CATEGORY VIABILITY: BALANCED LEVELS OF COHERENCE AND DISTINCTIVENESS

JADE Y. LO
Drexel University

PEER C. FISS
University of Southern California

EUNICE Y. RHEE
Seattle University

MARK T. KENNEDY
Imperial College London

In a growing body of literature on categorization in organization theory, researchers are exploring the stabilizing role of categories and the processes by which they emerge. Because the literature focuses mainly on categories that emerge successfully or are already established, we know much less about why categories fall out of use or fail to emerge. Rather than viewing declining usage or failed emergence as different processes, we argue that they are two aspects of the single problem of understanding what makes a category viable. Focusing on the coherence of the items included in a category and how distinct they are compared to items in other categories, we develop the concept of category viability and argue that viable categories are those found useful for sensemaking, analysis, and coordination because they balance both coherence and distinctiveness to fall within what we call a zone of viability. To illustrate how category viability helps explain both change and continuity of categories, we also offer a framework to describe the process by which categories move in or out of the zone of viability with deliberate actions or with shifting circumstances that change their members or positions relative to other categories.

Categories are shared cognitive frameworks useful for navigating and organizing complex realities (e.g., Glynn & Navis, 2013; Rosa, Porac, Runser-Spanjol, & Saxon, 1999) by grouping similar entities together to "simplify our understanding of what surrounds us" (Durand, Granqvist, & Tyllström, 2017: 4). Recognizing the link between categories and social structure (Douglas, 1966; Tilly, 1998), in much of the literature on categorization in organization studies, scholars have emphasized the stabilizing role of categories in markets (Zuckerman, 1999) and organizational orders (Negro, Koçak, & Hsu, 2010; Vergne & Wry, 2014), but in seminal papers researchers also have explored the process by which categories emerge (Rosa et al., 1999). More recently, some scholars have urged an "ontological turn" (Kennedy & Fiss, 2013) in categories research to focus more on not only how categories come into being (e.g., Khaire & Wadhwani, 2010; Navis & Glynn, 2010) but also how they die off, so to speak, as they fall out of use.

Compared to what we know about how categories emerge and stabilize social structure, we know much less about how they fall out of use (Kuilman & van Driel, 2013), why they fail to emerge (Navis, Fisher, Raffaelli, Glynn, & Watkiss, 2012), or why they may be short-lived (Boone, Declerck, Rao, & Van den Buys, 2012). Although the emergence and decline of categories are different processes, we argue here that they are two ends of a thread defined by a single important question: What makes a category more or less viable?

We define *category viability* as a category's ability (1) to group similar entities and differentiate between dissimilar ones and (2) to facilitate exchange and coordination between actors. A more viable category is therefore more likely to be found useful for sensemaking, analysis, and coordination. For nascent categories, increased viability makes emergence more likely, and for established categories, increased viability makes continued use more likely. For categories already falling out of use, increased viability makes them less likely to be forgotten entirely and more likely to be remembered, and perhaps still used, albeit as archaic. Understanding the factors that explain when a category is viable sheds light not only on how categories emerge and decline but also on how they change and persist. As we will argue, the category viability construct is a helpful tool for researchers who theorize about and analyze category dynamics, which we define as encompassing the whole life course of a category, from emergence to diffusion and possibly long periods of widespread usage to, ultimately, disuse.

Drawing from both the sociocognitive approach to categorization (Rosch, 1973, 1978) and a relational approach to meaning construction that suggests that the meaning of categories is understood relative to other categories and the broader context (Emirbayer & Mische, 1998; Greimas, 1983/1966; Mische, 2011; Peirce, 1992), we define category viability in terms of both the coherence and distinctiveness of a category. While the sociocognitive approach to categories mostly focuses on a category's coherence in terms of its members' common features, a relational and ontological approach focuses more on a category's embeddedness in a broader meaning system made up of categories widely seen as real (Ruef, 2000). Although these theoretical perspectives have been developed separately, we believe the concept of category viability highlights their complementarity because it calls attention to both the membership of a category and its position in a broader classification system.

Proceeding from the argument that category viability depends on both intracategory and intercategory relationships, we develop a framework that uses these two dimensions of categories as dimensions of a space we use to define what we call the "zone of viability"—a region defined by a degree of balance of coherence and distinctiveness. Although this zone of viability is defined conceptually rather than with the precision of quantitative measures, the zone of viability and the two dimensions that define it provide a map useful for charting the life courses of categories. Putting this in terms of the ontological status of categories (Kennedy & Fiss, 2013), which just means the degree to which they are seen as social realities, the map allows us to trace the paths that categories take as they come into being, exist for a time, and die off. Thus, we refer to these two dimensions and the zone of viability map as an ontological map of categories.

Because the zone of viability is determined by both intracategory and intercategory relations, category viability is by no means an inherent or fixed property "owned" by the focal category. A category's location on the map shifts with changes not only in its membership but also in related categories in the classification system that it belongs to. These intracategory and intercategory relations shift as actors use and remodel the elements of a broader meaning system in their collective reasoning and social interaction. Category viability is therefore a delicate balancing act: for a category to remain viable, actors that use the category must adjust their shared definition of it to reflect changes both inside and outside of it. In other words, viability requires a balance of both the internal coherence of a category and its distinctiveness from the external—that is, other categories and the items in them. For brevity, we refer to these elements of the balancing as internal coherence and external distinctiveness. From this view, category viability is not a fait accompli achieved by history. Rather, it is an ongoing achievement by those seeking to preserve the social order supported by the category and, thus, not guaranteed. Using shifts in a focal category's relative distinctiveness and coherence, our framework offers a tool for assessing a category's current viability vis-à-vis other categories, how it changed over time, and what might come next.

It is important to note that the category viability concept—and especially its reliance on intercategory and intracategory relations—entails an inherently system-oriented perspective for analyzing category dynamics. While categories and related social structures are often extremely durable (Tilly, 1998), we view the viability of categories, especially market and organizational categories that are the focus of this article, as depending on the give and take between different

kinds of actors who find them useful to varying degrees in pursuing or promoting their own particular interests (Durand & Paolella, 2013; Pontikes & Kim, 2017; Zuckerman, 2017). In such a flux of actors, there is a duality between the force of category-based social structures and the social standing of actors who find a category useful (Sewell, 1992). As noted by Kennedy and Fiss (2013: 1139), this give and take between actors means that durable category structures are "an outcome and an accomplishment to be explained," not one to be taken as a given. In this article we extend this view by arguing that continuity and change are both worth explaining and that the category viability concept offers a way to explain both. Specifically, we link both the emergence and persistence of category, whether barely nascent or long since established, to factors that enhance its viability and, therefore, also its ontological status. Although the underpinnings and dynamics of social ontologies, or symbolic systems of meaning and categorization (Ruef, 1999: 1403), have been an important topic of classical theory (Durkheim, 1995/1912), this has remained underdeveloped in sociological and organizational analysis. We believe that category viability offers a valuable building block for developing a more comprehensive theory of social ontologies.

Our core proposition that category viability requires a balanced position on both dimensions also helps reconcile conflicting arguments in prior research. While the literature on categories in organizations and markets has hinted at internal coherence and external distinctiveness as important conditions for a category to be viable, there exists some ambiguity in terms of the direction of their effects. For example, some scholars emphasize boundary clarity (e.g., McKendrick, Jaffee, Carroll, & Khessina, 2003) and distinct identity (e.g., Rao, Monin, & Durand, 2003), whereas others argue for the importance of membership diversity and flexibility (e.g., Pontikes & Barnett, 2015) or similarity—as opposed to distinctiveness (e.g., Hargadon & Douglas, 2001). Our framework resolves these inconsistencies by emphasizing a category's balanced position in terms of both coherence and distinctiveness.

In what follows we first review prior studies on category dynamics. We then propose our framework for understanding what makes a category

viable and the zone of viability where categories are more likely to remain in collective awareness and active use. Next, by proposing four potential risks, we describe why categories that are outside the zone face the risk of losing their viability. Finally, we show several dynamic pathways that a category can take because of changes in internal or external conditions, as well as how interested actors may alter the viability of a particular category or competing categories. We believe that this framework is not only useful for examining a focal category's viability vis-à-vis other competing categories at any given point in time but also can be used to trace a category's viability along its pathway and to provide a complete portrayal of a category's dynamic movements over time. We close by discussing our intended contributions to the literature and future research directions.

