 2000). The downsides of these approaches are that using the number of artists relies on the assumption that all artists are equally different from each other, using a limited number of musicological characteristics excludes the diversity and innovation produced by other musicological characteristics, and genre data acquired from film databases is dependent on the classifiers' subjective definition as official genre classifications do not exist. In contrast, we use quantitative indicators based on textual content of product synopses to capture our independent variables.

Developer past releases and *Publisher past releases* capture the depth of prior experience in the market as the number of games the developer and publisher of the game have introduced to the market within the last seven years. When games listed multiple developers, we used the measure for the most experienced developer.

Developer breadth captures the breadth of experience for developers. To compose the indicator, we counted the total number of unique words that the company had used in the releases launched within the previous seven years (excluding the most common words appearing in more than 25% of the games) and divided this by the combined number of words appearing in the developer's game descriptions (again removing the most common words). Thus, the breadth of experience has value of 1 when none of the words used in game descriptions appear in more than a single game by the developer. The value decreases towards zero when the same words occur in multiple products developed by the firm.

15

Publisher breadth captures, similarly to the above variable, the breadth of a publisher's past experience.

Game familiarity to developer captures the level of cultural exploitation in the focal product relative to the developer's past product portfolio. The measure was calculated as the total times the word combinations (dyads) appearing in the game synopsis had previously appeared in the developer's games during past 7 years, divided by the total number of word dyads in the synopsis. When the game description was made entirely of words never previously combined in the developer's prior games, the index had value 0. As the description became increasingly similar to the games previously launched by the developer, the score increased (up to value of 1.83, capturing the average times each word combination had appeared before in the developer's earlier products).

Game familiarity to publisher was determined similarly to the above variable, but in terms of previous word combination appearances in the publisher's prior games, divided by the total number of word dyads in the synopsis.

Control variables

Developer past success and *Publisher past success* are measured using the averages of the scores received for their prior releases during the preceding 7 years. The inclusion of these control variables makes our models far more conservative, as they help account for any persistent differences in the quality of developers and publishers. When the game had multiple developers with prior releases we used the average score.

Domain crowding was calculated as the number of times the word combinations in the game description had appeared in games published during the past 7 years on the platforms we included in our study, divided by the number of unique word combinations in the game synopsis. This captures the overall popularity of the cultural area where the product is published.

Game description length is captured as the number of unique word dyads appearing in the game synopsis (effectively [unique words] * [unique words – 1]). This variable is included since very short descriptions might influence some of the independent variables.

Release year is controlled through yearly dummy variables because the release activity within the game market varies across years. The default year in the model is 2002, with dummies included for years 2003-2011.

Number of platforms controls how many systems the game was launched on. We control this because the dependent variable (critic score) is based on the best appraisal across all platforms the game was published on.

Descriptive statistics

The descriptive statistics for our sample are shown in Table 1. Our results are based on 1753 unique game titles developed by 339 distinct developers, with EA Canada the most widely represented in the dataset (49 titles). The products were published by 120 distinct publishers, the largest being Electronic Arts, SCEA, and Sega with each having published 115 games.

===================

Table 1 around here

===================

The correlation coefficients shown in Table 1 are relatively low with a few exceptions. As can be expected, the companies with a greater depth of experience (Developer/publisher past releases) have relatively speaking lesser breadth (their games are more akin to one other) and they tend to publish games that they are more familiar with. Because of the relatively large sample size (1753), most of the correlation coefficients are statistically significant.

Results

Our findings are summarized in Table 2. We interpret the results for Hypotheses 1-4 using model 3 and for Hypotheses 5a-d using models 4-7.

===================

Table 2 around here

===================

Surprisingly, the depth and breadth of experience were not universally useful for developers and publishers. Rather, our data supports Hypotheses 1b and 2a (but not 1a and 2b). Developers benefit from working with a breadth of different cultural products before, while publishers benefit mainly from having launched a larger number of products.

