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Organizational Experience and Industry Dynamics in the Television Industry

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Table of Contents

ORGANIZATIONAL EXPERIENCE IN THE U.S. TV INDUSTRY, 1950-2002

"We attract hearts by the qualities we display: we retain them by the qualities we possess."

Jean Suard

Author: Samira Reis

ABSTRACT

This study uses data on U.S. television production companies from 1950 to 2002 to analyze how organizational experience affects the likelihood of a future sale and product performance. In contrast to prior studies, which have analyzed selling and production processes separately, I propose that product performance emerges from both processes. Faced with uncertainty about the quality of new products and services, buyers make judgments about the quality of ideas on the basis of the organizational experience of the companies introducing them. Companies with the experience that buyers prefer nevertheless do not necessarily perform better than otherwise comparable organizations without such experience. Results of an empirical examination reveal that past success and diverse experience affect in distinct ways the likelihood of selling an idea for a new show and the performance of those shows. These two types of experience can, however, act as complements. These findings highlight the key role buyers' perceptions play in product performance.

INTRODUCTION

Buyers try to predict future performance for a new project or idea, understanding if producers have the ability to develop it. But if the qualities one displays may be different from the qualities one possesses, buyers' decisions may not guarantee product performance. Hence, mobilizing resources to invest in new projects and ideas is an undertaking laden with uncertainty and unforeseeable hazards. The consequences of poor decisions can be high. Failing to identify a person or an idea that goes on to success or acclaim elsewhere is a recurring fear for executives who makes these decisions. Because uncertainty pervades attempts to evaluate new ideas, past experience is a primary consideration in the market's assessment of the quality of new projects. This paper investigates how past experience, by shaping buyers' assessments of the quality of new ideas, affects new product selection and performance.

Researchers have adopted a singular stance on such situations, looking at the effect of experience on buyers' perceptions without careful attention to how such perceptions may affect product performance. Focusing on perceptions, organization theory has linked experience with categories arguing that more experience in a category signals relevant competence. Conversely, experience in other categories would suggest relative incompetence at the work in question (Zuckerman et al, 2003). Implicit in this perspective is the assumption that deep experience in something increases both buyers' positive perceptions and actual performance. Recent empirical research, however, has revealed cases in which experience in different categories attracts a larger number of buyers. Using data on the U.S. feature film industry, Hsu (2006) found that the number of audience members an organization targeting multiple genres attracts increases with

diversity, although these organizations are less appealing to those buyers. Given the presence of uncertainty, buyers can be initially attracted to organizations with either homogeneous or diverse experience while they cannot evaluate product performance. Moreover, buyers should be able to distinguish producers' real competences from competence traps. Studies on learning have proposed the benefits and risks of experience in which knowledge plays a key role in determining the efficacy of the firm. A growing body of research on learning finds that firms get better at making things as they gain experience producing them – they learn by doing (for a review, see Argote, 1999). However, work on learning also analyzes cases in which organizations fare especially badly by applying yesterday's experience to today's very different problems, the competency trap (Levitt and March, 1988).

Despite attempts to act rationally, biased beliefs probably lead buyers' decisions. Studies that simply relate the effect of past experience to buyers' perceptions cannot discern between different ways in which experience can affect perceptions and performance. Distinguishing between these two stages requires evidence about the types of experiences buyers observe and how such experience affects performance. The empirical analysis considers one setting in which it is possible to isolate the mechanisms to sell an idea and the development of a product over time: the U.S. television industry. In particular, I examine how past success and diverse experience affects buyers' perceptions of production companies and the quality of TV shows.

ORGANIZATIONAL EXPERIENCE

Researchers have frequently used past experience to analyze buyers' perceptions and learning. Qualifications such as experience and training tend to be used as predictors of actual selection decisions when unambiguous measures of quality do not exist or cannot be observed. If firms learn from experience, then the attributes of this experience are likely to affect buyers' perceptions. Based on Reagans, Argote and Brooks (2005), organizational experience is defined as the cumulative production history of an organization.

There are at least two main mechanisms that may explain why the overall level of knowledge available in the organization might engender more efficient performance: (1) past experience signals organizational reliability, and, thus, its high or low likelihood of being selected by buyers. Organizational ecologists argue that organizations that are thought to be reliable, accountable, and trustworthy have higher chances of survival and better performance (Stinchcombe, 1965; Hannan and Freeman, 1984); and (2) as the organization gains more experience, such experience will affect the organizational learning process, as the acquired knowledge affects the performance of new products. Operationally, cumulative knowledge increases performance for organizations if it helps to signal reliability to buyers, on the creation of a new idea and the implementation of the idea into a valuable product.

The first mechanism points to the value that buyers place on organizational experience in making judgments about organizations. Buyers usually use past experience to evaluate a producer's ability to develop a high quality product. However, there is a great deal of ambiguity in interpretations of organizational experience. The basic

argument is that evaluating organizational performance entails considerable ambiguity, particularly when attributions of causality are required. As has frequently been observed, individual human beings are not perfect statisticians (Kahneman et al 1982). They make systematic errors in recording the events of history and in making inferences from them. They overestimate the probability of events that actually occur and of events that are available to attention because of their recency or saliency. They are insensitive to sample size (Levitt and March, 1988).

A second explanation emphasizes how past experience affects organizational performance. As articulated by Levitt and March (1988, p. 320), organizations learn "by encoding inferences from history into routines that guide behavior". However, when factors of success in one period bear no relation to those in the next, any identification and selection of effective knowledge only results in superstitious learning (Zollo, 2008). Still, learning organizations may have problems in overcoming the competences they have developed with earlier ones, which generates the competency trap (Levitt and March, 1988). Hence cumulative experience may affect positively or negatively the ability of organizations to create and implement new products.

Together, these two processes suggest that there may be a distinction between selling a new idea and obtaining a good performance from it. One thing is how buyers observe organizational experience, another thing is how past experience affects internal producer performance. On the one hand, past experience affects new product selection because buyers believe that it should generate better performance. Buyers have their own expectations and beliefs on what type of experience successful organizations have in common. On the other hand, the organizational experience that affects learning and then

product performance resides within the producer. Although organizations may internally have the experience buyers think is relevant to produce better products, this knowledge does not necessarily guarantee the best performance.

Organizational Experience, Selection and Performance

Two types of experience sustain the selection of new ideas: past success and diverse experience. Organizations and businesspeople are usually associated with their most successful or original past productions. Accounts of the associations between organizations and their past productions fill the popular press, for example, "Big Brother producer Endemol", "Friends co-creator Marta Kauffman" and "Khaled Hosseini, author of The Kite Runner". Organizations that produced big hits are perceived as better firms compared to those that failed or are unknown. In the advertising industry, for example, managers tend to look for known agencies as partners, those that present a good portfolio, as a guarantee of future success. Moreover, it is well known in the literature on both innovation (Taylor and Greve, 2006) and creativity (Caves, 2000; Eslbach and Kramer, 2003) that diverse experience affects the creation and development of a new product, as, for example, organizations are expected to be flexible and creative to attend to the constant changes on audience rates..

Past Success. Theory and evidence suggest that buyers actively use a firm's success or reputation in drawing inferences about that firm's reliability (e.g., Bielby and Bielby, 1994) and in interpreting its behavior. Those who propose new products are likely to be evaluated on the basis of reputations built upon prior successes (DiMaggio, 1977:442). Models of reputation are predicated on the decision-theory vision of a world

of imperfect information in which actors rely on proxies or signals to make rational assumptions about the intentions and future behaviors of other actors (Fombrun and Shanley, 1990; Rao, 1994). In turn, signals are valid when they are derived from past observations and serve as a stable basis to form rational beliefs about the actors in question (Wilson, 1985). Thus, reputation presumes a tight coupling between past experience and future expectations (Weigelt and Camerer, 1988). Similar conclusions have been documented in the publishing industry (Levitt and Nass, 1989), studies of studio musicians (Faulkner, 1983), filmmakers (Baker and Faulkner, 1991), and television writers (Bielby and Bielby, 1994). Bielby and Bielby (1994) argue that linking new series to producers' prior hits reassures commercial constituencies that well-crafted episodes will be produced in an orderly and timely manner and will contain elements that have proven successful with audiences in the past.

However, there is little empirical evidence to support the widely held beliefs about the effects of reputation on performance (Fombrun and Shanley, 1990, Bielby and Bielby, 1994). Surveys of entrepreneurs (Aaker, 1989) and CEOs (Hall, 1993) suggest that respondents perceive intangible resources such as company reputation to be important determinants of performance, but there is no direct evidence that reputation underlies performance differences among firms (Rao 1994). In Elsbach and Kramer (2003)'s interviews with studio executives and agents, they heard numerous tales of individuals who had developed reputations as great pitchers, but who had trouble actually producing usable scripts.

Recent research on learning (e.g Michael and Palandjian, 2004; Audia and Goncalo, 2007) suggests that early success may inhibit the creative process by inducing

producers to focus narrowly on heuristics that worked in the past, a competency trap (Levitt and March, 1988). Michael and Palandjian (2004) pointed to some reasons why this might be true. As the organization observes its experience, it attempts to codify ‘‘best practice’’ into routines. The experience of seeing a situation in a certain way constrains the heuristics used in the creative process, thereby limiting subjects’ abilities to generate novel solutions (Duncker, 1945). Given the presence of uncertainty plus an initial success, producers might find it preferable to exploit previous success rather than to explore new areas (March, 1991). As time passes, ‘‘learners become increasingly removed from other bases of experience and knowledge and more vulnerable to change in their environment’’ (Levinthal and March, 1993:103). For instance, Sorensen and Stuart (2000) found that as organizations age they show a greater tendency to build on their previous innovative activity rather than to explore new domains. Therefore, managers interested in increasing the creative output of their departments should be aware that successful inventors could become less creative over time (Michael and Palandjian 2004, Audia and Goncalo, 2007). These arguments lead to the following predictions:

H1: Past success increases the likelihood of selling a new idea.

H2: Past success decreases product performance.

Diverse Experience. Greater diversity in targeted regions may affect new product selection and performance. Recent formalizations of theories of the niche (Hannan, Carroll and Polos, 2003) study the power of audience, the external entities such as consumers, investors, employees, partners and analysts in shaping organizational

opportunities and constraints. Researchers argue that when organizations or individuals target multiple positions, external entities have more difficulty in interpreting their identities. However, buyers could also seek generalists when they expect a product to address a variety of conditions. Diverse expertise is usually associated with creative output on the judgment about individual's potential creativity (Elsbach and Kramer, 2003). Moreover, recent empirical research on the film industry (Hsu, 2006) has shown that films targeting more genres attract larger audiences. Among the independent producers, Aaron Spelling, for example, produced different genres and had most of his TV series' ideas accepted by TV executives. From The Mod Squad in the 1960s, through The Love Boat, Fantasy Island, Charlie's Angels and The Rookies in the 1970s, Dynasty in the 1980s, to Beverly Hills 90210 and Melrose Place in the 1990s, Spelling crossed generic lines, and was defined more by his sense of light entertainment sought by large portions of the viewing audience, than by any particular style (Kassel, 1997).

However, the niche width literature also emphasizes that organizations targeting a wide diversity of environmental resources divide their capacities across many different kinds of activities, probably reducing their potential for performance in each (Hannan and Freeman, 1977). Research on learning provides a similar view supporting the proposition that specialization, rather than diverse experience, will enhance the learning rate. Management scholars infer that learning is maximized through specialization by modeling performance as a function of the cumulative output of a particular activity. Organizations that solve more of the same kinds of problems should get better at them, leading to the conclusion that groups or organizations that are more specialized should have steeper learning curves (Von Hippel, 1998). Some of the early empirical studies on

organizational learning curves suggest that specialization yields efficiency gains, though also often noting the risk of loss of flexibility (e.g., Abernathy and Wayne, 1974). An organization switching between multiple kinds of tasks would be taking time away from learning the core task, and might become distracted from learning concepts that apply only to the core task. These arguments lead to two predictions:

H3: Diverse experience increases the likelihood of selling a new idea.

H4: Diverse experience decreases product performance.

Diverse Experience, Past Success and Performance

Although the theory holds that diverse experience and past success generate lower product performance separately, the interaction between these two types of experience may have a distinct effect. Recent empirical research (e.g. Zollo, 2008) reveals the moderating role played by diverse experience to counter the negative implications of past success. Whereas past success tends to promote competence traps (Levit and March, 1988; Michael and Palandjian, 2004; Audia and Goncalo, 2007), heterogeneity in the stock of experience may serve as an antidote to them. Research on group composition indicates that heterogeneity promotes healthy skepticism (Wiersema and Bantel, 1992; Keck and Tushman, 1993), which can mitigate the development of confidence ahead of competence.

In the context of uncertainty plus an initial success, higher levels of diverse experience in the stock of accumulated experience might generate a beneficial net effect on the gap between perceived and actual competence levels. This is because inferences

made on the basis of wider breadth of expertise will be more likely to generate different viewpoints in framing the issues, a wider variety of potential solutions to identified problems, and more powerful tests of the causalities between decisions/actions and performance outcomes (Zollo, 2008). These considerations lead to the following hypothesis:

H5: The greater the diverse experience of the firm, the weaker the negative effect of past success on product performance.

An important scope condition to this theory is uncertainty on the part of the buyers about the actual value of the ideas as they are not able to predict performance before the development of the new product. The assumption is that past work in an area serves as the main information to evaluate the possession of skills (see also Zuckerman et al, 2003). Without uncertainty, buyers would not offer a premium when exchanging with generalists or successful organizations, nor would they fail to recognize the results of their own efforts. The central argument is that buyers hold biased assessments in favor of companies that have past successes and diverse experience and tend to overestimate the actual quality of their products. This assumption, however, does not greatly limit the theory's scope of application. The general dynamic applies to a wide variety of decision processes; for example, employment relations in which managers have to decide whether or not to invest time and money in their employees' ideas to bring something new to their company.

Second, there is a high demand for novelty in this context, as buyers are always searching original and creative new ideas to satisfy the fickle consumer tastes. Lastly, these hypotheses should only hold when the stages of gaining buyer's attention and of evaluation are temporally distinct from one another. Sometimes, buyers can gather information on organization performance during consumption. For example, if a television network decides to invest in a TV series that is on air on another TV channel. When these two stages are intertwined, buyers may identify the current show performance and would not need to evaluate organizational experience.

METHODS

U.S. TV Industry

To test the hypotheses above, I focused on the effect of production companies' experience on the sale and longevity of TV series in the U.S. television industry from 1950 to 2002. Since the mid 1950s, when television switched from live to filmed shows, independent production companies have accounted for the majority of television programming (Kassel, 1997). Networks also produced some TV programs, except for the period from 1970 to 1995 when the Federal Communications Commission (FCC) implemented the Financial Syndication rules, attempting to increase programming diversity. This rule limited the amount of prime-time programming the networks could produce themselves.

This setting is a prime candidate for studying how buyers' perceptions affect product performance for several reasons. First, in American television, production companies are well known to serve as the decisive figures in at least two different

processes that occurs at different times: (1) generating new ideas and selling them to TV executives, and (2) producing the program. Therefore, the stages of gaining buyer's attention and of developing new products are temporally distinct from one another. A second motivation for studying the U.S. production companies is that there is a high demand for novelty in this context. In many industries and business – including culture, advertising, software, and venture capital funding - novel and innovative products are in great demand, and competition is driven by a search for novelty (Lampel, Lant, & Shamsie, 2000; Perretti and Negro, 2007). Hence, each year TV executives have to select new series to compete against other TV channels.

Lastly, it provides an opportunity to examine the constraints that shape the buyer-seller relationship. Program suppliers and network programmers are mutually dependent. On the one hand, a production company that creates a new idea seeks access to a network's prime-time schedule trying to offer the most original TV series. On the other hand, the programmer is dependent upon program suppliers for new series that will attract audiences that advertisers want to reach. Sometimes, TV executives order new programs directly from specific production companies or studios[1], but often they are

[1] The most significant of the early studios--which began as an independent production company--was Desilu, founded in 1951 by Lucille Ball and Desi Arnaz. On the strength of its hit sitcom I Love Lucy, Desilu hosted numerous successful independent producers, including Danny Thomas and Quinn Martin. There are many cases in which independent producers left a studio to form their own production companies. Quinn Martin, is an example of an independent producer whose career started with Desilu. In 1963, however, Martin formed his own QM productions and launched many shows, including The Fugitive (1963), The FBI (1965), Cannon (1971), The Streets of San Francisco (1972) and Barnaby Jones (1973).

involved in pitching meetings where production companies prepare a short presentation of the plot and the talent involved to executives of the broadcasting company.

In the television industry, network executives consistently relate that there is no reliable basis for predicting whether audiences, advertisers, and critics will accept new TV series (Gitlin, 1983; Bielby and Bielby, 1994). As the quality of new ideas for TV shows are difficult to discern in this industry, TV executives usually rely on past experience to choose new shows. As networks are obsessed with insuring hit programs, they tend to work with only those production companies with proven track records (Kassel, 1997). While networks still license, schedule and select future programming--as well as maintain liaisons that may monitor weekly episodes--the casting, writing and directing remain the responsibility of independent production companies or studios.

Therefore, the probability of getting an idea accepted as well as the development of TV shows requires experience. In addition, though multiples types of organizational experience play diverse roles in shaping this industry, the focus here concerns diverse experience and past success. One may observe from both theorists and managers the importance of both diverse experience and past success in the television industry. Elsbach and Kramer (2003) argue that diverse skill is important to creativity and consequently to selling a show, and Bielby and Bielby (1994) assert that past success also plays a big role in this transaction. Additionally, TV executives usually expect creativity and past success from production companies. For example, Pat Weaver, the head of NBC's television activities in the 50s, declared that he expected creative qualities and past successes from a production company (Broughton, 2001: 219).

In addition to the networks, production companies may also release new shows through syndication and cable. Syndication is the practice of selling rights to the presentation of television programs, especially to more than one customer such as a television station, a cable channel, or a programming service such as a national broadcasting system. If companies try to sell a show to programmers other than the major networks, however, then the program is known as "first run syndication." TV producers usually see the negotiation with networks and syndicators as quite similar, as for example, Edwin Vane, who developed programs for both NBC and ABC, declared:

"The elements of program making in first-run syndication are the same as at the network. The people you work with, the agents, the lawyers, the representatives and so on, are pretty much the same" (Broughton, 2001: 266).