THE DYNAMICS OF CATEGORIES

Categories are fundamental to social and economic relations in that they establish meaning systems and set audiences' expectations (Porac, Thomas, Wilson, Paton, & Kanfer, 1995; White, 1981). Reflecting the fundamental importance of categories for market structures and outcomes, a significant body of work has focused on the consequences of categorization—and particularly on how entities that do not fit into a preestablished category structure will be ignored or devalued by external audiences (e.g., Zuckerman, 1999). This disciplining role of categories has been demonstrated for a diverse set of entities, including organizations (Zuckerman, 2000), stocks (Zuckerman, 1999), wine producers (Negro, Hannan, & Rao, 2010), and films (Hsu, 2006).

While a shared feature of this line of research has been a concern with the stabilizing and constraining role of categories, scholars have more recently started to shift their focus toward how new categories come about (e.g., Durand et al., 2017; Durand & Khaire, 2017; Kennedy & Fiss, 2013). A growing number of studies have examined the category formation process by highlighting the role of sociocognitive factors and self-interested actors in the emergence of a new market category. For instance, Rao and colleagues (2003) drew on the concept of identity movements to examine how the "nouvelle cuisine" category emerged, as high-status actors

proposed a new role identity while disseminating cues that delegitimated the old role identity. Similarly, Navis and Glynn (2010) emphasized the role of market actors' attention in their study of how a new market category of satellite radio emerged and gained legitimacy. Khaire and Wadhwani's (2010) study of the emergence of the "modern Indian art" category showed an iterative process where interested market actors discursively constructed the meaning of a new category, with initially disparate evaluations increasingly converging as market categories congealed.

Although this line of research has significantly advanced our understanding of the role of categories for markets and organizations, a selective sampling approach in most empirical studies in organization theory may bias our understanding of the organizational and social world (Denrell & Kovács, 2008), favoring already established and legitimated categories. As a result, while there exists a considerable body of work on how recognized categories exercise their disciplining power, and while scholarship is exploring how new categories may successfully emerge, we know much less about how and why categories may decline or even disappear. Though relatively rare, a few studies have set out to counterbalance this tendency. For example, Kuilman and van Driel (2013) traced the demise of the *vemen* category, a subcategory of warehousing companies specializing in third-party storage of commodities in Dutch seaports. They revealed that category demise occurred because of a misalignment between the category's label, meaning, and its constituent organizations. Category dissolution may also be an active process of category abandonment, as noted by Hiatt and Park (2018); facing threats from social activists, U.S. wood pellet producers discarded their prior wood pellet category in favor of a new, collective identity as sustainable, renewable energy producers, thus moving on to a category with a superior perceived value. Similarly, in comparison to the increasing interest in category emergence, we know little about why some market categories fail to thrive after initial legitimation. In a study of online grocery services, Navis et al. (2012) suggested that the instability and contestation of the underlying beliefs and logics of an emergent category may have led to the failure of convergence on its core identity, thereby explaining the premature decline of the nascent category.

To be sure, category boundaries can become enduring social reality based on repeated use and interaction, especially when the category embodies social agreements about the category's meaning (Grodal & Kahl, 2017; Hannan, Pólos, & Carroll, 2007; Hsu & Grodal, 2015). However, like all social systems, even established category systems may suffer from social entropy (Zucker, 1988) and face gradual erosion due to a variety of causes, including changing technologies, accumulated inconsistencies, shifting theories of value, or struggles over vested interests (e.g., Fligstein, 1996). As Zuckerman (2017) noted, the strength of the category schemes and the imperative associated with them vary over time and across audiences, depending on the challenges and opportunities for engaging in unconventional moves. In fact, as Kennedy and Fiss argued, "the stability of categories and classification systems is "an accomplishment to be explained, not an automatic result of inertial forces" (2013: 1141). Building on the premise that neither the successful emergence nor the maintenance of categories should be taken for granted, we take this stance one step further by proposing a framework that may help to explain both emergence and decline, change and continuity.

Departing from a "snapshot" approach that sees different stages of a category as distinct processes, we propose that what seem to be disparate processes are not independent of each other; rather, they are two sides of the same social reality. This ontological perspective allows us to address a fundamental critique of contemporary organizational studies: that researchers may not obtain a comprehensive picture of the social reality if they confine themselves to "the ubiquitous single-snapshot technique" (Avital, 2000: 66). We echo the insight that an adequate theory of change should account for continuity, and vice versa (Pettigrew, Woodman, & Cameron, 2001: 2000). In subsequent sections we develop a fundamental concept—category viability—that we believe is important for understanding both category continuity and change.

COHERENCE, DISTINCTIVENESS, AND VIABILITY

Recall that our definition of category viability suggests that a viable category is one that acts as

both a boundary marker separating dissimilar entities from one another (Zerubavel, 1991) and a boundary object facilitating interactions among various actors (Star & Griesemer, 1989). Implicit in this is the idea that there is an inherent tension between the dual functions of categories: a very concrete and specific category may be an effective boundary marker and yet still fail to embed the category within a broader meaning system so that very few actors find it useful. Alternatively, a category with flexible boundaries that allows some ambiguity for potentially divergent interpretations and usages among different actors may be useful for coordinating actions among a wider range of actors but might not function well when it comes to differentiating between similar and dissimilar entities (Pontikes & Barnett, 2015). This tension suggests that the clarity and scope of a category's boundaries are of vital importance to the viability of a category; where the line is drawn not only directly affects a category's role as a boundary marker but also has a profound impact on how actors interact with it. In fact, how the line is drawn is in itself a categorization process, and, hence, a change in boundaries will frequently lead to the creation of new categories or the restructuring of existing ones.

To understand what makes a category more or less viable, therefore, we need to first understand the factors that determine the boundaries of a category. To this end we draw on insights from a sociocognitive approach to categories (Mervis & Rosch, 1981; Porac & Rosa, 1996; Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976) and a relational approach to meaning construction (Cassirer, 1953; Dewey & Bentley, 1949; Emirbayer, 1997; Greimas, 1983/1966; Mische, 2011; Peirce, 1992). In the first—a sociocognitive perspective—a category's boundaries are largely seen as a function of the homogeneity or coherence among its members: the more internally coherent a category is, the less fuzzy the boundaries are. The second perspective emphasizes the relational, situational, and contextualized basis of meaning, focusing more on a category's position in the broader meaning system. In this view, the meaning and boundaries of a category are best understood in terms of the category's "place" in relation to the other categories in the system (Somers, 1995: 135–36).

Building on these two premises—that the boundaries of a category are jointly determined by a category's internal membership and external position—we develop a framework that encompasses these two dimensions to understand a category's viability based on two central constructs: category coherence and category distinctiveness.

Category Coherence

Category coherence concerns the internal relationship among the entities that constitute a category's membership. These entities may include individuals, organizations, products, practices, and so forth, and their inclusion in the category is defined by rules, logics, or resemblance to prototypes pertaining to some common attributes (Rosch, 1983). Membership may be graded or binary, and the internal coherence of a category is a function of the perceived associations and resemblance among these entities (e.g., Rosch & Mervis, 1975). As we discuss below in detail, the key argument here is that for a category to be viable, it has to achieve a certain degree—but not too much—of coherence among its constituent members. When a category's membership is either too diverse or too homogeneous, it tends to exhibit low viability.

Note that the perceived homogeneity can vary depending on the attributes in question, as well as on the homogeneity of audiences. Insights from cognitive psychology suggest that categories are coherent to the extent that they fit audiences' prior knowledge about the world (Murphy, 2004; Murphy & Medin, 1985). Thus, depending on their background and knowledge, different audiences may judge a category based on different attributes, and, hence, the perceived coherence may be high or low for the same category. For the sake of analytical parsimony, we define category coherence in terms of the relevant attributes that are commonly recognized as the distinguishing features of the focal category by the typical audience. We consider the implications of audience heterogeneity in the discussion section.

Category coherence is critical for a category's basic function of demarcating boundaries and facilitating recognition, for two reasons. First, from a cognitive point of view, the less diverse

category members' attributes are, the more the category's members will share the same category resemblance (Rosch, 1978: 5; see also Tversky & Gati, 1978). If category resemblance is high and a clear prototype exists, the task of identifying and maintaining category boundaries is relatively uncomplicated. This cognitive perspective of category coherence has received strong support from the ecological view of categories, whose proponents argue that categories with higher similarities or typicality among members tend to receive greater cognitive legitimacy. Researchers argue that such categories have sharper boundaries,[1] or greater "contrast" (Hannan et al., 2007; Negro et al., 2011). It has been suggested that category contrast legitimates an emerging population of organizations because it defines a population more clearly and reduces the cognitive burden on the audience. For example, Kuilman and Wezel (2013) found that category contrast lowers mortality rates of U.K. airline companies during the early emergent phase. In studying the emergent disk array market, McKendrick et al. (2003) found that a focal category is more likely to be perceived and to develop into a recognizable form when the constituent organizations possess similar identities than when they are heterogeneous. Such arguments further support the idea that greater coherence leads to categories with clearer boundaries.

