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Creative Positioning:

Niche Width, Niche Overlap, and Innovation in Television Programming, 1980-2009

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ABSTRACT

How does an organization's position within a field affect its propensity to innovate? Drawing on niche theory, we characterize an organization's position along two dimensions: niche width, a function of the relatedness among the resource spaces an organization inhabits; and niche overlap, a function of the number of competitors occupying the similar spaces. We test hypotheses about the effects of field position on organizations' willingness and ability to innovate using the population of U.S. television broadcasters airing original programming between 1980 and 2009. We predict that broadcasters in niches drawing on a more diverse range of resources and those in more densely populated niches are more likely to innovate. We also find that the effect of niche width and niche overlap is different for broadcasters carried on public airwaves and those available through subscription services. By bringing the question of innovation to the well-established body of work on niche theory, we contribute important new insights to both ecological theory and the innovation literature.

INTRODUCTION

In this study, we ask what motivates and enables television broadcasters to innovate. Innovation in cultural industries like television broadcasting can be understood as an ongoing process of recombination, or the fusing together of existing, familiar ideas in novel ways (Fleming, 2001; Hargadon, 2002; Hargadon & Sutton, 1997). Research on this type of innovation is rather limited, however, focusing on either its impact (Fleming, 2001; Uzzi, Mukerjee, Stringer & Jones, 2013), or its relationship to organizational network position (Hargadon, 2002; Hargadon & Sutton, 1997). In contrast, we are missing a theory predicting the characteristics of organizations that are more likely to engage in this particular sort of innovation.

Although innovation has been a central topic in organizational theory for decades, the question of which organizations are most likely to introduce innovations in cultural industries has largely been overlooked. We know much about the drive for innovation and the ways in which innovations take hold and diffuse in fields ranging from cuisine to film to architecture (e.g., Alvarez, Mazza, Pederson and Svejenova, 2005; Jones, Maoret, Massa and Svejenova, 2012; Rao, Monin, Durand, 2003, 2005; Shamsie, Martin and Miller, 2009; Svejenova, Mazza and Planellas, 2007), but relatively little about which organizations are most willing and most able to bring innovations to market. We propose that ability to innovate is a function of diversity of ideas, whereas willingness to innovate is a function of competitive pressure.

We develop these ideas by drawing on a literature not typically associated with innovation: niche theory. Specifically, we focus on an organization's position in its field or competitive space (Freeman & Hannan, 1983; Hannan, Carroll, & Polos, 2003; McPherson, 1983; Popielarz &

Neal, 2007) as a fundamental driver of innovation. One of the primary questions in organizational ecology is how the characteristics of an organization's niche, or its position within a population situated within a multi-dimensional resource space, affects its outcomes (Freeman & Hannan, 1983; Podolny, Stuart & Hannan, 1996). Niche theory has touched on many aspects of organizational behavior and inter-organizational dynamics (Hannan et al., 2003; Liu, Srivastava & Stuart, 2015), yet because the outcomes of interest to organizational ecologists are a relatively limited set – including organizational birth (Hannan & Freeman, 1987), mortality (Barron, West & Hannan, 1994), status (Podolny, Stuart & Hannan, 1996), and resource partitioning (Carroll 1985; Dobrev, Kim & Hannan, 2001) – this perspective has not yet been used to understand innovation. In contrast, we find that several concepts from niche theory are useful in describing organizations' positions within cultural fields to the extent that they impact the potential for innovation. We, therefore, draw on niche theory to focus on an organization's position in its field as a driver of both an organization's ability and its willingness to innovate.

Two concepts from niche theory – niche width and niche overlap – are particularly useful in explaining an organization's ability and willingness to innovate. Niche width, or the range of ideas in the resource space a given organization occupies (Freeman & Hannan, 1983), determines the set of ideas available for recombination and thus the ability to innovate. We find that, as the range of raw materials with which to innovate increases, so too does the diversity of ideas at an organization's disposal, increasing its likelihood of recombining them in innovative ways. In contrast, we find that niche overlap, or the degree to which a given organization draws on the resource space also occupied by other organizations (Podolny et al., 1996; Stuart 1999), drives innovation by spurring competition and the need to differentiate, thus providing the impetus to innovate. The positive effect of niche overlap on innovation is significant, as previous

research emphasizes the tendency of niche overlap to dampen organizational outcomes (Podolny et al., 1996; Stuart 1999; Liu et al., 2015). We further find that these drivers of innovation operate differently depending on the particular set of external stakeholders a given organization faces. We test our hypotheses using an original dataset including the population of U.S. television broadcasters airing original programming between 1980 and 2009.

THEORY AND HYPOTHESES

Niche Position and Innovation

The topic of innovation is central to many streams of organizational theory. Resource-based theories suggest that the organizations with superior resources and capabilities are better able to innovate (Barney, 1991). Porter (1990) argues that an organization's specific environment provides opportunities for innovation. Strategy researchers have explored a range of innovations and their impact on industry development and organizational survival (e.g., Baker & Nelson, 2005; Delacroix & Swaminathan, 1991; Ettlie, Bridges & O'Keefe, 1984; Henderson & Clark, 1990; Tushman & Anderson 1986). Institutional theorists have focused on the ways that innovations that eventually result in radical change may be driven by exogenous shocks (e.g., Greenwood & Hinings, 1996; Leblebici, Salancik, Copay & King, 1991) or endogenous forces such as institutional entrepreneurs (e.g., Lawrence & Suddaby, 2006).

What spurs organizations to innovate in cultural industries like television broadcasting, however, remains relatively under-studied. In such industries, innovation is achieved on an ongoing basis by recombining disparate elements that already exist in the field in novel ways (Fleming, 2001; Hargadon 2002; Hargadon & Sutton, 1997; Uzzi et al., 2013). This is consistent with Levi-Strauss's (1966) concept of bricolage to describe innovation among resource-constrained

organizations; such organizations draw on whatever raw materials are at hand, reusing “combination[s] of resources for new purposes” (Baker & Nelson, 2005: 335). This conceptualization of innovation is also consistent with Schumpeter’s (1934: 65-66) definition of innovation as the “carrying out of new combinations” and Weick’s (1979) definition of creativity as “putting new things in old combinations and old things in new combinations.”

Innovation born of recombination is important as it produces advances with broad appeal as well as potentially high impact on audiences. Uzzi and colleagues (2013) and Trapido (2015) find that the most impactful scientific research papers comprise a high degree of conventional combinations of well-known prior work while also featuring some unusual combinations. Similarly, Gulley and Lakhani (2010) find that in programming contests, the inclusion of novel combinations of others’ code increases both the probability of achieving top ranks and subsequent adoption by others. Fleming (2001) finds that recombining familiar ideas makes innovations more useful and reduces inventive uncertainty, although such ideas may be used less often in future creative endeavors (Fleming, Mingo & Chen, 2007). Such innovation can, over time, create the conditions for more radical upheaval; for example, Rao and colleagues (2005) demonstrate that novel combinations of existing elements in French gastronomy eventually led to the erosion of boundaries between two competing institutional logic and the emergence of a new, integrated logic.

Systematic inquiry into what sort of organization is best able and most willing to engage in this sort of innovation has been limited. Baker and Nelson (2005) focus on entrepreneurial bricolage, or the idea that small organizations in constrained environments pull together resources that may have been overlooked or rejected by others in novel ways; innovation thus becomes the basis for competition in resource-constrained environments. Other work focuses primarily on the

innovator's brokerage position within a network, which provides access to diverse ideas, allowing for novel recombinations (Hargadon, 2002; Hargadon & Sutton, 1997).

We suggest that in cultural industries, an organization's ability to access diverse ideas can be explained in terms of the niche it chooses to occupy. Organizational ecology conceives niches as positions within a resource space, or the portion of a multi-dimensional resource space inhabited by a given organizational actor engaged in competitive interactions with rivals. An organization's choice of niche has been repeatedly demonstrated to impact outcomes like birth and mortality (e.g., Baum & Singh, 1994; McPherson 1983; Popielarz & McPherson, 1995).

Most of the work in this area has conceptualized niches as shared activity spaces. Podolny, Stuart and Hannan (1986) define organizations' technological niches by studying the patent citation network in the semiconductor industry. This allows them to map organizations' positions within the semiconductor field based on their choice to compete in certain areas and not to compete in others, and defines the organization's population of competitors as those organizations that operate in overlapping areas. Similarly, Baum and Singh (1994) define day care centers' niches in terms of the age ranges of the children they serve, and Dobrev, Kim, and Hannan (2001) define car manufacturers' niches in terms of the range of engine sizes they produce.

In television, niche can be defined in terms of the range of genres of programming that broadcasters air. The competitive space in which they operate is therefore delineated by the set of broadcasters that air programs in similar genres. These genres represent more than just programming type: genres also imply distinct sets of stakeholders, ranging from talent including actors, writers, and costume designers; business types, including advertisers, producers, and cable carriers; interest groups such as religious groups, educators, politicians; and audiences and

gatekeepers, including viewers, critics, rating agencies, and awards committees. Genres also imply means of organizing and patterns of interaction; the way a reality television show is conceptualized, cast, produced and marketed, for example, is very different from the way sports competitions are brought to air. In a sense, the resources upon which broadcasters draw are not only ideas, but also all of the actors, stakeholders, routines, norms, and practices that bring those ideas to life.

Niche Width, Resource Diversity, and Innovation

When contemplating the impact of field position on innovation, we must consider niche width, which is critical to organizational survival. According to Freeman and Hannan (1983), niche width refers to the diversity of resources encompassed within an organization's position within a field. Those occupying more narrow niches cater to a relatively narrow and clearly defined set of constituencies and draw on a relatively narrow set of resources. In contrast, organizations that occupy broader niches address more heterogeneous interest and demographic groups and thus draw on more diverse resources.

Because wider niches give organizations access to more diverse resources, they give organizations the capacity to innovate; that is, niche width should positively predict innovation. First, a broader niche provides the focal organization with access to a more diverse array of ideas and resources from which to produce new combinations. Exposure to diversity gives organizations access to more of the blocks from which to build their own contributions through a process of bricolage (Levi-Strauss, 1966; Baker & Nelson, 2005). The more diverse tools and resources at their disposal, the more likely these organizations are to come up with new, innovative combinations of ideas (e.g., Gibson & Gibbs, 2006; Williams & O'Reilly, 1998).

Similarly, organizations occupying broader niches are better able to innovate when the resources upon which they draw are more dissimilar from each other. To achieve significant niche width, organizations must regularly engage with actors and ideas outside their current boundaries (Sorenson, McEvily, Ren & Roy, 2006). Over time, they develop the capacity to incorporate and rationalize the routines, logics, norms and practices from a diverse set of idea spaces, settings, and interaction partners, making the process of innovation easier over time. In addition, exposure to diverse environments makes organizations better able to tolerate the risk inherent in innovating (Baer, 2012) because they are better able to recognize the new opportunities inherent in combining disparate elements and generating new schemas and processes (Godart, Maddux, Shipilov & Galinsky, 2014). This line of reasoning is also consistent with research in institutional theory, which demonstrates that exposure to contradictory institutions drives innovation, by providing more varied sets of ideas, information, and practice on which to draw (Besharov & Smith, 2014; Greenwood, Raynard, Kodieh, Micelotta & Lounsbury, 2011; Kraatz & Block, 2008; McAdam & Scott, 2004).

Moreover, organizations that occupy wider niches are likely to be embedded in broader networks of actors (Godart, Shipilov & Claes, 2013), further enhancing their ability to innovate. Belonging to, and interacting with, operators in distant resource spaces generate important tacit knowledge about how to originate and implement new ideas (Godart et al., 2014). Diverse ties also bring indirect exposure to even more new ideas, which may then lead to additional opportunities for the next generation of novel recombinations (e.g., Fleming, 2001; Galunic & Rodan, 1998; Godart et al., 2014).

We conceptualize niche width in television broadcasting as the range of genres in which an organization operates; niche width is thus a function of both the number of and conceptual

distance among the genres in its repertoire. Generalist broadcasters in wide niches offer a broad range of programming (Hannan & Freeman, 1989) intended to appeal to a large number of audiences, but which may not necessarily provide excellent fit with any particular audience (Hsu, 2006), whereas specialist broadcasters in narrower niches air programming in a limited number of genres that are closely related. For example, traditional over-the-air networks like NBC or CBS seek to appeal to a wide variety of audiences by airing children's programming in the morning, daytime television aimed largely at women, adult-oriented programming at night, and often sports and special programming on weekends. Others, like the Weather Channel or Outdoor Living specialize in a much more narrow set of program genres, and therefore encounter a far narrower range of ideas, organizational actors, and ways of organizing.

Likewise, the more unlike each other the genres in a broadcaster's toolkit, the more likely it is to combine them in unforeseen ways. For example, a relatively generalist broadcaster like A&E, which airs programs in a reasonably broad niche that includes genres like biography, documentary, drama, crime, mystery, and reality, is far more likely to innovate as a function of its broad exposure to ideas than is the Weather Channel. Consequently, in 2006, A&E introduced the innovative series, *Roller Girls*, which was the first program to combine the reality and roller sports genres. In contrast, a specialist broadcaster, like ESPN, which focuses on sports alone, lacks the diversity of ideas in its repertoire to generate such novel combinations of genres and innovates less frequently. While it may regularly produce new programming, given the limited number of ways in which ideas around sports can be combined, the likelihood of ESPN producing an innovative program is limited. Following this logic, we hypothesize:

- H1. The wider the niche an organization occupies the more innovations it is likely to produce.

Niche Overlap, Competitive Crowding, and Innovation

A second aspect of an organization's position within its field that might predict its motivation to innovate is niche overlap, or the degree of competition from other organizations operating within a particular resource space (Podolny et al., 1996). Niche overlap leads to more intense competition for scarce resources (Stuart, 1999) – in part because audience demand for the products of such niches becomes saturated (Barroso, Giarrantana, Reis & Sorenson, 2014) – and increases the likelihood of organizational mortality (Podolny et al., 1996). Niche overlap is, therefore, generally associated with significantly negative organizational outcomes.

By contrast, the intense competition that comes with niche overlap should have a positive impact on the likelihood of innovation. Crowded markets force organizations to innovate to differentiate themselves from their competitors (Aghion, Harris, Howitt & Vickers, 2001; Dobrev et al., 2001; Stuart 1999) to grow their customer bases (Freeman & Hannan, 1983; Barroso et al., 2014). In technology, organizations in crowded niches are spurred to innovate to gain status and recognition, as well as to reap the rewards of moving first and “winning” technology races, although innovations in crowded niches tend to be less profitable in the long run (Stuart, 1999).

This concern is likely to be particularly salient in television broadcasting, as customers' switching costs are so low relative to more asset- or relationship-specific industries. Because organizations operating in spaces with high niche overlap tend to focus their attention on the most salient need at a given time (Podolny et al., 1996), they are likely to be highly attuned to changes in customer demand and competitive saturation (Barroso et al., 2014). In such spaces, satisfying audiences' needs for novelty is particularly salient, and innovative products are likely to be rewarded disproportionately.