Hypotheses 3a and 3b predicted that developers and publishers have the best critical reception when their products had a medium level of resemblance with their past portfolio. While our results fully support Hypothesis 3a, we surprisingly find that publishers did the best when their products were very similar or very dissimilar from their past product portfolio. This relationship suggests that a degree of specialization might exist among publishers: publishers are successful when they either pursue novel ideas or focus on their core cultural domain.

As suggested by Hypothesis 4, we found that 'hot domains' (products using word combinations that had occurred in highly acclaimed products during the past three years) were better received by the critics. Since the control variable for domain crowding (the number of similar products published during the past seven years) was negative, we have to conclude that companies are best off replicating cultural products that have received very high ratings but avoiding domains where numerous games are published.

Our Hypotheses 5a-5d theorized the effects of developer and publisher breadth and familiarity to be altered depending on the hotness of the product domain. Results were insignificant for Hypotheses 5a and 5c. As predicted in Hypotheses 5b, publishers were significantly better off releasing unfamiliar products in hot domains, while publishers releasing anything but extremely familiar products were poorly received in 'cold' domains. As predicted in Hypothesis 5d, publishers benefitted from having greater breadth of experience particularly when operating in hot domains, while breadth of experience had a negative effect in 'cold domains' (publishers with a broad product portfolio on average receiving worse appraisals). The interaction effects for the supported hypotheses are plotted in Figure 1.

====================

Figure 1 here

=====================

Discussion

We build on our hypothesis development and results to theorize the role of developer and publisher competences in cultural and creative industries. Moreover, we discuss the distinct competences and strategies that publishers require to succeed in 'hot' and 'cold' domains in the cultural landscape. This section finishes with a discussion of our limitations and avenues for future research offered by our theory development.

Cultural capabilities of developers and publishers

Our first research question examined the cultural capabilities of developers and publishers that enabled them to receive critical acclaim for the cultural products they launched. Perhaps the most interesting findings relate to the differences between developers and publishers in our data. Namely, we found that the depth of experience (all other issues controlled) was insignificant for developers but significant positive predictor for publishers' success. In contrast, the breadth of experience was a significant positive predictor for developers' success but insignificant for publishers.

Our findings support the view that developers are a source of creativity in the video game industry (cf. Grantham & Kaplinsky, 2005; Johns, 2006; Tschang, 2007), as the literature robustly connects breadth of knowledge with the ability to innovate (Cillo, et al., 2010).

20

Developers become better in attaining critical acclaim through their exposure to a variety of products (scope) rather than simply having launched more cultural products (scale). Moreover, it appears that the role of publishers is in the main to select the best products and facilitate their distribution and sales. Publishers become better able to select successful products and attain critical acclaim for the products they work with through depth of experience (scale), but in general appear to lack benefits from broad knowledge base (scope). The complementary capabilities of developers and publishers required in cultural and creative industries develop through somewhat different processes. Developers benefit from explorative product strategies whereas publishers, on average, benefit from experience in launching products, independent of whether they constitute a broad or a focused portfolio.

The cultural industries literature contains a somewhat critical view of gatekeepers as exploitative organizations that limit the artistic opportunities of creative firms (Hirsch, 1972b; Negus, 1998) and capture more than their share of profits (Mol, Wijnberg, & Carroll, 2005). Our findings indicate that publishers accumulate competences that allow them to better serve their audiences. Hence they appear to add real value to cultural production as argued in research on the role of humdrum inputs in creative production (Becker, 1974; Caves, 2000).

Publishers' cultural competence in 'hot' and 'cold' domains

Our second research question examined the role fashions might play in the required capabilities and strategies in cultural and creative industries. Unlike predicted, we did not find any differences in the effects of developer's breadth of experience or extent of

exploration in product strategy. Developers always received the best critical acclaim when their products incorporated a moderate amount of exploration – neither staying too close to their past successes nor deviating to completely new cultural domains.