Second, in addition to the cognitive perspective of category coherence, a category's internal coherence may affect that category's viability through social and political mechanisms. Specifically, low category resemblance is likely to complicate the creation and maintenance of category boundaries for constituent members or promoters of the category. If category members share more differences than commonalities, they may dispute the meaning or the label of the focal category, or even contest the appropriateness of the focal category's inclusion

criteria and boundaries (Ozcan & Santos, 2015). For instance, the category of chiropractic services experienced disputes over the meaning and, thus, boundary of the focal category in its early years: many "straights" (chiropractors who only used manual manipulation) insisted that incorporating instruments into their practice defied the core purpose of nonmedical treatment, while the "mixers" advocated the use of instruments. This proliferation of different practices and contestation interfered with the legitimation of the category (Phillips 1998; Wry, Lounsbury, & Glynn 2011). The social and political effects of membership coherence are especially important for market and organizational categories, where many attributes are contestable and open to manipulation.

Although this prior work suggests that categories require at least some degree of membership homogeneity to remain viable, there is also evidence suggesting that category coherence does not have a uniformly positive effect on viability. A high degree of coherence increases the likelihood that a category will be recognized as meaningful, but such coherence comes at the cost of rendering the category both rigid and narrow, making it less useful for facilitating exchange and coordination. In this regard, Pontikes and Barnett (2015) argued that the flexibility of category boundaries is a double-edged sword: On the one hand, lenient categories, or less-constraining categories, have more flexibility and allow for a wider range of fit. On the other hand, lenient categories do not clearly convey the prototypical features of a member firm, rendering such categories less useful to potential consumers' decision making and evaluations. Considering that category viability hinges not only on a category's boundary clarity but also on its usefulness as a boundary object that facilitates coordination among various actors, membership composition requires a delicate balance between coherence and flexibility. For example, Nag, Hambrick, and Chen (2007) found that the success of the strategic management field rested on an implicit consensus that enabled it to accommodate multiple perspectives and appeal to a wide audience, while still maintaining a reasonably clear identity. These arguments suggest that for a category to become and stay viable, it is critical to achieve an optimal level of coherence in order to avoid extreme heterogeneity on the

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[1] As we discuss in greater detail in the following section, while category contrast is commonly associated with the sharpness or fuzziness of a category's boundaries, it is conceptually closer to our "internal coherence" dimension than to the "external distinctiveness" dimension because it is defined and empirically measured as the average "grade of membership (GoM)" across all category members or as the degree of typicality of category members (e.g., Negro, Hannan, & Rao, 2011: 1450).

one hand and rigidity and narrowness on the other.

Category Distinctiveness

We define the distinctiveness of a category as its relative position in the broader classification and meaning system,[2] where a more distinct category shares less overlap with other categories in the system. Prior literature suggests that a category's meaning can only be understood in relation to its context. For example, relational sociology holds that an entity derives its meaning from its embeddedness in a broader structure (Mische, 2011; Ruef, 2000; Somers, 1995). Similarly, insights form social semiotics suggest that the meaning of any social element is based on the relations among elements (Greimas, 1983/1966; Peirce, 1992). Taking a relational approach to categorization, in prior studies scholars have examined how a category's meaning and boundary are shaped by connections with other categories within a relational network either based on co-mentioning (Kennedy, 2008) or analogical thinking (Bingham & Kahl, 2013). One may also approach this dimension from the audience's perspective. For example, distinctiveness may be measured as the level to which users perceive a focal category as different from or, conversely,

interchangeable with other categories in terms of a category's usefulness in serving a particular function.[3] For our current purposes, we hold that for a category to be viable, it has to be distinct from other categories while still fitting into the existing category systems. A category that is either too distinct from or too close to other categories tends to exhibit lower viability.

As with internal coherence, there exists a fundamental tension when it comes to the optimal level of distinctiveness for a focal category. On the one hand, a category that shares too little overlap with or is perceived as being too distant from other categories in a classification system has a lower likelihood of being viable. The relational approach to categories suggests that a category's meaning is derived from its relationship with other categories in the system; a category that occupies a very peripheral position is often less likely to be recognized as part of the system. On the other hand, if a category overlaps too much with adjacent categories in the system, its classificatory utility declines, rendering it less useful as a stand-alone category.

The resulting tension is akin to the notion of optimal distinctiveness, which originates from social identity research (Brewer, 1991, 2003). It holds that individuals have two competing needs that require balancing: a need for inclusion into a certain category and a need for distinctiveness among others within the same category. Organizational and strategy scholars have extended the notion of optimal distinctiveness to a firm's ideal position in the market and competitive landscape (e.g., Deephouse, 1999; Gioia, Price, Hamilton, & Thomas, 2010; Navis & Glynn, 2010; Zuckerman, 2016; for a review of the strategic balance literature, see also Zhao, Fisher, Lounsbury, & Miller, 2017). Yet while this work has focused on within-category comparison (i.e., an individual or organization's position within a particular category), we extend this insight to also apply to inter-category relations. More important, we view a category's distinctiveness arising not just from pairwise comparisons with adjacent categories

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[2]As noted by Rosch and Lloyd (1978), there are two basic types of associations among categories: horizontal and vertical (also see Porac & Thomas, 1990, and Wry & Lounsbury, 2013). Vertical association among categories concerns the level of abstraction or inclusiveness of a category in relation to others (Rosch et al., 1976). Higher-level categories are more inclusive and so contain more heterogeneous members, in the sense that members share fewer common attributes with each other. The lower down the hierarchy, the more homogeneous the members tend to be. From this perspective, vertical relationship among categories is closer to our discussion of internal coherence, where higher-level categories are the least coherent while lower-level categories feature more internal coherence. Therefore, in this section we focus on horizontal relationship among categories, which concerns the relative position of a category among structurally equivalent categories at a given level. While we primarily focus on the horizontal relationships among categories, our arguments also imply that a basic-level category is more likely to be a viable category, compared to either superordinate or subordinate ones (although basic-level categories may also vary in their viability, and superordinate or subordinate categories may also be quite viable). The reason is that a basic-level category (Rosch, 1978) strikes an appropriate balance between the amount of information and the level of inclusiveness, which is more likely to be useful for marking boundaries among dissimilar entities that facilitate recognition and for facilitating exchanges and coordination between actors. We thank an anonymous reviewer for this point.

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[3]Again, the audience's distance and relationship to a category also matter here. An audience that is closer to a category system may be more likely to discern and appreciate the distinctiveness of any focal category within that system. However, in developing our core framework, for now we consider a category's perceived distinctiveness for a typical audience of the particular category system in question.

but also from its embeddedness within the larger meaning system, including the focal classification system as well as the broader cultural system.

To illustrate this argument, consider the emergence of jazz in New Orleans in the late nineteenth century. At this time, jazz musicians faced difficulty having their art accepted as a legitimate music genre because of its distance from other established genres, including classical music. Not only did its African American origins put jazz at the periphery of the cultural and meaning system, but the signature features of jazz music—syncopation and improvisation—were too unique to be appreciated by the broader audience (Raeburn, 2009). It was not until the emergence in the late 1910s of a hybrid form of jazz, which combined elements of classical music with jazz, that jazz as a new form of music started to gain acceptance in the United States (Lee, 2016).

Relationship Between Coherence and Distinctiveness

As we have noted, coherence and distinctiveness present conceptually distinct dimensions based on different ontological assumptions: the former approaches the categorization process from the perceived homogeneity of a group of entities, whereas the latter regards the categorization process as an attempt to locate an entity "within a broader system of meaning or classification" (Glynn & Navis, 2013: 1125). As a result, coherence is more about intracategory relations, and distinctiveness is about intercategory relations. This argument may seem at odds with studies of category contrast in which categories with coherent membership tend to have higher contrast or sharper boundaries as well (e.g., Negro et al., 2011). Yet in this article we approach coherence and distinctiveness from different theoretical traditions and argue that coherence does not always translate into high distinctiveness, and vice versa. A category may still exhibit a high level of distinctiveness despite a low level of perceived coherence. This can occur, for example, when nascent categories are defined around features not found in existing categories (Durand & Khaire, 2017). In the automotive industry, for instance, the minivan category included vehicles with features from adjacent categories such as trucks and vans (Rosa et al., 1999). The new minivan category initially exhibited relatively low

coherence, even as it was perceived by buyers as a distinct category. In some other categories, high coherence can coexist with low distinctiveness. This occurs when a category's defining features are so specific that they exclude members lacking those features even if otherwise seen as highly similar. For example, consider Indonesian, Cambodian, and Thai restaurants. Although these categories are all coherent and high in contrast (Kovács & Hannan, 2010: 186), actors looking for a Southeast Asian food may well see them as lacking distinctiveness.