The only difference between networks and syndication is the market-by-market procedure. In the transactions with networks, production companies have to deal once with TV executives because if these executives decide to put on a certain program, one of the least concerns is station clearance, as the station lineup will cover 98 percent of the country. In syndication, production companies have to go out with the sales staff and do it market by market until they have enough clearance to justify production (Broughton, 2001). Hence, transactions with networks and syndicators should vary little in terms of the importance of organizational experience, as the main difference is simply the number of times production companies have to negotiate.

DATA

The unit of analysis is the organization. Production companies usually consist of a group of producers and a stable administrative staff. A common structure of production companies is that of contract employment and empirical studies have shown that organizations usually work with partners with whom they have previously interacted (e.g. Sorenson and Waguespack, 2006). Producers are the main actors in production companies; however, producers' roles vary dramatically from organization to organization. Some highly successful producers, such as Quinn Martin and Aaron Spelling, are primarily business executives presiding over several programs. They may take an active role in conceiving new programs and pitching to networks, but once a show is accepted they are likely to concentrate on budgets, contracts, and troubleshooting, handing over day-to-day production to their staffs, and exercising control only in a final review of episodes. Other producers are more intimately involved in the details of each episode, participating actively in screenwriting, set designs, casting and - like James Burrows - serving as a frequent director for their programs. Still others serve as enabling mid-managers who delegate crucial activities to directors, writers, and actors, but who choose such personnel carefully, and enforce critical standards, while working to insulate the creative staff from outside pressures. Many producers dispatch their duties within studio hierarchies; while those who own independent companies, sometimes contract space, equipment, and personnel from studios (Kassel, 1997).

The dataset is derived from the Complete Directory to Prime Time Network and Cable TV Shows (Brooks and Marsh: 2003), which includes all regular series and covers the entire history of TV networking in the United States from its inception on a regular

basis in 1950 to 2002 (N=4632). Brooks and Marsh's definition of "series" is a program that runs at least four consecutive weeks in the same time slot. These series are seen simultaneously across most of the country. The data include all transactions between production companies and networks (62%) as well as production companies and syndicators (12%) and cable stations (26%). Data about production companies comes from the Internet Movie Database (imdb.com). To be included, a TV show had to appear on the IMDB website with the name of the production company that created and developed it. In addition, TV series produced internally by networks were also excluded because the analyses rest on the relationship between production companies and executives. These restrictions excluded approximately 47% of shows. However, if a TV show is a co-production, which means that it is produced by more than one production company, I count it *n* times, where *n* is the number of companies involved on that production. If a co-production involves a TV network, the observation that refers to that network is excluded. Co-productions represent approximately 50% of cases. The final dataset contains then 4310 TV shows produced by 1834 production companies.

Dependent Variables

The outcomes of interest in this study represent the ways in which organizational experience influences new product selection and performance. In the television industry, for example, "It's one thing to create good ideas … and it's another thing to be able to run a show … and what networks want is show runners ... someone who can write, and pitch, and manage the daily grind of running a television series" (Elsbach and Kramer, 2003). Because the number of shows starting for each firm indicates how likely an organization is to sell a new product, I measured the number of series each production company

started yearly as the entry-rate of shows for each organization. If an organization does not have any new production but is still developing shows that started in previous years, the entry-rate of shows in that year is equal to zero.

The second outcome is measured in terms of the longevity of the show that represents the number of years (seasons) a TV show was on air. The longevity of the show is a clear measure of performance for production companies. Production companies hope to run a show at least three or four seasons, so that enough episodes will be produced to make the series profitable in subsequent syndication. The real payoff comes if TV series sustain competitive network ratings for at least three full seasons (Vogel, 1998:135). Still, the probability of renewing a show increases markedly once a series has been renewed at least once (Owen and Wildman, 1992:184).

Independent Variables

The first main explanatory variable of this study is past success, the number of times a production company had a top 10 show in the previous three years.[2] Top 10 are those shows that reached the highest 10 positions in terms of audience size. It is based on

[2] Recent research on the film industry has used the three-year window (e.g. Zuckerman et al, 2003; Sorenson and Waguespack, 2006). On the one hand, this window underestimates the true level of repeated successes because in many cases teams without hits in this three-year window had hits in earlier years. On the other hand, using the prior three years of data minimizes the effects of outliers. Production companies that produced a hit at the beginning of their lives and remained years without producing any hit were not considered successful companies. Finally, a three-year period offered the advantage of a relatively short snapshot of an organization experience but not so short that there would be few organizations that developed enough shows to produce variation in our variables.

the Nielsen rating that is the percent of all TV-equipped homes tuned to the program on an average night, as measured by Nielsen Media Research. If TV executives link new series to producers' prior hits to ensure that new series contain elements that have proven successful with audiences in the past, then we should see a positive relationship between this variable and the probability of releasing a new idea. However, if this experience inhibits creativity and innovation in making new products, we would expect a negative relationship between this variable and the longevity of the show.

The second main explanatory variable of this study is diverse experience, which is measured in two different ways: (1) the number of genres in which production companies had worked in the three years prior to the exhibition of the new show and (2) the number of *new* genres in which production companies had worked in the three years prior to the exhibition of the new show. The first variable captured an organization's range of genre knowledge domains in the previous three years. The second variable instead captured an organization's range of innovations in the previous three years. The idea here is to distinguish between generalists that always produced the same types of genres: drama, comedy and action, for example, against organizations that are recently investing in new markets. I used different archival sources for diverse experience information. The genre classifications listed in IMDB and Brooks and Marsh (2003) are used as indicators of organizational experience. TV series were classified along 25 common genres: action, adventure, animation, children, comedy, crime, documentary, drama, family, fantasy, game, horror, intrigue, musical, mystery, news, reality, romance, science fiction, sports, talk-show, variety, various war, and western. Table 1 shows the frequency for each genre.

TABLE 1
Genres

Genre	Freq.	Percent
comedy	1,418	32.90
drama	854	19.81
adventure	322	7.47
animation	222	5.15
game	199	4.62
sci-fi	175	4.06
variety	171	3.97
western	168	3.90
documentary	129	2.99
talkshow	127	2.95
music	119	2.76
various	71	1.65
intrigue	65	1.51
news	54	1.25
reality	45	1.04
action	39	0.90
fantasy	31	0.72
children	18	0.42
crime	16	0.37
war	15	0.35
horror	14	0.32
mystery	12	0.28
sports	11	0.26
romance	10	0.23
family	5	0.12
Total	4,310	100

Figure 1 depicts the average value of the longevity of TV shows over the number of hits and over the genres production companies produced during the previous three years. One can clearly see that the longevity of shows decreases when either the number of top 10 shows or different genres increases. Few companies, like Lorimar Television and Revue Studios, produced more than six successes. However, such companies also produced

diverse genres, which may explain the increase in performance when they produced more than six shows.

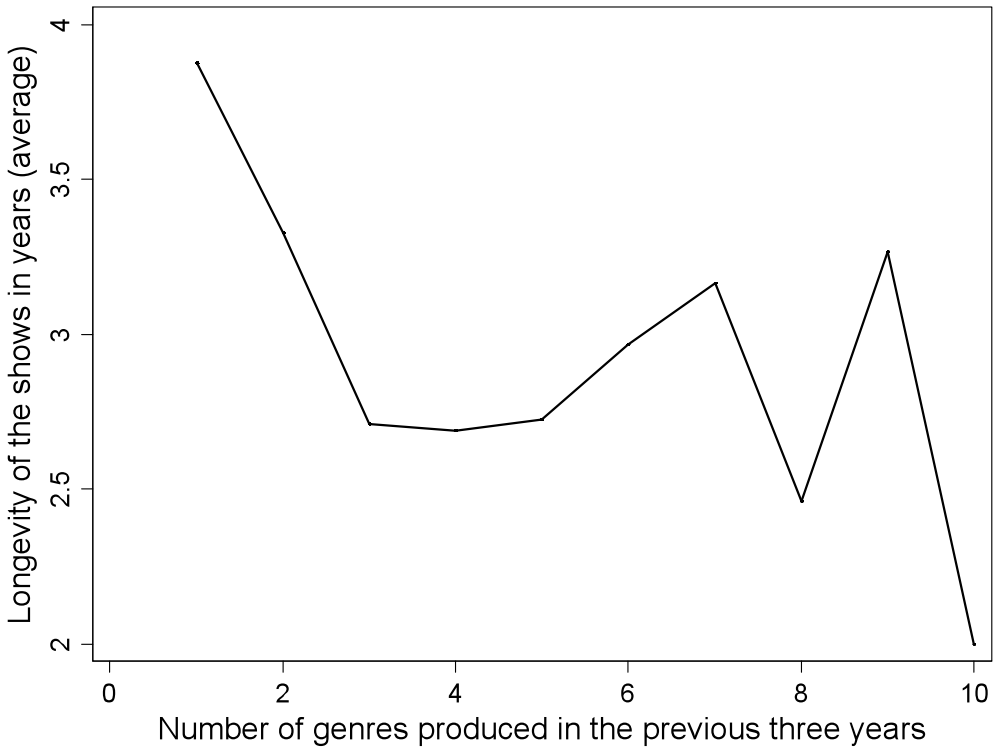

Figure 1a. Diverse Experience and Performance

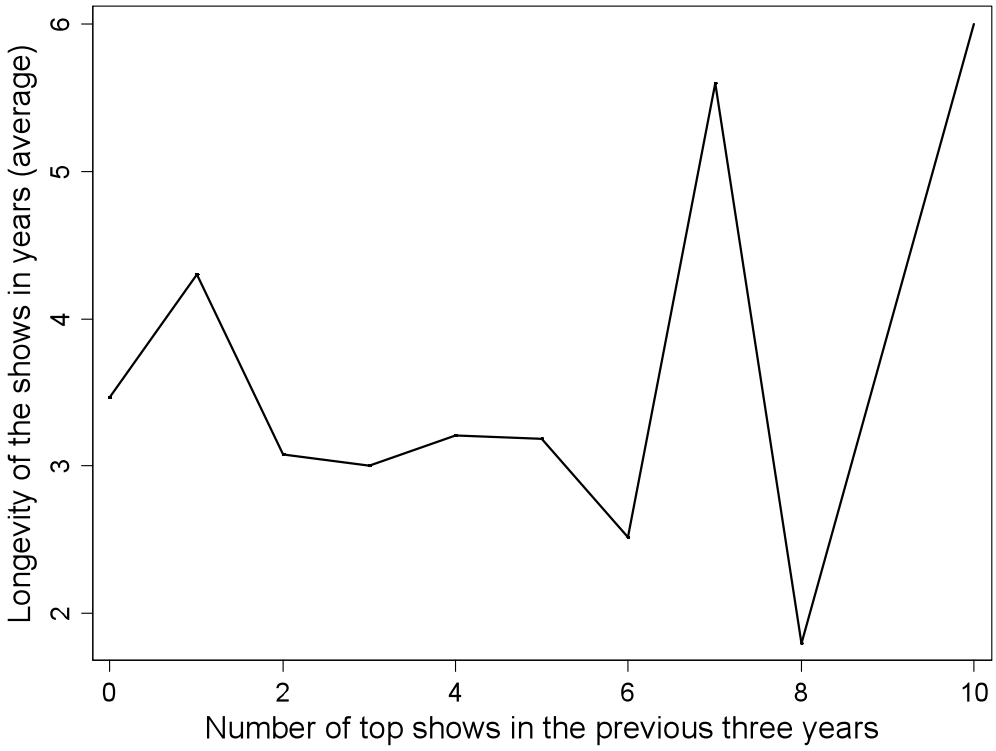

Figure 1b. Past Success and Performance

This analysis includes some controls that might influence estimates both of entry-rate and of the longevity of the show. First, I included a control variable for the ecological process that may influence organizational vital rates, density dependence (Hannan and Freeman, 1989). I included the first term of the number of TV series on air each year. This variable controls for legitimation processes among production companies. The models also included three additional variables to capture the effects of competition among networks. These are dummy variables set to one, beginning in the year when each channel begins broadcasting: FOX (1986), UPN (1995) and WB (1993). Competition

among channels should increase carrying capacity for shows. At the industry level, I also controlled for regulation. The Federal Communications Commission (FCC) implemented the Fin-Syn (Financial Syndication) rules in 1970, attempting to increase programming diversity and limiting the market control of the broadcast television networks, which should benefit production companies. The FCC eliminated all traces of Fin-Syn by November 1995. I created a dummy variable equal to one from the period between 1970 and 1995, set to zero otherwise.

I also added a control variable at the organization-level. This variable captured the total organizational experience, the total number of series that an organization had produced. It captures several factors. Because experience reflects the number of TV series an organization created, a larger number of shows captures size. Also, it captures age, as older organizations have more time to produce a larger number of shows. I also tried adding continuous measures of age and size; however, I decided not to include them because they were highly correlated with total experience.

The estimation also included controls for three show-level attributes in the models that analyze the longevity of the show. First, a variable captured whether the show was a co-production, which may increase the longevity of the show, as producers share the responsibilities and risks with other companies. Half of the TV shows were co-productions. Production companies usually start as a co-producer (54%) and small organizations usually work along with other organizations (58%). The second variable captured whether the TV series was on air on networks or other channels - syndications or cable stations. It is generally more difficult for a show to survive on networks because if a production company does not attract the expected audiences, the show is dropped.

The last variable captured whether the TV show was a spin-off, that is, a creation based on an earlier show. All of these three variables were dummies. Covariates are measured and updated annually, and lagged one year to estimate entry-rate of shows. However, models to estimate the longevity of the show included the values of the first year in which the show started for each covariate. Tables (2-5) provide descriptive statistics and correlations for the variables used in both analyses.

TABLE 2
Descriptive Statistics for Show Entry-Rate Analysis

Variable	Mean	Std. Dev.	Min	Max
Entry	0.45	0.79	0	12
Density - log(# of series + 1)	5.11	0.42	1.39	5.77
Regulation - Fin-syn	0.47	0.50	0	1
Fox	0.52	0.50	0	1
UPN	0.30	0.46	0	1
WB	0.36	0.48	0	1
Total experience (# of series)	3.72	8.36	1	127
Diverse experience - last 3 years	1.39	0.95	1	10
Innovation - last 3 years	0.65	0.67	0	5
Success - last 3 years	0.32	0.90	0	10

TABLE 3
Correlation Matrix for Show Entry-Rate Analysis

	Variable	**1**	**2**	**3**	**4**	**5**
1	Entry	1				
2	Density - log(# of series + 1)	0.02	1			
3	Regulation - Fin-syn	-0.001	-0.28	1		
4	Fox	0.02	0.78	0.05	1	
5	UPN	0.04	0.78	-0.45	0.63	1
6	WB	0.04	0.80	-0.30	0.72	0.88
7	Total experience (# of series)	0.42	-0.01	0.07	0.00	-0.01
8	Diverse experience - last 3 years	0.47	0.001	0.02	-0.02	-0.02
9	Innovation - last 3 years	0.20	0.03	-0.07	0.04	0.03
10	Success - last 3 years	0.19	-0.08	0.00	-0.11	-0.08

	Variable	**6**	**7**	**8**	**9**	**10**
6	WB	1				
7	Total experience (# of series)	-0.01	1			
8	Diverse experience - last 3 years	-0.03	0.65	1		
9	Innovation - last 3 years	0.03	0.03	0.41	1	
10	Success - last 3 years	-0.10	0.18	0.16	-0.06	1

TABLE 4
Descriptive Statistics for Analysis of the Longevity of the Show

Variable	Mean	Std. Dev.	Min	Max
Length of the show (ln)	1.32	0.56	0.69	3.81
Density (# of series)	5.35	0.35	2.71	5.87
Regulation - Fin-syn	0.40	0.49	0	1
Fox	0.57	0.50	0	1
UPN	0.38	0.49	0	1
WB	0.43	0.49	0	1
co-production (dummy)	0.50	0.50	0	1
networks (dummy)	0.68	0.47	0	1
spin_off (dummy)	0.03	0.17	0	1
Total experience (# of series)	8.90	17.07	1	129
Diverse experience - last 3 years	2.13	1.77	1	10
Innovation - last 3 years	1.16	0.86	0	5
Success - last 3 years	0.45	1.14	0	10

TABLE 5
Correlation Matrix for Analysis of the Longevity of the Show

	Variable	**1**	**2**	**3**	**4**	**5**	**6**
1	Length of the show (ln)	1					
2	Density (# of series)	-0.21	1				
3	Regulation - Fin-syn	0.11	-0.43	1			
4	Fox	-0.11	0.77	-0.04	1		
5	UPN	-0.18	0.84	-0.51	0.69	1	
6	WB	-0.17	0.83	-0.38	0.76	0.91	1
7	co-production (dummy)	0.20	0.26	-0.11	0.27	0.26	0.27
8	networks (dummy)	-0.06	-0.39	0.11	-0.40	-0.39	-0.39
9	spin_off (dummy)	0.05	-0.04	0.08	-0.03	-0.05	-0.04
10	Total experience (# of series)	-0.13	0.01	0.09	0.03	0.01	0.02
11	Diverse experience - last 3 years	-0.11	-0.03	0.02	-0.07	-0.04	-0.05
12	Innovation - last 3 years	-0.03	0.03	-0.09	-0.03	0.00	-0.01
13	Success - last 3 years	-0.01	-0.07	0.06	-0.08	-0.08	-0.09

	Variable	**7**	**8**	**9**	**10**	**11**	**12**	**13**
7	co-production (dummy)	1						
8	networks (dummy)	-0.14	1					
9	spin_off (dummy)	-0.02	0.07	1				
10	Total experience (# of series)	-0.06	0.07	0.02	1			
11	Diverse experience - last 3 years	-0.12	0.05	0.02	0.68	1		
12	Innovation - last 3 years	0.01	-0.02	-0.04	0.03	0.51	1	
13	Success - last 3 years	-0.04	0.18	0.15	0.37	0.33	-0.02	1

MODELS

I began by examining whether past success (hypothesis 1) and diverse experience (hypothesis 3) affect the TV shows entry-rate for production companies. I define entry dates according to the first year in which TV shows were on air. In particular, I estimated negative binomial models with fixed effects for each production company to account for time-invariant factors that might promote organizational variation in entry (Hausman, Hall and Griliches, 1984).