In terms of publishers, our findings were somewhat puzzling. Examining simply the effects of product familiarity to publishers, we found that the companies performed the best when they either focused on completely novel types of products or completely familiar ones. Directly opposite our predictions, publishers had the worst performance when working with products with moderate degree of similarity to their past product portfolio. It appears that the benefits of a moderate level of novelty and distinctiveness (cf. Alvarez, et al., 2005; Cillo, et al., 2010; Peterson, 1997a) only apply to the creative firms whereas the gatekeeper firms can either specilize to a narrow content area or operate accross the field.

We did find support for our predictions concerning the effects of hot and cold cultural domains on publishers. As predicted, publishers who operated in hot domains benefited from having broad experience. Critics may have expected products in fashionable domains to contain innovative elements, and the breadth of experience allowed publishers to truly understand the market demand and thereby to identify and screen copycat developers seeking to ride fashion waves from genuinely innovate developers. In contrast, when publishers operated in 'cold' domains without any previous hit products, their performance declined with increased breadth of experience. This suggests that firms operating in 'cold' domains benefit from focused competences (scale without scope). We speculate that this is due to a less-intensive need to differentiate from others and a greater need for publishers to understand the established evaluation criteria the critics use for assessing non-fashionable products.

Finally, we found that publishers benefitted from exploring new cultural domains only when the products were in 'hot' domains. It was only beneficial for publishers to depart from their past products when launching products akin to recent successes. This lends support to Tschang's (2007) observation that publishers concentrate on sure winners. In other words, in 'cold' domains publishers were the best off by focusing on products that closely resembled their existing portfolio, while in hot domains it was feasible for publishers to focus on either completely novel products or completely familiar products.

Limitations and future research

Our study has elaborated the role of developers' and publishers' competences and product strategies for the critical acclaim of their products. While our argumentation built on the generic literature on cultural and creative industries, our empirical study was focused on a single industry: the video games. The industry is well suited for our purposes due to its clear-cut division of tasks among (typically smaller) developers as innovators and (typically larger) publishers as gatekeepers. Yet, future empirical work is required to test whether the arguments apply to other creative industries.

Our quantitative research approach did not allow us to form an in-depth understanding of the variations in the roles of developers and publishers. It seems unlikely that all publishers play the same role in cultural production. For example, some publishers might specialize in certain cultural domains and consequently undertake different tasks from generalist publishers that continuously explore new domains. Earlier work suggests that 'gatekeepers' in cultural industries, such as radio stations, tend to affect production decisions by innovators, such as record companies (Negus, 1993). Future work can try to assess the

variance in interactions among publishers and developers. In-depth qualitative research on the intensity and content of these interactions might help better clarify the processes that influence the success of cultural products.

Finally, our construct of domain hotness, intended to capture how fashionable the products are, offers merely a beginning to the study of the topic. Domain hotness is a new construct that captures 'fashionability' in terms of critical appraisals rather than the popularity of the product area (domain crowding). Domain hotness and crowding are conceptually distinct, as domain immediately becomes hot once a hit product is released while crowding results from a large number of releases over time. In our empirical data, the two are very weakly correlated (.12), although in part this might be because the crowding is based on 7-year moving window and hotness on 3-year moving window.

Future research should pay more attention to the relationships between domain hotness and crowding, and in particular seek to develop more longitudinal and dynamic models of performance in creative industries. Looking into the relationships of how crowded a content area is, how well the active firms are performing, and how actively firms seek to enter new fashionable cultural domains might offer new insights into competition with cultural products.

In addition to these theoretically oriented concerns, a number of empirical topics can offer opportunities for theory building. The number of collaborators a firm has may have an effect on how it succeeds in innovation, allowing us to undertand the interactions of networks and firm-level competences. Dell'Era and Verganti (2010) conclude that in design-intensive industries firms that collaborate with a broad range of external designers

tend to innovate. Is networking a way to develop breadth of experience or to substitute it? We could further explore how the extent of collaboration influences a firm's ability to explore. Should a game developer choose a publisher with collaborations with a large number of developers if it is planning to introduce novelty? Should developers choose publishers whose other developers have broad cultural repertoires?