For these reasons, while empirically internal coherence and external distinctiveness of a category may move in the same direction in some cases, we argue that this is more of an empirical issue than a theoretical prediction and that it is useful to think about coherence and distinctiveness as two different dimensions. Having established internal coherence and external distinctiveness of a category as distinct dimensions, we now develop a framework that takes into account both dimensions when explaining category viability.

CATEGORY VIABILITY: A FRAMEWORK

We have thus far argued that a category has to achieve a balance along both the coherence and distinctiveness dimensions to become and remain viable. Further extending these arguments, we now propose a framework for understanding how both dimensions affect a category's viability. Below we first discuss how these two dimensions, although conceptually independent, will combine to result in different levels of category viability. In particular, we theorize about how extreme levels of both dimensions can create different "out-of-balance" scenarios and how a category may lose its viability arising from four different risks. We then apply the category viability concept to discuss category dynamics, drawing on the extant literature and using examples to illustrate the utility of our framework in analyzing various moments along a category's life course.

Four Risks to Category Viability

Figure 1 shows the two dimensions, coherence and distinctiveness, along the horizontal and vertical axes. The circle at the center of the figure represents the zone of viability where a balance

FIGURE 1
Zone of Viability
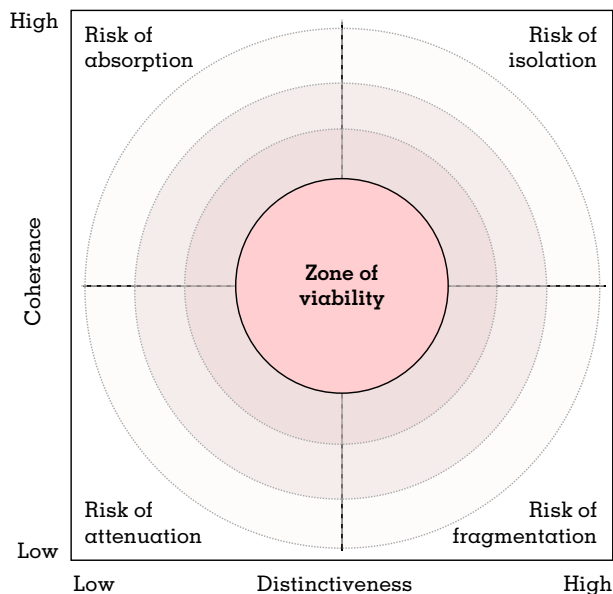
along the two dimensions has been achieved. Alternatively, when a category exhibits very high or low levels of coherence and/or distinctiveness, it risks losing viability. Categories that reside within the zone of viability are likely to stay in collective awareness and active use. By depicting category viability as a "zone," we conceptualize viability as a continuum, rather than a binary value, with different degrees or gradients of (non) viability between the two end points.

Each of the four corners shown in the figure presents a different threat to category viability, because the consequence of having a high or a low level of membership coherence depends on a category's distinctiveness, and vice versa. As we theorize below, an incoherent category either may be split into two or more subcategories that each have clearer boundaries or may become irrelevant and fall out of use altogether. Which of these scenarios is more likely to happen is contingent on the category's external position. Likewise, at very high levels of membership, coherence also threatens the viability of a category, but the risk can take two different forms: depending on its position in the broader meaning system, the category may become marginalized or it may be perceived as too fine-grained to be useful and be absorbed into other categories. There are therefore four different scenarios that may threaten a category's viability when both coherence and

distinctiveness dimensions are out of balance. For theory-building purpose, we discuss these four types of risk as ideal-type risks, while acknowledging that, in reality, one may not always find that a category fits squarely into one of these four corners and that a category may experience more than one risk over its life course. Moreover, having already discussed above the challenges of being high or low on one dimension only, here we focus on extreme cases of nonviable situations, discussing consequences based on the four combinations when both dimensions are out of balance.

Risk of attenuation. We begin with the risk of category *attenuation*, a term we use here in accordance with the standard dictionary definition to indicate a lessening of value or effect. As depicted in the lower left corner of Figure 1, the risk of attenuation arises when categories score low on both dimensions—that is, they are too incoherent and indistinct. First, including members with little in common results in perceptual confusion that undermines the category's value because of ambiguity (Rosa et al., 1999). Second, a category's appeal and its usefulness, vis-à-vis other categories, are undermined when they are not sufficiently distinct from other categories. In such situations audiences will not be able to adequately differentiate the category's offerings or practices from other categories in the meaning system (e.g., Hannan, 2010).

At very low levels of coherence and distinctiveness, the category's boundary will therefore be too weak and too fuzzy for its classifying task. Together, confusion and redundancy not only undermine a category's ability in acting as a boundary marker but also reduce its usefulness in serving as a boundary object in facilitating coordination. In such cases the focal category will face the risk of category attenuation, where both the declining usefulness and the declining perceived value of a category reduce the category's viability.

Risk of fragmentation. Proceeding to the lower right corner of Figure 1, we come to the risk of category *fragmentation,* a term we use again in the standard way to indicate the separation or breaking up of a whole into distinct parts, or fragments. When a category occupies a distinct position in the meaning system and has a heterogeneous membership base, the focal category may undergo periods of instability and fragmentation arising from

the combination of external distinctiveness and internal incoherence.

To elaborate, although a high degree of distinctiveness means that a category is less likely to become redundant, this distinctiveness also implies that the audience needs to invest more interpretive work to situate the category in the existing classification schemes. At the same time, the heterogeneous membership of such a distinct category renders this task more difficult as internal heterogeneity opens space for debates and contestation. Such a situation encourages members and users of a category to develop or espouse their own version of a meaning or practice, leading to a subdivision—a vertical movement where a focal category splits into or gives rise to variants (Kennedy, Lo, & Lounsbury, 2010). As the new alternatives become more important or useful than the original focal category, the likelihood increases that the focal category will decrease in viability.

Risk of absorption. We now turn to the upper side of Figure 1, which is marked by categories that exhibit a high degree of internal coherence. The upper left corner of Figure 1 marks a combination of a high degree of coherence and a low level of distinctiveness. The risk of *absorption* refers to the possibility that a focal category is absorbed into a higher-level category or an alternative category that is better positioned—that is, more balanced on the two dimensions.

Specifically, while a low level of distinctiveness may render the focal category redundant and indistinguishable from other categories, when combined with a high level of internal coherence, it increases the likelihood that the focal category will simply be perceived as an insignificant variant of a related category. In such a case, the category is often seen as too fine-grained to be useful and therefore may be absorbed into an alternative category that is better positioned in the ontological space and may, as a result, experience decreased viability.

Risk of isolation. Finally, the upper right corner of Figure 1 represents categories exhibiting high levels of both coherence and distinctiveness. We argue that such categories tend to suffer the potential risk of *isolation*, a term we use here to refer to the hazards of alienation, indifference, or suspicion that often come with being relegated to the fringe of a society. This risk arises when categories become or are defined as so distinct and so coherent that they lose the balance of the two

needed for viability. In much of the prior literature, researchers predicted and showed mostly positive effects of category coherence and boundary clarity (e.g., Hannan et al., 2007; Negro et al., 2011). Yet, as we have argued, category viability is a balancing act: with coherence and distinctiveness, it is possible to have too much of a good thing.

As noted in the literature on boundary objects, an effective boundary object is one that allows a certain degree of interpretive flexibility so that actors from multiple communities may find it useful (Star & Griesemer, 1989). While a category that is very high in both coherence and distinctiveness may function well in its task of delineating boundaries by conveying a clear meaning, it is likely to fall short in acting as an interface for exchange and coordination among diverse actors. Such categories are less likely to enter or to remain in collective awareness.

To summarize, Figure 1 depicts our argument that category viability is a balancing act—that is, categories are most likely to be viable when they are neither too indistinct nor too incoherent and equally when they are neither too coherent nor too distinct. Also, Figure 1 highlights different combinations of coherence and distinctiveness that give rise to the four viability risks: attenuation, fragmentation, absorption, and isolation. It is worth noting that our conceptualization of viability and risks to viability emphasizes staying in use versus falling out of use on a continuum. As a complement to more familiar propositions about category growth and decline, this emphasis reflects the ontological turn that inspires our focus on viability. When categories become less viable, they become less useful for sensemaking, analysis, or coordination, and their falling out of usage comes with also falling out of current social ontologies.