For effects of past success (hypothesis 2), diverse experience (hypothesis 4) and the interaction (hypothesis 5) on product performance, I estimated fixed-effects regression models. I estimated the log of the longevity of the show with fixed effects for each organization to control for significant firm differences in show duration. The logarithm was used since I expect that the longevity of the show increases at a decreasing rate.

RESULTS

I first analyzed the estimates for the negative binomial on the product entry-rate of U.S. TV production companies. Table 6 contains the results from the fixed-effects negative binomial on the product entry-rates of U.S. TV production companies. Model 1 presents the control variables. Regulation does not affect show entry-rate in this industry. Competition, instead, plays a big role in this industry. The first term of density-dependence is negative and significant. It seems that series are not driven by legitimation, only by competition, as the number of series on air has always a negative effect on show entry-rate. Preliminary analysis not reported here showed that both legitimation and competition always presented negative results on the negative binomial models. Barnett

and McKendrick (2004), using data on hard drive manufacturers, suggest that whether and how organizations develop over time hinges on whether they are exposed to competition. Given the fixed time available for airing shows, density could not produce positive (legitimating) effects. In addition, the increase of the number of TV channels is also relevant. Expansion of the product space might weaken selection pressures (Sorenson, 2000). The presences of UPN and WB present positive and significant coefficients. Production companies benefit from a larger number of channels for two reasons. First, they can bargain when two or more channels compete for similar offers. Second, they can offer distinct products when channels try to differentiate. Increased product variety allows the market to meet a broader range of consumer preferences, which expands the carrying capacity of the niche (Sorenson, 2000).

TABLE 6
Fixed-effects Negative Binomial Models on the Product Entry-Rate – 1950 to 2002

Variable	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
constant	2.760***	2.868***	3.101***	2.687***	3.349***	2.836***
	(0.732)	(0.735)	(0.728)	(0.732)	(0.734)	(0.737)
Density - log(# of series + 1)	-0.268*	-0.312**	-0.375**	-0.268*	-0.401***	-0.298**
	(0.147)	(0.148)	(0.147)	(0.147)	(0.147)	(0.148)
Regulation - Fin-syn	-0.028	-0.006	0.000	-0.015	0.013	0.012
	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)
Fox	0.097	0.110	0.174	0.103	0.170	0.116
	(0.111)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)
UPN	0.442***	0.456***	0.463***	0.448***	0.472***	0.466***
	(0.126)	(0.126)	(0.126)	(0.126)	(0.125)	(0.125)
WB	0.181	0.234*	0.233*	0.201	0.271**	0.255**
	(0.123)	(0.123)	(0.123)	(0.123)	(0.123)	(0.123)
Total experience (# of series)	-0.010***	-0.010***	-0.016***	-0.009***	-0.015***	-0.009***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Past Success		**0.114*** **			0.087***	0.125***
		(0.024)			(0.031)	(0.024)
Diverse experience			**0.122*** **		0.108***	
			(0.021)		(0.022)	
New genre experience				**0.073** **		0.089***
				(0.030)		(0.031)
diverse exp * past success					**0.002**	
					(0.010)	
new genre exp * past success						**-0.034***
						(0.018)
Observations	4492	4492	4492	4492	4492	4492
Production companies	493	493	493	493	493	493

Log likelihood	-2866.2	-2855.2	-2850.2	-2863.2	-2843.0	-2850.5

***p<0.01, **p<0.05, *p<0.1

1 - 399 producers dropped because of only one obs per group and 562 producers dropped because of all zero outcomes

Model 2 introduces the effect of past success. In support of hypothesis 1, the results show that production companies that had produced recent hits experienced higher entry-rates of shows: the past success covariate has a strong, positive effect on the show entry-rate. Models 3 and 4 present the effect of diverse experience. The findings in these regressions suggest that organizations with greater recent experience on diverse genres, both on new or old genres, were more likely to sell their shows, as predicted in hypothesis 3. Both covariates - diverse experience and new genre experience - have strong and positive effects on the show entry-rates for an organization. Table 6 also reports additional models to explore the effect of interactions on the product entry-rate of production companies. Model 5 shows that the interaction between diverse experience and past success is positive although it is not significant. Model 6 presents the interaction between new genre experience and experience with top 10 shows. This coefficient instead is negative and slightly significant ($p<0.1$). I discuss the interpretation below.

Table 7 contains the results from fixed-effects on the log of the longevity of the show of U.S. TV production companies. Controls are also quite consistent across these models. Regulation is now significant although negative. Indeed, one anti-Fin-Syn argument noted that the Fin-Syn rules undermined the role of independent producers rather than enhanced them - not only because small independent producers often could not afford to engage in the "deficit financing"[1] required by the networks but also because it was more difficult to develop the shows without networks as partners (McAllister, 1997). Once again, the first term of density is negative as it was on the entry-rate models

[1] Deficit financing involves receiving a below-cost payment from the networks during the first-run of a program.

(see above). On the product-level, series that are co-productions or spin-offs last longer, as one could expect. Coefficients are positive and significant. Indeed, because it is difficult to generate positive cash flows in the start-up phase of production, many production companies have encountered financial difficulties and have been forced to co-venture or to merge with larger organizations or studios (Vogel, 1998:478). The dummy that represents series broadcast on networks is negative and significant. Networks rules are probably more severe. On occasion, a television program originally developed for network programming will be shifted into the first run syndication mode. This is the case with Baywatch, a program that failed to attract a sufficient audience when programmed by NBC in 1989, and was canceled after a single season. It then went into production as a first run syndicated product and became enormously successful in international markets (Fletcher, 1997).

TABLE 7
Fixed-Effects Models of the Log of the Longevity of the TV series

Fixed-Effects Models of the Log of the length of the series of US TV Producers - 1950 to 2002

Variable	MODEL 7		MODEL 8		MODEL 9		MODEL 10		MODEL 11		MODEL 12	
constant	5.746	***	5.661	***	5.512	***	5.729	***	5.495	***	5.699	***
	(0.440)		(0.435)		(0.439)		(0.436)		(0.436)		(0.436)	
Density - log(# of series + 1)	-0.831	***	-0.821	***	-0.793	***	-0.831	***	-0.796	***	-0.830	***
	(0.085)		(0.084)		(0.084)		(0.084)		(0.084)		(0.084)	
Regulation - Fin-syn	-0.090	**	-0.095	**	-0.093	**	-0.085	**	-0.103	***	-0.092	**
	(0.040)		(0.040)		(0.040)		(0.040)		(0.039)		(0.040)	
Fox	0.116	**	0.125	**	0.101	**	0.121	**	0.090	*	0.129	**
	(0.051)		(0.051)		(0.051)		(0.051)		(0.051)		(0.051)	
UPN	-0.090		-0.093		-0.089		-0.085		-0.080		-0.088	
	(0.062)		(0.061)		(0.061)		(0.062)		(0.061)		(0.061)	
WB	-0.013		-0.021		-0.025		-0.009		-0.028		-0.017	
	(0.055)		(0.055)		(0.055)		(0.055)		(0.055)		(0.055)	
co-production	0.379	***	0.377	***	0.374	***	0.378	***	0.368	***	0.376	***
	(0.024)		(0.024)		(0.024)		(0.024)		(0.024)		(0.024)	
networks	-0.211	***	-0.213	***	-0.209	***	-0.211	***	-0.207	***	-0.212	***
	(0.031)		(0.031)		(0.031)		(0.031)		(0.031)		(0.031)	
spin_off	0.130	**	0.147	***	0.134	**	0.133	**	0.172	***	0.151	**
	(0.055)		(0.055)		(0.055)		(0.055)		(0.055)		(0.055)	
Total experience (# of series)	-0.002	*	-0.002	**	-0.001		-0.002		-0.002		-0.002	*
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)	
Past Success			**-0.038**	***					-0.041	***	-0.038	***
			(0.010)						(0.011)		(0.011)	
Diverse experience					**-0.029**	***			-0.019	**		
					(0.009)				(0.009)			
New genre experience							**0.021**	*			0.019	

				(0.011)		(0.012)
diverse exp * past success				0.019	***	
				(0.004)		
new genre exp * past success						0.004
						(0.007)
df	9	10	10	10	12	12
Observations	4310	4310	4310	4310	4310	4310
Production companies	1834	1834	1834	1834	1834	1834
F test of f.e.	1.28	1.29	1.29	1.28	1.31	1.29
Overall R2	0.1423	0.1389	0.144	0.140	0.1355	0.138

***p<0.01, **p<0.05, *p<0.1

Models 7 through 12 report the results of the estimations of the effects on product performance, measured by the longevity of the show. Model 8 reveals that successful experience negatively affected performance, consistent with hypothesis 2. Models 9 and 10 present conflictive results about diverse experience. On the one hand, production companies working in different markets in the previous three years performed worse. On the other hand, organizations entering a larger number of new markets in the last three years introduced shows that lasted longer.

Models 11 and 12 introduce the interaction terms between past success and diverse experience. The results demonstrate that the consequences of having diverse experience and past success differ significantly depending on whether organizations have only one or the two types of experience at the same time. The interaction between past success and diverse knowledge with a positive and significant coefficient shows that these experiences are complementary. Diverse experience seems to disrupt the effects of inertia on organization behavior and consequently increases performance. Different from model 11 the interaction between new genre experience and past success (model 12) is not significant although it is still positive. The results show that experience entering in different markets does not disrupt the effects of inertia.

Several non-reported models were estimated to test the robustness of these results. First, I ran the same models above using all information collected at the IMDB website to compare results against the Brooks and Marsh' database. For example, I gathered information about show genre from both IMBD and Brooks and Marsh' database. Although all shows appeared in the two sources, 5% of shows had missing genres in the IMDB database. Results across both codings are quite similar. Second, I also estimated

negative binomial models with variance decomposition (the gnbreg routine in Stata), including the variables that could affect the variance on one of the main explanatory variable, diverse experience. The theory of knowledge combination holds that diverse knowledge components show greater variance in quality evaluations, resulting in perceived failures or successes (Fleming, 1999; Fleming and Sorenson, 2001; Taylor and Greve, 2006). However, diverse experience presented non-significant coefficients. Third, I also used past success as the count of times an organization had a top 20 show or a top 30 show. Results were quite similar. Lastly, I also ran models excluding all co-productions. These models exclude both the possibility of correlated errors among co-producers that produced the same TV series and any possibility that partners' experience affected buyers perception and product performance. Coefficients for diverse experience and interactions presented similar results. Past success, however, still had a negative effect on the longevity of the show, but it lost the significance.

DISCUSSION

TV executives exhibit a strong tendency to contract with successful production companies. They also tend to choose ideas from organizations that have been working with multiple genres. Once one checks how these types of organizational experience - past success and diverse experience - affect product performance, however, one sees that these organizations perform worse in terms of the longevity of the show; production companies benefit from these experiences to sell their products but past hits and experience with multiple genres do not necessarily guarantee better performance. Moreover, the interaction between new genre experience and past hits had a negative and

significant effect on product entry-rate, and a positive, although not significant, effect on product performance. An alternate explanation to this, independent of buyers' perceptions, is that product companies that invested in new markets and are producing their top hits would decide to produce fewer shows in a three-year window. The results therefore implicate organizational experience as the source of a negative correlation between chosen organizations and organizational performance in the television industry.

Production companies involved with creating and pitching ideas to TV executives work also on the development of the new product. Researchers have frequently interpreted such processes separately, focusing either on studying the relationship between production companies and TV executives or on understanding the internal processes to develop new products. This analysis reveals that in the TV industry organizational experience may produce distinct effects depending on the processes in which an organization is involved.

At least two factors account for this effect. First, TV executives prefer successful production companies, even though success may inhibit creativity. Some scholars (e.g. Levitt and Nass, 1989) argue that a key factor in developing a reputation in creative industries is to get lucky early in the game. They follow Merton (1968) to show that the reputational effect is likely to adhere and be self-fulfilling, resulting in the Matthew Effect. Hence, the reputation of production companies may allow them to get away with lower quality products. Such a situation could explain why these products do not last as long. Second, TV executives tend to believe in diverse experience, although diverse experience does not improve the quality of a show.

The explanation for these results rests on the notion that buyers hold biased assessments in favor of generalists and successful companies. Recent research (e.g. Sorenson and Waguespack, 2006) showed how distributors hold biased assessments in favor of those with whom they had prior interactions in the film industry. Here, I expect that TV executives overestimate past hits and diverse experience when they make decisions about the next shows to be on air. One might nonetheless reasonably ask why buyers do not update their prior beliefs. Multiple factors undoubtedly contribute to explain this occurrence. To begin, industry participants receive the information that they expect from the environment. Results showed that shows with the best performance are usually produced by: (1) organizations with both experiences contemporaneously: successful and diverse experience or (2) organizations with new genre experience. Therefore, when TV executives are buying new shows they compare their possible suppliers to those companies that produced the best shows. They will see that both success and diversity are related to the best companies; however, it is difficult for them to see that these experiences only work well when they are together. They may think that only one of these experiences is enough. Moreover, production companies involved in the production of big hits receive intense media attention. When feedback matches expectations, even purely rational actors will persist in their strategies and forgo the costs associated with testing other options (Fudenberg and Levine, 1993; Sorenson and Waguespack, 2006). The analysis here primarily demonstrates that past success and diverse experience mislead managers and researchers into believing in those experiences as guarantees of future success.

The difference refers to the new genre experience and the interaction between past success and diverse experience. First, TV executives are attracted to an organization that has recently invested in new markets, as they seem to believe that new genre experience attracts larger portions of the viewing audience. In addition, the more an organization changes or includes routines, the more likely it is to develop the dynamic routines needed to make further changes. Organizations learn to change by changing (Amburgey et al, 1993). Unless the organizational environment is unusually placid, a steady stream of problems requiring solutions will be forthcoming.[1] Moreover, the increased competence in making a particular type of change lowers the marginal cost of making the change (Amburgey et al, 1993). Therefore, production companies that invest in new genres improve performance on their shows. Second, organizations with experience on different genres and past hits contemporaneously show positive outcomes on the sale of an idea and the duration of the show. Having diverse experience can disrupt the effects of inertia on successful firm behavior, which in turn may increase show performance. Hence, organizations that have recently invested in new markets or produced hits and multiple genres contemporaneously increase the likelihood of a future sale and product performance.

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[1] Factors such as environmental variability and uncertainty (e.g., Freeman and Hannan, 1983; Hannan and Freeman, 1989; Dobrev, Kim, and Hannan, 2001) are all likely to affect the relative success of generalists versus specialists. The niche width theory, following Levins 1968, suggests that generalists have an advantage in a volatile environment yet a disadvantage if environmental resources are stably concentrated in a single category (see also Hannan and Freeman 1977; Freeman and Hannan 1983; Rosa et al. 1999).

The novel findings have a wide range of important implications. First, the empirical results show that buyers should pay careful attention to production companies' experience and buy ideas either from companies with both past success and diverse experiences or from those companies that are often investing in new markets. Both the interaction between the two types of experience and the new genre experience had positive effects on performance. In addition, production companies should diversify after producing a big hit. Aaron Spelling Productions, for example, produced several dramas before the production of its first top 10 show, SWAT in 1975. After the production of its first hit, Spelling productions diversified and produced comedies, adventures and other dramas. Hence, they had many other hits, like Charlie's Angels (1976), The Love Boat (1977), and Fantasy Island (1978).

At a theoretical level, the current study contributes to existing work in organization theory. Ecological notions of the benefits of generalism versus specialism have given little empirical attention to the impact of audience members' perceptions on product performance. Moreover, it seems that audience members have different expectations from products, individuals and organizations. Zuckerman et al (2003) showed that directors and producers prefer a focused identity for actors in the film industry ("the typecasting process"), Hsu (2006) showed that films targeting more genres attract larger audiences. This research shows that TV executives seek generalists when they look for creativity. Therefore, this study directs attention to interesting possibilities for expanding current approaches to studying organizational identity. This study also contributes to recent studies on organizational learning, as the empirical results reveal the

moderating role played by diverse experience to counter the negative implications of past success.

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RESOURCE PARTITIONING REVISITED: COMPETITIVE INTERACTION AND VITAL RATES IN ITALIAN TELEVISION BROADCASTING

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RESOURCE PARTITIONING REVISITED: COMPETITIVE INTERACTION AND VITAL RATES IN ITALIAN TELEVISION BROADCASTING

Abstract

Resource partitioning predicts that intense competition among generalist organizations in concentrated industries leads to the proliferation of specialist organizations. This paper extends the theory in three ways. First, we explicate the assumptions necessary for competitive interaction among generalists to influence entry and exit processes. Second, we examine the direct relationship between generalists' competitive interaction and the vital rates of specialist organizations. Although the original formulation of the theory proposed such a relationship, empirical research has instead focused on the effects of concentration. Third, we examine how competitive interaction among generalists differentially affects specialist organizations located closer to the center versus at the periphery of a market. Our empirical examination of the Italian broadcast television industry from 1992 to 2003 reveals strong support for competitive interaction as the reason why generalists' behavior influences the vital rates of specialists. We also find that specialists closer to the market center benefit more from the opportunities opened by increasing competitive intensity among the generalists.

INTRODUCTION

The theory of resource partitioning provides a systematic explanation for the apparently counterintuitive coexistence of large generalists and small specialists in mature organizational populations. In its original formulation, the theory predicted that, under competitive conditions characterized by economies of scale and heterogeneous consumer preferences, industry concentration enhances the life chances of small specialist organizations (Carroll, 1985).

Studies of populations of newspapers in the United States provided early empirical evidence in support of the theory (Carroll, 1985). Almost twenty years on, newspaper industries around the world continue to provide rich examples of how resource-partitioning processes shape the world of organizations (Dobrev, 2000; Boone, Carroll and van Witteloostuijn, 2002). Yet, processes of resource partitioning are not limited to newspapers; they have been found to operate in populations of organizations as diverse as banks (Lomi, 1995), microprocessor manufacturers (Wade, 1995), auditing firms (Boone, Bröcheler and Carroll, 2000), film producers and distributors (Mezias and Mezias, 2000), automobile manufacturers (Dobrev, Carroll and Hannan, 2001) and wineries (Swaminathan, 2001).