Conclusion

Our study joins a growing literature on firm strategies within cultural and creative industries. Our contribution to the literature has focused on the examination of the roles that developers have as innovators and publishers have as gatekeepers in creative industries. While developers benefit from broad experience and moderate level of exploration, the optimal characteristics of publishers were linked to the type of domain they operate in. Broad knowledge and exploration was beneficial when publishers stepped into fashionable cultural domains with recent hit products. The opposite characteristics were beneficial for publishers launching games in 'cold domains' without any recent hit games.

References

Alexander, P. J. (1996). Entropy and popular culture: Product diversity in the popular music recording industry. *American Sociological Review, 61*(1), 171-174.

Alvarez, J. L., Mazza, C., Pedersen, J. S., & Svejenova, S. (2005). Shielding Idiosyncrasy from Isomorphic Pressures: Towards Optimal Distinctiveness in European Filmmaking. *Organization, 12*(6), 863-888.

Anand, N., & Peterson, R. A. (2000). When market information constitutes fields: Sensemaking of markets in the commercial music industry. *Organization Science, 11*(3), 270-284.

Autier, F., & Picq, T. (2005). Is the resource-based 'view' a useful perspective for SHRM research? The case of the video game industry. *International Journal of Technology Management, 31*(3-4), 204-221.

Becker, H. S. (1974). Art As Collective Action. *American Sociological Review, 39*(6), 767-776.

Beverland, M. B. (2005). Crafting brand authenticity: The case of luxury wines. *Journal of Management Studies, 42*(5), 1003-1029.

Blaug, M. (2001). Where are we now on cultural economics? *Journal of Economic Surveys, 15*(2), 123-143.

Bourdieu, P. (1984). *Distinction : a social critique of the judgement of taste*. Cambridge, MA: Harvard Univ. Press.

Bystryn, M. (1978). Art galleries as gatekeepers - Case of abstract expressionists. *Social Research, 45*(2), 390-408.

Cappetta, R., Cillo, P., & Ponti, A. (2006). Convergent designs in fine fashion: An evolutionary model for stylistic innovation. *Research Policy, 35*(9), 1273-1290.

Caves, R. (2000). *Creative Industries: Contracts between Arts and Commerce*. Cambidge: Harvard University Press.

Cillo, P., De Luca, L. M., & Troilo, G. (2010). Market information approaches, product innovativeness, and firm performance: An empirical study in the fashion industry. *Research Policy, 39*(9), 1242-1252.

Cillo, P., & Verona, G. (2008). Search Styles in Style Searching: Exploring Innovation Strategies in Fashion Firms. *Long Range Planning, 41*(6), 650-671.

Cohendet, P., & Simon, L. (2007). Playing across the playground: paradoxes of knowledge creation in the videogame firm. *Journal of Organizational Behavior, 28*(5), 587-605.

Cowen, T. (1989). Are all tastes constant and identical - A critique to Stigler and Becker. *Journal of Economic Behavior & Organization, 11*(1), 127-135.

De Vany, A. (2004). *Hollywood Economics: How extreme uncertainty shapes the film industry*: Routledge.

DeFillippi, R., Grabher, G., & Jones, C. (2007). Introduction to paradoxes of creativity: managerial and organizational challenges in the cultural economy. *Journal of Organizational Behavior, 28*(5), 511-521.

Dell'Era, C., & Verganti, R. (2010). Collaborative Strategies in Design-intensive Industries: Knowledge Diversity and Innovation. *Long Range Planning, 43*(1), 123-141.

Delmestri, G., Montanari, F., & Usai, A. (2005). Reputation and strength of ties in predicting commercial success and artistic merit of independents in the Italian feature film industry. *Journal of Management Studies, 42*(5), 975-1002.

Dempster, A. M. (2006). Managing Uncertainty in Creative Industries: Lessons from the Opera. *Creativity and Innovation Management, 15*(3), 224-233.

Denisoff, R. S. (1975). *Solid Gold*. New Brunswick: Transaction Books.