To be clear, we are not suggesting that there are precise thresholds beyond which categories quickly fall out of use; rather, we are arguing that categories increasingly risk falling out of use when they move out of the zone of viability (itself a graded concept) toward one of the four corners illustrated in Figure 1. Also, while we highlight structural properties of categories, we also acknowledge that category members may actively engage in the shaping and (re)positioning of the category they are affiliated with. Indeed, deliberate actions and reactions of interested actors may change the internal composition or external

relations of a category, which, in turn, will shape the viability of a category as well as its adjacent categories, influencing category dynamics in complex ways. As we explain further in the next section, distinctiveness and coherence are neither fixed nor inherent properties of any category on its own, since they can change both with shifts in their own members and features and with shifts in those of other categories and in the relative positions among categories. In other words, we see the formation and change of categories and social ontologies as a recursive and continuous process that is too complex to fit a unidirectional causal statement (Giddens, 1979; Sewell, 1992).

Application to Category Dynamics

In this section we use the concept of category viability to draw out implications for category dynamics. We first show how our framework may be used to systematically examine a category's emergence conditions by illustrating how nascent categories may achieve viability in the first place. We then offer four sample paths that are built on familiar topics in organization studies and show how a category may change its position on the ontological map of Figure 1, moving out of the zone of viability. Figure 2 illustrates the paths we describe in this section.

Before applying the viability concept to category dynamics, we need to make several important points. First, our goal here is to illustrate applications of category viability analysis to the topics of category dynamics in organization studies, not to develop a full-fledged process model. Each of our sample paths below simply demonstrates one possibility of how a category may experience a particular risk, which is meant to be suggestive and illustrative rather than predictive or exhaustive. We also note that, for illustrative purposes, these paths are depicted in a way that corresponds to the four risks identified above. Of course, the pathway of a category could be much more complicated: it could be walked in reverse, which indicates a case of regaining viability, or it could face multiple types of risk as it evolves over time.

Relatedly, given that gaining and losing viability are flip sides of the same social process, our discussions have important implications for interested actors who want to gain or restore viability for a focal category. To facilitate our discussion of ways that actors may influence category dynamics, Table 1 summarizes sample
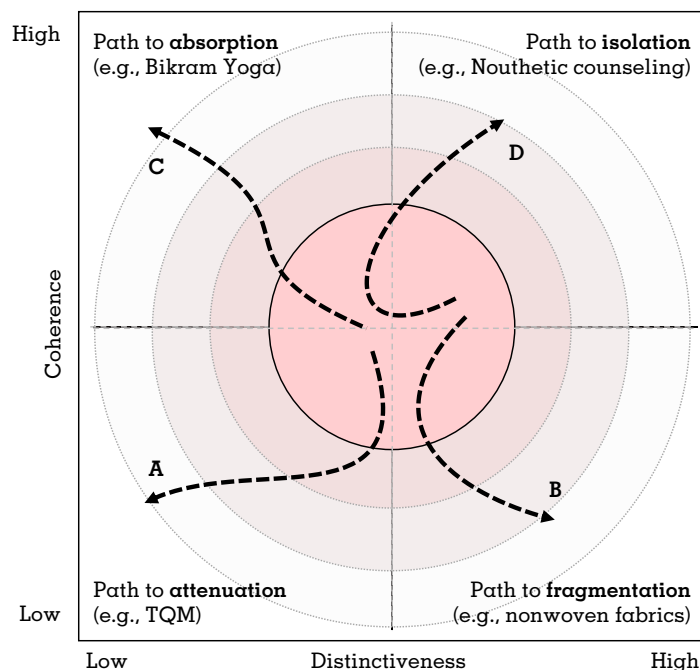
FIGURE 2
Illustration of Category Dynamics

TABLE 1
Viability Risks, Sample Risk Indicators, and Suggested Mitigation Strategies

Risk	Risk Indicators	Mitigation Strategies

Attenuation
  Coherence: low
  Distinctiveness: low
	▪ Focal category is frequently confused with other categories, both existing and new
	▪ Focal category is defined in different ways by different kinds of actors
	▪ Focal category is applied to different sets of putative members by different kinds of actors
		↑ Coherence by, for example:
		  • Cultivating institutions to back category membership criteria
		  • Gatekeeping activities that admit or grade putative members
		↑ Distinctiveness by, for example:
		  • Public relations or advertising that clarifies category meaning
		  • Advocacy and lobbying for regulations that support category

Fragmentation
  Coherence: low
  Distinctiveness: high
	▪ Focal category (parent) loses attention as subcategories (children) gain attention
	▪ Focal category (parent) is mentioned less often with subcategories (children)
	▪ Focal category (parent) is used less often than subcategories (children)
		↑ Coherence by, for example:
		  • Cultivating institutions to back category membership criteria
		  • Gatekeeping activities that admit or grade putative members
		↓ Distinctiveness by, for example:
		  • Highlighting relations with other categories
		  • Initiating conversation in the broader meaning system

Absorption
  Coherence: high
  Distinctiveness: low
	▪ Focal category is viewed as a predecessor or inferior alternative to a more current category
	▪ Focal category is increasingly confused with more current category
	▪ Focal category faces difficulty in recruiting new members
		↓ Coherence by, for example:
		  • Embracing features that reflect the changing environment
		  • Abandoning features out of step with the new environment
		↑ Distinctiveness by, for example:
		  • Public relations or advertising that clarifies category meaning
		  • Advocacy and lobbying for regulations that support category

Isolation
  Coherence: high
  Distinctiveness: high
	▪ Focal category lacks flexibility in terms of expanding boundaries/shifting meaning
	▪ Focal category is less and less co-mentioned with other similar categories
	▪ Focal category faces difficulty in recruiting new members
		↓ Coherence by, for example:
		  • Embracing features that reflect the changing environment
		  • Abandoning features out of step with the new environment
		↓ Distinctiveness by, for example:
		  • Highlighting relations with other categories
		  • Initiating conversation in the broader meaning system

"risk indicators" that signal if a category is at a particular risk and suggested strategies for mitigating viability risks.

Last, a relational approach suggests that changes in individual categories both reflect and create changes in other categories in the meaning system, as shown by our sample paths below. Therefore, these features are also shaped by intercategory relations, even when we analyze the viability of a focal category in terms of its own coherence and distinctiveness. The dynamics of categories reflect the events and forces that emerge from and shape the category system, including not only deliberate strategic actions of interested actors promoting the focal category but also actions and reactions of other social actors with divergent interests, not to mention the structural forces exerted by taken-for-granted institutions and, of course, events of the natural world that humans have little control over. It is also for this reason that while we acknowledge the agency of interested actors and offer potential strategies that they may use to support or restore category viability, such attempts do not always succeed, and actions intended to protect the boundaries of a category may sometimes unintentionally reduce its viability.

Implications for emerging categories. Applying our framework to the study of category formation, one may map various category emergence processes onto a parsimonious ontological map,

thereby understanding the relative position of an emergent category within the broader meaning system. Specifically, the initial levels of coherence and distinctiveness of an emergent category often reflect its emerging conditions, and interested actors may want to tailor their strategies to increase the nascent category's viability.

First, how a category emerges is likely to affect how coherent it is, at least initially. For example, if a new category is born through logical division of existing categories (Kennedy et al., 2010), its internal coherence tends to be high; to increase the viability and facilitate the emergence of the category, interested actors need to broaden its constituency base and move down on the coherence dimension to become viable and more widely recognized. In contrast, if a category emerges through ad hoc processes based on actors' needs (Durand & Paolella, 2013), it may group various entities and feature low internal coherence. For such categories to gain viability and wider recognition, interested actors need to increase the perceived coherence by emphasizing the commonality among the seemingly unrelated constituent entities.

Second, a category's formation process may also affect the initial level of distinctiveness. Durand and Khaire (2017) theorized two types of category formation processes: new categories may be formed because of the need to classify novel entities that feature hard-to-classify attributes, or they may be formed through a process in which existing components are rearranged or relabeled to generate new meaning for existing entities or offers. If we apply this distinction to our framework, we see that these two processes have important implications for the perceived distinctiveness of emerging categories: categories that originate through the first process may score higher on the distinctiveness dimension and are therefore more likely to move into the zone of viability if category members or promoters engage in activities that decrease the perceived distinctiveness of the focal category. Conversely, categories that are created through the second process may take the opposite route, moving into the zone by increasing the perceived distinctiveness.

Yet, even for a successfully emerged category that has achieved balance on both dimensions, ironically, as it further develops, it may also experience various problems associated with growth, or even as a result of it (Grodal, 2018;

Grodal & O'Mahony, 2017; Wry et al., 2011). For instance, a growing category's perceived distinctiveness can decline because of imitation from adjacent categories, and it can become less coherent owing to an influx of members from other categories attracted by opportunities offered by the focal category. We now depict several sample paths to illustrate how such processes may unfold by linking our framework to familiar topics in organization studies.