The field of television broadcasting in the United States has grown dramatically over the last 40 years, leading to much higher degrees of competitive crowding than had been seen in the early years of the industry. Technological advancements and greater levels of disposable income have led to an overall rise in leisure-related consumption, and television, in particular, has grown exponentially; while only 18 broadcasters aired original programming in the U.S. in 1980, by 2009, that number had risen to 343 broadcasters.¹ In television's early days, programming involved a few broadcasters operating for limited hours, whereas today programs are available 24 hours a day, on demand, and through multiple delivery channels. This has not only increased the consumption of television programming, but also competition within particular niches.

That is not to imply that all niches are similarly competitive. In resource spaces and genres where many broadcasters operate, competition is intense, whereas smaller niches find only a few broadcasters active at any time. For example, many broadcasters that air programs in the drama and comedy genres, but relatively fewer in the extreme sports genre, a category of which many television viewers might be unaware. We anticipate that the more crowded the niches in which a broadcaster airs programming, on average, the more motivated it is to differentiate itself from its competitors through innovation. Thus, we hypothesize:

- H2. The more niche overlap in the space an organization occupies the more innovations it is likely to produce.

¹NB: This figure only includes broadcasters that air at least one program of original content; the number of broadcasters airing content developed elsewhere is even greater.

Niche Width, Niche Overlap, and Stakeholder Complexity

Our first two hypotheses suggest that an organization's position in a field can influence innovation in cultural industries in two ways: through niche width or resource diversity, which provides the ability to innovate; and through niche overlap or competitive crowding, which provides the motivation to innovate. Not all organizations are likely to respond to the diversity and density of resource spaces in the same way, however; these effects are likely to differ based on organizational characteristics. One important dimension along which we might differentiate among organizations has to do with the number of stakeholders they need to satisfy. With additional stakeholders come additional demands that organizations must meet, and potentially different yardsticks for success. In turn, the complexity of these relationships, and the particular ways in which organizations interact with various stakeholders, is likely to influence the way in which they respond to niche width and niche overlap.

In television broadcasting, there is a salient distinction between two types of broadcasters based on the means by which their programming is delivered to viewers. Over-the-air broadcasters air their programming on public airwaves, for which no access fee is necessary, and include the traditional networks (currently NBC, ABC, CBS, Fox and the CW), as well as public access stations like PBS affiliates and other local broadcasters. In contrast, cable and satellite broadcasters provide access to their programming only to paying customers through basic and premium cable subscriptions.² Not only do these categories of broadcasters serve different audiences based on willingness to pay, they also have different relationships with stakeholders

²FCC regulations and the *Cable Television Protection and Competition Act* of 1992, establish the "must-carry" rule, which require all cable systems to carry all full-power, local, commercial over-the-air stations in their designated television markets. Thus, all audiences can access local over-the-air broadcasting through subscription services.

involved in the delivery of programming. Because cable and satellite broadcasters have to sell their services to cable providers, which consumers then purchase in packages from the cable providers, they face a different set of competitive demands from over-the-air broadcasters which interact more directly with audiences and advertisers in the absence of intermediaries.

The differences in stakeholder complexity may subsequently influence how the different types of broadcasters are affected by niche width and niche overlap. Because they need to justify their inclusion in cable package offerings, subscription broadcasters may be more sensitive to niche overlap and competitive crowding. Innovative programming may be the way to justify their continued inclusion in television packages providing these broadcasters with additional motivation to innovate. An example of this response is the cable and satellite broadcaster AMC, which in 2003 switched from its original format of rebroadcasting classic movies – a relatively crowded space – to airing original programming, eventually airing hits including *Breaking Bad*, *Mad Men*, and the *Walking Dead*.

Over-the-air broadcasters, in contrast, may be less motivated by competition but more sensitive to diversity because their audiences are, by definition, broader and their interests more diverse. Appealing to a heterogeneous audience is likely to motivate over-the-air broadcasters to innovate by bringing together disparate elements that might appeal to new audience segments. Moreover, because they do not need to justify their existence to cable carriers (although they are still beholden to the tastes of audiences and advertisers), the risks associated with innovation based on diversity of resources and niche width may be less than it is for cable and satellite broadcasters. For example, the NBC broadcasting network, an over-the-air broadcaster with a long history in television, is licensed to innovate because its diverse audience makes its risk of

failure due to an innovative misfire reasonably small. In contrast, for a cable or satellite broadcaster like Logo TV, which caters to the much narrower LGBT viewer market, the failure of an innovation might alienate viewers, advertisers, and cable carriers, proving extremely costly. Thus, we anticipate that the impact of niche width and niche overlap on innovation will vary between over-the-air and cable and satellite broadcasters and hypothesize:

H3a. Niche width will have a greater impact on innovation for organizations with fewer stakeholders (over-the-air broadcasters) than for those with more stakeholders (cable and satellite broadcasters).

H3b. Niche overlap will have a lesser impact on innovation for organizations with fewer stakeholders (over-the-air broadcasters) than for those with more stakeholders (cable and satellite broadcasters).

DATA AND METHODS

The television industry in the United States provides a useful field in which to study innovation, as broadcasters introduce new programs on a regular basis and a reasonable percentage of these introductions represent new combinations of genres that can be identified as innovations. The drive for innovative programming has caused significant debate within the industry, among regulators, and in the courts. Initially, audiences were limited to viewing programs over-the-air by the major networks like ABC, NBC and CBS. The advent of videotapes, cable television, and the internet, however, has altered the broadcasting mix markedly. Though ownership is still somewhat consolidated, the number of broadcasters extends beyond the major networks and their subdivisions to independently-owned local broadcasters that can now reach millions of viewers

through streaming content rather than being forced to license their programs to the major networks (Bielby & Bielby, 2003).

Television broadcasters air a variety of new and returning programs every season trying to appeal to the nearly 300 million viewers in the United States. Some broadcasters focus on one specific genre, like sports, or even more specifically a certain type of sport such as football. These broadcasters specialize in understanding one particular type of audience and one particular genre. Other broadcasters air programming that spans genres; for example, drama, comedy, news, local, children, etc., such organizations occupy a wider niche in an effort to appeal to a broader variety of audiences.

Programming innovations in television are varied but rarely involve the introduction of entirely new genres in practice. Instead, innovations are programs made up of novel combinations of existing genres. It is important to note that not all new programs are necessarily innovations. Innovations represent new combinations such as the 2009 Animal Planet program *Jockeys*, which was the first to combine the genres of reality, horse racing, and sports in a program that gave viewers a behind-the-scenes look at the lives of jockeys during a 30-day horse-racing meet in California. Many programs are in proven genres (e.g., family-sitcoms, or mystery-dramas) are replicated due to their popularity; while some of these replications might be executed in new and interesting ways, they are not innovative according to our definition inasmuch as they represent existing genre combinations.

Data

To test our hypotheses, we purchased data from Rovi Corp, the owner of *TV Guide* magazine, an organization that provides entertainment-related services to content producers, advertisers, and

other market participants. The data supplied to us by Rovi Corp essentially comprised of an encyclopedia of television broadcasting history, which includes a categorization of every television program ever over-the-air in the United States by genre. Using these data, which are updated annually, we assembled a dataset covering all television programs aired since 1939. Our comprehensive data source makes identifying innovations relatively straightforward.

We analyze the population of original programming that aired beginning in 1980 when a critical mass of households (an estimated 20%) first had access to cable television airing original programming content (McCormick, 1980). Our observation window ends in 2009, the year that the Hulu television streaming service was launched, and the year that U.S. television broadcasters switched from analog to digital.³ These two developments changed the nature of television viewing in the U.S. by shifting the access requirements and costs of viewing. The period in our observation window was marked by rapid growth in the breadth and number of programming offerings, as well as regulatory changes that led to a dynamically changing industry. The number of programs and broadcasters by year is summarized in Figure 1.

*****Insert Figure 1 here*****

Our population contains 586 unique broadcasters, which in turn are owned by 398 unique organizations, yielding a sample that covers 3,076 unique broadcaster-years. 607 observations were dropped from our models due to lack of within-group variation or all zero outcomes, leaving 2,469 broadcaster-years in our analysis.

³Unreported supplemental analysis of excluding calendar year 2009 yielded a pattern of results almost identical to those reported below.

Dependent variable. Our dependent variable, *Number of Innovations Aired*, is a count of the number of new programs representing innovations aired by each broadcaster each year. *TV Guide* labels programs as falling into 230 distinct, but not mutually exclusive, genre designations, agreed upon and revised regularly by a team of *TV Guide* editors.⁴ The genre categories summarized in Appendix A range from “action/adventure” to “infomercial” to “yachting.” Each program is assigned as many genre designations as are deemed appropriate by the editorial team of *TV Guide*. In our sample, the number of genre designations assigned to each program ranged from one to seven, with an average of two.

The *TV Guide* editorial team introduces new genre designations when it recognizes a critical mass of programs with a common theme. During our observation window, 1980 to 2009, the *TV Guide* editorial teams recognized and labeled the introduction of 91 new genres. Upon the introduction of a new genre, the editorial team reviews all past programs and applies new designations retroactively to programs that fit the new category. This process ensures that innovations are identified as they appear, rather than after they have gained critical mass. (For example, although reality programming is generally viewed as having coalesced as a genre in the 1990s, the earliest show assigned that designation was *Candid Camera*, which first aired on ABC in 1948.) This also implies that some innovative programs, which are never imitated, may be overlooked by the categorization scheme and is a limitation of our data. Based on conversations with Rovi Corp, however, we feel the trade-off is likely biased in favor of inclusivity.

⁴Whereas *TV Guide* is the most comprehensive and widely used compendium of television broadcasts, it represents only one categorizing scheme. We recognize that other data sources or programming experts may use different genre categorization plans.

As we are specifically interested in innovations based on new combinations of existing ideas, we have operationalized innovation as a novel combination of two or more genres. This allows us to tap even fine-grained distinctions between program types. Our sample includes 1,866 of these novel combinations.^{5,6} For example, the introduction of the genre “reality” generated a number of new genre combinations including “reality-game show,” the first of which was *Survivor* (CBS, 2000), and “reality-rock-talent competition,” the first of which was *Battle of the Bands* (FUSE Network, 2005). Thus, the introduction of a single genre can result in a number of recombinant innovations. Consistent with this logic, we coded each program as an innovation if it represented the first instance of a particular combination of genres based on first airdate. We also accounted for ties, whereby more than one broadcaster aired a program comprising the same new combination of genres within 30 days of the first appearance of a given innovation.⁷ This logic assumes that these programs were in development and production at the same time, but that one simply made it to the air first.

Independent variables. We constructed several independent measures to characterize the broadcasters in our dataset. We use the term broadcaster to represent what *TV Guide* refers to as a “source,” or the primary entity responsible for airing a given program. Broadcasters comprise several types of entities, ranging from national over-the-air networks (e.g., FOX, ABC) to cable

⁵Although our observation window begins in 1980, because our data begins in 1939, we are able to state definitively that these new genres and new genre combinations are, indeed, novel. Both genres and genre combinations are coded as new in the year that they are first introduced, not the first time they appear in our observation window. Thus, there is no left-censoring with respect to innovation in our data.

⁶Unreported supplemental analysis of the 91 new genre innovations as compared to the recombinant genre innovations during our observation period produced a virtually identical pattern of results.

⁷Using a 30-day window to calculate ties resulted in the recoding of 60 programs as innovations. Using a 60- or 90-day window resulted in 85 and 99 ties, respectively, and did not change the results of our analysis.

channels (e.g., HBO, Bravo!), and local television stations (e.g., WYKE, a station serving Citrus County, Florida; WBEC, an educational station owned by Broward County Public Schools). Most local stations are network affiliates or network owned-and-operated stations, which air some portion of the lineup of a given network, and round out their schedules with syndicated programming. These network affiliates are only included in our dataset as unique broadcasters if they aired original content at some point during their over-the-air histories (e.g., a local restaurant review or tourism program, like WTTW's "Wild Chicago").

We follow *TV Guide*'s listings for program origination according to which original programming by major broadcasting networks (e.g., NBC, CBS, FOX, and PBS) is attributed to those organizations, rather than their local or flagship affiliates. This implies that broadcasters only appear in our data if they have the potential to innovate. That is, if a broadcaster airs only syndicated programming, it does not have the opportunity to introduce an innovation, and is therefore excluded. It only enters into the risk set for innovation and thus our dataset once it begins airing original programming. This choice also implies that we treat the network NBC equally to its local Florida affiliate, WYKE, in terms of the introduction of innovation, although it is clear that these organizations are not functionally equivalent.

To capture the diversity of genres in which each broadcaster operates in a given year, we constructed a time-varying, continuous measure, *Niche Width*, which was lagged by one year in our analysis. When building this measure, we first considered that some genres in *TV Guide*'s categorization scheme are by nature nested, although the data source's coding scheme does not account for that explicitly. For example, the genres of comedy and sports are clearly more distant from each other than the categories of yachting and sports; although yachting and sports are not nested in the *TV Guide* coding scheme, nor does the sports genre always accompany the yachting

genre in practice, conceptually they are relatively tightly coupled. Finally, the relationships among these genres changes over time; whereas the genres of family and drama may have been distant from each other when initially introduced, the more often they co-occur in program labels, the less distant they become.

To account for dynamism within the distance among genres, we constructed a time-dependent measure of Jaccard distance between each pair of genres in the *TV Guide* scheme, and updated that measure with the introduction of each new program by air date. This is consistent with the distance measure employed by contemporary organizational ecologists studying categories (e.g., Leung & Ng, 2015). Jaccard distance measures the dissimilarity between two genres, A and B, based on their prior co-occurrence within the population of programs, and is calculated as:

$$\text{Jaccard distance} = d_J(A,B) = 1 - J(A,B) = \frac{|A \cup B| - |A \cap B|}{|A \cup B|}$$

In other words, Jaccard distance measures the union of genres A and B minus their intersection, divided by their union. Figure 2 maps the distance among the top 46 genres (20% of the population) based on closest average distance to the rest of the population in 2009. We used NetDraw (Borgatti, 2002) and the MDS (multi-dimensional scaling) algorithm to depict the distance between genres.

*** Insert Figure 2 about here ***

Each broadcaster occupies a niche represented by a time-dependent position within the field of genres depending on the average distance between the genres that comprise each program within its schedule in a calendar year, averaged across all programs that year. To calculate niche width, we first calculated the time-varying distance among each genre within the *TV Guide* coding

scheme, then averaged the distances for each pair of genres attached to each program. We then averaged the average distances among program elements for all programs aired by each broadcaster in a given year. Formally, this calculation is as follows:

$$Niche\ Width_k = \frac{\sum_{A=2}^n \sum_{B=1}^{i-1} Jaccard\ distance_{A,B}}{\binom{n}{2}},$$

where the Niche Width of broadcaster k is defined as the average Jaccard distance among each pair of genres A and B based on co-occurrence in programs in the past. This measure can range from 0 to 1, with 0 indicating that all of the genres in a broadcaster's repertoire always co-occur and 1 indicating that they have never co-occurred.⁸ We mean-centered this variable before entering it into our models.