Eliashberg, J., & Shugan, S. M. (1997). Film critics: Influencers or predictors? *Journal of Marketing, 61*(2), 68-78.

Elliott, C., & Simmons, R. (2008). Determinants of UK Box Office Success: The Impact of Quality Signals. *Review of Industrial Organization, 33*(2), 93-111.

Elsbach, K. D., & Kramer, R. M. (2003). Assessing creativity in Hollywood pitch meetings: Evidence for a dual-process model of creativity judgments. *Academy of Management Journal, 46*(3), 283-301.

Gemser, G., Van Oostrum, M., & Leenders, M. (2007). The impact of film reviews on the box office performance of art house versus mainstream motion pictures. *Journal of Cultural Economics, 31*(1), 43-63.

Grantham, A., & Kaplinsky, R. (2005). Getting the measure of the electronic games industry: Developers and the management of innovation. *International Journal of Innovation Management, 9*(2), 183-213.

Hesmondhalgh, D. (2002). *The Cultural Industries*: SAGE Publications.

Hirsch, P. M. (1972a). Processing Fads and Fashions: An Organization-Set Analysis of Cultural Industry Systems. *The American Journal of Sociology, 77*(4), 639-659.

Hirsch, P. M. (1972b). Production and distribution roles among cultural organizations: On the division of labor acroos intellectual disciplines. *Social Research, 45*(2), 315-330.

Hsu, G. (2006). Evaluative schemas and the attention of critics in the US film industry. *Industrial and Corporate Change, 15*(3), 467-496.

Jeffcutt, P., & Pratt, A. C. (2002). Managing creativity in the cultural industries. *Creativity and Innovation Management, 11*(4), 225-233.

Johns, J. (2006). Video games production networks': value capture, power relations and embeddedness. *Journal of Economic Geography, 6*(2), 151-180.

Jones, D., & Smith, K. (2005). Middle-earth meets New Zealand: Authenticity and location in the making of the Lord of the Rings. *Journal of Management Studies, 42*(5), 923-945.

Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal, 45*(6), 1183-1194.

Markusen, A., Wassail, G. H., DeNatale, D., & Cohen, R. (2008). Defining the creative economy: Industry and occupational approaches. *Economic Development Quarterly, 22*(1), 24-45.

McKenzie, J. (2009). Revealed word-of-mouth demand and adaptive supply: survival of motion pictures at the Australian box office. *Journal of Cultural Economics, 33*(4), 279-299.

Mezias, J. M., & Mezias, S. J. (2000). Resource partitioning, the founding of specialist firms, and innovation: The American feature film industry, 1912-1929. *Organization Science, 11*(3), 306-322.

Miller, D., & Shamsie, J. (2001). Learning across the life cycle: Experimentation and performance among the Hollywood studio heads. *Strategic Management Journal, 22*(8), 725-745.

Mol, J. M., Wijnberg, N. M., & Carroll, C. (2005). Value chain envy: Explaining new entry and vertical integration in popular music. *Journal of Management Studies, 42*(2), 251-276.

Mora, E. (2006). Collective production of creativity in the Italian fashion system. *Poetics, 34*(6), 334-353.

Negus, K. (1993). Plugging and programming: pop radio and record promotion in Britain and the United States. *Popular Music, 12*, 57-68.

Negus, K. (1998). Cultural production and the corporation: musical genres and the strategic management of creativity in the US recording industry. *Media, Culture & Society, 20*(3), 359-379.

Peterson, K. (1997a). The distribution and dynamics of uncertainty in art galleries: A case study of new dealerships in the Parisian art market, 1985-1990. *Poetics, 25*(4), 241-263.

Peterson, R. A. (1997b). *Creating country music : fabricating authenticity*. Chicago [u.a.]: Univ. of Chicago Press.

Peterson, R. A., & Berger, D. G. (1975). Cycles in Symbol Production: The Case of Popular Music. *American Sociological Review, 40*(2), 158-173.

Peterson, R. A., & Berger, D. G. (1996). Measuring industry concentration, diversity, and innovation in popular music - Reply. *American Sociological Review, 61*(1), 175-178.