Sample path to attenuation (Path A). A category may gain traction quickly as it grows. When this happens, as found in studies of rapid fadlike diffusion (Abrahamson, 1991; Abrahamson & Fairchild, 1999; Hirsch, 1972; Strang & Macy, 2001), the focal category may invite a flood of new entrants or imitators from adjacent categories, with a concomitant drop in both the distinctiveness and coherence dimensions. This path is often marked by a sudden and rapid growth of the focal category, signaling a "hot" opportunity and thereby attracting imitation and herd behavior (Banerjee, 1992). When a hot category attracts an influx of new participants from adjacent categories, the heterogeneity of imitators can blur the category definition if the focal category's core members do not engage in gatekeeping or boundary-policing activities such as those suggested in Table 1. If such an influx stretches a focal category's membership too far and blurs its boundaries too much, it will face the risk of attenuation.

The rise and fall of total quality management (TQM) illustrates such a path. As a category of management practices offered by professional service firms, TQM refers broadly to the implementation of organization-wide quality improvement programs. Core principles include customer focus, reduction of variability, continuous improvement, and employee participation (Dean & Bowen, 1994), with boundaries flexible enough to be used in various contexts yet marking a group of practices with recognizable family resemblance. However, as documented by David and Strang (2006), with its rapid growth, the market was quickly populated by generalist consulting firms from various domains without special expertise in TQM, lowering its internal coherence and perceived distinctiveness. As a result, TQM experienced a decline in its viability.

Sample path to fragmentation (Path B). When a category grows and matures, there are alternative ways that it may lose its internal coherence, but

not necessarily its external distinctiveness. For example, this can happen when the market has grown into several established niches, or when competition among category members increases so that some of them have to differentiate themselves from others in new ways, resulting in multiple subcategories that are more refined and better capture the evolving reality. This process parallels the observation from organizational ecologists that when a market or industry category matures, a number of smaller specialists will emerge and thrive (Carroll, 1985; Carroll & Swaminathan, 2000; Dobrev, Kim, & Hannan, 2001). These specialists often occupy different niches within the existing category, leading to various elaborations of the original category and creation of new subcategories. When this happens, the parent category's internal coherence drops, undermining its value as a tool for practical sensemaking, analysis, and coordination, even if the parent category retains its distinct position in the meaning system. Thus, this path can lead to the risk of fragmentation and, in practical terms, the breaking apart of the original category.

For example, consider the development of the "nonwoven" category, which means fabrics that are neither woven nor knitted. Tracing back their emergence to the 1940s, when industrial manufacturing in commercial quantities began, nonwoven products have increasingly been used in a wide range of industries, such as apparel, home furnishings, health care, construction, industrial, and consumer goods, to name a few. Yet because the nonwoven category encompasses products as different as a baby diaper and a roofing substrate, as the market applications have grown, the category's internal coherence has been decreasing over time. At the same time, nonwoven products perform specific functions, such as absorbency, resilience, stretch, strength, flame retardancy, thermal insulation, acoustic insulation, and sterility, which make them stand out from related categories, such as weaving, knitting, and paper. Such a distinctive position within the classification system, when combined with decreased internal coherence arising from niche proliferation, has urged companies and industry associations to use a variety of more refined alternative categories to describe their products, such as engineered materials, performance materials, and fiber-based specialty materials. The original nonwoven category has thus become less viable and is invoked less

frequently among companies and industry specialists in recent years.

Sample path to absorption (Path C). As a category grows, it may attract competition from other categories. As suggested by strategy research examining threats of substitution (Porter, 1980), promoters of competing categories may emulate and seek to improve on certain features of the focal category. In contrast to the path of attenuation, if these competitors espouse the superiority of the alternative category instead of claiming membership in the focal category, the perceived distinctiveness of the focal category may decrease, although its coherence may not necessarily be diluted. Under this circumstance, when members of the original category fail to defend its distinctiveness as suggested by Table 1, the original category may be overshadowed by the more successful emulators and absorbed into or substituted by the competing category. This is especially likely to happen if the competing category is supported by more resourceful actors or is perceived to be more balanced on both dimensions than the original category.

Consider the example of Bikram Yoga,[4] a category label referring to a particular yoga style established and popularized by the charismatic founder Bikram Choudhury. Bikram Yoga had a number of distinct features that differentiated it from other yoga practices, such as a unique system of twenty-six yoga poses, the practice of using a room heated to 104 degrees Fahrenheit with a humidity level of 40 percent, and the incorporation of modern fitness concepts. Yet, after this yoga style gained popularity, several competing yoga teachers and former students sought to improve on the original format while still keeping the main distinguishing feature—the "hot" aspect. These new variants were called hot yoga. In spite of its similarity with the original Bikram Yoga, hot yoga became a viable category because of its balanced position on the ontological map. It is flexible in the sense that it allows moves from various yoga traditions and is still different from other types of yoga in the heated aspect. In comparison, while Bikram Yoga teachers are encouraged to develop their own teaching styles, there is not much room to deviate from the format specified by the Bikram certification training system, and therefore Bikram Yoga appeared overly strict, and its perceived

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[4] We thank an anonymous reviewer for this example.

distinctiveness also dropped after the emergence of the competing category.

Sample path to isolation (Path D). As mentioned above, as a category faces competition or identity crisis due to high growth or imitation, actors with an interest in preserving the category are typically motivated to take gatekeeping actions that preserve the category's coherence and/or distinctiveness (Grodal, 2018; Wry et al., 2011), including clarifying the boundaries or strengthening barriers to entry as suggested by studies of identity construction (Jensen, 2010; King, Clemens, & Fry, 2011; Navis & Glynn, 2011; Rao, Davis, & Ward, 2000). However, overdoing these strategies can undermine viability. When actors attempt to defend a category important to their collective identity by being so strict about its definition and rejecting key features of adjacent or alternative categories, they risk isolation from actors who find the rejected features appealing enough to identify with the alternative categories. We speculate that this process is most likely to happen to categories associated with emotional, moral, or social values, rather than purely functional or instrumental values (e.g., Sheth, Newman, & Gross, 1991; Sweeney & Soutar, 2001). In such situations category members who strongly identify with such core values tend to be motivated to preserve or restore the coherence and distinctiveness of a category, which may, ironically, undermine its viability.

As an example, consider "Nouthetic counseling," a category of counseling services developed around the religious beliefs of conservative Christians. The name comes from "nouthesia," a Greek noun meaning admonition, correction, or instruction. This word and its instructive approach to giving counsel, so to speak, appear in the apostle Paul's letters to early churches. In the early 1970s, many conservative Christians were suspicious of counseling because it emerged from secular academic disciplines; defining a new category of counseling around a "Bible-based" model of instruction, however, made counseling more palatable. To label such religiously inspired counseling varieties, adherents used the expressions "Nouthetic counseling," "biblical counseling," and "Christian counseling" interchangeably, signaling commitment to applying faith-based biblical principles to counseling services (e.g., Adams, 1986/1970). As this adaptation of counseling spread, however, the pioneers began using "Nouthetic counseling" exclusively to distinguish themselves from counseling that incorporated elements of mainstream psychology and psychotherapy because they regarded these new scientific traditions as "unbiblical." In what ultimately proved to be a failed effort to maintain the viability of Nouthetic counseling, proponents doubled down on the distinctive features of the category: strict interpretations of scripture-based teachings, a confrontational focus on sin, and complete reliance on the power of God in the counseling and healing process. With this effort to defend and preserve category coherence and distinctiveness, Nouthetic counseling became distanced not only from mainstream practices in the counseling industry but also from other faith-based styles of counseling that appeal more to people looking for alternatives to secular counseling services. Over time, Nouthetic counseling became so marginalized that it is now increasingly rarely recognized even among the Christian communities.

DISCUSSION AND CONCLUSION

Building on the premise that the emergence and durability of categories are outcomes to be explained, in this article we offer a systematic framework for studying the conditions under which categories are more or less viable. Taking into account both distinctiveness and coherence and how these two dimensions jointly affect a category's viability, we propose that category viability is a delicate balancing act and is vulnerable to imbalance because of shifts in external environment or internal conditions. Below we discuss the contribution of this framework to the literature on category studies and to other related literatures.