We believe that this measure of distance is superior to traditional measures of niche width, which have often been operationalized in terms of the Herfindahl index. The Herfindahl measures variation and specialization based on the co-occurrence of genres, but does not take into consideration the relationships among the genres themselves. Thus, two broadcasters airing programs representing the same proportions of three genres would have identical Herfindahl scores, although broadcaster A might air programs in sports, reality, and cooking, while broadcaster B aired programs in sports, football, and baseball. In contrast, because the Jaccard distance measure explicitly measures the degree to which any two genres are related, it gives a truer measure of niche width. Because the genres aired by broadcaster A are inherently more

⁸We also calculated measures of the minimum and maximum distances among the genres for each program each year. Results were largely similar to those of the average distance as reported below.

distant than those aired by broadcaster B, A's average Jaccard distance and niche width would be greater than that of broadcaster B.

We constructed the time-varying measure *Niche overlap* to capture the degree of competitive crowding in a given broadcaster's chosen resource space. To generate this measure, we first constructed a list of all broadcasters, b , that belong to all genres, k , in each calendar year. We then constructed a broadcaster-to-broadcaster matrix counting the shared genres for each broadcaster-broadcaster dyad. Finally, we used the *UCInet* software package to calculate the annual degree centrality, or measure of shared genres with each other broadcaster, for each broadcaster in our data set.

We also include a dichotomous variable indicating the type of broadcaster, as indicated in the Rovi Corp data. *Over-the-air* indicates broadcasters, whose programming is available to all for free, whereas the reference category includes cable and satellite cable broadcasters, or those accessible only through subscription services.

Control variables. The ownership structure within the television industry has the effect of creating a maze of nested organizational relationships. Because some broadcasters are nested within larger media families, while others are independently owned and operated, we could not treat them as equivalents with respect to exposure to the raw materials of innovation. For example, we recognize that there are strong revenue incentives for content producers to place new programs with broadcasters that will ensure maximum viewership by the broadest possible audience. As a result, producers might first offer a program pilot (generally the first episode of a show) to the flagship broadcaster of a large media conglomerate. Broadcasters, seeking to maximize appeal, are, in turn, incented to pass on riskier pilots, driving down the cost of the

pilots that have been passed over and making them more affordable to other broadcasters in their media families. To control for heterogeneity in opportunity created by this ownership structure, we used owner fixed effects in all of our analyses. Although the decision to employ owner fixed effects may limit our ability to generalize our findings, we feel it necessary to adequately control for the hierarchical nature of our data.

Because the inclusion in our models of owner fixed effects precludes the specification of broadcaster fixed effects, we attempt to control for broadcaster-level heterogeneity. We control for the *Number of New Programs* aired by the focal broadcaster in a given year. This is operationalized as the count of original programs with a first airdate in the focal calendar year attributed to that broadcaster by *TV Guide*. The more new programs aired by a given broadcaster, the more opportunity there is for that broadcaster to introduce innovative programming.

In addition, certain broadcasters may be more likely to introduce innovative programming for reasons that were more difficult to measure, such as risk-tolerance or organizational learning. In particular, we were concerned about endogeneity within our data: some stations may employ innovation as a differentiating strategy, and intentionally go about the process of innovation in a way that is unrelated to niche width and niche overlap. To control for this, we first calculated the number of innovations the focal broadcaster has introduced throughout its history, updated

annually.⁹ We then divided this number by the age of the station, yielding the variable *Prior Innovations*, which taps a broadcaster's baseline historical tendency to innovate.¹⁰

To control for potential organizational inertia or bursts of creativity at broadcaster inception, we include a measure of broadcaster experience. *Station age* was calculated as the difference between the focal year and the first year the broadcaster appeared in the *TV Guide* data.

Finally, we need to account for exogenous changes to the environment that might affect our relationships of interest. For example, Bielby and Bielby (2003) study the impact of deregulation in the television industry through the phasing out of the FCC's Financial interest and Syndication Rules, which impacted the way in which broadcasters developed and purchased original programming. To account for such changes, all models include year fixed effects.

Descriptive statistics and correlations among all variables are presented in Table 1.

*** Insert Table 1 about here ***

Estimation

We use fixed-effect Poisson models with robust standard errors for all models using the Stata12 statistical software package. We chose the Poisson model over other count models based on the results of Stata's *countfit* routine, which compares model fit among Poisson, negative binomial,

⁹NB: Although our observation window begins in 1980, our dataset provides information on broadcasters beginning in 1939. Our count of prior innovations begins in 1930, encompassing the number of innovations each broadcaster has ever broadcast, not just within the observation window, thus avoiding left-censoring.

¹⁰We also calculated several variables measuring the number of innovations the focal broadcaster has introduced in the preceding 2-, 5-, and 10-year periods to tap recent changes in organizational strategy and positioning. All variations produced a nearly identical pattern of results in terms of both significance and magnitude. We selected *Prior Innovation/Station Age* because it led to the best measures of model fit.

zero-inflated Poisson and zero-inflated binomial models. Evidence from the tests included in this routine showed that the Poisson was the strongly preferred model specification.

RESULTS

Results of our analysis are presented in Table 2. Model 1 includes all control variables. This model provides evidence that the number of innovative programs aired by a given broadcaster in a given year increases with the number of new programs it airs and the number of innovations it has aired previously, but decreases with station age. This model also includes the *Over-the-air* variable and shows that broadcasters in the Over-the-air category air significantly fewer programs representing innovations each year.

*** Insert Table 2 about here ***

We introduce *Niche Width* in Model 2, and find that, as the average degree of distance among the genres in a given broadcaster's repertoire increases by one standard deviation, it is predicted to air an additional 0.4 innovations ($p < .001$). This model provides support for H1.

In Model 3, we introduce the *Niche overlap* variable and find that the number of innovations aired by a given broadcaster in a given year increases significantly ($p < .01$) as the degree of competition within its niche increases from the mean. For each standard deviation increase in niche overlap, a broadcaster is predicted to produce an additional .18 innovations. This provides support for H2. Model 4 includes both niche overlap and niche width and finds that the magnitude and level of significance of their coefficients is unchanged.

We add the interaction of niche width and over-the-air in Model 5, and find that the interaction term is positive and significant ($p < .05$). This result suggests that, as the degree of diversity

among the genres in which a given broadcaster operates increases, the number of innovations aired by over-the-air broadcasters increase at a faster rate than those aired by cable and satellite broadcasters. Specifically, for each standard deviation increase in the value of the interaction term, a broadcaster airs an additional .27 innovations in a given year.

In Model 6, we introduce the interaction of niche overlap and over-the-air status. The interaction term here is negative and highly significant ($p < .001$), indicating that as niche overlap increases for over-the-air broadcasters, the number of innovations they air decreases. In fact, for every one standard deviation increase in the value of the interaction term, a broadcaster is expected to produce .1 fewer innovations. In other words, competitive crowding actually dampens the rate of innovation for over-the-air broadcasters relative to those airing their programming through subscription services. This provides support for H3b.

In Model 7, when both interaction terms are entered simultaneously, the results remain unchanged in magnitude and relative significance (the interaction of niche width and over-the-air actually gains in significance, $p < .001$). This provides strong support for H3a and H3b. The interactions are displayed graphically in Figures 3 and 4.

*** Insert Figures 3 and 4 about here ***

DISCUSSION

Using a new dataset comprising all of the television programming aired over a three-decade period, we tested hypotheses regarding the impact of niche width, which measures the diversity of resources an organization is exposed to, and niche overlap, which measures competitive density within a broadcaster's niche, on its likelihood of introducing programming innovations.

We demonstrate that niche width provides broadcasters with exposure to more of the raw materials of innovation, such that the greater the number of genres in which broadcasters are involved, the more likely they are to recombine those genres in novel ways. Niche width thus gives organizations the ability to innovate. We also argue that niche overlap increases a broadcaster's innovative behavior by driving competition. Niche overlap increases the amount of competition and therefore provides organizations the motivation to innovate. We further find that not all organizations respond to these stimuli in equivalent ways. The differential effects of niche width and niche overlap with over-the-air and cable and satellite broadcasters indicate that different aspects of field position are salient depending on the set of stakeholders with whom the broadcaster interacts.

While population ecology has much to add to the literature on competition, it has not been utilized significantly at the organizational level beyond examining the effects on organizational birth and failure. We believe that ecological concepts can be fruitfully married to other performance measures, and hope that our integration encourages researchers to continue to look for other points of overlap. Part of the issue with ecological models is due to the level of analysis. Despite the fact that external factors account for a significant amount of organizations' profitability, field-level factors are difficult to assess and can provide convoluted explanations at best. Investigating field and community-level questions does not easily translate to understanding actions at the organizational level. The converse is also true; measuring competition in one particular product market does not take into account organizations that compete across multiple domains (Podolny et al., 1996; Barroso, et al., 2014). We bring concepts generally applied to ecological outcomes to bear on a different sort of performance outcome.

We contribute to the study of innovation theoretically by importing ecological concepts and empirically by examining programming innovations in the television industry. Our focus on innovation that comes of recombining existing elements represents an important contribution. Organizational theorists more often study radical innovation, which has the potential to overturn existing institutional arrangements, or incremental innovation, which is of a smaller scale (e.g., Baker & Nelson, 2005; Dewar & Dutton, 1986; Ettlie et al., 1984; Henderson & Clark, 1990). Those that have looked at recombinant innovation have mostly studied its impact (e.g., Fleming, 2001; Fleming & Sorenson, 2004; Fleming et al., 2007; Gulley & Lakhani, 2010; Trapido 2015; Uzzi et al., 2013) rather than its source. Hargadon and Sutton's (1997) work most closely tracks our own, focusing on the innovative capacity of IDEO. As a function of its work on product design with many clients across dozens of industries, IDEO was able to draw on ideas from past engagements to develop solutions to subsequent problems. Rather than generating entirely new ideas, IDEO successfully innovated by finding analogies among problems and applying ideas that worked in one domain to similar problems in other areas. As a result, this organization was able to leverage that diversity of information to create appealing, novel and functional new combinations of problems and solutions.

Although this characterization of one highly innovative organization seems apt, it is applicable to only a small subset of organizations that occupy these valuable brokerage positions. At the same time, organizations in cultural industries like television, film, art, and music, regularly engage in this sort of innovation despite being in non-brokerage positions within their fields. For example, according to our data on broadcaster ownership, brokers simply do not exist in the field of television broadcasting; almost all broadcasters are either part of media families, and thus embedded in cohesive networks, or independently owned, with no ties to other broadcasters. To

accommodate this observation, we extend the structural argument that an organization's innovative potential is a function of its position within a network of organizations and consider how innovation may instead result from an organization's position within a network of ideas.

There are some limitations to our research. Although this study represents a type of innovation that occurs in many industries (Uzzi, et al., 2013) it is not generalizable to all types of innovation. Radical and incremental innovation are traditionally considered with respect to the degree to which the innovation is based on existing knowledge and resources, and also to the degree to which it builds on new technologies (Abernathy & Clark, 1985; Anderson & Tushman, 1990). We consider that this perspective of innovation, which focuses on whether the novel practice is "competence enhancing" or "competence destroying," while well-suited for change that occurs within the boundaries of an organization, is less applicable in cultural industries. Because we are examining creative rather than technological changes, the innovations we study may be inherently less quantifiably "radical" than those in other contexts. What's more, we believe that this research is generalizable to many creative industries (e.g., music, architecture, fine art), wherein ongoing innovation of the type we have described is one of the primary bases for competition and success.

Another limitation results from the means of classification employed by our data source. As mentioned above, innovations are classified by *TV Guide* after they have had a significant impact on the field, and new genres are created and applied retroactively to inactive, as well as active, programs. Because of the nature of this classification process, each of the innovations identified were significant enough to have a substantial impact on the field, which implies that innovations that have not yet been recognized may be left out of our data.

Note that we are not interested in testing the appeal or success of innovations produced by generalists or specialists. Hsu (2006), for example, finds evidence of the principle of allocation; that is, because generalists span multiple genres, they may attract larger audiences but are less appealing to those audiences, whereas specialists' narrower customer base allows them to appeal more directly to their target consumer. Similarly, Hsu (2006b) finds that critics reward cultural products with narrow appeal because they reinforce the critic's own expertise and discernment. In this paper, by contrast, we focus on the production of innovation, not its success. Further research on the relative rewards that accrue to innovations produced by combining more distant genres in the television industry seems warranted.

In future research, we hope to test the impact of innovation in television programming. Using these data, we can test whether more or less novel innovations are more successful, as well as the impact of genre diversity and competitive crowding on innovations' success. In addition, while our data captures a significant amount of information about the characteristics of innovators, we cannot currently determine the motivation for different categories of innovators, much less individual organizations to innovate, only the propensity to innovate. In other words, some broadcasters may stumble across the raw materials for innovation because of their exposure to diverse genres, whereas others may strategically enter multiple domains with the explicit intent to innovate.

Finally, future research might consider the ways in which environmental conditions contribute to the locus of innovation. Because we controlled for changes in industry conditions and environmental munificence using year fixed effects, such effects were not considered in this study. It may be possible, however, to test the impact of the environment directly by comparing multiple industries. There are also many anecdotal counterexamples of generalist organizations

that innovate, where increased slack resources fund experimentation and innovation (e.g. Xerox, 3M). Explicit consideration of environmental features, such as the pace of innovation in the environment, or the degree to which innovation is required to support current business models, may provide some insight as to the conditions in which generalists are best positioned to take advantage of those resources.

CONCLUSION

Population ecologists have explored many of the factors that influence birth and survival in organizational communities. Innovation researchers have studied numerous pathways that innovation takes across a number of industries. We contribute to both areas of research by bringing concepts from organizational ecology to bear on organizational innovation in a new domain: the archetypal cultural industry of television. Our study explores how an organization's niche and stakeholder structure affect its propensity to innovate. Our data also furthers our understanding of innovation by providing a clear operationalization of recombinant innovation. We believe that the contributions to both niche theory as well as the innovation literature are something that bridges the gap between field-level factors and organizational action, and future research could extend these findings to provide even more specific insight into how field- and organization-level agents impact innovation.