Sustained empirical research on the U.S. microbrewery movement has brought to light important details only hinted at in the original formulation (Carroll and Swaminathan, 2000). Formal reconstructions of the theoretical terms underlying resource partitioning, meanwhile, have extended our understanding of the relationships between the characteristics of the resource space, the locations of organizations in it, and partitioning processes (Peli and Noteboom, 1999; Vermeulen and Bruggeman, 2001;

Hannan, Pólos and Carroll, 2007). Pushed by progress on empirical as well as theoretical fronts, resource partitioning has also begun to overflow the relatively narrow banks of ecological theories of organizations. For example, the imagery of resource partitioning increasingly inspires studies of social movements where insurgent specialist organizations sometimes arise suddenly and proliferate in seemingly unsupportive social environments (Greve, Pozner and Rao, 2006).

Despite its substantial accomplishments, at least two important aspects of the theory remain underspecified. First, extant research has been unable to isolate the mechanisms linking increasing concentration to the proliferation of specialist organizations. Whereas the *theory* of resource partitioning posits that specialist subpopulations expand as generalists cede peripheral regions of the resource space, *empirical models* of resource partitioning rely on concentration in sales as a proxy for this process. But other factors could generate the same relationship between sales concentration and a rising number of specialists. Sutton (1991), for example, has proposed a model in which the establishment of brand names can generate a similar dynamic through economies of scale in advertising. Péli and Nooteboom (1999) similarly demonstrated that shifts in the dimensionality or distribution of consumer preferences change the optimal distribution of firm scopes, potentially producing a positive correlation between sales concentration and the number of specialists. Moreover, by focusing on concentration, researchers may err in the identification of the causal process (markets could concentrate because they have been partitioned and not partition because they have become concentrated). Distinguishing among these possibilities therefore remains an important issue for the research program on resource partitioning.

Second, the relationship between resource partitioning and entry and exit rates remains similarly underspecified. Assuming, for the moment, that the connection between concentration in sales and the number of specialists holds, the population of specialists might grow through either of two processes: On the one hand, even if entry remains constant, specialists might increase in number as a result of a reduction in their failure rates. On the other hand, potential entrepreneurs and managers of firms outside the industry might spot the opportunities opened by the retreat of the generalists and rush into the market. The number of specialists could then increase even without an improvement in their survival rates. The key issue distinguishing between these two possibilities is the ability of potential entrants to identify accurately the opening of opportunities in regions of the resource space abandoned by generalists.

In this paper we address these issues in two ways. First, we argue that the *competitive behavior* of generalists, rather than increasing concentration per se, activates partitioning processes. As a consequence, resource partitioning can occur even in the absence of increasing concentration. We thereby extend the theory of resource partitioning to settings where the strategies implemented by generalists change, but where the aggregate share of the market accounted for by them remains relatively stable. Second, by focusing on the activities of generalists, we identify a neglected assumption of the theory: that the partitioning of resources through entry processes requires that entrepreneurs and/or external constituents observe and understand the competitive processes unfolding among the generalists. We argue that such conditions hold only when near-center firms – mid-sized organizations occupying niches overlapping those of the generalists – exist to interpret and respond to the generalists' actions.

To examine these issues empirically, we analyzed the dynamics of the Italian broadcast television industry from 1992 to 2003. The industry has two subpopulations: the six national broadcasters and hundreds of independent, regional stations. This setting offers at least three advantages in studying partitioning processes. First, differing geographic scopes divide the population into two distinct sets. We therefore can clearly distinguish generalists from specialists. Second, detailed information on the programming of the national broadcasters allows us to measure directly the competitive interaction among generalists through changes in their offerings (rather than relying on sales concentration as a proxy for this interaction). Third, the number and the sales concentration of the national broadcasters (generalists) remain relatively stable over the period that we study. The intensity of their competitive interaction and their coverage of the resource space nonetheless changes substantially. As a result, we can isolate resource partitioning from other potential mechanisms that might account for growth in the specialist population.

The results we report strongly support the mechanism initially forwarded by Carroll (1985). When national broadcasters become more similar in their programming, the failure rate of specialists declines, especially for organizations located nearer to the center of the market. We also observe an increase in entry into near-center positions in response to these periods of intensified competition between the national broadcasters. Interestingly, after controlling for programming similarity, concentration in audience shares has no effect on the vital rates of specialists. Coverage of the resource space therefore appears to account for the positive relationship between concentration and the number of specialists.

RESOURCE PARTITIONING

Within ecological theories of organizations, resource partitioning is perhaps the theoretical fragment that most heavily and most explicitly relies on behavioral assumptions to explain the regularities observed in the evolution of organizational populations. One set of assumptions concerns the behavior of consumers, who are seen as heterogeneous in their preferences. A second set of assumptions controls the behavior of producers, which are viewed as constrained in their ability to engage diverse sets of consumers. Reflecting on these assumptions in the context of broader ecological processes provides an initial step on the path to identifying common ground between major theoretical traditions in the study of organizations that have so far remained curiously disjoint (Barnett and Sorenson, 2002).

Rather than enumerating and discussing all of the assumptions underlying the process of resource partitioning and their implications, in the discussion that follows we focus only on those most critical to the theory and to our current argument. First, resource partitioning requires that consumers have heterogeneous preferences and that the distribution of those preferences has a center (for direct empirical evidence, see Boone *et al.*, 2002). By center, we do not necessarily mean that consumers with moderate tastes on the salient dimensions account for the largest share of the market, but simply that a small number (or range) of positions in the possible set of product (or service) characteristics attract more consumers than others. In American newspapers, national and international news in English probably constitutes the core interests of the largest body of readers. In television in the United States, dramas, sit-coms and reality television represent the center

of the market. In our empirical context, television in Italy, the center comprises feature films, variety shows, and news programs.

Second, resource partitioning requires the presence of economies of scale (Carroll, 1985). Economies of scale can arise from production. Much of the cost of a newspaper, for example, stems from research and writing. Once the stories have been written, the marginal costs of additional copies include only printing and distribution. Television has even stronger economies of scale. Because it costs nothing for an additional person to view the signal, running a broadcast television station involves only fixed costs (with respect to the number of viewers). But economies of scale can also arise from factors not directly related to production. Though the cost of producing beer does decline with volume, the real advantage of the macro-brewers, such as Budweiser and Heineken, stems from their ability to advertise nationally.

These economies of scale generate increasing returns for the firms located in the market center, which will tend to become large generalists. As the mass of consumers in the market center affords greater economies of scale, firms in the center can increase the quality or reduce the price of their offerings to attract consumers with tastes similar to those they already serve. Newspapers add pages to cover additional topics of interest. Breweries reduce their prices.[2] Television stations improve the quality of their

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[2] Although the original formulation claimed the absence of price competition as a scope condition (Carroll, 1985: 1272), dynamics consistent with resource partitioning have been found in many industries in which firms compete, at least to some extent, on price. Carroll probably meant that competition does not occur *only* on price, but that idea

programming and acquire rights to popular offerings, such as films and major sporting events. As a result, the larger producers grow, by capturing consumers from smaller producers with similar offerings. Growth, in turn, sustains even greater economies of scale. If left unconstrained, in the long run this process would produce industries containing no more than a few generalists (or perhaps just one monopolist), but the next assumption places limits on this process.

Finally, resource partitioning requires restrictions on the range of preferences to which any one firm can appeal (Peli and Nooteboom, 1999; Hannan *et al.*, 2007). Early formulations assumed that technical constraints limited the scope of production. Newspapers can add pages, but at some point the cost of copying the additional pages would no longer justify the additional audience that carrying those stories might bring the paper. Television stations face a time constraint; they can only air one program at a time and therefore cannot expand their appeal through multiple offerings. But more recent extensions have argued that identity can also act as a limit to scope. Carroll and Swaminathan (2000), for example, argued that large brewers in the United States have been unable to stem the tide of microbreweries and brewpubs because consumers of these products care about the identity of the producer—they want craft beers made by craft brewers. Even if the large brewers mimic the taste of these beers, many consumers will still not buy them.

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actually arises as an implication of having varied consumer preferences (and therefore does not require an additional assumption).

Implications of resource partitioning

From these assumptions emerges a picture in which generalists in the center of the resource distribution compete with each other as well as with the (near-center) specialists with similar offerings to capture ever-larger portions of the available resources. The size distribution of the population also usually bifurcates. Generalists become much larger than specialists for three reasons: (1) Resources concentrate in the center where the generalists reside (Boone *et al.*, 2000); (2) Economies of scale accentuate these size differences as larger generalists expand their offerings (Carroll, 1985); and (3) Generalists adopt routines that encourage them to extend their offerings even further, beyond the optimal range, because historically expansion has proven profitable (Sorenson et al., 2006). Because the two archetypes of firms tend to diverge in size and draw on different resource sets, the process has been described as a "partitioning" of the resource space, into a center dominated by generalists and a periphery inhabited by specialists.

Generalists nevertheless face constraints to the scope of their appeal. They therefore must cede resources at the margins of the market center as they move their core offerings to the center or as they become fewer in number. Generalist newspapers, for example, might reduce the space that they allocate to neighborhood news as they expand their appeal to encompass an entire metropolis. Generalist television stations replace local news with Hollywood blockbusters. This retreat from the regions adjacent to the center opens opportunities for specialists to serve these abandoned niches, thereby increasing

the number of specialists. Figure 1 illustrates this idea.[3] One can see that as generalists vie for the center and one either acquires or out-competes the others (moving from panel A to panel B), the overall area (or volume) covered by them declines. As a result, the specialist subpopulation has a larger area available to it and its numbers can grow.

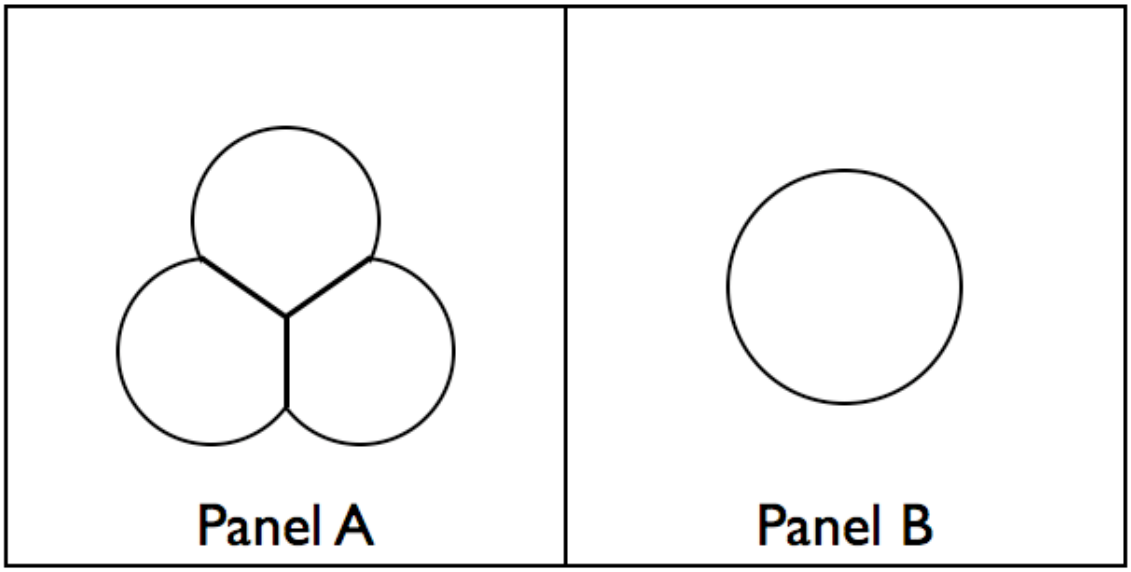

Figure 1. Concentration in the market center

[3] Though inspired by the diagram in Carroll (1985), it differs from that one because is depicts realized niches – the set of consumers to which each firm most appeals – rather than fundamental ones – the set of consumers to which firms would appeal in the absence of competition. Our niches therefore have boundaries rather than overlapping regions.

Figure 2 depicts another equally plausible scenario. In many cases, a generalist can move toward the center in the hope of capturing it and eliminating a rival. Coca-Cola, for example, pushed toward the center of the taste distribution when it introduced a sweeter formula in 1985 (colloquially known as "New Coke"). But as in the case of Coca-Cola, many of these moves fail to eliminate the competition. The number of competitors does not change, but just as in Figure 1, opportunities open on the periphery as the generalists increasingly overlap in their offerings. This contraction of the resource space engaged by the generalists should also expand the number of specialists in the (near-center) periphery.

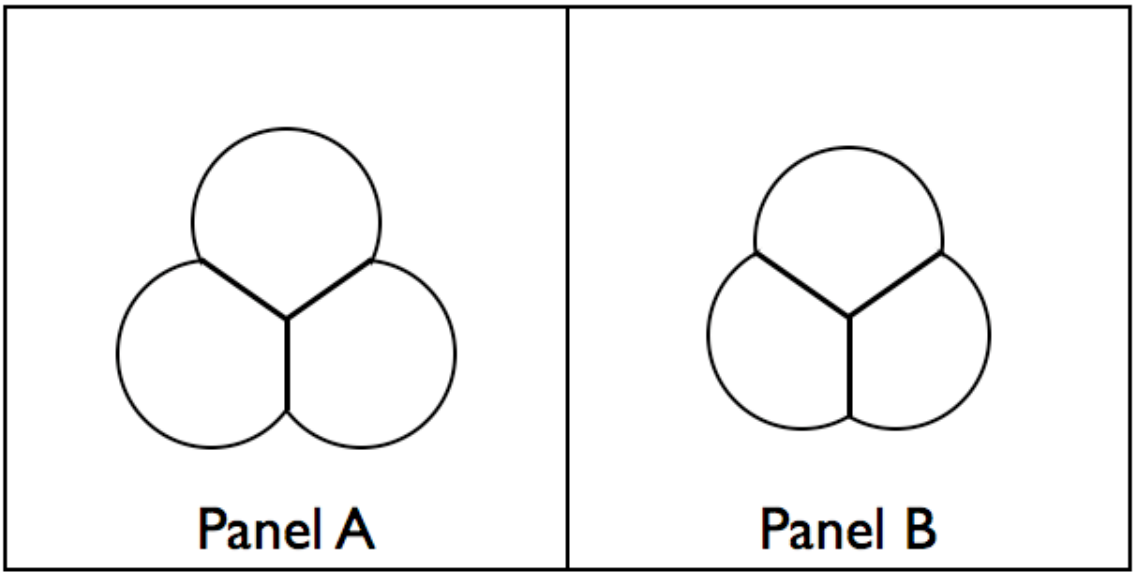

Figure 2. Concentration in the market center with a change in density

Note, however, that we have not said anything about concentration. Moving from the diagrams in Figure 1 or Figure 2 to their implications for the effects of concentration in sales on the vitality of specialists requires a further assumption that the distribution of

preferences remains stable. Though stability in consumer preferences appears plausible in some settings, in others it seems doubtful. The idea that consumer preferences for automobiles, for example, did not shift from the 1880s to the 1980s stretches the imagination. In the absence of such an assumption, however, the correlation between changes in the resource space covered and the aggregate market share of generalists need not even have a positive sign.

Since previous studies have relied on concentration as a proxy for changes in the extent of the resource space served by generalists, however, problems of both Type I and Type II errors can arise. On the one hand, false evidence in favor of the theory could stem from some other mechanism that generates a positive correlation between concentration and the numbers of specialists. Sutton (1991), for example, proposed a model with endogenous sunk costs that yields just such a relationship. On the other hand, failure to find such a correlation does not necessarily constitute evidence against the theory. A shift in consumer preferences toward the center, for example, could simultaneously increase the aggregate market share of the generalists and reduce the viability of specialists. Though Type II errors (false negatives) seem somewhat more plausible, the possibility of false positives nonetheless argues for the value of a more direct measurement of the degree of overlap in generalists' offerings.

Vital rates

Though the assumptions underlying resource partitioning paint a clear portrait of how the extent of the market covered by generalists should evolve over time, they do not directly

determine how one would expect specialists to fill newly available niches. The number (or density) of specialists could increase either as a function of entry or exit processes.

Exit rates. Connecting resource partitioning to organizational failure rates requires only a couple of relatively uncontroversial assumptions. First, we must assume a fixed pool of resources (across both generalists and specialists combined). Ecologists typically invoke this assumption under the label of a "carrying capacity"—some maximum number of organizations that the environment could support (Hannan and Freeman, 1977). Though the idea of an unvarying carrying capacity might appear extreme, the assumption is *ceteris paribus*. Empirical researchers routinely include controls to account for changes in the carrying capacity over the population history. Second, we also need to assume that an organization requires some minimum level of resources – whether customers, employees, financial capital or some combination thereof – to survive. Given these two assumptions, it then follows that an increase in the proportion of the resource space available for specialists should increase the likelihood that each captures this minimal level of resources, thereby lowering the failure rate.

Proposition 1: The failure rate of specialist organizations declines with increasing overlap in the offerings of generalist organizations.

If one assumes that concentration in sales serves as an accurate proxy for the intensity of competitive interaction among generalists, then the results of past studies have been broadly consistent with this first proposition. Declining failure rates with

increasing concentration, often measured as C4 or C8 (the combined shares of the four, or eight, largest firms), have been found among newspapers (Carroll, 1985), microbreweries (Carroll and Swaminathan, 2000), law firms (Jaffee, 2001) and wineries (Swaminathan, 2001). In the automobile industry, however, Torres (1995) could not reject the possibility that concentration had no effect, and Boone, Bröcheler and Carroll (2000) found that concentration increased exit rates in many specifications in the Dutch auditing industry.

The assumptions outlined above nevertheless allow for a more nuanced prediction. In their formalization of resource partitioning, Hannan *et al.* (2007) classified specialists into two sets: the peripheral and the near-center. Both kinds of specialists primarily appeal to consumers outside of the center of the market, but whereas peripheral specialists have fundamental niches – regions of potential appeal – completely outside the market center (and therefore have no capacity to serve this large body of consumers), near-center specialists have fundamental niches that intersect it. In other words, near-center specialists offer products and services more similar to those of the generalists. Hence, if generalist organizations move toward the market center and intensify their competitive interaction, one would expect these near-center organizations to benefit most from this release of resources.