First, we contribute to category studies by offering a coherent conceptual tool that helps to explain both change and continuity. While taking category viability as the focal point to be explained, this framework also serves as a useful tool to analyze category dynamics as a category emerges, grows, or declines. There are many possible routes that a category may take as it evolves (Kennedy et al., 2010), but we seek to simplify a wide variety of dynamic cases to two fundamental and relational features of categories—intracategory coherence and intercategory distinctiveness. Our framework thus allows researchers to systematically track—and even predict—the waxing and waning of seemingly

idiosyncratic empirical cases by mapping the multiple shifts in the internal and external conditions of a category onto a parsimonious ontological space. This framework thus extends prior insight that the conditions under which a category emerges may have lasting effects on the category (Rhee, Lo, Kennedy, & Fiss, 2017); depending on how a category emerges and its position in the wider classification system, one may be able to predict the possible trajectory the category may take as it evolves.

Second, we propose an integrated approach to categories by emphasizing their relational aspect in order to enrich the dominant sociocognitive view of them. Although the cognitive approach to categorization has accumulated an impressive number of insights into how categories are related to each other, both horizontally and vertically (e.g., Anderson, 1983; Rosch, 1978), a central premise of this literature is that categories are related to one another within an overall cognitive structure and that these relationships are based on the perceived similarities and differences in the attributes of member entities (Porac & Thomas, 1990; Wry & Lounsbury, 2013). In other words, this line of research puts much greater emphasis on the internal structure of categories, which, in turn, forms the basis of categories' external relations. In contrast, our framework implies that a category's external relations are not solely determined by the internal composition of the focal category and its adjacent categories. Rather, our view of category distinctiveness is based on a broader and more pragmatic conceptualization of social ontology: a category's distinctiveness is first and foremost defined by its overall position in the broader classification and meaning system and may be perceived as more or less distinct by different audiences. Instead of focusing on the cognitive representation of an objective social reality, we hold that the meaning (and distinctiveness) of a category is contingent on the social and cultural contexts (e.g., Kress, 2009), which are subject to changes and multiple interpretations.

Third, as a different but related point, while the influential "categorical imperative" thesis typically views categorization as a cognitive process, recent developments in category research in the field of management and organizations have increasingly emphasized the active role of the actors and focused more on the social aspect of categorization processes (e.g., Durand & Paolella,

2013; Glynn & Navis, 2013; Granqvist, Grodal, & Woolley, 2013; Wry et al., 2011). Yet, as noted by Durand et al. (2017), the social approach to categories is still relatively underresearched and lacks an overarching theoretical framework that allows researchers to systematically identify and analyze the social mechanisms underpinning the categorization process. The cognitive and social approaches to categories have also remained separate in the literature (Durand et al., 2017).

Considering that our dimension of internal coherence is primarily drawn from cognitive psychology and that external distinctiveness is mainly anchored on a relational approach to meaning construction and interpretation, our framework takes into account both cognitive and social sides of the categorization process. As noted by Mische, "What sociologists call 'structure' is intrinsically relational" (2011: 80): while categories may be seen as part of the objective reality that structures actors' action and perception, the relational approach regards this reality as embedded in the broader meaning system, which may vary by the context in question. Applying this insight to category research, we see that the meaning and boundaries of categories are defined not just by the prototypical attributes of their members but also by their relative positions in the broader meaning system. Yet this approach is also complemented by the social-cognitive approach, in the sense that these relations, once established and institutionalized, may be ingrained deeply in people's cognition and form the basis of categorization.

Our synthesis also lends theoretical purchase to the social approach to category studies. While recognizing that a category's position in the meaning system is open to reconstruction and revision, such a framework also avoids potential pitfalls that might come with an overly agentic approach, given our concurrent attention to the constraints from both the basic human cognitive processes and the broader cultural and meaning systems. This framework thus allows us to develop a more balanced view of categories.

More specifically, although our approach takes social structures—including the relations among existing categories, entities, and actors—seriously, we see our approach as more "social" than "structural." Building our core framework on structural configurations of categories, we also acknowledge the dynamic nature of such structures, which are subject to forces initiated by

interested actors. Based on this view, categories are therefore continuously remade, refreshed, and/or maintained, with a lot of skilled work by multiple actors with various interests. The structure (category system) at any point is the result of such joint work, intended or not, which again acts as the antecedent of and building block for future changes in the meaning system. Thus, while we develop our core framework by first establishing how one may assess a category's viability by studying its coherence and distinctiveness, this really is just the baseline of a broader epistemological and ontological agenda. As we proposed in the beginning of the article, we advocate moving away from taking a snapshot approach to category dynamics by only analyzing the emergence or decline of a given category at a given point in time. As suggested in the section titled "Application to Category Dynamics," our framework is useful for analyzing how categories change over time against the backdrop of the broader context, as well as how various actors may intentionally or unintentionally alter a focal category's or competing categories' position in the meaning system. This agenda is both epistemological and ontological because it allows us to answer questions regarding how categories come about, grow, and decline, as well as how one may simplify these complex and recursive processes with a parsimonious framework.

Fourth, our point that category viability requires a balanced position along both the coherence and distinctiveness dimensions also helps to address some inconsistencies in prior research. Some category traits are said to be both beneficial and detrimental to the success of a category. For example, while a large body of research holds that coherence and contrast facilitate the legitimation of categories (Hannan et al., 2007; McKendrick et al., 2003; Negro et al., 2011), some scholars have suggested that membership diversity and flexibility also benefit category emergence (Nag et al., 2007) and growth (Pontikes & Barnett, 2015). Likewise, some scholars have argued that a distinctive identity is both conducive (e.g., Rao et al., 2003) and counterproductive (e.g., Hargadon & Douglas, 2001) to category emergence. Although each of these claims has theoretical merits, such inconsistencies beg greater conceptual clarity. As Wry et al. (2011) suggested, some conditions might facilitate a category's emergence but create problematic conditions for its sustained growth. In other words, the inconsistent findings might be due partly to different foci in each study. Another potential source of inconsistency in the literature might arise from the one-sided focus on either the coherence dimension or the distinctiveness dimension, without consideration of how both dimensions jointly affect the viability of a category. Based on the premise that explaining category viability is key to understanding various phases in the trajectory of a category—be it emergence, growth, or decline—our framework helps to resolve these inconsistencies by conceptualizing a category's balanced position in terms of both internal coherence and external distinctiveness.

More fundamentally, by focusing not only on the internal composition and core attributes of a category but also on its position in the broader meaning system, we are advocating a system perspective in analyzing category dynamics and caution against a reductionist approach to the categorization process. For example, the growth of a category usually attracts new participants, imitators, or competitors from related categories, thereby affecting the boundaries of both the focal category and adjacent categories in the system. Likewise, the decline of a category may free up previously occupied ontological space, creating growth opportunities for competing categories or facilitating the emergence of new categories.[5] Categories are connected to one another in a patterned way and constitute a system; because of this interrelatedness, any category can only be understood in relation to another and as an element of the whole. We echo this view, and our framework allows one to trace the movements of various moving parts in a system with a coherent conceptual tool.

With this article we also seek to broaden the reach of category studies by connecting to other streams of research in management, organization, and strategy. As shown in our application to category dynamics, each of the proposed risks can find applications in a familiar topic in these neighboring areas of research. For example, the risk of category attenuation can be applied to problems found in studies of rapid, fadlike diffusion (Abrahamson, 1991; Abrahamson & Fairchild, 1999); the risk of category fragmentation is in line with the resource partitioning process proposed by organizational ecologists (Carroll, 1985; Carroll &

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[5] We thank an anonymous reviewer for this point.

Swaminathan, 2000; Dobrev et al., 2001), while the risk of isolation echoes some of the insights found in studies of identity construction (Jensen, 2010; Navis & Glynn, 2011; Rao et al., 2000; Wry et al., 2011). One may even link this framework to classic topics of threats of disruption and substitution in innovation studies and strategy research (Anderson & Tushman, 1990; Christensen, 1997; Porter, 1980), where the structure of a market can be analyzed through the lens of an ontological map and one can trace the rise and fall of various product or market categories with the conceptual tool offered in this article.

Limitations and Future Research Directions

We have confined the scope of this study to categories pertinent in market and organizational contexts. While we believe that many of our arguments also apply to other social categories, we were not able to explore them here because of scope and space constraints, and future research may examine more broadly to what extent this framework is helpful in explaining the change and continuity of social categories.

Further, while we believe in the value of a coherent and systematic framework for analyzing the seemingly disparate stages of the categorization process, there are also trade-offs when using a parsimonious framework, and, as a result, we have not been able to fully explore some of the nuances of category dynamics. An important factor that we do explicitly consider in this article is audience heterogeneity. For instance, in our framework we have assumed a typical audience in the field in which a particular category is embedded. As noted by Mohr (1994: 330), participants in a field where a classification system matters typically share a general (though not unanimous) sense of "what was going on" in that area of social life. We concur with this argument—that there is generally some consensus among audiences regarding a category's position in the ontological space. Yet we also acknowledge that different audiences may perceive the same category as positioned in different locations in Figure 1. In other words, the viability of a category resides in the eyes of the beholder and may vary among different groups or communities of audiences.