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Table 1. Descriptive Statistics

Variable	Mean	St. Dev	1	2	3	4	5	6	7
1 Number of innovations	0.652	1.335	1.00						
2 Niche width	0.713	0.296	0.07	1.00					
3 Niche overlap	72.491	61.014	0.08	0.21	1.00				
4 Over-the-air	2.719	4.953	0.69	-0.09	0.08	1.00			
5 Number of new programs	0.529	0.951	0.65	0.03	0.19	0.74	1.00		
6 Prior innovations	0.271	0.445	0.09	0.14	0.16	0.18	0.18	1.00	
7 Station age	8.323	10.979	0.33	-0.10	0.12	0.62	0.56	0.15	1.00

Table 2. Effect of Broadcaster Diversification and Centrality on the Number of Innovations Aired Annually (Poisson Regression, Fixed Effects by Year and Owner)

	1	2	3	4	5	6	7
Number of New Programs	0.1015*** (0.0091)	0.1071*** (0.0101)	0.0993*** (0.0086)	0.1052*** (0.0097)	0.1080*** (0.0098)	0.1015*** (0.0098)	0.1040*** (0.0100)
Prior Innovations	0.3410*** (0.0764)	0.3181*** (0.0762)	0.3259*** (0.0755)	0.3049*** (0.0756)	0.3093*** (0.0781)	0.2994*** (0.0768)	0.3041*** (0.0800)
Station Age	-0.0127+ (0.0072)	-0.0099 (0.0065)	-0.0166* (0.0069)	-0.0133* (0.0061)	-0.0103 (0.0063)	-0.0121* (0.0061)	-0.0082 (0.0062)
Over-the-Air	-0.9554*** (0.2035)	-0.8495*** (0.2097)	-0.8532*** (0.1849)	-0.7631*** (0.1797)	-0.7674*** (0.1451)	-0.7023*** (0.1714)	-0.7092*** (0.1418)
Niche Width		1.2643*** (0.2336)		1.2461*** (0.2376)	1.0637*** (0.2003)	1.2936*** (0.2249)	1.0880*** (0.1909)
Niche Overlap			0.0030** (0.0010)	0.0026** (0.0009)	0.0021* (0.0010)	0.0041** (0.0013)	0.0037** (0.0013)
Niche Width * Over-the-Air					1.8711* (0.8175)		2.1772** (0.8055)
Niche Overlap * Over-the-Air						-0.0030*** (0.0008)	-0.0035*** (0.0009)
Observations	2469	2469	2469	2469	2469	2469	2469
Log Likelihood	-1954.01	-1922.81	-1947.58	-1917.99	-1911.95	-1912.61	-1904.72
Chi-square	10817.87	8944.54	17302.84	17401.43	19801.11	13792.14	18853.15

Standard errors in parentheses; + p < 0.10, * p < 0.05, ** p < .01, *** p < .001

Figure 1. Number of Programs and Broadcasters by Year, 1980-2009

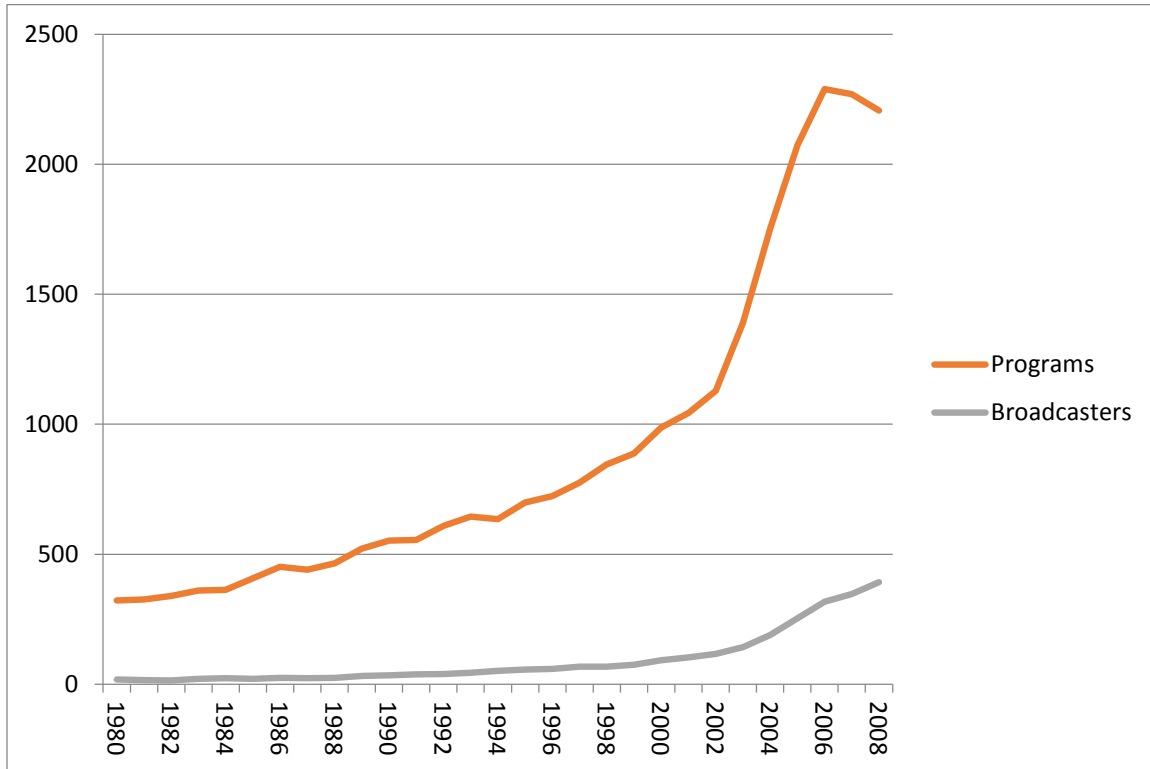


Figure 2. Jaccard Distance among Top 20% of Television Genres (2009)

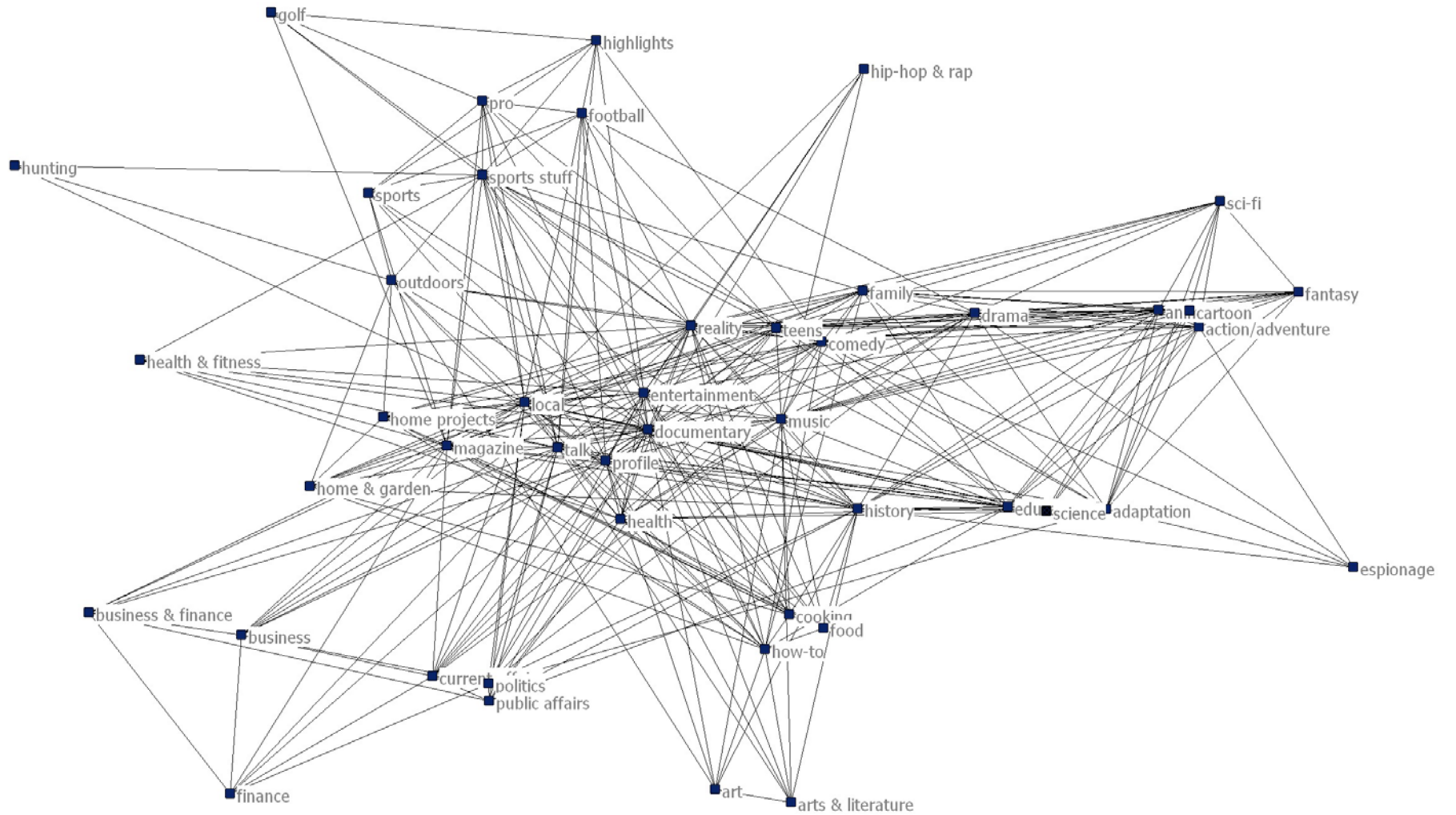


Figure 3. Effect of Niche Width on Innovation by Broadcaster Type (with 90% confidence intervals)

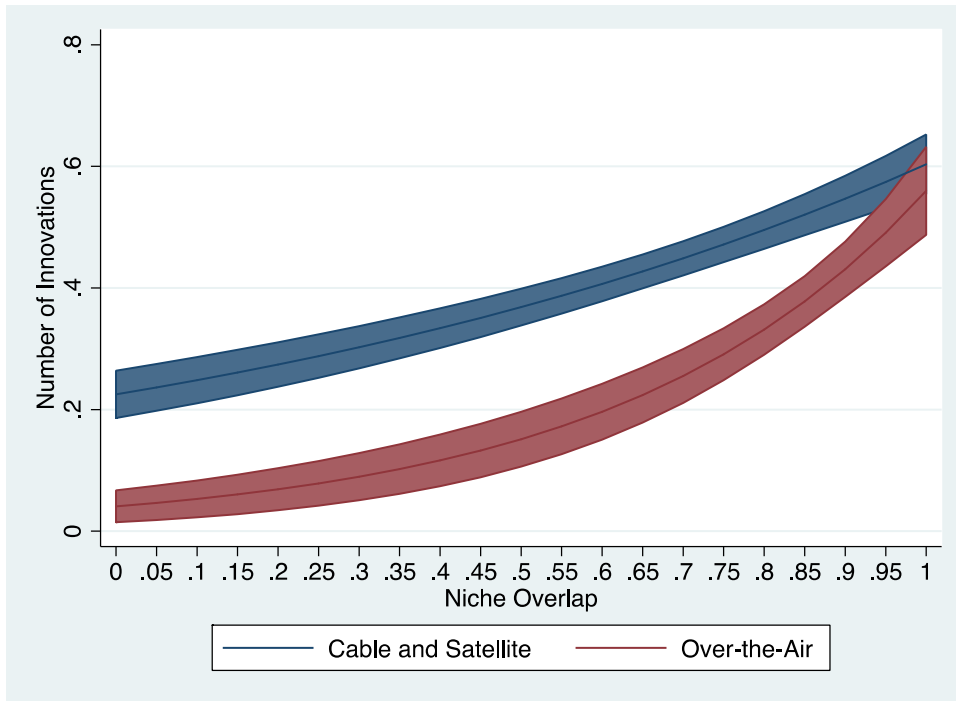
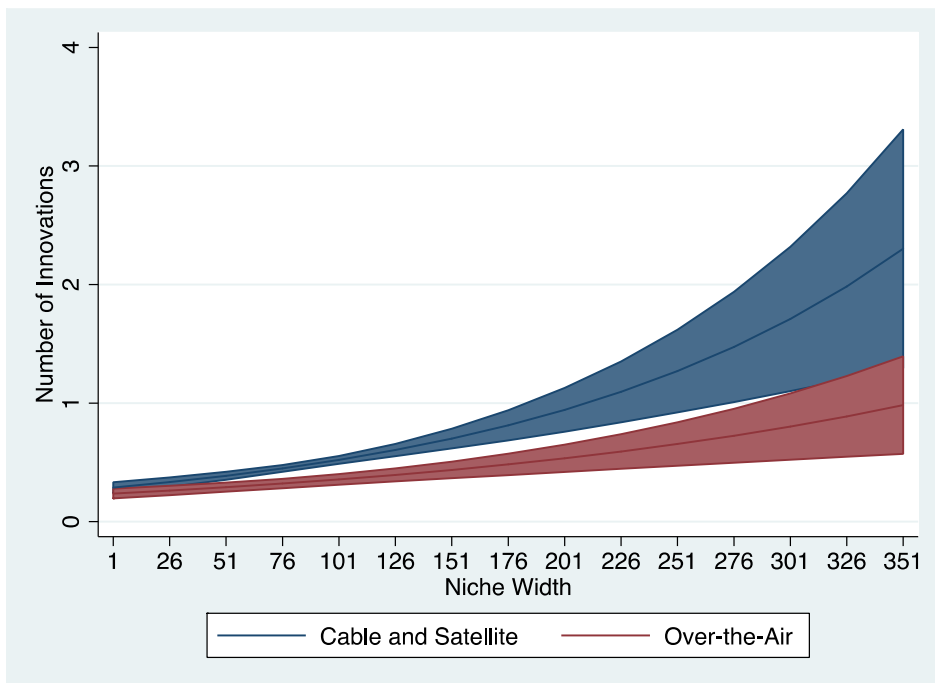


Figure 4. Effect of Niche Overlap on Innovation by Broadcaster Type (with 90% confidence intervals)



Appendix A: List of Genres

Action/Adventure	Commentary	Hanukkah	Newsmagazine	Short Subject
Adaptation	Compilation	Health	Olympic-Style	Show Tunes
Adult	Computers	Health & Fitness	Opera	Sitcom
Adventure Race	Concert	Heavy Metal	Other	Ska
Advice	Contemp.	High School	Outdoors	Skateboarding
Agriculture	Christian	Highlights	Pageant	Skiing
Alternative	Cooking	Hip-Hop & Rap	Paranormal	Snowboarding
Animals	Costumer	History	Parenting	Snowmobiling
Animated	Country Music	Hobbies & Crafts	Performance	Soap Opera
Animated	Courtroom	Hockey	Pets	Soccer
Comedy	Crafts	Home & Garden	Play	Softball
Anime	Crime	Home Projects	Playoffs	Soul
Anthology	Crime Drama	Horror	Police	Special
Art	Cult Classic	Horse Racing	Politics	Spin-Off
Arts & Literature	Current Affairs	Hospital	Pool	Sports
Auction	Dance	How-To	Pop	Sports Stuff
Auto Info	Debate	Hunting	Powerboat	Stand-Up
Auto Racing	Disco & Dance	Ice Skating	Race	Comedy
Aviation	Docudrama	Infomercial	Prequel	Surfing
Awards	Documentary	Instruction	Preschool	Suspense/Thriller
Ballet	Drag Racing	Interview	Pres. Election	Tabloid
Baseball	Drama	Jazz	Pro Wrestling	Talent Contest
Basketball	Easy Listening	Lacrosse	Profile	Talk
Bicycling	Educational	Latin	Psychology	Technology
Big Band & Swing	Election	Local	Public Affairs	Teens
Biography	Entertainment	Magazine	Puppets	Telecourse
Black Comedy	Environment	Magic	R&B	Tennis
Bluegrass	Equestrian	Marathon	Real Estate	Theatre
Blues	Espionage	Martial Arts	Reality	Timely
Boating	Extreme Sports	MLK Day	Reggae	Trains
Bowling	Family	Medicine	Religion	Travel
Boxing	Fantasy	Minor League	Remake	Truck Comp.
Business	Fashion	Motor Sports	Retrospective	TV Talk
Business & Finance	Fishing	Motorcycle	Reviews (Critics)	Valentines Day
Card Game	Fitness	Mountain	Rock	Variety
Cartoon	Folk Music	Biking	Rodeo	Video Games
Cheerleading	Food	Music	Roller Sports	Volleyball
Children	Football	Music Videos	Romance	War
Christmas	Full-Contact	Musical	Rugby	Water Sports
Circus	Game Show	Mystery	Satire	Weather
Classical Music	Gardening	Mystery & Suspense	Science	Western
Collectibles	Gay And Lesbian	Nature	Science & Tech.	Winter Sports
College	Golf	New Wave & Punk	Sci-Fi	Women
Comedy	Gospel Music	News	Senior Citizens	Wrestling
Comedy-Drama	Government	Newscast	Sequel	Yachting
Coming Of Age	Halloween		Serial	
			Shooting	
			Shopping	

Response to editor:

November 5, 2014

Dear Prof XXXX:

On behalf of the editorial team, I want to thank you for submitting your paper, titled “Creative Positioning: Institutional Pluralism and Recombinant Innovation in Television Programming, 1980-2009,” to *Academy of Management Journal (AMJ)* for publication consideration (AMJ-2014-0790). Your paper was sent to three scholars who are very familiar with the domain in which your research question is embedded. They are well-published scholars who are well versed in this literature as well as related literatures. I also read your paper independently, approaching it as a general reader of *AMJ* rather than an authority on your particular topic.