Proposition 2: The failure rate of near-center specialist organizations declines more than that of peripheral specialist organizations as the degree of overlap among the offerings of generalist organizations increases.

Entry rates. Linking competitive intensity among generalists to the entry rates of specialists, however, requires assumptions that are less self-evident. For example, if one adopted the simplest behavioral assumption – that specialists enter at random positions in the resource space – then one would see no relationship between competitive intensity and entry (though partitioning processes could still occur through selection). Establishing this link either requires that: (1) potential entrants accurately observe the opportunities opened by the movement of the generalists to the center; or (2) that resource providers – financiers, suppliers and skilled employers – accurately observe these opportunities and refuse to support ventures in unfavorable conditions.

These assumptions act as substitutes in connecting shifts in the extent of generalists' offerings to entry because entry itself comprises two processes: attempts at entry and resource mobilization. Potential entrants, be they entrepreneurs or existing firms in other industries, need to decide first whether to try to build firms to exploit the available opportunities. Then they must acquire the resources, the capital and the employees necessary to begin operations. For existing firms, this second stage does not represent a great barrier, but many entrepreneurs fail to reach the production phase (Carroll and Hannan, 2000; Sørensen and Sorenson, 2003). Hence, an increase either in the number attempting entry or in the rate at which these attempts transition to production could raise the founding rate.

So, do potential entrants or resource holders accurately assess the movements of generalists? Potential entrants are almost certainly aware of the generalists. Generalists dominate their industries and undoubtedly receive the lion's share of press coverage. Potential entrants may even recognize when generalists abandon a near-center niche, if

only because they notice the absence of a product or service once provided. If they do and if that observation leads them to perceive an attractive opportunity, then resource partitioning should encourage entry.

But one can also imagine that potential entrants might not even notice the actions of the generalists or consider those moves irrelevant. Prior research suggests that people tend to form competitive sets too narrowly, only considering those most similar to them (Porac and Thomas, 1994; Camerer and Lovallo, 1999). Given the differences in the resources on which they draw – for example, for television stations, in programming and advertisers – specialists may feel as if they have little interdependence with generalists. If potential entrants consider the activities of the generalists irrelevant to their decision or simply ignore them, then the intensity of competitive interaction among generalists might have little bearing on the entry of specialists.

One could even imagine that the release of resources by generalists might deter entry if would-be entrants fail to interpret this signal correctly. Sørensen and Sorenson (2003), for example, found that attempts at entry in the U.S. television industry *rose* with recent entries, despite the fact that entry intensifies competition and therefore reduces the attractiveness of the industry. Similarly, potential entrants probably observe the abandonment of some existing activity – for example, a television station eliminating its coverage of regional athletics events. Rather than seeing the shift as driven by the emergence of some more attractive opportunity, the would-be entrant might therefore instead interpret it as waning interest in the abandoned niche, and consequently as evidence of the niche's unattractiveness. In that case, the convergence of generalists

toward the center might appear to potential entrants to reflect a decline in resources in the near-center.

Whether one would expect the entry rate of specialists to increase, decrease or remain constant in relation to the degree of overlap in the generalists' offerings depends on the assumptions of whether potential entrants perceive, correctly identify, and act on the opportunities opening in the near-center as generalists retreat from it. Given that the empirical literature has posited positive relationships between increasing concentration among the generalists and the entry rate of specialists (Lomi, 1995; Wade, 1995; Carroll and Swaminathan, 2000; Mezias and Mezias, 2000; Swaminathan, 2001), one can at least infer that the (often implicit) assumptions in the existing literature are: (i) that would-be entrepreneurs monitor the activities of the generalists; (ii) that they correctly interpret the fact that a contraction in the resource space covered by the generalists opens opportunities for specialists; and (iii) that they act on these beliefs. Following these assumptions, one would expect a positive relationship between the degree of overlap in the generalists' offerings and entrepreneurial entry.

Proposition 3: The entry rate of specialist organizations increases with the degree of overlap in the offerings of generalist organizations.

We nonetheless believe that the distinction between near-center and peripheral specialists can give us further insight into these behavioral assumptions. Recall that the fundamental niches of near-center specialists overlap the market center while those of the peripheral firms do not. If one believes that would-be entrepreneurs evaluate the expected

viability of the market niches that they consider entering, then this evaluation process would naturally lead those evaluating entry in the near-center to monitor and evaluate the activities of the most relevant rivals, the generalists (Dobrev, 2007). As a result, one would expect entry rates into near-center positions to be far more sensitive than those into peripheral ones to changes in the offerings of generalists.

One could also imagine a similar, but somewhat less systematic, process producing this outcome. Particularly because the actions of the generalists are so visible, changes in their offerings may spur potential entrepreneurs to consider entering niches that the generalists abandon. Picture a potential entrepreneur perusing the daily television schedule. One day he notices that the networks no longer broadcast the games of his local football team. He knows that the games had been aired for years and that many of his friends watch them. Maybe he then begins to think about the viability of starting a new television station built around the broadcasting of local sporting events. If a few people have these kinds of reactions and if they act on them, then – even if entrepreneurs do not actively assess the attractiveness of particular positions in the market – we would see increasing overlap among the generalists leading to increased entry into near-center positions.

Proposition 4: The entry rate of near-center specialist organizations increases more than that of peripheral specialist organizations as the degree of overlap of the offerings among generalist organizations increases.

ITALIAN BROADCAST TELEVISION

We explored these ideas empirically in the context of the Italian broadcast television industry from 1992 to 2003. To get a better sense of the setting, we began our study by conducting eight semi-structured interviews with the managers of specialist broadcasters in seven different regions. We conducted these interviews in Italian; the quotes provided represent our own translations of these interviews.

During the period we studied, terrestrial broadcasting dominated televised entertainment in Italy, with cable and satellite combined capturing less than 10% of households. Since 1984, the industry has had a stable structure at the national level, consisting of six channels—three controlled by the State (*RAI* 1, *RAI 2* and *RAI 3*) and three by a private competitor, Mediaset SpA (*Italia 1*, *Retequattro* and *Canale 5*). Despite this common control, these channels operate independently. They generate revenues through advertising and, in the case of RAI, license fees (Dematté and Perretti, 2002). As recently as 1997, these six channels accounted for 95% of the revenues of the entire Italian television industry (Databank, 1998).

Local broadcasting began to proliferate in the 1980s. For the first ten years these stations entered a relatively unregulated environment. In 1990, however, the legislature passed a new law (Legge n. 223) that systematically defined, for the first time, the rules governing both national and local terrestrial broadcasting (Dematté and Perretti, 2002; Bodo and Spada 2004). Because our data rely, to some extent, on the records generated by this legislation, we began our observation window in 1992 (though we collected information going back to 1980 to determine the ages of the stations already broadcasting

in 1992). We ended our observation window in 2003, the last year for which we had information on the programming of the national broadcasters.

Unlike the United States, where local stations often have an affiliation with a national network that provides much of their programming, all local stations in Italy operate independently and broadcast programs primarily of interest to local audiences. One (peripheral) station we interviewed, for example, programs for the Slovenian ethnic minority in the city of Gorizia. Another concentrates on agriculture, food and environmental issues in and around the southern city of Brindisi. Most cannot afford to program films, dramas, sitcoms or national or international sporting events. The owner of Imperia TV (another peripheral specialist located in the Northwest close to the border with France) described a typical primetime schedule:

> Only local things. We had the historical parade of San Benedetto, then a special on olive oil production, and then coverage of the sports championship for disabled athletes organized in Imperia. In general, during prime time we have one-hour program slots that typically focus on local issues and events. We have a musical program because our viewers from the inland region like music. We do not broadcast films.

They receive advertising money largely from local organizations. The owner of Imperia TV continued: "Latte Alberti is a local dairy company, a local market leader. Well, Alberti has been advertising on our station every single day since we started out. No interruption." Some stations claimed to attract national advertisers but the response of one of our interviewees to a request for elaboration seems telling: "We sold advertising time to Findus [a leading producer of premium frozen food] once, and then we might have had something else … But we are talking one of this kind every year, maybe." National advertisers can reach wider audiences at lower marginal cost-per-contact on national networks. Consistent with resource partitioning theory, then, the generalists (the

national broadcasters) and the specialists (the local stations) have quite distinct resource profiles. They offer divergent content and attract disparate sets of advertisers.

This context has numerous advantages with respect to studying partitioning processes. As noted above, we can easily distinguish between generalists and specialists. We also have the advantage of being able to differentiate between smaller, peripheral specialists and larger, near-center specialists. Shifting competitive intensity among generalists should primarily affect near-center specialists. Most importantly, the setting allows us to separate sales concentration from the intensity of competitive interaction among generalists. Using detailed information on the programming of the national broadcasters, we can measure directly the niche overlap of the generalists. Moreover, over the period studied, competitive intensity (overlap) varies substantially while concentration remains fairly stable.

METHODS

Measures and estimation

Our dataset combines information from several sources. The *Guida all' Emittenza* (GAE), a directory including all local television stations in Italy, serves as our primarily source of information on the specialists. GAE garners this information from public records generated by the regulation of broadcast television. Mediaset SpA provided us with detailed information on the programming of the six national broadcasters. We cross-checked the data and constructed controls from information provided by the Italian Department of Communication and two reference sources, the *Rapporto sull'Economia della Cultura in Italia* (Bodo and Spada, 2004) and *Il Mercato degli Audiovisivi in Italia* (ISTAT, 1999). Our sample consists of 1064 television stations. During our observation

widow, 416 stations entered the population, and 526 exited it; figure 3 depicts the pattern of entry and exits over time.

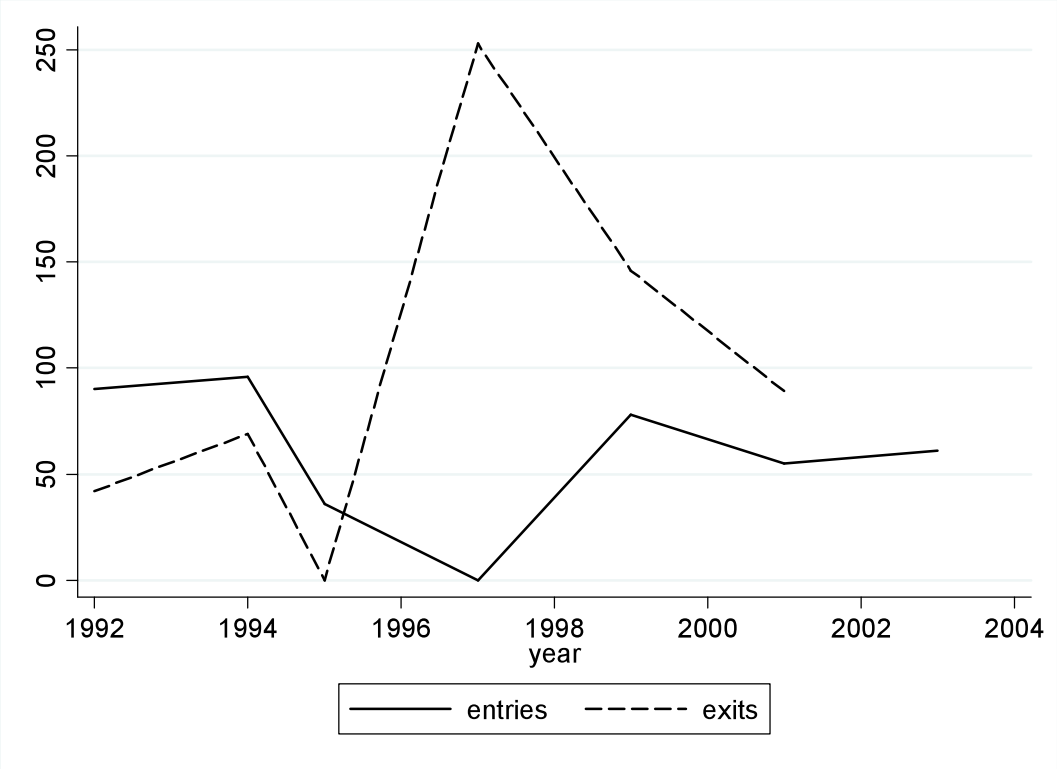

Figure 3. Annual entries and exits of Italian local television stations, 1992-2003

Independent variables. Our primary variable of interest is the intensity of competitive interaction among the six national television channels. Our measure calculates what proportion of the time the national broadcasters air the same genre of programming in the

same time slot during prime time (8pm to 11pm) – the portion of the day that attracts the most viewers and advertising dollars (Vogel, 1998).

We generated this measure in two steps. First, we constructed dyadic overlap measures. For each of the 15 possible pairings of stations (= $(N^2 - N)/2$), in each six-minute interval of prime time across the 11 years, we determined whether the two stations programmed the same genre using data from Auditel.[4] Much as AC Nielsen does in the United States, Auditel measures audience ratings and shares in the Italian television market (Demattè and Perretti, 2002). We coded each interval as a one if both stations offered the same genre. We then averaged the values of those six-minute intervals for the entire year to derive a yearly proportion of the time that each pair of stations overlapped.

Then, we calculated our competitive interaction measure by averaging the yearly overlap scores across all 15 pairs of national broadcasters. Theoretically, this measure could range from zero, if networks never broadcasted programs of the same genre at the same time, to one, if all broadcasters always aired similar content in the same time slots. The actual data, however, only range from .13 to .22. Figure 4 depicts the evolution of competitive interaction over the study period.

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[4] We used 6-minute intervals to accommodate the fact that programs can begin and end at virtually any time in Italian television. Unlike the United States, the national stations do not program in half-hour slots. As an illustration of the genres, Table 1 provides information on Mediaset's programming for 2003 (Mediaset, 2003).

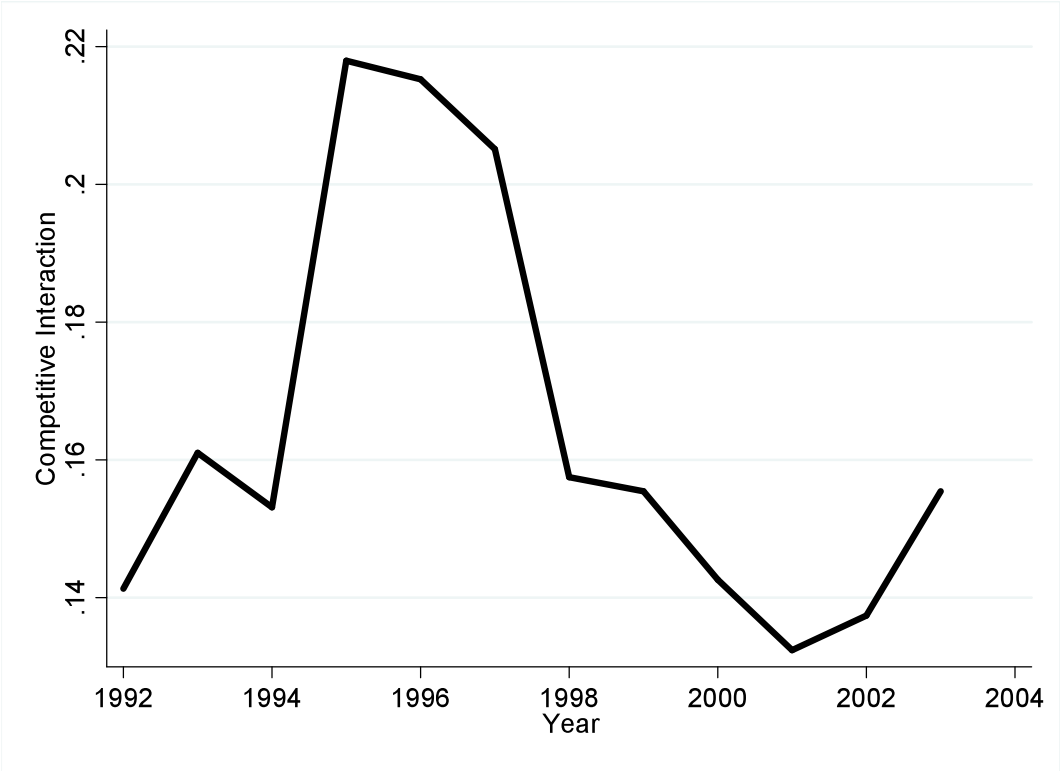

Figure 4. Evolution of generalists' competitive interaction, 1992-2003

In the exit rate models, we lagged this variable by one year, and in the entry rate models, we lagged it by two years. The process of moving from the decision to attempt to start a station to actually beginning broadcasting requires about 24 months (Demattè and Perretti, 2002). Since the theory underlying Propositions 3 and 4 revolves around the decision to attempt entry in response to changes in the competitive intensity of the generalists and since our data on entry measures the first year of broadcasting (rather than the year of applying for a license), we expected a roughly two year lag. Although we explored whether other lags would work equally well, consistent with our expectations, two-year lags produced the best-fitting entry rate models.

Given that prior studies on resource partitioning have measured sales concentration, we created a parallel measure for this context. Using information from Auditel, we calculated the aggregate share of the audiences of the six national broadcasters over the course of each year. Since the assumption has been that concentration proxies for competitive interaction, we used the same lags for sales concentration as we did for competitive intensity (i.e. one year for the exit models and two years for entry).

We classified stations as near-center (versus peripheral) by focusing on their structural complexity.[5] Because they must interact with a broader set of advertisers and of programming providers (and often have programming for more hours per day), near-center stations require more extended divisions of labor. Consider a couple of examples. Telenorba, headquartered in Bari, broadcast across two regions (Puglia and Basilicata) and programmed a range of content of both local and broad interest, including news, films, cartoons and soap operas. It had a correspondingly complex organizational structure, with at least seven different individuals holding distinct roles. By contrast,

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[5] Hannan *et al.* (2007) argued that near-center organizations should also operate at larger scale than peripheral organizations. We therefore explored a second measure for near-center based on coverage in the national press (*Il Sole 24 Ore,* the major Italian business daily newspaper). On the assumption that the national press would only cover the largest regional stations, we identified stations ever mentioned in *Il Sole 24 Ore* as near-center. Since both measures yielded similar results, we report only those estimates using organizational structure to distinguish between near-center and peripheral organizations.