Power, D. (2002). "Cultural industries" in Sweden: An assessment of their place in the Swedish economy. *Economic Geography, 78*(2), 103-127.

Power, D. (2010). The difference principle? Shaping competitive advantage in the cultural product industries. *Geografiska Annaler Series B-Human Geography, 92B*(2), 145-158.

Ravid, S. A., Wald, J. K., & Basuroy, S. (2006). Distributors and film critics: does it take two to Tango? *Journal of Cultural Economics, 30*, 201–218.

Rosenkopf, L., & Nerkar, A. (2001). Beyond local search: Boundary-spanning, exploration, and impact in the optical disk industry. *Strategic Management Journal, 22*(4), 287-306.

Santagata, W. (2004). Creativity, fashion and market behaviour. In D. Power & A. J. Scott (Eds.), *Cultural Industries and the Production of Culture* (pp. 75-90): Routledge.

Schulze, G. G. (2003). Superstars. In R. Towse (Ed.), *A Handbook of Cultural Economics* (pp. 431-436). Cheltenham: Edward Elgar.

Scott, A. J. (1999). The cultural economy: geography and the creative field. *Media Culture & Society, 21*(6), 807-817.

Shamsie, J., Martin, X., & Miller, D. (2009). In with the old, in with the new: Capabilities, strategies, and performance among the Hollywood studios. *Strategic Management Journal, 30*(13), 1440–1452.

Simmel, G. (1905). *Fashion*. Burlington, Vt: [Fox, Duffield & Co.].

Svejenova, S. (2005). 'The path with the heart': Creating the authentic career. *Journal of Management Studies, 42*(5), 947-974.

Thompson, P., Jones, M., & Warhurst, C. (2007). From conception to consumption: creativity and the missing managerial link. *Journal of Organizational Behavior, 28*(5), 625-640.

Throsby, D. (2001). *Economics and culture*: Cambridge University Press.

Tschang, F. T. (2005). Videogames as interactive experiential products and their manner of development. *International Journal of Innovation Management, 9*(1), 103-131.

Tschang, F. T. (2007). Balancing the tensions between rationalization and creativity in the video games industry. *Organization Science, 18*(6), 989-1005.

Table 1: Descriptive statistics

|	Average	Std.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12
1 Average critic score	69.83	14.44	0	98												
2 Developer past releases	13.86	18.17	1	103	0.09											
3 Publisher past releases	45.01	36.78	1	170	0.03	0.31										
4 Developer breadth	0.64	0.26	0.15	1.00	-0.01	-0.66	-0.20									
5 Publisher breadth	0.57	0.19	0.26	1.00	-0.06	-0.40	-0.87	0.34								
6 Game familiarity to developer	0.13	0.24	0.00	1.83	0.09	0.50	0.08	-0.31	-0.14							
7 Game familiarity to publisher	0.36	0.41	0.00	3.18	0.00	0.41	0.59	-0.29	-0.57	0.59						
8 Domain hotness	0.12	0.85	-5.99	2.92	0.19	0.07	-0.14	-0.05	0.05	0.14	0.08					
9 Developer past success	67.83	14.60	13.00	97.50	0.34	-0.13	-0.15	0.09	0.08	-0.06	-0.14	0.17				
10 Publisher past success	65.86	11.92	5.67	92.00	0.23	0.03	-0.06	-0.01	-0.05	0.02	-0.07	0.17	0.50			
11 Domain crowding	7.62	6.60	0.17	46.98	-0.11	0.14	0.25	-0.15	-0.23	0.34	0.55	0.12	-0.31	-0.41		
12 Game description length	1818.52	1690.33	30	14028	0.06	0.11	0.07	-0.11	-0.12	-0.01	-0.02	-0.03	0.02	0.00	-0.05	
13 Number of platforms	1.50	0.78	1	6	0.06	0.20	0.04	-0.36	-0.14	0.09	0.11	0.09	0.02	0.01	0.04	0.20

All coefficients above .05 and below -.05 are statistically significant at $p<.05$. N=1753.