The reviewers and I do react positively to many aspects of your work. For example, Reviewer 2 comments: “The idea that institutional pluralism can be a source of innovative ideas for firms is intriguing and potentially very novel.” Reviewer 3 comments: “There are many things to like about it. The empirical context is appealing and deserves introduction to the field of innovation studies. I appreciate the extensive review of the institutional work. Special care is taken to produce econometrically robust estimates, which is always positive.” I personally think you have chosen an interesting setting to test your ideas. The reviewers also have serious concerns about the paper. For the most part, those concerns center on Framing, Hypotheses and Mechanisms, Integrate the Context, and Methods. I must say that I agree with the reviewers. There are a number of issues that occurred to me while reading and studying your paper. For the most part, those concerns mirror the issues raised by the reviewers as they completed their work.

At this point in the decision letter, I am pleased to say that while we do have concerns about the paper’s ultimate ability to satisfy the journal’s publishing expectations, we also believe that your work may have the potential to make a contribution. Thus, I am offering you the opportunity to revise-and-resubmit your work for further consideration at *AMJ*. I hope that you are pleased by this news and that you will choose to resubmit your paper for second round review. Please note something special about this letter. I accidentally picked Reviewer 1 without noting a potential conflict of interest. This is entirely my fault, and I will not use this reviewer in the next round. Your paper will only be sent out to Reviewer 2 and 3. However, please write a normal response to Reviewer 1’s comments so that I can see how you dealt with these. That said, Reviewer 2 and 3 are excellent scholars who have provided many different comments and concerns about your paper. As you will see, there is a great deal of work that is required of you to receive positive feedback from us in the next round. In the spirit of forthrightness, I should note that this is a very high-risk revision. Though often said, this is definitely the case here, but I am willing to give you the chance to revise to see if you can tackle the issues raised. The reviewers have many concerns and are uncertain about the chances to successfully revise the paper. I believe you have interesting data, and would like to give you the chance of revising. I have no desire whatsoever to discourage you from pursuing the revision along the lines communicated in this letter, but do understand that this invitation carries no guarantee that your paper will ultimately be published in the journal.

Before describing the concerns that I am asking you to address in a revision, let me provide information regarding the revision procedures at *AMJ*. In revising your manuscript, please carefully consider each reviewer comment, especially those that were mentioned in my decision letter.

To help me and the reviewers fully understand your response, *please provide a short (1-page) overview of major changes* followed by detailed responses to my comments and those of the reviewers. Your responses document should provide point-by-point responses to my comments, as well as those of the reviewers. If the same issue is alluded to in my letter and in the reviewers' comments, *please provide your detailed response in the reviewers' portion of the responses document only*. In your response to my comment, simply refer me to the relevant page number of the reviewers' portion and I will flip to that discussion. This is meant to keep the length of the responses document manageable by preventing the copying of (or paraphrasing of) the same issues in multiple places. For the same reason, extended discussions of tangential issues should be avoided, as should reproductions of large blocks of text from the paper. The responses document should appear at the very end of the revised manuscript, beginning on a separate page. Please ensure that it maintains your anonymity and does not include any author identifying information. It would be helpful if you would reproduce the original action editor and reviewer comments in the document, directly above the relevant responses, just in case the reviewers do not have a record of their original review. Please craft the response document to fully reflect your effort, but try and keep it as brief as possible. Lengths of the response document vary by the reviewer feedback received and the type of method used, our guidance is that an effective response can be done in 20 pages without counting reproductions of reviewer comments (e.g., a 10-page review might need a 30-page response). While some papers might require more space, our experience is that poorly crafted responses tend to fatigue the reviewers.

Once your revised manuscript is completed, please log into <http://mc.manuscriptcentral.com/amj> and enter your Author Center, where you will find your manuscript titled listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number will have been modified to denote a revision. Please note that your original files are available to you when you upload your revised paper—please delete any redundant files before completing the submission. In our experience, revisions proceed more smoothly when reviewers maintain a clear memory of their original reading of the manuscript. Given that, *please upload your revision through the Manuscript Central system within four months of the receipt of this letter*. Adherence to this due date is much appreciated, though extensions may be granted in the event that additional data collection is required for your revision.

With this information expressed to you, I'll now turn my attention to providing feedback to you that highlights our most critical concerns. As part of this effort, proposed courses of action you may wish to consider will also be presented. I will present a numbered set of points to which you should respond when preparing your revision.

1. **Framing.** The reviewers raise a number of issues about the framing of the paper.
 - a. **Institutions as main construct.** While interested in the general context, the reviewers and I had problems to understand the motivation on institutions. Reviewer 3 writes: "The authors conceive of plurality in terms of number of

institutions organizations are embedded in but they never define what they consider as institutions in the first place. If we are to count the institutions, we should know what it is we will count.” Reviewer 2 strikes a similar chord by saying: “It was a bit difficult for me to understand how you define institutions and how you set them apart from related concepts, such as networks, industries, or markets. Admittedly, there are many places where I thought your notion of institutions gets dangerously close to these other concepts, which then makes it difficult to distinguish your argument from prior work.” I too was confused. There are many related constructs that could equally well apply in this situation, and you don’t provide a clear definition of what you mean by an institution. The problem is aggravated in the empirics when you operationalize institutions closely related to other constructs. You have to provide a much clearer rationale for why institutions is the right angle and clearly define the constructs that you use. Although admiring the institutional theory, it seems like somewhat of a stretch to suggest that the genres have clearly defined institutional logics, each being separate and equally different (as you sum the number of genres). As Reviewer 3 suggests, “niche theory provides more useful and straightforward analytical lenses to derive the same hypotheses.” Reviewer 2 has a similar comment that you have to provide clearer explanations and that you may even have to “reassess the applicability of your data as it may be simply inappropriate for studying institutional pluralism.”

This comment was central to our reframing of this manuscript. We agree with Reviewer 3’s assertion regarding niche theory’s more straightforward application to our both our hypotheses and our empirical context. We have fully reframed the manuscript to reflect this. At the same time, we have not fully abandoned our consideration of institutional theory. We draw from this perspective to supplement our link between innovation and the structure of fields in our hypotheses. We believe that our study may capitalize on an opportunity to build bridges between niche theory and institutional theory.

- b. **Recombinant innovation as a construct.** It would be useful to ground the focus on recombinant innovation more in the innovation literature. You cite some of the key works on recombinant innovation, but as Reviewer 3 points out, the logic is not always tight. You suggest they are “lesser radical”, which doesn’t necessarily have to be the case. In fact, the Fleming et al. (2007) paper you cite uses novel combination as a measure of novelty. Looking through the genres you study, it also seems possible that some combinations are much more likely by virtue of what they include. It would also be useful to describe how many genres a program can have as the probability of observing a new combination increases with the number of genres that are attached to the program.

We have a number of steps to address our conceptualization of recombinant innovation. First, we have drawn directly from the broader innovation literature, considering product and technological innovation in addition to field and industry studies of innovation. Second, we have

moved away from the language that suggests that recombinant innovation is less radical than other forms of innovation. Rather, we suggest that recombinant innovation is the particular type of innovation that generally occurs in cultural industries, where the ability to repeatedly generate novel recombination is a characteristic of high performing organizations.

As indicated in the manuscript, each program can be assigned as many genres as apply; the number ranges from one to seven, with a mean of about two. In analysis not reported here, we also find that the mean number of genres assigned to each program does not change significantly over time. Thus, it is unlikely that innovations occur simply because more genres are attached to each program. Rather, it is the number of genres with which the focal broadcaster works which drives innovation, according to our hypotheses and our findings.

In addition, as you note, it is possible that some combinations are more likely because of “what they include.” To accommodate this suggestion, we recalculated genre diversity (niche width) as a function not only of the number of genres with which a broadcaster works, but also of the conceptual distance between those genres. That is, we constructed a measure of Jaccard distance based on the relative frequency of genre co-occurrence in the past, in line with contemporary ecological work on categories. Figure 2 in the paper presents a map of the top 20% of genres, which indicates that our measure has adequately captured your concerns; one can easily identify clusters among more closely related groups of genres (sports, public affairs, entertainment, arts, etc.) and the relative distance between clusters. We hope that this addresses your empirical concerns and brings our measures into better alignment with our theory.

- 2. Hypotheses and mechanisms.** The basic mechanisms you study are not clearly laid out. You spend significantly more space on the institutional plurality compared to the other hypotheses. Not discussing measurement problems (more about that later), it is not clear why we would expect the effect of H1 to be linear. There are also potentially alternative stories to H2d where it could be argued that the effect goes the opposite way. If you can defend these two basic mechanisms, then please do so. As it stands, it is very difficult to continue to the interaction effect in H3 without a solid argumentation for the first two hypotheses. Like the reviewers, I was also surprised by the sudden shift to H4.

In this version we have simplified our arguments to specify two clear mechanisms. We suggest that niche width drives innovation by providing access to resources and that niche overlap drives innovation by increasing density and competition. We have reformulated our interaction hypotheses to consider the differential impact of both mechanisms on two types of broadcasters – over-the-air broadcasters, which interact more directly with audiences and advertisers, and cable and satellite broadcasters, which have the additional intermediary stakeholder of cable carriers.

The reviewers are not convinced about your argumentation or about the results. Reading through your table 3, I was very surprised about the statement “This model therefore provides strong support for hypotheses 1, 2 and 3, which predicted positive effects of Diversification, negative effects of Centrality, and a positive interaction effect.” This is not the case. The effect of diversification is insignificant in the full

model and only enters through the interaction effect. The effect of centrality is *marginally* significant at the 10% level, not strongly significant. In addition, by judging your coefficients and standard errors, the interaction effect is *marginally* significant too ($.0451/.0233=1.936$, where 1.96 is significant at the 5% level), and is only significant at the 5% level when using one-tailed significance test! If you use one-tailed test, please also report that in the note under the table. In reality, you have weak, if any, support for your first three hypotheses.

We apologize for our exuberant language, and have backed off somewhat in this version. At the same time, you will see that our models are more significant than they were in the previous version of our analysis. All variables of interest are significant, using a two-tailed test, at the 5% level or less.

- 3. Integrate the context.** I noted earlier that the research context is a potential strength of your paper. However, the whole paper is oddly disconnected from the context in which you test your hypotheses. One potential avenue is to move a bit closer to the context where you test your hypotheses, rather than being removed from the context. George's recent editorial in *AMJ* has some potentially useful insights about how context can be integrated into the theorizing. As it stands, the paper reads as very distant from where the action happens, and given the many alternative stories raised by the reviewers, one could potentially question the face validity.

Thank you for pushing us on this. We have moved up the description of our context and written each hypothesis using specific examples from our empirical context to clarify our arguments and take advantage of our rich and interesting setting. We agree that this makes our arguments clearer, less abstract, and more powerful.

- 4. Methods.** The reviewers raise many fundamental gaps between the theories and your measures. In addition to moving the theories closer to what you measure, you will also have to consider revamping your measures. For instance, your ownership network that in its one-mode projection creates fully connected cliques can be argued to capture many other aspects than what you theorize. You have very high correlations between the interaction effects and the main effects. As a robustness, you may want to standardize these variables before interacting them. I would personally be very cautious about interpreting the results from your interactions without plotting marginal effects. Especially in the light of my earlier comment that you have relatively weak results. You have a non-linear model and you would have to provide marginal effects analysis to assess over which portion of your data the interaction is actually significant, since point significance does not imply significance (Zelner, 2009; Brambor, Clark, and Golder, 2006).

Again, thank you for pushing us on this. We have mean-centered each of our independent variables before adding them to our analysis and before interacting them. We have also plotted the marginal effects of the interactions, which you are significant over almost all of the observed range of data. We agree that this presentation of results is both easier to interpret and more convincing than it was in our earlier draft.

The individuals who wrote the reviews have provided you with a number of other insightful observations and recommendations for your consideration. I hope that you will find significant value in the reviews after you have had the opportunity to read them. Please note that we all believe in your work's potential. I realize that many of these comments are tough, but I think we also saw a glimpse of something potentially interesting in here. We also share the view that you must make very significant improvements for this potential to be reached and for progress to be made through the next revision.

Let me close by thanking you for submitting your work to *AMJ* and for the opportunity to provide our collective feedback to you. We hope you are pleased about the editorial decision being submitted to you and look forward to receiving your revision.

We very much appreciate the opportunity to revise our work, and agree that the comments we received on this draft have helped strengthen our paper significantly. We appreciate your support and look forward to further comments on the current manuscript.

In reference to Reviewer 1,

While we are aware that Reviewer 1 will not be reviewing this version of our manuscript, we were very grateful for the comments he/she provided. We found the suggestion to refocus our theory section incredibly helpful. R1's comments also helped us operationalize our measures so that they were clearer and more straightforward.

Reviewer 1

The paper, “Creative Positioning: Institutional Pluralism and Recombinant Innovation in Television Programming, 1980-2009,” looks at what structural forces lead to the emergence of recombinant innovation in television broadcasting. Recombinant innovation is defined as novel combinations of pre-existing genres and it is hypothesized that organizations positioned in a pluralistic position – one that spans several institutions – are more likely to embark on recombinant innovation. Centrality is predicted to tamp this innovative tendency down and the interaction of centrality and pluralism is hypothesized and demonstrated to work in two directions. Results from a study of television broadcasters demonstrate some support for the hypotheses – though results aren't consistent.

My area of expertise is not institutional theory, so I come at this as a general interest reader. In doing so, I feel like this paper can take one of two directions because right now you have many analyses, some better than others, but they tell slightly different stories. My sense is that this is an opportunity to choose a set that can tell a consistent and compelling story. Also, this paper seems quite long as it is written, so the suggestion of taking one path versus another may help with this issue as well. Finally, I think the paper will benefit from the additional focus that will occur thereby narrowing down the theoretical and empirical contribution of the paper.

One option is to continue with the theoretical story regarding recombinant innovation that you have here and therefore keep most of the paper intact. This, however, leads you to have to rely on results which do not seem to be the strongest ones presented – i.e. Tables 3 and 4 – where you have marginal significance on some hypotheses and non-significance on others – and little independent effects of the hypothesized coefficients.