Telemare TV, a more peripheral station, programmed only local content in Gorizia, and had only two roles, both held by the same individual. We therefore coded organizations as near-center if they had more than two roles held by more than two people (330 of the 1064 specialist stations). In all analyses, we calculated separate density measures for each subpopulation and included an indicator variable to denote near-center organizations.

We also included separate terms of competitive interaction by specialist type to determine whether near-center and peripheral organizations differed in their sensitivity to the actions of the generalists.

Control variables. Our analyses also included several variables to control for regional- and national-level factors that might influence entry and exit rates. First, we included controls for the carrying capacity of the population. One variable counts the (log of the) population in the region, the set of potential viewers. Another variable measures the total amount spent on regional television advertising nationwide (in tens of thousands of Euros). As more money becomes available, advertising can presumably support a larger number of local broadcasters.

Second, we included controls for other ecological processes that may influence organizational vital rates, namely density dependence (Hannan and Carroll, 1992). Our models included the counts of the number of local stations operating in the same region as the focal firm, as well as the square of this number. We focused on these regional counts, rather than national counts of specialists, because geographic and legal

restrictions made it extremely difficult for stations in Italy to serve more than one region.[6] We measured the densities (counts) of peripheral and near-center stations separately to examine whether these subpopulations have different dynamics.

Finally, our analyses included a variable to capture the effects of an important regulatory change. In 1997, the law N.249 fixed at 30 percent the maximum share of the total industry resources – advertising and license fees – that each broadcaster could receive. At the local level, this law established limits on ownership concentration and rules for channel allocation to minimize signal interference (Demattè and Perretti, 2002). We therefore included a period variable equal to one on and after 1997, and zero otherwise, to capture the effects of this legislation. Although we explored the importance of other changes in the political and regulatory environment, we found no other significant period effects during our observation window.[7] We investigated the effects of these covariates on two outcomes.

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[6] Local broadcasters' signals cannot extend more than 30% into any contiguous regions. In unreported models, we also examined whether density outside the region affected failure and founding; we found none.

[7] Even casual observation of Italian politics would suggest a high level of instability in the political environment. This instability nevertheless remains essentially constant over our study period: New governments formed in 1992, 1993, 1994, 1995, 1996, 1998, 1999, 2000 and 2001.

Exit rates. Our first dependent variable is the exit rate of local television stations from the market. Organizations can exit in many different ways, including disbanding, bankruptcy, merger, acquisition, etc. As we could not distinguish between modes of exit, we did not analyze transition rates for these events separately. More specifically, we estimated the continuous hazard of (any form of) exit using a piecewise exponential specification (Barron, West and Hannan, 1994). Exit rates change with firm age but the form of that relationship varies widely. The piecewise exponential holds the base failure rate constant within each period but allows it to vary across pieces; as a result, it does not require any assumptions about the functional form of duration dependence. Practically, one splits the clock into pieces according to the age of the organization. Our exploratory research found the best fit using two break points, at one and ten years. To estimate rate models with time-varying covariates, we updated covariate values at the beginning of each year for each broadcaster. The exit rate models also included a dummy variable for left-truncation (i.e. stations already operating in 1980). Table 1 reports descriptive statistics for the variables used in the exit rate analysis.

TABLE 1
Descriptive Statistics for Exit Rate Analysis

Variable	Mean	Std. Dev.	Min	Max
Tenure	9.428	5.734	1	23
Censoring	0.792	0.406	0	1
Density of peripheral television stations in region	40.291	28.374	1	103
Density^2 of peripheral television stations in region	2428.362	3035.876	1	10609
Density of near-center television stations in region	23.938	10.788	1	42
Density^2 of near-center television stations in region	689.380	496.507	1	1764
Regional population	15.079	0.697	11.653	16.021
Local advertising	6.379	8.173	1.91	34.199
Regulatory change	0.509	0.500	0	1
Competitive interaction	0.163	0.030	0.132	0.218
Market concentration – audience shares	89.747	0.660	88.680	90.700
Peripheral station	0.589	0.492	0	1

Entry rates. Our second dependent variable is a count of the number of entries (in a particular specialist subpopulation) in a region in a given year. We define entry dates according to the first year in which a station broadcasts. Following the usual approach, we estimated event-count models where the regional organizational subpopulation itself serves as the unit at risk of an event (Carroll and Hannan, 2000). We used a negative binomial specification with robust standard errors (clustered on region-years to allow for correlated patterns of entry between near-center and peripheral organizations in the same regions and years).[8] Table 2 reports descriptive statistics for the variables used in the entry rate analysis. For simplicity, we present pooled estimates of exit and entry for

[8] Because GAE did not publish its directory every year, we included an exposure term for observations covering two years of entry rather than one.

peripheral and near-center specialist firms. Our results hold if we split the analyses (i.e. allow specialist type to interact with all covariates).

TABLE 2
Descriptive Statistics for Entry Rate Analysis

Variable	Mean	Std. Dev.	Min	Max
Entry	1.421	2.636	0	17
Density of television stations in region	20.786	19.367	0	103
Density^2 of television stations in region	805.786	1681.376	0	10609
Regional population	14.606	1.264	11.653	16.021
Local advertising	24.405	6.441	1.91	34.199
Regulatory change	0.571	0.494	0	1
Peripheral stations	0.500	0.501	0	1
Competitive interaction	0.163	0.030	0.132	0.218
Market concentration – audience shares	89.623	0.901	87.410	90.700

RESULTS

Table 3 reports our estimates of organizational exit rates. Model 3.1 introduces the intensity of competitive interaction to test our first proposition. Consistent with our expectations, the exit rate of local broadcasters declines as the national broadcasters become more similar in their offerings. This effect is not only statistically significant but also large. A one percentage point increase in programming overlap among the national broadcasters reduces the expected exit rate of local stations by roughly 16.3%. Given that the overlap measure varies by more than eight percentage points during our observation window, the most intense period of overlap implies a 78% lower failure rate among specialists than the least intense period.

TABLE 3
Piecewise Exponential Estimates of Exit Rates of Italian Local Television Stations, 1992-2003.

Variable	Model 3.1	Model 3.2	Model 3.3	Model 3.4
0<u<=1	-0.402	17.95 *	-15.29	0.330
	(3.910)	(7.932)	(15.094)	(3.801)
1<u<=10	0.776	19.09 *	-14.13	1.504
	(3.893)	(7.847)	(14.982)	(3.788)
u>10	0.538	18.85 *	-14.37	1.317
	(3.900)	(7.858)	(14.988)	(3.795)
Censoring	-0.431 **	-0.410 **	-0.426 **	-0.269 **
	(0.107)	(0.104)	(0.107)	(0.105)
Density of peripheral television stations in region	0.025 **	0.022 *	0.026 **	0.018 *
	(0.009)	(0.009)	(0.009)	(0.008)
Density^2 of peripheral television stations in region (/10)	-0.002 **	-0.002 *	-0.002 **	-0.002 *
	(0.001)	(0.001)	(0.001)	(0.001)
Density of near-center television stations in region	-0.014	-0.026	-0.013	0.002
	(0.035)	(0.035)	(0.035)	(0.001)
Density^2 of near-center television stations in region (/10)	0.000	0.010	0.003	0.002
	(0.010)	(0.010)	(0.014)	(0.014)
Regional population	-0.255 †	-0.191	-0.256 †	-0.249 †
	(0.146)	(0.140)	(0.146)	(0.141)
Regulatory change	3.360 **	2.507 **	3.485 **	3.352 **
	(0.125)	(0.126)	(0.185)	(0.125)
Advertising	-0.289 **	-0.156 **	-0.318 **	-0.288 **
	(0.020)	(0.008)	(0.038)	(0.020)
Competitive interaction	-17.73 **		-19.35 **	**
	(1.970)		(2.807)	
Market concentration		-0.256 **	0.170	
		(0.078)	(0.168)	
Peripheral station				-1.216 †
				(0.643)
Competitive interaction for peripheral station				-27.77 **
				(3.852)
Competitive interaction for near center station				-15.33 **
				(2.021)

Log Likelihood	-628.368	-648.567	-628.033	-586.507
Number of firm-years	9,442	9,442	9,442	9,442

$^{\dagger}p$ <.10, *p <.05, ** p <.01 Standard errors, clustered on station, in parentheses.
Number of exit events = 525; No. of subjects = 1063

At least four other results deserve attention here. First, the 1997 regulatory change impaired the survival of specialists. Though the change imposed restrictions on both the national and local broadcasters, the local stations had less ability to flout its terms and therefore appear to have suffered on the whole from its implementation. Second, failure rates decline with advertising expenditures. As the primary source of revenue for these stations, one would expect them to benefit from an influx of financial resources. Third, exit rates also decline with the population of the region. A larger population probably supports a greater variety of niches for specialists to exploit. Finally, competition appears to come from peripheral stations. Since these stations account for the majority of the specialists in our sample, it should perhaps not surprise us that they compete more intensely with each other than with the smaller number of near-center firms.

To compare our results with prior research on resource partitioning, Model 3.2 replaces the competitive interaction variable with a measure of concentration, the aggregate audience share captured by the national broadcasters. Consistent with past empirical results, concentration has a negative and statistically significant effect on exit rates. However, when we estimated the effects of competitive interaction and concentration simultaneously (Model 3.3), competitive interaction remains both economically and statistically significant while concentration loses its explanatory power. As anticipated (Proposition 1), the competitive behavior of generalists, as opposed to concentration per se, appears to drive resource partitioning in this sample.

To test our second proposition, we introduced the distinction between peripheral and near-center stations (see Model 3.4). Consistent with our expectations, these two groups differed in their sensitivity to generalists' activities. Specifically, as the intensity

of competitive interaction among generalists increases near-center specialists experience a greater reduction in their exit rates than peripheral specialists ($\chi^2 = 10.63$, $\Pr > \chi^2 = .001$, with 1 degree of freedom). Proposition 2 stated that near-center specialists should benefit the most from the abandonment of niches by the generalists, and indeed they do.

TABLE 4
Negative Binomial Estimates of Entry Rates of Italian Local Television Stations, 1992-2003.

Variable	Model 4.1	Model 4.2	Model 4.3	Model 4.4	Model 4.5
Constant	-9.919 **	-35.20 *	-26.28 †	-23.36	-23.55†
	(2.754)	(13.39)	(13.53)	(20.93)	(13.70)
Density of television stations in region – same category	0.060 **	0.060 **	0.063 **	-0.071	0.056**
	(0.017)	(0.016)	(0.016)	(0.100)	(0.019)
Density^2 of television stations in region – same category (/10)	-0.004 **	-0.004 **	-0.004 **	0.002	-0.003*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Density of television stations in region – other category	0.014	0.020	0.015	0.034	0.056
	(0.019)	(0.020)	(0.019)	(0.028)	(0.071)
Density^2 of television stations in region – other category (/10)	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Regional population	0.397 *	0.353 †	0.363 †	0.929*	0.211
	(0.191)	(0.187)	(0.187)	(0.442)	(0.300)
Advertising	-0.035 **	-0.060 **	-0.059 **	-0.044	-0.062**
	(0.010)	(0.021)	(0.022)	(0.035)	(0.022)
Regulatory change	-0.374	-0.374	-0.692 *	-0.529	-0.760*
	(0.219)	(0.219)	(0.280)	(0.490)	(0.357)
Peripheral stations	3.438 **	14.60 *	3.551 **		
	(0.877)	(7.188)	(7.398)		
Competitive interaction for peripheral stations	-1.752		-3.947		-4.215
	(4.091)		(4.696)		(4.378)
Competitive interaction for near-center stations	13.12 **		11.31 *	13.52*	
	(4.901)		(5.423)	(5.652)	
Market concentration for peripheral stations		0.167	0.196		0.229
		(0.131)	(0.141)		(0.157)
Market concentration for near-center stations		0.318 *	0.197	0.072	
		(0.147)	(0.153)	(0.241)	
Alpha	0.420	0.451	0.407	0.190	0.405
	(0.164)	(0.162)	(0.158)	(0.209)	(0.137)
Log Likelihood	-343.795	-345.395	-342.731	-112.535	-225.995
Number of subpopulation-region-years	280	280	280	140	140

$^{\dagger}p < .10$, $*p < .05$, $**p < .01$; Standard errors, cluster on region and year, in parentheses.

Table 4 reports our estimates of the negative binomial models of entry. Model 4.1 introduces the competitive interaction measures. Increasing overlap in the programming activities of the national broadcasters has a positive and significant effect on the entry rate of near-center specialists and a negative, but non-significant, effect on peripheral specialists. These results are broadly consistent with our propositions. Near-center specialists observe the strategic moves of generalists and react accordingly; peripheral specialists meanwhile appear insensitive to them. Indeed, our interviews suggested that these station owners considered the generalists' activities irrelevant. When asked their thoughts of the national broadcasters, we received answers like: "I pay no attention," and "I just don't take them into account." Roberto Zunino, the owner of Imperia TV (a peripheral station), related the issue most clearly, telling us that the national broadcasters do not matter to him because: "We are not competing for the same programs, we don't compete for films, series and so on. We are interested in local content."

Among the other variables, entry also exhibits density dependence. For peripheral (near-center) stations, the number of other peripheral (near-center) specialists in the same region first promotes and then dampens entry. Entry is also higher in regions with more people, as one might expect. The only surprising result is that increases in advertising revenues appear to dampen entry.

Model 4.2 replaces competitive interaction with concentration. Consistent with past results, concentration also increases the entry rate of (near-center) specialists. However, when we estimated the effects of both variables simultaneously in Model 4.3, we once again find that concentration has a non-significant effect after accounting for the intensity of competition among generalists. Competitive overlap continues to show a

positive and significant effect on the entry of near-center specialists. Our results therefore broadly support both propositions 3 and 4. Models 4.4 and 4.5 replicate Model 4.3 but estimate separately the entry rates of near-center and peripheral stations, respectively, and find similar patterns.

Our results proved robust to numerous alternative specifications. Lagged entries and exits neither had significant effects themselves nor did they affect our other results. We also found our exit rate models robust to alternative specifications of duration dependence. Our analyses are nonetheless not without shortcomings. Two in particular seem relevant to the research question at hand. First, we have a relatively short observation window. Though necessitated by the availability of data on the programming of the national broadcasters, the short panel nonetheless limits the power of our founding rate models. Second, we have not allowed partitioning processes to vary by region as a function of regional demographics, though prior research suggests that demographic heterogeneity may importantly affect the availability of niches for specialists to occupy (Boone *et al.*, 2000). We gathered information on this regional heterogeneity and explored the possibility empirically, but we failed to find any consistent patterns.

DISCUSSION

Overall, our results provide strong empirical support for resource partitioning in the Italian television industry. As one would expect, exit rates of local broadcasters (specialists) decline when national broadcasters (generalists) overlap more heavily in their programming, and therefore compete more intensely. Entry rates into local broadcasting also increase when the national broadcasters overlap more heavily, thereby

opening niches for specialists. In both cases, as anticipated, near-center specialists exhibit the greatest sensitivity in both exit and entry rates to the shifting niches of the generalists. Moreover, the changing intensity of competitive interaction appears to account for the relationship between concentration and the exit and entry rates of specialists; after controlling for programming overlap, concentration in audience share has no effect on specialist survival and entry.

Although concentration measures have served as useful proxies in the absence of detailed information on generalists' behavior, our programming overlap measure demonstrates the potential value of moving toward a more direct specification of the behavioral mechanisms underlying resource partitioning. As industry-level data sets become richer, we see ample room for replication and innovation here. The American automobile industry data (Dobrev *et al*., 001), for example, includes information on the ranges of engine sizes that one might use to assess the degree to which the generalists overlap in their activities. Similarly, datasets with detailed product-level information, such as bicycle (Dowell, 2006), computer workstation (Sorenson, 2000), disk drive (McKendrick, 2001) and laser printer manufacturers (de Figueiredo and Silverman, 2007), would permit not only measurement of the competitive intensity of the generalists, but also an examination of how specialists respond to generalists' actions.

Our results also provide evidence that partitioning processes influence specialist populations in nuanced ways. In the exit rate analysis, we found that specialists located closer to the market center benefited more than specialists on the periphery from intensified competition among generalists. In the entry analysis, we similarly discovered that only entry into near-center positions responded to changes in the competitive overlap

of generalists. Hence, our study provides empirical support for the theoretical distinction between near-center and peripheral specialists recently introduced by Hannan *et al.* (2007).

Our propositions and findings also further extend resource-partitioning research by bringing explicit attention to the behavioral assumptions of the theory, particularly with respect to the predictions about entry rates. How one would expect, competitive intensity among generalists to affect specialists depends crucially on what one believes about the abilities of potential entrants to assess accurately the opportunities opened by the contraction of the generalists into the center of the market. Both our interviews and estimates support the idea that potential entrants at the periphery of the market fail to recognize the opportunities that arise when the national broadcasters abandon (near-center) regions of the market. Indeed, peripheral entrepreneurs often reacted vehemently to the idea that they might compete with the national broadcasters. For example, Mario Scotto, of Puglia TV, responded:

> It is impossible for local TV stations to find a niche in the presence of national channels. You think, they broadcast films from three years ago, and I decide to broadcast a film by Totó [an old classic of Italian comedy], a black and white film because I cannot afford to broadcast color films … according to you, can I compete? No, it is not possible.

This blindness to interdependence appears consistent with mounting experimental evidence on the conditions under which individuals have difficulty assessing competition. Potential entrants often exhibit poor judgment in determining the relevant set of competitors (Camerer and Lovallo, 1999), with a tendency to view only the most similar organizations as rivals (Porac and Thomas, 1994).