Table 2: Linear regression model with *Average critic score* as dependent variable

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Dependent variables							
H1a Developer past releases		0.07 **	0.02	0.02	0.03	0.03	0.03
		0.03	0.03	0.03	0.03	0.03	0.03
H1b Publisher past releases		0.07 ***	0.07 ***	0.07 ***	0.06 ***	0.07 ***	0.06 **
		0.02	0.02	0.02	0.02	0.02	0.02
H2a Developer breadth		4.70 **	5.14 **	5.15 **	5.44 **	5.14 **	5.42 **
		1.72	1.72	1.72	1.72	1.72	1.71
H2b Publisher breadth		3.22	2.55	2.67	1.41	2.50	0.89
		3.69	3.76	3.76	3.77	3.76	3.78
H3a Game familiarity to developer		9.44 ***	23.88 ***	23.80 ***	23.36 ***	23.89 ***	22.93 ***
		1.94	5.07	5.07	5.06	5.07	5.06
Game familiarity to developer^2			-11.81 **	-12.18 **	-10.86 **	-11.80 **	-11.34 **
			3.91	3.93	3.92	3.91	3.90
H3b Game familiarity to publisher		-4.37 **	-7.34 **	-7.05 **	-7.71 **	-7.40 **	-7.10 **
		1.43	2.89	2.90	2.89	2.89	2.88
Game familiarity to publisher^2			2.15 *	1.96	2.58 *	2.18 *	2.23 *
			1.27	1.28	1.27	1.27	1.26
H4 Domain hotness		3.73 ***	4.07 ***	3.74 ***	5.42 ***	3.74 ***	1.21
		0.44	0.45	0.53	0.64	0.99	0.94
H5a Domain hotness * Developer familiarity				1.35			
				1.15			
H5b Domain hotness * Publisher familiarity					-1.78 **		
					0.60		
H5c Domain hotness * Developer breadth						0.31	
						1.48	
H5d Domain hotness * Publisher breadth							7.07 ***
							1.80
Control variables							
Developer past success	0.31 ***	0.30 ***	0.30 ***	0.30 ***	0.29 ***	0.30 ***	0.29 ***
	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Publisher past success	0.15 ***	0.09 **	0.09 **	0.09 **	0.10 **	0.09 **	0.09 **
	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Domain crowding		-0.37 ***	-1.06 ***	-1.04 ***	-1.22 ***	-1.07 ***	-1.14 ***
		0.09	0.22	0.22	0.23	0.22	0.22
Game description length	0.00 **	0.00 *	0.00 *	0.00	0.00 *	0.00 *	0.00 *
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of platforms	0.64	0.62	0.59	0.59	0.63	0.59	0.53
	0.42	0.44	0.44	0.44	0.44	0.44	0.44
Years (2002-2011) controlled, but coefficients are not shown in order to save space.							
Constant	37.34 ***	33.61 ***	34.67 ***	34.77 ***	35.52 ***	34.66 ***	36.80 ***
	2.67	4.81	4.84	4.84	4.84	4.84	4.87
R-squared	0.15	0.21	0.22	0.22	0.22	0.22	0.23

1753 observations. Two-tailed significance tests for independent variables and one-tailed tests for control variables. * $p<.05$, ** $p<.01$, *** $p<.001$.