Alternatively, you could frame the paper around your results in Table 5 which are stronger, and tells a good story on its own. However, this may require some re-writing. But I feel the advantage you gain is a much stronger empirical result to lead with. This allows you to basically drop hypothesis 3, and use hypothesis 4. This will also require you reframe H1 and H2 a bit to match the operationalization of the analyses in Table 5. Here, the challenge will be to decide on which of the 4 analyses you will lead with. This is related to my next point.

This was incredibly helpful in our assessment of where to go with this paper. We believe that the change in theoretical framing and measurement have helped to not only provide a clearer focus and contribution but also to shorten the paper and clarify our analysis. We mainly followed the second suggestion provided here, focusing on our strongest and most interesting empirical results while reframing them in reference to niche theory, which we realized was a much better fit to our story. This resulted in altering our hypotheses slightly, reconstructing our independent variables, which generated much more robust results and increased the clarity of our arguments.

Regardless of which direction you take, I'd suggest you pick one DV and stick with it throughout (or at most two). On p.27-28 you spend time explaining different types of recombinant innovation and the tables test even more of them. Granted, there are lots of ways to measure this idea as well as the novelty of it, but going through them all seems less useful in terms of what you're getting from an empirical standpoint and more confusing to a reader. Also, looking at your correlations, many seem to be correlated as well. Lastly, the tables present the analyses rather abruptly, and since many of the DVs are similar, a reader has difficulty parsing through all the implications. I'd say pick one and go with it in all the analyses. And you may want to think more clearly about which one fits best with your story of recombination. For example, you use mean and max, but I think the way to story is crafted, regarding this type of innovation being a function of pluralism, my guess would be that it would be reflected in the mean of the types of programs one airs and not necessarily the max (which seems to me to be more a function of randomness or distant spanning). Regardless, making a specific link between the theory and picking one operationalization would help. Then, as potential robustness checks, you can mention you tried other, related, specifications and found similar results.

This was a concern held by all of the reviewers and we completely reworked this section of the paper to address the inconsistencies of our measures and the convoluted nature of our analyses. We have narrowed our focus to a single dependent variable – innovation resulting from the recombination of genres. Our new analysis allows for a much stronger story and a much better link between our theory and context. As we describe on page 26, in the final paragraph of our Results section, we ran several robustness tests, which we report at the end of this response letter.

From a theory standpoint, I'm wondering a bit about the locus of action that produces recombinant innovations is. I can see at least three explanations. 1) Is it merely the fact that exposure to different domains gives you more options and elements are you accidentally or randomly combined into new programs? 2) Is there an actor here who wants to do this, and therefore works at being in these pluralistic positions, and thereby is able to combine them? Or 3) are the multiple logics that a pluralistic organization is part of act to pull it in different directions when they try to address all their constituents? (you write, "pluralistic organization is compelled to symbolically enact its commitment to the norms, values, and beliefs of multiple social systems" on page 12 – interestingly, this was for support of H2) My sense is your story is about the first one, but from an empirical standpoint, demonstrating this isn't a result of agency or logic conflict will be difficult. Perhaps you could address this in the discussion by suggesting there may be alternative interpretations of the results, but it will be hard to disentangle.

You bring up several good points with this comment. The first way in which we addressed your concern was to remove our extensive discussion of recombinant innovation and instead take it as a definition based firmly in niche theory. This serves both to provide us with more room to focus on our real contributions, as well as provide a stronger basis for our innovation measure. Moreover, we agree that it is difficult to disentangle – empirically or theoretically – the locus of action that leads to this type of innovation. Because we do not have access to the internal decision-making processes at work in our sample firms, it is almost impossible to tell for certain whether innovation is generally intentional. Despite that limitation, our argument assumes that mere exposure to a diverse group of genres makes an organization able to innovate, and that niche overlap makes organizations more willing to innovate. It is possible that a broadcaster enacts

innovation as a strategy, and we have controlled for this empirically by including a measure of past innovation over time.

Regarding the difference between centrality and pluralism, as you've outlined in H1 and H2 - my reaction is that they seem to be theoretically linked somehow and not necessarily orthogonal as your theory may suggest. For example, doesn't being central mean you are well connected to the domain you're in – and that means you are likely NOT well connected across domains? If this is the case, then pluralism should be negatively correlated with being central as that may mean you are broad in your reach. In fact, you use the word 'embedded' for both H1 and H2, thereby leading a reader to make an even tighter link between them. Perhaps that is what you want, but it does confuse a reader who may think that these are two constructs which shouldn't necessarily be able to vary independently as you have them here. I know you operationalize the measures differently, but as I said, the theoretical overlap seems to beg some more explanation of a distinction. The easy answer to this would be to move Figure 2 up to the discussion about them. The challenge, of course, is that you haven't introduced your context yet. Perhaps another, more conceptual 2x2 is needed to explain the hypotheses? Then it can mirror your Figure 2 when you present your context.

This was one of the major concerns of all of the reviewers. Removing the institutional piece from our theory has allowed us to provide a much clearer definition of our mechanism. We now focus on niche overlap instead of centrality, and hope that we have both theorized and operationalized the measure more clearly. We also worked to clearly define our mechanisms early in the paper so that we avoided confusion across our constructs. We now focus on the amount of niche width (see page 7 for our definition) and crowding, or niche overlap, within an organization's niche (see page 11 for our definition) as drivers of innovation.

My specific criticism of Table 3 is that the results are presented as providing 'strong' support for H1,2,3, but that's not the case. I'm not sure that's what I'm missing. H2 isn't supported in Model 6 nor 7. Model 8 loses significance of H1. I'd frame this as 'some support' and perhaps you may want to consider relegating this analysis to later in the discussion. Also, may this regression work better by merely using the percent of programs which are novel? # Novel programs/# Total programs for example.

We apologize for our exuberant language, and have backed off somewhat in this version. At the same time, you will see that our models are even more significant than they were in the previous version of our analysis. All variables of interest are significant, using a two-tailed test, at the 5% level or less.

Minor notes:

You may want to consider using the label "Institutional Pluralism" or something akin to that rather than the label Diversification in the tables. It would more closely match what you are theorizing – whereby diversification is more a description of the measure.

Thank you very much for bringing this up. We agree that many of our labels were somewhat confusing and while we have re-operationalized many of our measures, we have also re-labeled the variables in our tables to increase clarity.

Best of luck with your paper! I think there's some very interesting findings here and once you figure out how best to demonstrate them, it'll be a nice tight paper.

Thank you again for your helpful and supportive comments!

Dear Reviewer 2,

Thank you for the thoughtful analysis that you provided on the prior version of this paper. We agreed with your assessment and that our last paper was conceptually and theoretically loose and needed better integration between the context and the literature. In this version, we have attempted to further narrow our theoretical contribution by reexamining our data and findings. This involved going back to our data again, collecting more data, and, drawing from your and the other reviewers insights, reanalyzing the data to develop a tighter story.

Reviewer 2

I read this paper with great interest. The idea that institutional pluralism can be a source of innovative ideas for firms is intriguing and potentially very novel. As you correctly point out on p. 3, bringing an institutional lens into the study of organizational innovation constitutes a major departure from the established lines of inquiry that draw on the dominant logics of organizational resources, networks, and learning. I therefore greatly appreciate your focus and think it adds a compelling and largely overlooked dimension to the study of innovations and institutions.

Thank you very much for this supportive statement. It was one of the main reasons that we struggled with our theoretical direction and worked very hard to keep the spirit of this part of our theory in the paper. Though we have largely removed the institutional piece from this version, we have drawn on a similar concept from niche theory that allows for a much tighter focus, namely we use the idea of organizations being beholden to multiple domains at a given time as a driver for why some variables may take precedent over others but will still be significant. We hope that this new frame will continue to appeal to you and be compelling.

While I see great promise in this research, however, I also find that many aspect of your work require significant revision before the paper can be published. The biggest shortcomings of the present manuscript concern: (1) the lack of clarity with respect to the theoretical mechanisms you introduce, (2) missing clear definition of institutions and how they are distinct from other related concepts, such as networks, industries, or markets, (3) need for a more precise argument linking institutional environments and firms' ability to create new products and services, and (4) some of your methods and measures that are only weakly tied to the theoretical constructs you apply.

I detail my major points of concern below. I hope that my comments and suggestions will help you clarify and sharpen your ideas as you continue to revise this manuscript.

1. Lack of a clearly defined set of mechanisms and resulting confusion concerning hypotheses.

(a) I worry at the lack of a clearly defined set of mechanisms in your argument. I think the main mechanism, and the one that is truly novel, concerns the impact of multiple layers of institutions on the quality and diversity of information available to firms. In that sense, it is rather straightforward to predict that as the number of institutions increases, the firm should benefit from a richer set of creative inputs (Hypothesis 1). I liked this hypothesis.

This was a perspective shared by all of the reviewers and your comments were exceptionally helpful. In this version, we have worked to do two things to address this concern. First, we have pared down the number of mechanisms we address and clearly defined each of them, clarifying our theoretical argument and contribution. Second, we have utilized consistent language throughout the document. Where we previously discussed institutional pluralism, diversity, centrality, embeddedness and legitimacy, we now focus strongly on concepts inherent within niche theory, namely niche overlap and niche width, while still recognizing the simultaneous pressures that organizations face.

(b) As I moved to the next part of your theory, however, I was surprised to see that the logic suddenly shifts to legitimacy arguments. To me, a natural way to continue your thinking would be to say that as institutional embeddedness increases, exposure to diverse sets of insights becomes limited, constraining the firm's capacity to innovate. This is not to say that legitimacy is not an important resource for firms. Yet, I believe that while the positive effects of information diversity are well-known from prior work and are easier to transfer into your perspective, the story of legitimacy is less straightforward.

One key problem is that the theoretical path you follow in developing Hypothesis 2 is not compelling: It is unclear whether the theory works in the direction you propose. One could, for example, envision a situation where centrality in the institutional field, while making firms more conform, could also position them to obtain high levels of status and influence. More central firms could then be better positioned to innovate (regardless of how pluralistic the field is). Unless I misunderstood something, your prediction was that strong institutional affiliation unconditionally limits the firms' capacity for innovation.

We no longer draw on the legitimacy literature and have reframed our theory largely in response to this confusion. We hope that you find our hypotheses more straightforward in this version.

(c) Another, related problem is that it is unclear from your discussion whether centrality is limited to a single institutional field, or whether it works independently across multiple fields. It seems that centrality across multiple fields could affect innovation differently than centrality with respect to one field only. And again, it is unclear how the theory could play out. While you predict a positive interaction of pluralistic field and monistic centrality, extending centrality to multiple institutions could lead to a negative prediction, at least if one thinks of centrality as a constraint (as you do in H2). In turn, if one were to think of centrality as an opportunity, then a positive prediction would seem more logical.

These were incredibly important insights that led us to go back to our data and reconsider what it was really about. It quickly became clear that our data provided insights into niche width and niche overlap and fewer insights about legitimacy and centrality. Furthermore, we found that our attempts to link institutional pluralism with diversity and centrality convoluted our story and led to weak definitions and weak results. As you will notice in the current version, we have attempted to reduce the prior ambiguity and refocus our paper on an organization's breadth of resources and the level of competition within its environment. We believe this better reflects our data as well as provides a much clearer story as to how field-level constructs affect organizational innovation.

(d) In relation to the above point, I wonder if field pluralism and centrality are independent concepts. Intuition leads me to think that as pluralism increases, the extent to which firms can be attached to a single field declines. I would welcome your thoughts on this issue.

This is an excellent point and helped us make the decision to move away from an institutional framing. We feel that the ecological concepts of niche width and niche overlap are more orthogonal than the institutional concepts we invoked previously. That is, an organization can occupy a broad niche in a sparsely populated field as easily as it can in a densely populated one, and in fact, a full range of combinations of niche width and niche overlap appear in our data.

(e) Regarding H4, I wonder if it is a good idea to talk about varying degrees of novelty in the context of recombinant innovation. Note that much of your discussion (p. 4, p.7, p. 34, p. 36)

builds on the distinction between recombinant and radical innovations, and we are led to believe that recombinant is less novel than radical. My impression of H4 is that it is incompatible with this discussion. If anything, it weakens your motivation and adds an additional layer of complexity that is distracting. My suggestion would be to drop H4 and focus on crafting a leaner, more focused argument as you develop your main storyline.

This comment is very much in line with Reviewer 1 (point 1b) who pushed us on the distinction between radical and recombinant innovation. We have moved away from anchoring our study on the distinction between radical and recombinant innovation, and in particular note that these types of innovation are not degrees of innovativeness, but rather the result of different innovation processes. Further, we suggest that the study of recombinant innovation is valuable as it is prevalent in contexts such as ours, situated in a cultural industry.

2. Missing a clear definition of institutions.

(a) It was a bit difficult for me to understand how you define institutions and how you set them apart from related concepts, such as networks, industries, or markets. Admittedly, there are many places where I thought your notion of institutions get dangerously close to these other concepts, which then makes it difficult to distinguish your argument from prior work. For example, on p. 4 you write, "firms may be embedded in structurally diverse institutional environments, creating different opportunities for introducing new ideas". This sounds a lot like networks! As another example, on p. 21 you say, "[firms] encounter a narrower range of institutions by focusing largely on sports, movies, or music, for example". Do you mean that institutions are akin to markets or product types?

(b) In a related vein, I struggled with the idea that institutions are structural fields (e.g., p. 6) and with the implication regarding firms' position inside the field. Is this something that applies to all types of institutions across the board, or only those that have commonalities with networks? Could you please provide examples of such "structured" institutions?

(c) Last but not least, having a clear sense of institutions would also help us anticipate and follow some of your methodological choices (on this, see also my Comment #4 below).

We recognize that we lacked definitional clarity. In hindsight, this was largely because we were struggling to describe the industry environment of television. We found it to be challenging to use a single theory to anchor our study, in particular because there are several perspectives with various languages that can be used to describe the reality of this industry. Your comments encouraged us to step back and map the characteristics of the environment of study with the appropriate theory. We hope that our selection of niche theory adequately captures this structuration.

3. Need to precisely link different institutional environments and firms' innovation capacity.

(a) As noted, your argument that institutional variety can be a source of creative materials for firms is the most exciting piece of the entire puzzle. Yet, the parts where you establish this relationship are rather underwhelming. While the argument that different institutions can provide diverse knowledge and information inputs comes up many places (e.g., p. 7, p. 9), the entire discussion is rather speculative and lacks sufficient theoretical basis.

We agree that this perspective was interesting and provided real insight into the way that organizations gain access to novel ideas, but due to the lack of connection between our theory and data in the previous version of our manuscript, it was not as prominent as we had claimed. By reframing our argument using niche theory, we have been able to include a discussion of resource diversity, which allows for a better understanding of

how organizations gain access to a more diverse set of ideas and other resources that can drive innovation. We hope that the mechanisms at work are sufficiently clearly defined to bring this section to life.

(b) To make things more concrete, consider the following questions that came to mind as I read your manuscript: What is it that allows institutions to act as markets, exposing firms to different sets of ideas, skills, or practices? How are these ideas and skills transferred between the institutional environment and the firm? Do institutions function much like interorganizational networks, providing firms with the social mechanisms of exchange? Or do they have their own mechanisms that are distinct from those of networks? All these are important questions you would want to address in the next round of revision.