This insight may also help us to understand why resource partitioning does not occur in some settings that would appear to meet its scope conditions. In particular, a key issue in whether resource partitioning processes operate may be the existence of a near-center subpopulation, in other words, organizations somewhere between the pure (peripheral) specialists and the generalists in size and in the breadth of their offerings. Why should they matter? Because, even if managers and nascent entrepreneurs maintain relatively restricted views of their competitive sets, organizations exist that can exploit the niches that the generalists abandon (Dobrev, 2007). Large specialists in the near-center generally do consider the activities of the generalists relevant and, sensing an opportunity, might shift toward these now-uncontested niches. Smaller specialists, aware of the actions of the larger specialists, then may move into the spaces created by the shifting of the larger specialists, leaving smaller niches at the periphery available for entrants. The imagery becomes one of a vacancy chain (White, 1970), with each organization moving up to occupy the next larger adjacent niche and simultaneously opening their past position for a somewhat smaller firm to occupy.

Such a possibility would appear not only to reconcile our own findings with those of prior research, but also to explain anomalies found in entry rates in past studies. Torres (1995), for example, found no effect of concentration on entry in the U.S. automobile industry where, outside the three major manufacturers that build millions of vehicles per year, specialists produce no more than hundreds of cars per year. Meanwhile, in banking (Lomi and Freeman, 1994), wineries (Swaminathan, 2001), and film production and distribution (Mezias and Mezias, 2000), where researchers have found positive relationships between concentration and entry, firms exist in more of a continuum,

covering the entire range of the size distribution from large to small. In an intriguing piece of evidence consistent with this idea, Carroll and Swaminathan (2000) find a positive effect of C4 concentration on the entry rate of microbreweries, which have some larger firms, but no effect of C4 on the entry rate of brewpubs, much smaller ventures, despite the fact that both kinds of organizations enjoy lower exit rates when concentration rises. When a near-center exists, the entry of specialists through a niche vacancy chain accelerates the resource-partitioning process. In populations without a near-center, however, the subpopulation of specialists must rely only on shifts in the rate of selection to drive its expansion.

More generally, we believe that this possibility adds to the calls for two kinds of future research. First, it points to access to and an ability to interpret information as an important factor in entrepreneurial decisions. With the exception of a few experimental and simulation studies, however, little research has examined this question. Rather, in much of the existing literature, the (implicit) assumption has been than entrepreneurs accurately observe and interpret opportunities and therefore researchers should view entry rates as information on the existence of these opportunities (akin to an efficient markets view of prices). But the problem of assessing the attractiveness of an industry at any given moment is a complex one and potential entrants might exhibit systematic biases in their evaluations. Second, it raises awareness of the need for comparative studies of industry evolution. Though corporate demography and evolutionary economics have made great progress by examining the dynamics of individual industries, the growing list of anomalies suggests that much might be learned by treating these deviations from the standard theory fragments as informative. Of course, that leads

naturally to a call for more research on community ecologies, so that one may understand better when and where certain sorts of industry dynamics should arise.

Finally, it is interesting to consider our results – and partitioning processes more generally – from the flip side. In other words, what does this theory say to the large, generalist firms that enact these processes? Can they prevent them? Although the emergence of large numbers of small competitors might seem more a nuisance than a real threat, in many industries those niche players have risen to challenge the dominant incumbents. Southwest and JetBlue come to mind in the airline industry, Nucor in steel. Dominant firms might do well to recognize that in their attempts to gain even stronger footholds in their respective industries that, by attacking and eliminating their large rivals, they may inadvertently clear the way for future pretenders to the throne.

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ORGANIZATIONS' COEXISTENCE IN CROWDED MARKETS: THE ROLE OF COLLABORATIVE RELATIONSHIPS

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Organizations' Coexistence in Crowded Markets: The Role of Collaborative Relationships

This article investigates the impact of concentration among generalist organizations on collaboration. I propose that concentration among generalists affects the number of collaborations in the industry. There are at least two ways in which organizations decide to collaborate to manage resources when the competition is high. On the one hand, specialist organizations collaborate among themselves to use the resources left by generalist organizations. On the other hand, generalist organizations decide to collaborate with specialist organizations to compete against other generalist organizations. Analyzing organizations from the TV production in the United States from its inception until mid-80s, I find that the number of new collaborations increase with concentration among generalist organizations. This finding has important implications for competitive and collaborative dynamics in uncertain environments.

INTRODUCTION

The theory of resource partitioning predicts that under competitive conditions characterized by economies of scale and heterogeneous consumer preferences, industry concentration by generalists frees up peripheral resources for specialist organizations (Carroll, 1985). A number of studies show that resource partitioning creates opportunities and leads to density-dependent growth of specialist organizations (Dobrev, Kim, and Hannan 2001; Dobrev, Kim, and Carroll 2002; Boone, Carroll, and Witteloostuijn 2002), yet we know little about the complex process that allows such growth.

The theory argues then that concentration among generalist organizations not only makes available new resources or markets in the industry, but also that specialist organizations are able to use the new resource. I propose that collaborations play an important role in this process. Recent research has studied both competitive and cooperative relationships rather than focusing only on competitive relationships among organizations (Jensen, 2008; Ang 2008). These relationships are particularly important when specialist organizations do not have enough resources to invest in new markets. Hence, this article investigates if and how concentration among generalists, or core firms, dynamically affects the collaborative relationships involving specialists.

I used data on the U.S. TV productions from its inception until 1985 to examine if and when organizations use collaborative relationships to invest in new markets. The television production industry provides an appropriate context to examine the competitive and cooperative dimensions of using collaborations to manage new resources. Besides the possibility of investigating that the main assumptions of the resource partitioning theory happen in this context, there are also many collaborative relationships to be analyzed.

There are few generalist production companies in the center competing against each other in diverse markets, and a plenty of small specialist organizations collaborating with different kind of organizations. Specialist organizations make relationships with others in the periphery, they also collaborate with some large specialists or small generalists in the near-center, and there are also collaborations between small specialists and large generalists in the center.

THEORETICAL BACKGROUND

Organization theory has identified environments that support the coexistence of both generalist and specialist organizations, as do the environments analyzed by resource partitioning theory (Carroll 1985; Peli and Nooteboom 1999). In the resource partitioning perspective, market entry is viewed as a consequence of competitive consolidation among generalists that occupy the core of a market, which frees up resources so that specialists can enter the periphery of the market (Carroll & Swaminathan, 2000).

Carroll (1985) outlined the dynamics of markets composed of generalists and specialists, and many researchers have found empirical support for resource-partitioning predictions by using data from several different industries. The processes of resource partitioning have been found to operate in populations of organizations as diverse as newspapers (Carroll, 1985), banks (Lomi, 1995), microprocessor manufacturers (Wade, 1995), film producers and distributors (Mezias and Mezias, 2000), automobile manufacturers (Dobrev, Carroll and Hannan, 2001) and wineries (Swaminathan, 2001). These studies have made advances in our understanding of the life chances of specialists

and generalists over time, but the way in which specialist organizations benefit from the concentration among generalists has not been clearly addressed.

The resource partitioning theory argues that occupant organizations of the resourceful central regions grow bigger than the others, and the induced increase in size yields scale economy advantages: the big firms get even bigger, forcing medium-size generalists out from the market (Peli and Nooteboom 1999). The number of generalist organizations falls, while their average size grows. Market concentration increases. A crucial element in the model is that the life chances of the emerging specialists are attached to the concentration level of generalists: high concentration opens little resource pockets for specialists.

This happens as follows. As the relatively smaller generalists disappear, resources become unutilized (Peli and Nooteboom 1999). The surviving big generalists take the best chunks of the residual space, positioning themselves into the market centers. As the fight among generalists dies out, product differentiation loses its importance. The winner organizations now adjust their offers to the mainstream needs at the center. The surviving generalists increase their niche width, taking over the best parts of the extinct competitor's market segments. But as they move toward the market centers, they leave some customers unsatisfied at the edges. Small specialist organizations establish footholds in these market pockets. By using a geometric explanation, Peli and Nooteboom (1999) argue that specialists can benefit from resources in the center if market segments are left unexploited by generalists due to loose configuration. They argue that opportunities do open for specialists in every market segment. However, as the original theory predicts, Peli and Nooteboom also argue that specialists do not necessarily

take them, because their survival chances are much better at the margins than in the center.

Therefore, if and how specialists take the opportunity has not been addressed by resource partitioning models. For example, often firms occupying diverse or similar positions collaborate with each other to survive in competitive markets. Whether it is for creation and development of new markets or competing against successful competitors, collaborations are often an inevitable part of surviving in competitive environments. When uncertainty is high, organizations probably look for partners to reduce risks. Recent research has argued regarding the importance of collaborative relationship in competitive environments. Jensen (2008)'s work on market entry, for example, suggests that the presence of both competitive and cooperative relationships provides the core firms with an incentive to differentiate their reactions to market entry depending on whether firms seek to enter the core or periphery of the market.

Recent research in competitive dynamics of collaboration formation has also emphasized firm heterogeneity in collaborative behavior in response to competitive pressures (Park and Zhou, 2005, Ang 2008). Some of the justifications for collaboration in this context are greater access to resources (Das and Teng, 2000), shorter product/service development cycles (Hagedoorn, 1993), higher levels of efficiency (Lippman and Rumelt, 1982) and faster speed to market (Banbury and Mitchell, 1995). Access to a partner's complementary resources allows a firm to gain from economies of scale and scope, learn and accelerate speed to market, and thus enhance competitiveness (Ang 2008). Thus, collaboration can be used to reduce the competitive intensity that a firm faces. Also, the availability of new resources may motivate the formation of new

collaborations. On the other hand, the existence of available resources in the market may also motivate collaborations among specialist organizations. If I assume the case in which specialists realize the potential of resources left by generalists, they may not be able to invest in that specific resource as it would require other resources that this firm does not have. Hence, specialists probably try collaborations with other specialists or even small generalists in the near center in such occasion. So for many reasons, collaborations play a big role in competitive markets.

The underlying intuition is that generalist organizations use collaborative relationships to occupy multiple positions in the market and then satisfy different audience's expectations. Hence, generalist organizations seek to neutralize the negative consequences of competing in multiple markets by favoring affiliations with specialist organizations. Therefore, they seek to strengthen their own competitive positions and induce specialist organizations to become cooperative in the market center. Besides, the entry rate in the periphery could also increase because generalists legitimate a greater number of different types of products, and then a greater number of collaborations among specialists could emerge to invest in these new markets. I suggest the following hypothesis on this basis:

Hypothesis: The number of new collaborations for each organization increases with the degree of concentration among generalist organizations.

THE TELEVISION CONTENT PRODUCTION INDUSTRY AND THE ROLE OF COLLABORATIONS

The theoretical gap described above indicates that explanations for organizations coexistence in crowded markets downplay specialists' dynamic role in increasing the number of collaborations in the market. I analyze the U.S. television production industry from its inception until mid-1980s when Cable TV started becoming a dominant multi-channel program delivery system in the United States (Vogel 2001:203).

The year 1946 marked the true beginnings of regular network series. Most early programming was quite experimental, just to see what would work in the new medium. Costs were kept to a minimum and advertising agencies were given free time by the stations, to get them into the studio to try out TV. A landmark was the premiere of Kraft Television Theatre in May 1947 produced by Walter Thompson Agency. However, the NBC network's coverage of 1947 World Series – the first championship series of Major League baseball on TV – made it very apparently that an explosion in TV set ownership was about to take place. It brought in television the first mass audience of 3.9 million people – 3.5 million of them in bars. After that, TV ownership was contagious.

The U.S. television industry held several advantages for this study. First, the main assumptions of the resource partitioning theory can be identified in this context. Resource partitioning requires that consumers have heterogeneous preferences and that the distribution of those preferences has a center. Brooks and Marsh (2003) classify 25 common genres for TV series. They are action, adventure, animation, children, comedy, crime, documentary, drama, family, fantasy, game, horror, intrigue, musical, mystery, news, reality, romance, science fiction, sports, talk-show, variety, various war, and

western. In American production companies, sports, drama and comedy TV shows constitute the core interests of the largest body of viewers.

Another necessary condition for resource partitioning is the presence of economies of scale (Carroll, 1985). Economies of scale can arise from production. Much of the cost of a show, for example, stems from writing and shooting the episodes. Once a show was produced, it costs nothing for an additional person to watch it.

Resource partitioning also requires restrictions on the range of preferences to which any one firm can appeal (Peli and Nooteboom, 1999; Hannan, Pólos and Carroll, 2007). TV production organizations can produce new genres, apart from those they produce, but at some point the cost of producing a new genre would no longer justify the additional audience that the new show might bring the firm. Hence, one can easily see the resource partitioning occurring in this industry. The entry-rate of specialists following concentration among generalists is illustrated in figure1. The figure shows that the number of new specialists that entered in the market on the left axis and the concentration rate among the four main generalists (C4) on the right axis.

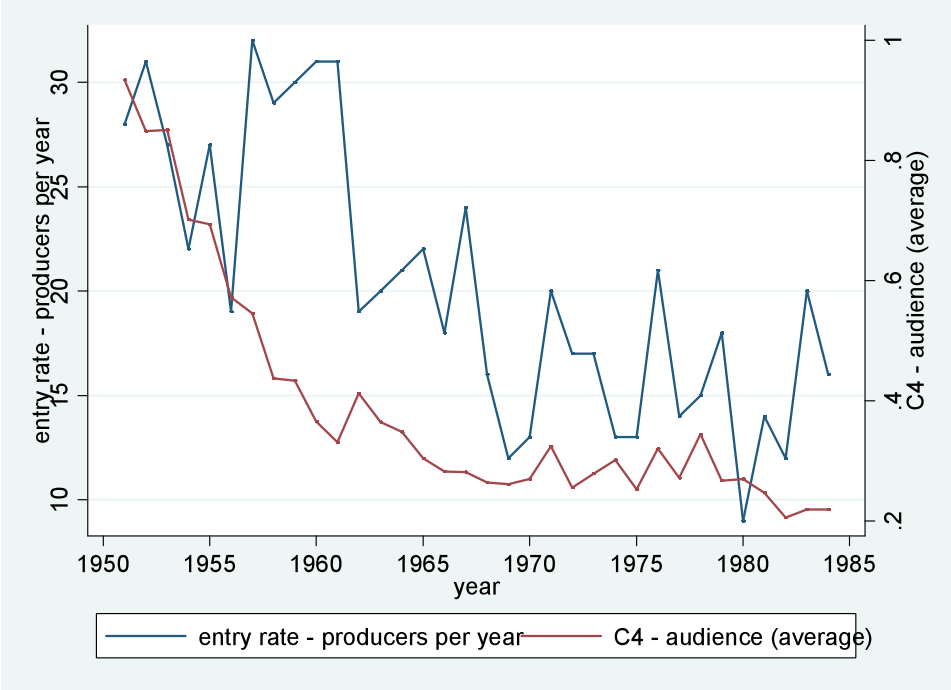

Figure 1. Entry-rate for Specialists following Concentration (C4)

Second, one can easily distinguish between generalists and specialists in the TV production industry by analyzing product range. Operationally, specialists and generalists have typically been distinguished according to the breadth of the markets in which they participate because this information corresponds closely to the underlying resources on which the organization draws. Hence, the classification of specialists and generalists varies according to product range (Freeman and Hannan 1983, Baum and Singh 1994, Dobrev, Kim and Hannan 2001, Sorenson et al 2006).

My analysis follows this tradition of using the range of product characteristics to assess the difference between generalists and specialists. Following Sorenson et al (2006), I consider not just the range, but the entire distribution of products offered by firms. In other words, two firms might have equivalent ranges on some product

characteristic, but if one has a tightly grouped set of products with a single outlier, I consider it more of a specialist than a firm spreading its offerings evenly across the product space. In the television production industry, I focus on the variety of different genres (e.g. drama, comedy, action, adventure…) produced by each production company.

Most organizations produce only one genre as figure 2 illustrates. Figure 3 shows the number of specialists and generalists – density - for each year[1].

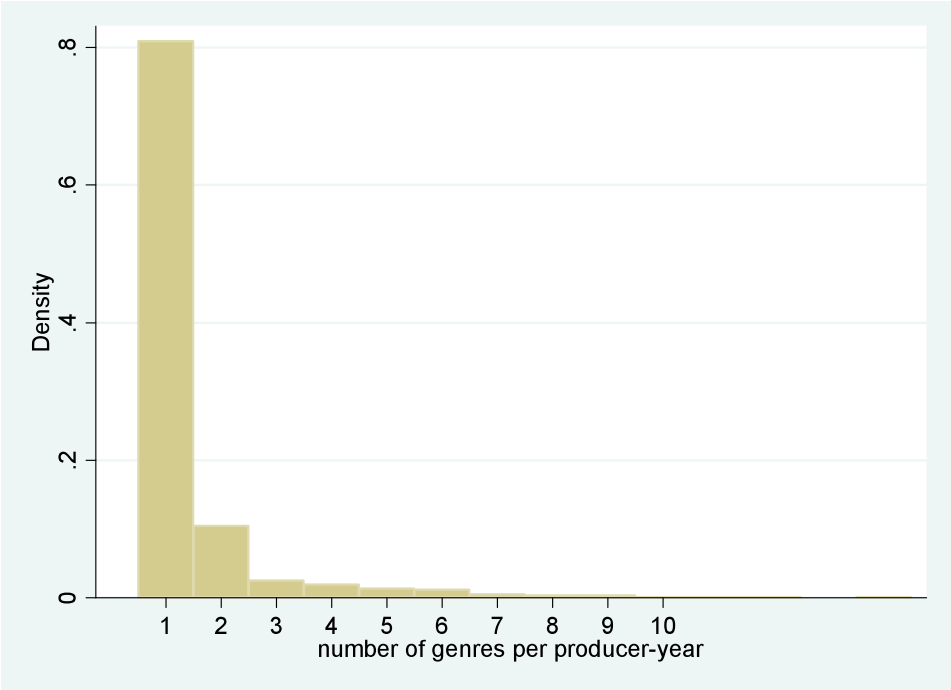

Figure 2. Product Range per year

[1] I calculated the Herfindahl concentration ratio across the 25 common genres of TV shows. The measure ranges from 0 to 1, with 1 indicating the highest level of specialization. Product segments provide an appropriate basis for measuring the degree of specialism. Firms serving a greater number of product categories enact more general strategies and operate with a wider variety of resources simultaneously (Sorenson et al 2006).