Figure 1: Interaction effects
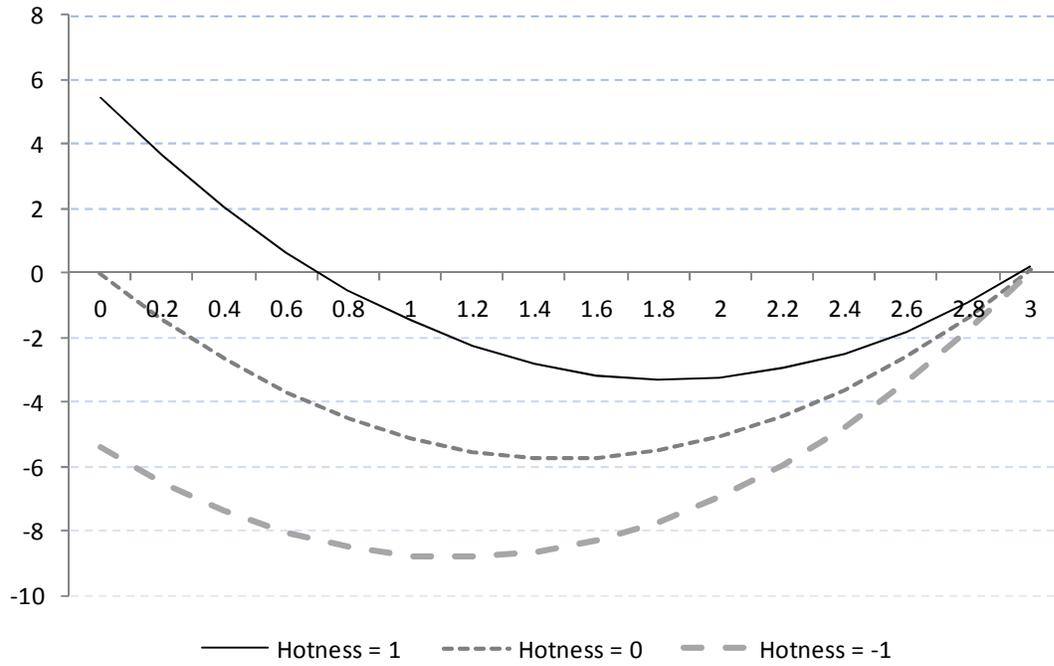
Effects of publisher familiarity (X axis) on critical reception (Y axis) depending on domain hotness.
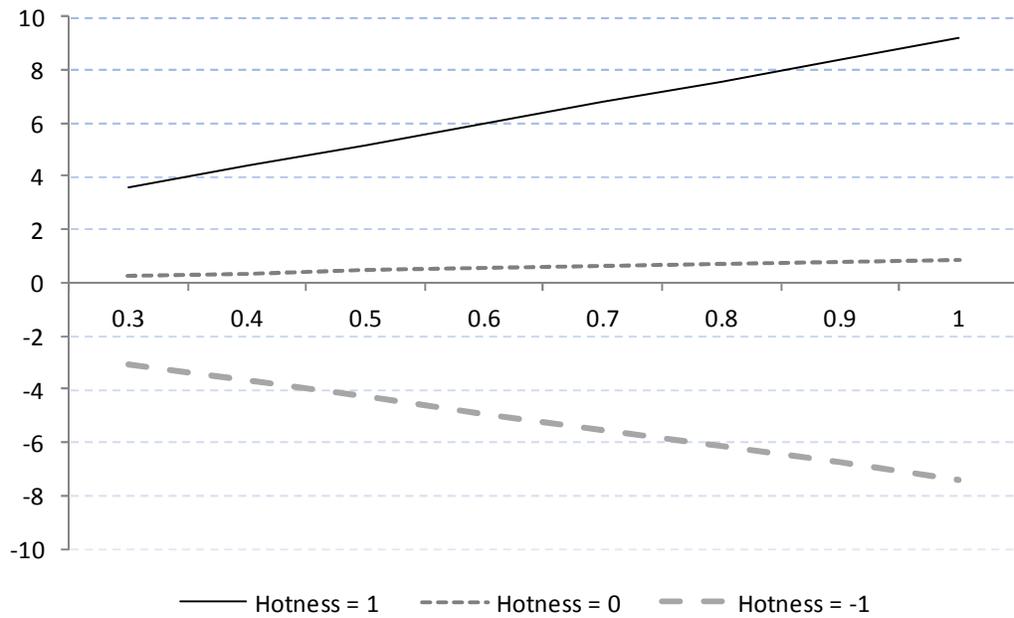
Effects of publisher breadth (X axis) on critical reception (Y axis) depending on domain hotness.