These questions gave us great direction in thinking about how to rewrite our theory so that our contributions were clearer throughout. Though we no longer employ institutional language, the idea that firms are exposed to multiple ideas through involvement in different segments of a field (niche width) remains in this version; therefore, we do address the spirit of your concern. We attempt to provide a clearer distinction of the processes of exposure to diverse ideas in our discussion of niche width (pages 8 – 10).

4. Key methodological choices concerning independent variables and measures.

(a) There are two issues concerning your measures. First, is it true that genres in the TV industry represent "institutions" in the true sense of the word? While TV genres may be akin to industry segments or products (much like a laptop and a PC represent different product types), I found it difficult to link them to institutions. I think you should at least try to justify this choice conceptually and position it more strongly within the extant institutional literature. This is a serious concern that affects a range of your measures.

We agree that we were too liberal in our use of the word institution. Since we have removed the institutional theory from our paper, we have also removed the associated language, along with its laden meaning. Furthermore, we have described the concept of genre, by which we measure niche width, to demonstrate that they are more different than one might at first realize. We note:

“These genres represent more than just programming type: genres also imply distinct sets of stakeholders, ranging from talent including actors, writers, and costume designers; business types, including advertisers, producers, and cable carriers; interest groups such as religious groups, educators, politicians; and audiences and gatekeepers, including viewers, critics, rating agencies, and awards committees. Genres also imply means of organizing and patterns of interaction; the way a reality television show is conceptualized, cast, produced and marketed, for example, is very different from the way sports games are brought to air. In a sense, the resources upon which broadcasters draw are ideas, as well as all of the actors, stakeholders, routines, norms, and practices that bring those ideas to life.”

(b) Second, I struggled with your decision to link institutional centrality to the industry's ownership structure. There are two concerns related to this point. One, while the network may indeed represent the dominant organizational design in this industry, I am wondering if it represents an institution per se (it certainly does not if one thinks of institutions as genres, as noted above). Could it be that the broadcasting network is a mere reflection of other, more important institutional arrangements, such as the regulatory environment, the capital market, or family ties, each of which could represent an independent institution in its own right? This

possibility leads me to think that your operationalization is either a mere proxy or is detached from the underlying institutional structure of the market.

Two, your measure of centrality does not represent network centrality per se, but rather the degree to which broadcasters are co-affiliated (i.e. co-owned). Highly central firms are simply co-affiliated with a large owner, forming large and fully connected clusters that you artificially create by collapsing the original two-mode network. Such firms may be highly clustered but not necessarily central with respect to the whole industry network.

I am not sure if this is the type of centrality you wanted to measure. For example, on pp. 10-11, 24 you define centrality as embeddedness within the entire institutional field. In this case, it would again help us to know how you defined institutions in the first place.

We agree that the way we operationalized centrality was confusing and our attempts to link networks and institutions was poorly executed. We have taken out all of these concepts in the current version.

In closing, I would like to offer you a few suggestions on where to go next. Overall, I think this paper has the potential to advance our understanding of the sources of innovation, albeit on two fairly stern conditions. The first is to work out a clearer set of mechanisms, and I see focusing on institutional diversity as a good starting point (provided you can offer us a solid definition of institutions).

Thank you very much for this clear direction. It was extremely helpful in helping us rework our theory. We now have a clearly defined set of mechanisms, resources and competition, deriving from niche width and overlap, which we provide clear definitions for under associated headings to add further clarity. We draw our definitions from previous research. In addition to definitions for niche width and overlap (pages 8 – 12), we provide empirical definitions within our theoretical discussion. This serves to better integrate our context and provide clear corollaries between our theory and empirical setting.

The second is aligning your measures with the paper's central constructs to make sure your analyses achieve the goals that the study sets forth.

Our new theoretical lens allowed us to much more clearly define our empirical constructs. We also recalculated our measures in keeping with existing research so that we were able to very clearly tie our theory to our context.

In the worst-case scenario, you may have to reassess the applicability of your data as it may be simply inappropriate for studying institutional pluralism. Whichever way you decide go, I hope you find my comments helpful.

Based on your feedback, we reassessed and found that the worst case scenario came to pass! Because we developed our ideas initially through the lens of institutional theory, we found it hard to see that the data were actually measuring something else. Thanks to the comments from you, the other reviewers and the editor, we took a step back and realized that this was the case. At that point, we were better able to deploy theory to test our mechanisms. However, we also tried to tackle the question of innovation and field structure from a pragmatic perspective in the discussion – and argue that these mechanisms – both raw materials for recombination as well as competition – may be important for studying environments that are subdivided by institutions not just resource partitioning.

Thank you again for your helpful and supportive comments!

Reviewer 3

Thank you for the opportunity to review this paper. There are many things to like about it. The empirical context is appealing and deserves introduction to the field of innovation studies. I appreciate the extensive review of the institutional work. Special care is taken to produce econometrically robust estimates, which is always positive.

Thank you very much. In this draft we have worked to maximize the good things that you highlight and address the challenges you identified. The result is a drastically different, and hopefully improved, manuscript that capitalizes on the setting and data.

All the same, I have three major worries:

- 1) The paper does not go beyond the replication of known findings in a relatively novel empirical setting. The influence of a firm's social and economic embeddedness on its innovation productivity has been studied extensively in the innovation literature for over two decades now.

In this version we have worked to highlight some of the novelty of our findings by using a shifted theoretical frame as you suggest in point 2.2. We focus on ecology and niche theory and extend this work to the study of innovation. In addition we have re-operationalized our primary measures. Our findings demonstrate not only that niche width and niche overlap drive innovation, but these structural features of a firm's field position have different degrees of importance depending on the type of organization. We believe that this shift allows us to clearly define our contribution to the innovation and the ecology literature.

- 2) The idea of institutional pluralism is an interesting one but the authors stretch it to fit to a story and they do so in a fashion that leaves more questions than answers. Similarly, I don't believe they measure exactly what they hypothesize.

We agree with you and the other reviewers that this was a situation where we were stretching theory to fit a context where it might not have been applicable. We hope that you find that we have found a better match, both conceptually and empirically, in this version. In moving from institutional theory to niche theory, we have also re-measured our independent variables in a way that is demonstrably more consistent with the concepts they represent. We hope you are more satisfied with our new theorizing and data operationalization.

- 3) The paper is fragmented in terms of theorizing. In addition to three independent variables, it jumps from one dependent variable to another with no reason, leaving us with an incoherent story. There is also the problem of shifting levels of analysis. There are institutions associated with TV genres and these set the stage for H1. Then the paper moves away from genres to the broadcaster ownership structures to predict H2 and H4 and here, the authors associate institutions with network families. Besides these, several key choices, justifications and claims are conceptually and empirically confusing, questionable and at times inconsistent with the aims of the paper. And especially the presentations of measures, estimation techniques and results are very messy and the estimates are interpreted generously.

This comment was very helpful in illustrating how fragmented our arguments had become. We have simplified and streamlined our theorizing and analysis by focusing on two independent variables from niche theory (niche with and niche overlap), one dependent variable (number of innovations) and one moderating variable (broadcaster status). This allows us to more directly state and test our hypothesized mechanisms. We also present fewer and simpler models.

These in addition to a host of other issues, which I shall discuss below unfortunately prevent me from being more positive over this work.

1-Motivation and framing:

This paper focuses on explaining how network positions influence recombinant innovation. The authors offer two justifications for their focus. Institutional theorists have been preoccupied with radical innovations even though innovations that “the “lack the potential for institutional frame-breaking” (e.g., recombinant innovations) (p.2) represent the majority of innovations. Thus, they should turn their attention to innovations of this kind. And when doing so, they should investigate how the network position, and micro social processes drive non-radical innovations, as they “have largely overlooked this subject of inquiry” (p.2) in part due to their “focus on institutional field as a collective”, which “ can obfuscate the firm-level variations that are likely to facilitate recombinant innovation” (p.3)

I am puzzled by these justifications.

We hope that the significant reframing of our manuscript has made many of these concerns moot.

There is no rationale given to the choice of recombinant innovations over other categories of non-radical innovations (e.g., architectural innovation, component innovation, incremental innovation etc.). It just seems arbitrary. Moreover, the use of the term is rather confusing and ambiguous, which weakens (if not contradicts) the motivation for this study. On the one hand, it is claimed that recombinant innovations are “lesser radical innovations” (p.2). On the other hand, they are classified as “innovations which results from the fusing together of existing ideas in novel ways...and which does not necessarily disrupt existing competitive or institutional conditions or practices” (p.2). If something is lesser radical, is not it still radical? Henderson and Clark (1990) for instance note that even a “mere rearrangement of previously used components can itself cause destabilizing industrial change” (cited in Fleming, 2001: 118). So, if it is time institutional scholars examined innovations that did not contest institutionalized systems, wouldn't it make most sense to investigate innovations, which absolutely conformed to institutional constraints, instead of those that might or might not (and more often might than might not) disrupt existing conditions or practices? Why operate in a gray zone?

This comment is very much in line with Reviewer 1 (point 1b) and Reviewer 2 (point 1e), to the extent that all of you pushed us on the distinction between radical and recombinant innovation. We have moved away from anchoring our study on the distinction between radical and recombinant innovation, and in particular note that these types of innovation are not degrees of innovativeness, but rather different processes through which innovation occurs. Further, we argue that the study of recombinant innovation is valuable as it is particular prevalent in contexts such as cultural industries including television programming.

1.2) The claim that institutional scholars have ignored network positions and micro-social processes even within the context of innovation is a bit of an overstatement (see Owen-Smith and Powell, 2008 for a review).

We agree and thank you very much for bringing this work to our attention. Although we aren't using institutional theory in this version of the paper, the knowledge is very much appreciated and we have worked to be more careful with our theorizing in this version of the paper.

1.3) The paper has two conceptually distinct components: institutional plurality and institutional centrality. The framing is all about the former. The motivation for integrating the latter is not provided.

We agree that we did a poor job of framing our previous theoretical constructs. We have paid special attention to defining our theoretical constructs in this version of that paper, as well providing motivation for the new theory and our context.

2-Theory

There are two components to the theory: institutional pluralism, which the authors conceptualize as the number of institutions confronting an organization, and the centrality in a given institutional system, which they conceptualize as embeddedness. They expect pluralism to have a positive (h1) and the centrality to have a negative (h2) relation to the number of recombinant innovations. In h3, they interact these two to predict a positive effect on the likelihood of innovating. And in h4, they expect the interaction of these two to reduce the novelty of recombinant innovations.

I am struggling with several issues.

2.1) The authors conceive of plurality in terms of number of institutions organizations are embedded in but they never define what they consider as institutions in the first place. If we are to count the institutions, we should know what it is we will count. And there is not much help from the empirics either. The authors measure institutional plurality not by counting institutions but by assuming that the more genres a broadcaster spans, the greater the number would be. In other words, they define genres as having their own distinct institutional systems and then suggest that a more generalist broadcaster will by definition encounter more institutions. This in itself is problematic in various ways (e.g., why are genres equally distant to each other? Why should genres have equal number of institutions?) I will get back to these below when I discuss the measure. But let me also point out a related problem. Since we are counting institutions, we assume that all institutions are equally important in creating impetus and knowledge for recombinant innovation. This is also unreasonable.

We appreciate your pushing us on this point. We realize that this was a mismatch between our theory and our measures. We believe that by reworking our theory, we are much better able to measure exactly what we theorize.

We took special care to address your concerns about the conceptual distance between genres. In this manuscript, we recalculated genre diversity (niche width) as a function not only of the number of genres with which a broadcaster works, but also of the conceptual distance between those genres. We constructed a measure of Jaccard distance based on the relative frequency of genre co-occurrence in the past, in line with contemporary ecological work on categories. Figure 2 in the paper presents a map of the top 20% of genres, which indicates that our measure has adequately captured your concerns; one can easily identify clusters among more closely related groups of genres (sports, public affairs, entertainment, arts, etc.) and the relative distance between clusters. We hope that this addresses your empirical concerns and brings our measures better into alignment with our theory.

2.2) More broadly, I think the appeal of the idea of institutional plurality is its focus on logics, each with its own distinct body of institutions. This is where the idea gains currency in predicting organization behavior and performance, as the co-existence of multiple logics implies contradictions across logics (e.g., an efficiency driven national logic vs. commonwealth logic (Marquis and Lounsbury, 2007 AMJ), finance logic vs. development logic (Battilana and

Dorado, 2010 AMJ), nouvelle cuisine vs. classical cuisine (Rao et al. 2005 AJS)). When we operate at the level of institutional logics then we avoid the all the problems that come with sheer counting of institutions. In absence of logics, plurality becomes a rather vague concept, a function of the analyst's definition of domains, and the subsequent assumption that in each domain member institutions can exert different pressures and offer different resources. And the narrower the analyst defines the institutional domains (such as 227 TV genres), the more the pluralism is artificially imposed. Actually, if we go down that road, there exists no monistic environment contrary to the authors' claim. Consider suppliers, for instance. Suppliers of an organization usually come from different industries so by virtue of that organizations operate in pluralistic environments. Think about a relatively focused company such as Boeing. It operates in a very complex, pluralistic institutional environment on the supplier side. Or consider the stakeholder theory. All organizations face different stakes by different groups, which make them navigate pluralistic environments at any given day. To quote from the paper: "Architects face pluralism stemming from professional, business, and state institutions (Jones and Livine-Tarandach, 2008) (p.8)". Clearly, each group is a stakeholder.

We agree that the co-existence of multiple logics was the most interesting part of using an institutional lens. However, we now realize that we artificially imposed the concept of pluralism because we were struggling to find a way to fit the variety of influences in institutional language. We realize now that this is much better expressed in other theories of field structuration. Thanks to your input, and with the encouragement of the editor, we believe that we were able to maintain the interest of multiple influences in our argument without forcing it through an institutional lens. Instead we rely on niche theory and the concept of organizations being beholden to multiple domains which are much more realistic and applicable to our context than institutional logics.

All in all, I don't think the authors really exploit the essence of institutional pluralism. We can't expect all 227 genres to be clearly delineated institutional logics. As I suggested earlier, the niche theory provides more useful and straightforward analytical lenses to derive the same hypotheses.

This was a very important point in revising our manuscript. We agree that institutional pluralism was not the best fit for what we were trying to do. Your suggestion to use niche theory has provided us with a much more parsimonious argument and a much better fit between our theory and our empirical setting. As you can see, we took your advice to heart reframed our paper entirely.

To address your concerns about how genres relate to different means of organizing, we have elaborated what we mean by genre to demonstrate that they are more different than one might at first realize. We note:

"These genres represent more than just programming type: genres also imply distinct sets of stakeholders, ranging from talent including actors, writers, and costume designers; business types, including advertisers, producers, and cable carriers; interest groups such as religious groups, educators, politicians; and audiences and gatekeepers, including viewers, critics, rating agencies, and awards committees. Genres also imply means of organizing and patterns of interaction; the way a reality television show is conceptualized, cast, produced and marketed, for example, is very different from the way sports games are brought to air. In a sense, the resources upon which broadcasters draw are ideas, as well as all of the actors, stakeholders, routines, norms, and practices that bring those ideas to life."