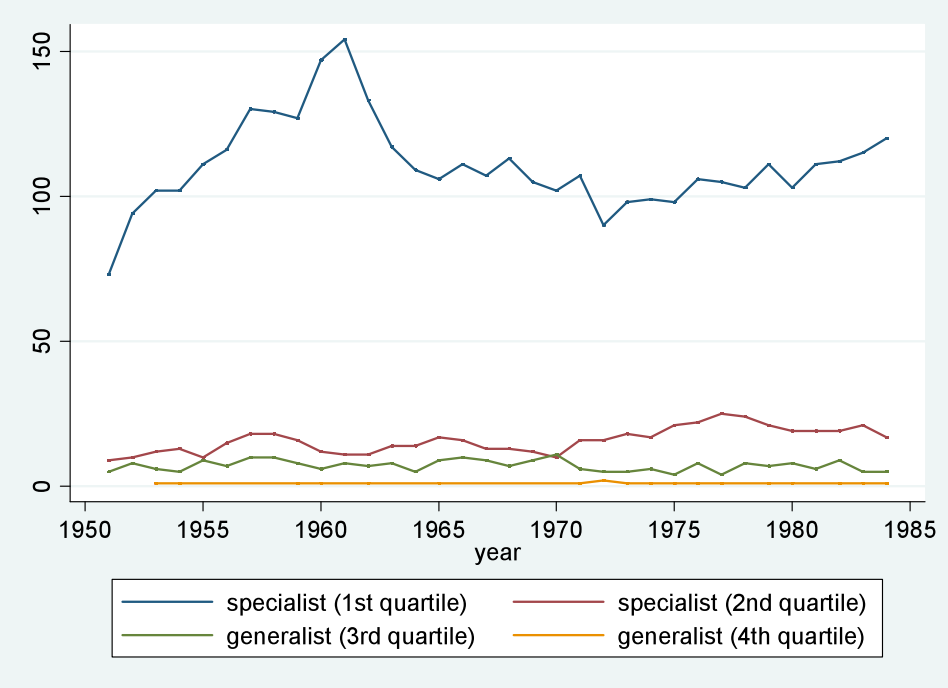

Figure 3. Number of Specialists versus Generalists

Third, one can easily identify collaborations in this industry - the co-productions. If in the very beginning advertising agencies were involved in the series productions - including *Texaco Star Theater* produced by NBC and Texaco Gasoline Company - by mid-50s there were many collaborations among production companies. Figure 4 shows the number of collaborations for each year – density. The figure also shows the level of concentration (C4) from 1952 to 1985. However, many of these collaborations involved a TV network. Figure 5 shows the number of co-productions in which at least one of the big channels was involved. As expected, this number decreases after regulation.

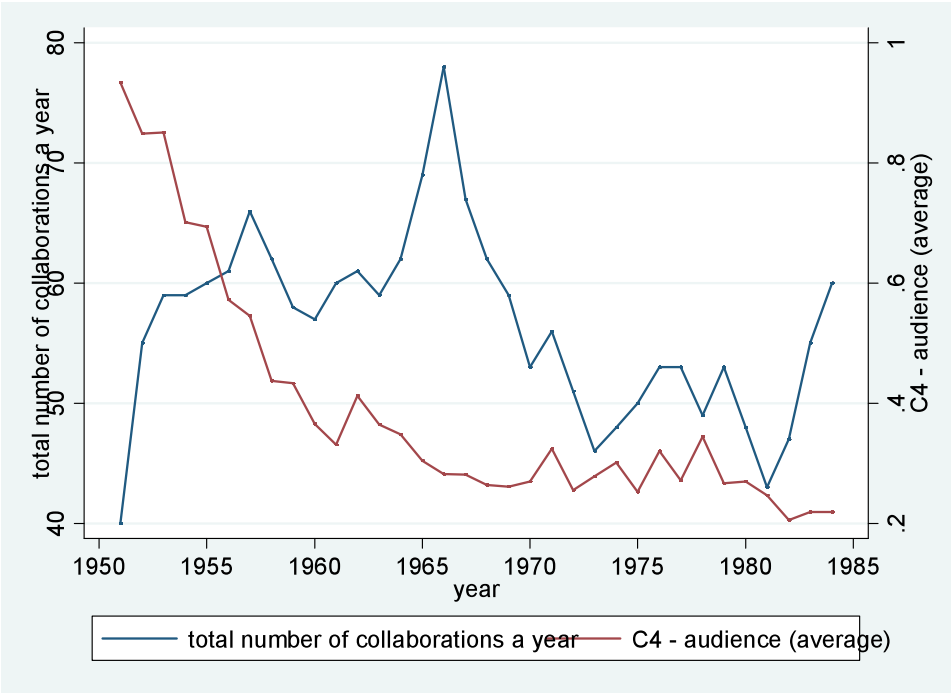

Figure 4. Total Number of Collaborations following Concentration (C4)

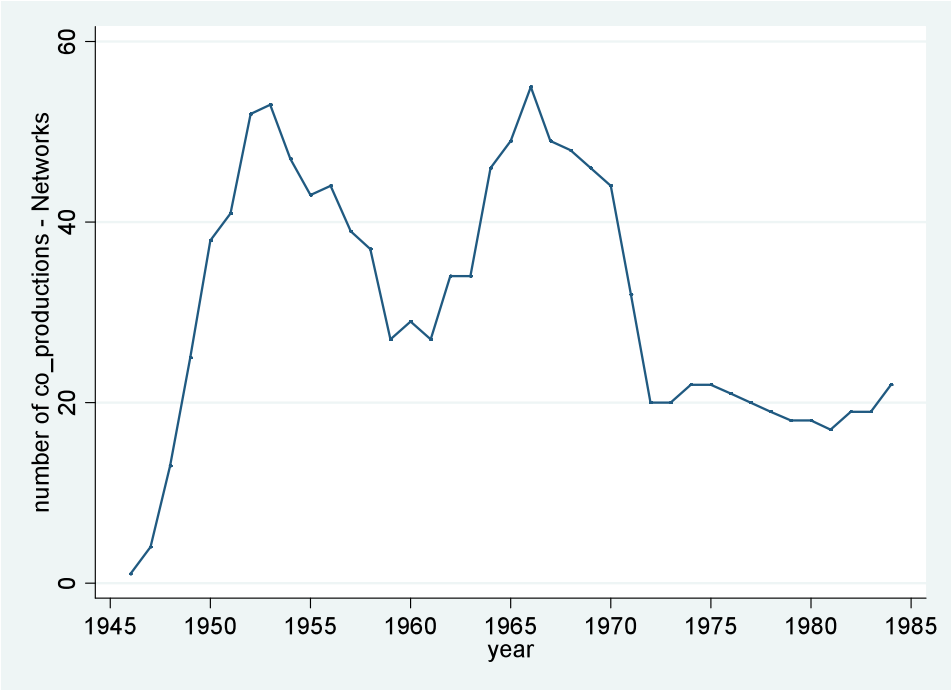

Figure 5. Number of co-productions with Networks

Historically, co-productions have been especially popular with television networks that required programs or films but did not have a sufficiently large budget to produce programs on their own. Simple co-productions - those that provide financing in return for distribution rights - offer significant advantages to peripheral specialists and have been undertaken for many years. Having multiple partners means more money for a project, and the production costs as well as financial needs of television production can be tremendous, particularly for certain genres (Strover, 1997).

Co-productions are also often seen in the film industry. Distributors-producers often make coproduction deals with one or more parties for one or more territories in order that risk may be shared. For instance, domestic and foreign distributors, in a "split-rights" arrangement, might each contribute half of a picture's production cost and each be entitled to distribution fees earned in their respective territories. Because distribution costs and box-office appeal often vary significant in different markets, however, a picture might be profitable for one distributor and unprofitable for another. Also, the results for all distributors may be aggregated, with profits or losses split according to aggregate performance rather than territorial performance (Vogel, 2001).

METHODS

Data and Sample

The dataset is derived from the Complete Directory to Prime Time Network and Cable TV Shows (Brooks and Marsh: 2003), which includes all regular series and covers the entire history of TV networking in the United States. Brooks and Marsh's definition

of “series” is a program that runs at least four consecutive weeks in the same time slot. These series are seen simultaneously across most of the country.

The years 1950-1985 represent an important period in which production companies began entering the market. First, the existence of regulation in the industry allows the comparison of a period before the regulation (1950-1970) when there were many collaborations between generalist organizations and small specialists, and during the regulation (1970–1985) when the Federal Communications Commission (FCC) implemented rules to regulate the industry. Regulation is often deemed politically necessary to offset alleged imperfections in the market economy. At times, for example, there have thus been movements to contain monopoly power, to control excessive competition, to provide public goods, and to regulate externalities. Regulation affects many other industries (e.g., biotech and pharma), and this data allows also the analysis of whether or not regulation affects the number of collaborative relationships during the resource partitioning processes.

The Fin-Syn (Financial Syndication) limited the amount of prime-time programming the networks could produce themselves. The rule was adopted to attempt to increase programming diversity and limit the market control of the broadcast television networks, which should benefit all production companies. However, one anti-Fin-Syn argument noted that the Fin-Syn rules undermined the role of independent producers rather than enhanced them - not only because small independent producers often could not afford to engage in the "deficit financing"[2] required by the networks but also because

[2] Deficit financing involves receiving a below-cost payment from the networks during the first-run of a program.

it was more difficult to develop the shows without networks as partners (McAllister, 1997).

The data include all collaborations between production companies. Data about production companies comes from the Internet Movie Database (imdb.com). To be included, a TV show had to appear on the IMDB website with the name of the production company that created and developed it. However, if a TV show is a co-production, which means that it is produced by more than one production company, I count it n times, where n is the number of companies involved on that production. The final dataset contains then 1414 firm-years.

Measures

Dependent variable. The dependent variable is a count of the number of new collaborations – co-productions - for a production company in a given year. If an organization does not have any new coproduction but is still developing shows that started in previous years or produced single productions, the entry-rate of shows in that year is equal to zero.

Independent Variable. For the measure of market concentration I rely on the frequently used concentration ratio measure, defined as the ratio of the annual production of the four largest firms to the total industry output for that year (C4). I calculate the sum of the squared value of the average market share for the four largest firms in terms of audience rates. This measure is based on the Nielsen rating that is the percent of all TV-equipped homes tuned to the program on an average night, as measured by Nielsen Media Research.

Control Variables. To test if concentration affects the number of co-productions organizations start, this analysis includes some controls that might influence estimates of the number of collaborations organizations start. First, I specify the effects of organizational density (N) in nonmonotonic fashion, consistent with established theory and findings in organization ecology (Carroll and Hannan 2000). This specification includes a linear and second-order term (N2) of annual counts of the number of producer organizations. One could expect that production companies would be involved in more relationships at the beginning when legitimation is still low. Also, the number of collaborations should increase with competition among organizations. At the industry level, the models include also the total number of collaborations in the industry. Firms would favor collaborations when there are more collaborative relationships in the market.

I also controlled for regulation. The Federal Communications Commission (FCC) implemented the Fin-Syn (Financial Syndication) rules in 1970 sought to increase programming diversity and limit the market control of the broadcast television networks to benefit production companies. The FCC eliminated all traces of Fin-Syn by November 1995. I created a dummy variable equal to one from the period between 1970 and 1985, set to zero otherwise.

I also added a control variable at the organization-level. This variable captured the organizational size, the total number of series that an organization was producing during each year. It captures several factors. Because size reflects the number of TV series an organization is producing, a larger number of shows captures diversity. Also, it captures age, as older organizations have more time to produce a larger number of shows. I also

tried adding continuous measures of age and diversity; however, I decided not to include them because they were highly correlated with size.

Model

Following the usual approach, I estimated a negative binomial specification with robust standard errors (clustered on production companies-years to allow for correlated patterns of entry between collaborations in the same organizations and years). A Hausman test indicated that the fixed-effects model fit the data better than a random-effects specification. I define entry dates according to the first year in which production companies started a new collaboration. In particular, I estimated negative binomial models with fixed effects for each production company to account for time-invariant factors that might promote organizational variation in the number of collaborations (Hausman, Hall and Griliches, 1984). Table 1 and 2 reports respectively the descriptive statistics and the correlation matrix for the variables.

TABLE 1
Descriptives

Variable	Mean	Std. Dev.	Min	Max
Entry-rate of collaborations per producer	0.08	0.39	0	6
Density	134.55	17.83	70	173
Number of collaborations	56.11	8.05	33	78
Regulation	0.42	0.49	0	1
Firm size	2.25	3.72	1	49
Concentration (C4)	0.40	0.20	0.21	1.06

TABLE 2
Correlation Matrix

	Variable	1	2	3	4	5	6
1	Entry-rate of collaborations per producer	1					
2	Density	-0.012	1				
3	Number of collaborations	0.006	0.466	1			
4	Regulation	-0.005	-0.152	-0.609	1		
5	Firm size	0.140	-0.033	0.003	-0.019	1	
6	Concentration (C4)	0.021	-0.422	-0.085	-0.532	0.042	1

RESULTS

Table 3 reports the entry-rate estimates of new collaborations for each organization. The focus of the hypothesis is to determine if concentration among the four largest generalist organizations affects the firm collaboration. All covariates are one-year lags. The model 1 shows only controls for the entire period – from 1950 to 1985. Except for regulation, all other variables were significant. The linear term for density that consists of the number of production companies in the industry is negative. This effect shows that when legitimation increases, there is a lower number of collaborations for each organization. On the other hand, when competition increases (density squared term), production companies produce a greater number of collaborations. The number of collaborations in the industry also affects positively the number of new co-productions an organization starts, as expected. In the organizational level, firm size shows that biggest organizations produce a lower number of collaborations.

Model 2 introduces the concentration measure to test the proposition. Consistent with expectations, the entry-rate of co-productions for each organization increases as the

concentration among generalist organizations increases. This coefficient is positive and statistically significant.

Table 3 also presents models 3 and 4 to compare the results before and during the regulation period. As the type of collaborations can be quite different from the period before regulation and the period during regulation, I show one model for each period. Model 3 represents the period between the beginning of the industry and 1970 when the regulation - financial syndication rule – hadn't been implemented yet. During this period, concentration among the four largest generalist organizations also affected positively the number of new co-productions each organization started. During this period, TV networks were responsible to many productions with small specialists. NBC and CBS were usually one of the four largest generalists as they often reached the best audiences with their TV shows during this period. Also, their hits as well as their less successful shows were often co-production with smaller generalists or specialist organizations.

Model 4 shows similar results during the regulation period when the government limited the production by TV networks. During this period, the financial syndication rules limited the number of shows NBC, CBS and ABC could produce. As a large number of shows were co-productions between TV networks and specialists, this rule changed the structure of the relationships in the industry. During this period, smaller generalist organizations tried to occupy the center left by TV networks. Again, concentration played not only a positive but a large effect on the number of collaborations in the industry. Hence, the positive effect of market concentration on the number of new collaborations among production companies seems independent on regulation rules.

TABLE 3
Fixed-Effects Negative Binomial Models on the Collaborations entry-rate of US TV Production Companies from 1950 to 1985.

Variables	Model 1		Model 2		Model 3 *1950-1970*		Model 4 *1971-1985*	
Constant	3.507	*	0.263		-0.694		32.537	***
	(2.019)		(2.365)		(2.587)		(10.913)	
Density	-0.100	**	-0.078	*	-0.060		-0.520	***
	(0.039)		(0.040)		(0.045)		(0.159)	
Density2 (*100)	0.035	**	0.029	**	0.022		0.190	***
	(0.015)		(0.015)		(0.017)		(0.060)	
Number of collaborations	0.039	**	0.049	***	0.051	**	0.039	
	(0.016)		(0.016)		(0.020)		(0.032)	
Regulation	0.196		0.599	*				
	(0.270)		(0.321)					
Firm size	-0.045	**	-0.043	**	-0.063	**	-0.204	***
	(0.020)		(0.020)		(0.027)		(0.054)	
Concentration (C4)			1.639	**	1.624	**	5.079	**
			(0.651)		(0.742)		(2.512)	
Number of firm-years	1414		1414		665		558	
Log likelihood	-556.37		-553.27		-279.41		-195.02	

*p<0.1, **p<0.05, ***p<0.01
All models include firm fixed effects
Standard errors in parentheses

DISCUSSION AND CONCLUSION

This study investigates the impact of market concentration on the entry-rate of co-productions for each organization. Specifically, it examines the impact of concentration among the four largest generalist organizations on the formation of collaboration among production companies in the industry. Results largely support the prediction of significant association between concentration and collaboration.

Market entry has been viewed as a consequence of competitive consolidation among generalists that occupy the core of a market, which frees up resources so that specialists can enter the periphery of the market (Carroll & Swaminathan, 2000). This study argues that organizations use collaborative relationships to use the available resources. On the one hand, specialist organizations probably don't have enough resources to invest in new markets. Firms with great opportunities and few resources probably collaborate to use those resources left by "old" generalists that were left out when the concentration increased. On the other hand, generalist organizations that remained in the industry probably collaborate with other organizations to keep performance in different markets while competing against other generalists. Firms facing high levels of competitive intensity have greater pressures to collaborate to reduce competition (Ang 2008). While generalists are competing, there will be more specialists occupying the market center. It happens because when generalists are competing in the center, they start collaborative relationships with specialists.

This finding brings an explanation for how the resource partitioning occurs. In addition to direct contribution to a better understanding of the resource partitioning process, this study contributes to research on industry structure. It also supports and

provides further evidence for the arguments that collaboration is a result of the inducement and opportunities to collaborate (e.g., Ahuja, 2000).

By focusing on how market concentration triggers collaborative relationships among organizations, this study points to the importance of examining how firms actively transform industry dynamics.

Finally, a natural extension of this study would be to examine if there are systematic differences in the collaborative relationships which vary according to the type of organization – specialist-periphery, specialist-near center, generalists- near center, generalist-center. Also, if there are different relationships have different effects on performance, for example, if a collaborative relationship between two specialist organizations in near-center work better than a collaborative relationship between two specialists in the periphery. Future research can also check whether collaborations perform better than single productions during periods of high concentration.

This study nevertheless presents initial evidence that collaborations such as strategic alliances, partnerships or industry associations, are important competitive responses to market entry and, therefore, important mechanisms in the understanding of industry dynamics.

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