2.3) The paper operates at different levels of institutions, which by the way, becomes only clear when one reads the operationalization of measures, and as such is misleading. Institutional plurality is constructed out of TV genres. Enter the notion of institutional centrality, which is conceptualized out of broadcaster ownership ties. If we are to combine these two distinct constructs in a framework, then we should do so in the same domain. Since we are measuring plurality in the product market, then we should also measure centrality in the same market. Not doing so confounds the mechanisms. For instance, when we talk about genre institutions, we refer to influences that originate from external audiences in product markets (e.g., advertisers, casting agents, religious organizations, politicians, reporters). When we turn to ownership ties, we look inward. The mechanisms then relate more to size and scale, and thereby internal resource market dynamics and the bargaining power of the focal organization over its environment.

This also leaves us with half of the picture. The number of institutions an organization faces through product market choices is captured but not the extent by which their centrality to the operations of the organization affects the focal organization.

Here, the vagueness about the concept of institutions repeats itself. I find it difficult to consider media families as institutions. It seems there is no end to what can be classified as an institution.

Again, this was an excellent concern and an important point in determining how to proceed with our revision. We hope that our new framing more clearly links theory and measurement. In the current version, we theorize about niche width and niche overlap and measure them at the same level of analysis.

2.4) In more general terms, I believe it is not the number of institutions but the distribution of power across them should be important for recombinant innovation. This paper's conjecture is any increase in the number of institutions in the environment will subject the organization to more competing demands and thereby greater recombinant innovation likelihood. But if the focal firm is completely embedded in only a small set of them, why should it care about all the institutions present? We should expect a cognitive narrowing of attention on a select number of institutional actors across some dimension, which in this case, would be the extent of their power. Not all of them should matter in the first place. Parallel ideas already exist in the strategic group literature which claims that beyond a certain number of rivals, firms tend to employ various heuristics to restrict their attention to a subset (Reger, 1993 SMJ; Peteraf & Shanley, 1997 SMJ; Baum & Lant, 2003 AISM).

Although we excluded the institutional piece from this version, this comment helped us tremendously as we developed the current version by bringing to light these useful citations that helped us think about how we theorized and operationalized diversity, which accounts for an organization's exposure to different ideas, and which ultimately led us to reconsider our theory entirely. The niche width literature provides a very useful lens for examining the diversity of options available to organizations in wide niches. Therefore organizations are exposed to a wider diversity of ideas when they operate in wider niches. This provides a much cleaner explanation of how exposure to resources drives innovation.

2.5) Hypothesis 1 posits a linear expectation. The innovation literature on the other hands shows a non-linear effect of an organization's exposure to diverse partners, fields and search domains on the rate of recombinant innovation (e.g., Ahuja & Lampert, 2001 SMJ; Katila and Ahuja,

2002 AMJ; Laursen and Salter, 2006 SMJ). There must be diminishing returns to institutional exposure due to capability constraints (e.g., constraints on absorptive capacity, information processing, financial resources).

Thank you for this very helpful suggestion. We considered this seriously, and spent a fair amount of time modeling the effects of niche width and niche overlap in a non-linear way. The inclusion of quadratic terms for each measure yielded significant results, but the relative magnitude of the quadratic term was quite small. Moreover, when we plotted the quadratic effects, the predicted number of innovations was not appreciably different from that produced by a linear model – the curves looked substantially similar. Finally, compared to the models we present in this manuscript, the models with quadratic terms had weaker measures of model fit. Based on this evidence, and what we thought was an interesting and relatively novel interaction, we decided upon the models presented in the paper rather than the quadratic models you suggest. We very much appreciate the comment, however, as it helped us think through and explore the relationships within our data more carefully.

2.6) H2 is on institutional centrality. When I read the build up and the prediction, I somewhat agreed with the fundamentals and thought it was necessary to have it as the H1 only counted the institutions, without weighting their influence. Upon learning that the centrality was measured independent of institutions associated with genres, I got confused. I raised the issue of shifting domains of analysis above so let me highlight another problematic aspect. If we were to consider the centrality of institutions in the product market, the arguments for the hypothesis would hold. But the centrality in terms of ownership ties speaks to an alternative thesis. A member of a broadcasting family will have much greater access to innovation inputs (talent, knowledge and resources) through internal resource markets and social ties than an independent operator, hence the benefit of conglomeration. One could suggest that conglomerates are more powerful than focused producers due to their scope and scale and in turn, may have greater bargaining power over the institutions. Consequently, they are less interested in recombining innovations even if they are more capable. That is also plausible, but the paper does not model the conglomerate as a whole. The analysis is at the broadcaster (unit) level.

Your previous comments and suggestions regarding our theory helped to resolve this issue for us. Rather than centrality, we now consider niche overlap, a much clearer and more appropriate measure for our context. Unlike centrality, which assumes embeddedness in a particular field, niche overlap concerns the amount of crowding and competition within a niche, so whether or not an organization is central within its field is unnecessary for our analysis.

2.7) H3 is the most problematic of all hypotheses. H1 and H2 predict the effects of plurality and centrality on the likelihood of recombinant innovation, respectively. H3 interacts these two to predict the likelihood of innovating, an entirely new dependent variable. I checked the method section to see if this was an error in writing and it appears so – though not an insignificant one. Since we are on it, the descriptions of data, variables and models are complex, unstructured and full of redundancies to such an extent that figuring out anything is akin to text mining. Moving one, generally speaking, if the main effect of a variable (plurality) is expected to be positive, and the main effect of another variable (centrality) is expected to be negative, it makes it unusual to claim the moderating effect of the latter on the former should be positive. There have to be some really fine grained mechanisms at play to turn the effect sign (unless it is a statistical

artifact) and the arguments resulting in H3 are unfortunately unclear and underdeveloped to arrive at this. I also think it is logically inconsistent with H4.

Although we have completely reworked our hypotheses, this comment was extremely helpful in guiding us in our writing. We have worked very diligently to clearly, concisely and accurately describe our data and results and hope that you will find that the current manuscript is much more accurate and parsimonious.

2.8) H4 drops out of the blue. H1-H3 estimate the rate of recombinant innovation, whereas this one predicts the novelty.

We have removed Hypothesis 4 from our analysis.

3. Method

I voiced my discontent with the writing in the Method section earlier. I wish to reiterate here because it is really unfortunate and detracts value from an exciting context.

3.1) There is so much redundant information on the industry. The exposition is complex and unstructured.

Due to this comment and with the editor's instruction, we have tried to do a much better job of integrating our context throughout the paper. We believe this helps the writing in several ways. First, our context is introduced early and therefore the reader is able to understand the application throughout our hypothesis development. Second, we provide a clear description of the data without repeating introductory information that was helpful in previous portions of the paper. Finally, we provided a clear structure by defining our mechanisms, appropriate context and hypotheses in each section of the paper.

3.2) Inconsistencies exist between the wording in hypotheses and the variable names. The whole paper is about institutional plurality and the respective measure is called "diversification". The predictions concern recombinant innovation and the section on DV starts with "Our dependent variable, Number of Innovations Aired..."

In our new analysis, we made sure that the descriptions throughout the paper were consistent with the labeling in the tables.

3.3) Estimation strategy and methods are lumped into the section on control variables. They should be separated by a subheading. It is painstakingly difficult to follow when the text switches back and forth between variable descriptions and statistical techniques.

Thank you very much for this helpful comment. In the current data section, we have introduced additional subheadings to make our discussion clearer.

3.4) Table 2 has little to do with the paper. The DV is the new programs aired not recombinant innovation. Given that there are already many tables and models presented, it should be cut out or mentioned in a robustness section.

Thank you for prompting us to delete unnecessary information.

Now, let me turn to substantial issues regarding the key variables and the models:

3.5) Institutional plurality is captured by a measure of diversification. The authors treat each genre as equal sized, distinct and equidistant to each other. A cursory glance at the list of genres (Appendix 1) calls these treatments into question. The genres "sports", "sitcom" and "documentary" are substantially larger than "rodeo", "big band & swing" and "snowboarding". Institutions in each of the former three should outnumber institutions in the latter three. They should also be more complex to handle. On the other hand, the overlap between "motor sports" and "motor cycle racing" must be much higher than the overlap between "figure skating" and

“election”. In reality, an organization present in only the latter two genres should face greater institutional plurality than one that is present only in the former two.

Thank you again for emphasizing this point. As we noted in response to your comment 2.1 above, we took special care to address all of your concerns about the conceptual distance between genres. In addition to recalculating genre diversity (niche width), we believe the Jaccard distance measure helps elucidate conceptual distance between genres. Our inclusion of Figure 2 was also meant to aid in illustrating conceptual distance.

At the same time, it is important to note that TVGuide does not nest these genres the way that your comment implies. That is, motor sports, motorcycle racing, and sports do not consistently co-occur, but are applied as the editors deem appropriate. In other words, the application of genre designations is not hierarchical, either in theory or in practice.

3.6) The same treatments also bias the sample in various. The authors operationalize the DV (recombinant innovation) as a novel combination of two or more genres. Revisiting the aforementioned examples, a program assigned only to “sports” genre is dropped whereas one that combines both motor sports and motor cycle racing is kept as a recombinant innovation. The “sports” genre is a meta genre, tremendously broader than either motor sports or motor cycle racing and I find it simplistic to assume that there is no recombination within such a meta category of TV programs. Further, although we can comfortably call a program that cuts across the genres of “documentary” and “war” as a recombinant innovation, what do we make of the combination “sports-motor sports”? Please note that one other consequence of this classification system is that the recombinant innovations examined tend to be more specialized as opposed to mass-market innovations.

We understand your concern that not all innovations are created equal – some are inherently more novel than others, because they combine more distant elements. We completely agree; in fact, you will note that the novelty measure we created in our previous draft to test H4 was explicitly intended to capture this issue. However, we understand that this was unclear and because none of the reviewers recommended that we keep the novelty measure or H4, we have dropped it in this manuscript.

Another way to address this particular concern, in line with our current theory and measures, would have been to weight each innovation by the average distance between each of its components, so that the dependent variable captured the concept of distance. We seriously considered this option, but in the end decided against it because doing so would preclude us from including the niche width measure – which is based on the same calculation – as an independent variable; that is, we could not include measures derived from the same calculation on both the right and left hand sides of the regression equation. Even were this legitimate econometrically, conceptually it would result in a tautology: the more diverse the inputs into an innovation, the more diverse the elements included in the innovation. We also felt strongly that the Jaccard distance measure used by contemporary category theorists best captured the concept of niche width we were trying to test, and that it was important to match this measure as closely as possible to the concept. Therefore, we ultimately decided that we would forego the question of innovation novelty and focus instead on the absolute count of innovations produced in this manuscript. In future studies, we would very much like to pursue this point further and we thank you for your description of the problem as it has helped us in thinking about future work.

Finally, to address your concern that dropping single-genre innovations (e.g., just sports, as opposed to motor sports and motorcycle racing), we ran a model that counted both new genre innovations and recombinant innovations simultaneously. The results are reported in the table below, and are not significantly different from the complete model presented in table 2 in the manuscript. Because the TV Guide coding scheme applies newly created genres to old programs retroactively, and that each of those old programs was already assigned at least one genre when it initially appeared, the incidence of single genre innovations is extremely low – in fact, there are only ten in our entire sample. This suggests that the analyses we present in the paper are not actually biased.

3.7) I am very surprised to see the use of different centrality measures to test H2, H3 and H4. These measures encompass visible differences but the hypotheses do not make any distinction and the arguments behind the hypotheses do not capitalize on these differences. The switch looks arbitrary.

We agree and have dropped the centrality measure from this version of the paper, based on your comments.

3.8) I question the validity of the authors' conclusion that they find strong supportive evidence for H1, H2 and H3 (p.30). Table 3 contains estimates for H1-H3. Model 7 is the baseline model without the interaction (testing h3). Here, the diversification variable is positively significant. Centrality is insignificant. H1 is supported. H2 is rejected. In Model 8, they add the interaction between diversification and centrality. The interaction term is positively significant but the main effects for diversification and centrality are insignificant. All in all, there is strong support for H1, no support for H2 and some support for H3 (p value less than 0.05).

We apologize for our exuberant language, and have backed off somewhat in this version. At the same time, you will see that our models are even more significant than they were in the previous version of our analysis. All variables of interest are significant, using a two-tailed test, at the 5% level or less.

3.9) The authors must exercise caution in their interpretation of findings for H4 as well. These estimates are presented in Tables 4 and 5.

In Table 4, the interaction between centrality and diversification is insignificant across all models, except Model 12. But here the significance level obtained is weak at p=10% level and the sign is positive opposite of what was predicted. The authors on the other hand claim "there is partial support for H4". The right interpretation is, there is no support.

Table 5 replicates the models in Table 4 with the sample of all new programs introduced by the broadcasters, of which recombinant innovations are a subset. The sample is nearly double of that in Table 4. Here, strong support is obtained for H4.

The inclusion of Table 5 is again an example of an inconsistency. The first three hypotheses were tested within the subsample of recombinant innovations. If the purpose of Table 5 is to test the robustness of sampling strategy for H4, then why not replicate the results in H1-H3 with the larger sample? Just code all non-recombinant innovations as 0.

On the other hand, it is curious that as we add all non-recombinant innovations to the sample, the interaction term not just becomes more significant. Its sign also flips, which raises a red flag.

Thank you for your helpful suggestions. We have dropped these analyses from this version of the paper.

Final Thoughts

The authors have rich data and they appear to understand the industry very well. These are good assets. But the paper does not advance institutional theory. To do requires a finer-grained approach, which may start from mapping out the dominant and insurgent logics in the industry. By looking simply at genres, the authors are operating at a level, where frankly, institutions are missing. In fact, I am really wondering why they did not choose the niche theory as at the end of the day, their key construct is a measure of generalism based on niches (genres) and their empirical context is very light on institutions. As for their empirics, I strongly urge them to take into account the comments above regarding the presentation style and interpretation of findings. Greater precision, clarity and structure will bolster their case.

I wish the authors good luck with their work.

We are very grateful for your constructive comments. Because we developed our ideas initially through the lens of institutional theory, we found it hard to see that the data were actually measuring something else. When we took a step back and realized that this was the case, we were better able to deploy theory to test our mechanisms. Your suggestion of niche theory was extremely helpful in getting us to reconsider our theoretical framing, and we greatly appreciate the comments in this direction.

Thank you again for your helpful and supportive comments!

Supplemental analysis

In additional analyses, we include not only programs that represent new combinations of genres, but also the ten programs that introduce new genres de novo, not in combination with other genres. The results are virtually identical to those in model 7.

Poisson Regression, Fixed Effects by Year and Owner	
	Number of innovations
Number of New Programs	0.1031*** (0.0095)
Prior Innovations	0.2843*** (0.0781)
Station Age	-0.6849*** (0.1429)
Over-the-Air	-0.0069 (0.0057)
Niche Width	0.0036** (0.0013)
Niche Overlap	0.9546*** (0.1788)
Niche Width * Over-the-Air	1.9351** (0.7442)
Niche Overlap * Over-the-Air	-0.0036*** (0.0009)
Observations	2479
Log Likelihood	-1956.95
Chi-square	16947

Standard errors in parentheses; + p<0.10, * p<0.05, ** p<.01, *** p<.001