To explain, an important insight from cognitive psychology is that audiences with higher expert knowledge are more likely to recognize fine-grained categories (Tanaka & Taylor, 1991).

Insights from cultural sociology also suggest that specific cultural and social locations of an audience will influence a person's habitus—a system of dispositions—which, in turn, organizes the person's perception (Bourdieu, 1994), thereby affecting their understanding of a category. These arguments suggest that the viability of a category depends on the audience in question, in the sense that a category may be viable relative to one audience yet problematic to another. In general, we believe the social, cultural, or cognitive distance between a category and the audience has a nonlinear relationship to the perceived viability of the focal category: a very distant audience may not even be aware of the existence of the category or may not possess the ability to discern the level of coherence and distinctiveness of the focal category. At the other extreme, an audience with expert knowledge may not perceive the focal category as coherent or distinct enough to be viable. It should be interesting for future research to explore how the distance between a category and the audience affects the perceived viability of the category.

The point above also suggests that it is likely for a category to be facing different risks for different audiences, which implies that the "risk mitigation" strategies adopted by members or promoters of a focal category may vary by target audience. A related point is that a category may experience different risks over time, again requiring interested actors to constantly adjust and respond to the changing circumstances. While we have hinted at these possibilities in our discussion of category dynamics, it is beyond the scope of this article to fully develop these ideas. In fact, not only intercategory and intracategory relations can shift over time; the distance between a category and an audience—and, hence, the perceived viability of the category—is also subject to change. In future research scholars may want to investigate how categories can face different risks over the life course—for example, whether there are specific combinations or sequences of risks that are more likely to arise for particular types of categories as they grow and mature, or how audience perceptions might change in an evolving ontological space as a function of changing relations within the category system.

To counterbalance the current literature's relatively little attention to how categories may decline, we have devoted more space to how a category may fall out of use than to how a category

may stay viable over time. Our discussion in Table 1 offers insights on this latter matter to some extent, but in future research scholars may want to more systematically examine how a category can take different paths to (re)gain viability. One way of doing so is to conduct a thought experiment by contemplating the reverse direction of each of our sample paths. For example, the path to isolation, when walked in reverse, is the path to viability by gaining recognition. This can happen if category members focus on lowering both coherence and perceived distinctiveness, such as allying with members from other categories to reduce the perceived distance from other categories and from the target audience, or by framing the emerging category as part of a broader, established system through storytelling (Lounsbury & Glynn, 2001; Wry et al., 2011) or other boundary expansion and growth strategies (Grodal, 2018). As another example, for a category that has experienced the risk of attenuation, interested actors may regain viability by adopting boundary-policing and -strengthening strategies aimed at increasing coherence and distinctiveness simultaneously, while being careful not to fall into the trap of overtightening the boundaries. For instance, Lee, Hiatt, and Lounsbury (2017) documented how a pioneering standards-based certification organization, CCOF, managed the tension between boundary expansion and boundary clarity during the emergence of the "organic" market category. We believe that our understanding of category dynamics can be enriched by considering in more ways how categories may stay viable despite shifting circumstances. Engaging research on institutional entrepreneurship (DiMaggio, 1988) and institutional work (Lawrence & Suddaby, 2006) may offer valuable insight for this purpose.

Another limitation of this article is that we do not explicitly consider the influence of the institutional contexts a category is embedded in. A large body of literature has documented that different institutional domains tend to be marked by different institutional logics (Thornton, Ocasio, & Lounsbury, 2012)—that is, different "formal and informal rules of action, interaction, and interpretation that guide and constrain decision makers" (Thornton & Ocasio, 1999: 804). As Durand et al. (2017: 13) noted, institutional contexts impact categorization through shared norms, assumptions, and practices. Different institutional logics may thus dictate different preferences for distinctiveness versus coherence; some fields might be more tolerant of very flexible categories than others, or some may put a greater emphasis on boundary clarity than others. In fact, most contemporary organizations reside in a pluralistic environment that features multiple and even conflicting prescriptions for appropriate behavior (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). The market logic, for example, is often intersected with other institutional logics, such as the professional logic (as suggested by our example on TQM) or even the religious logic (as alluded to in our discussion on Nouthetic counseling). While our section on application to category dynamics sheds some light on how such situations may create pressures for category members to act or react in certain ways that may be in line with one logic but potentially at odds with another, in future research scholars may want to explore how category members may navigate such institutional complexity.

We also acknowledge that our framework has not considered the normative implications of a category's status, valence, or desirability. From this perspective, category viability is more closely related to such concepts as cognitive and pragmatic legitimacy, but not normative legitimacy (Suchman, 1995). While we have conceptualized category viability in terms of a category's usefulness in acting as a boundary marker and boundary object, we have not theorized about the relationship between category viability and legitimacy in this article; future research may consider how a category's viability relates to its legitimacy on different dimensions. While it might seem intuitive that a more viable category is more likely to have both cognitive and normative legitimacy, this is not necessarily the case. For example, compared to a stigmatized category, a positively valued category is more likely to attract a greater number of entrants and/or imitators, making it harder to maintain an internal coherence and external distinctiveness. Market categories such as marijuana or tobacco have been able to maintain their coherence and distinctiveness partly owing to their stigmatization.

Conversely, one may also imagine a highly coherent, highly distinct category occupying an exclusive domain, although it may not be considered useful for coordination by most typical audiences in the field (Kennedy & Fiss, 2013). This would suggest that positive and negative valence may create interesting dynamics for category

viability, and we encourage future research to further explore how these conditions may interact with the external and internal structure properties of a category in affecting its viability. In fact, this point is also related to our discussion on institutional logics above. Different institutional environments mostly likely have different normative standards in judging legitimacy, and a category that enjoys positive valence in one institutional environment may be viewed negatively in another context. Moreover, actors who identify differently with different logics or values may also have different reactions to the same category. It should be interesting to explore normative implications in different contexts.

Finally, our framework relates primarily to the domain of categories and their relationships; as such, it focuses primarily on the noosphere in which categorization takes place. Our point here is not to deny the sociotechnical and economic forces affecting the survival of product or market categories but to provide a counterweight to such prior research that has largely neglected the role of categories and categorization in the broader literature of market and industry evolution (e.g., Abernathy & Utterback, 1978; Gort & Klepper, 1982). That said, we do see opportunities for further research in how the attributes of the entities being categorized may influence categorization. In particular, certain characteristics or affordances (Gibson, 1979; Hutchby, 2001) would appear likely to affect category viability by either enlarging or reducing the zone of viability. In this regard, Gallotti and Michael suggested that while materiality may not be as important for certain abstract entities, such as money, "materiality is of far greater relevance for some artifacts, such as telescopes and screwdrivers" (2014: 2). In particular, the presence of material affordance enables both identification and action, which will, in turn, enhance the effect of category distinctiveness and coherence. Accordingly, we see a need to further explore the ways categorization and materiality interact in mutually constitutive ways.

Conclusion

This study adds to organization theory by moving beyond the presumption that categories and classification systems are durable to offer category viability as a theoretical approach for analyzing factors that determine whether categories are at risk of falling out of use. Following the call for an ontological turn in categories research (Kennedy & Fiss, 2013), the viability construct treats continued existence of a category as a question rather than as a given, and our framework for analyzing viability takes a relational approach to the problem by defining viability in terms of intracategory and intercategory relations that determine coherence and distinctiveness, respectively—the construct's key factors. By calling attention to the question of viability, we hope this provides a useful starting point for research exploring not only why and how categories emerge or fail to emerge but also why some remain useful for sensemaking, analysis, and coordination while others fade from use.

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Jade Y. Lo (yl663@drexel.edu) is an associate professor of management at the LeBow College of Business, Drexel University. She received her Ph.D. from the University of Southern California. Her research aims to understand dynamics of categories and institutions in the marketplace and the emergence of new industries or organizational fields.

Peer C. Fiss (fiss@marshall.usc.edu) is a professor of management and organization at the Marshall School of Business, University of Southern California. He received his Ph.D. from Northwestern University. He is interested in how meaning structures shape organizational actions, how they change, and how accounts framing and justifying practices are constructed.

Eunice Y. Rhee (rhee@seattleu.edu) is an assistant professor of management at Seattle University. She received her Ph.D. from the University of Southern California. Her research explores how organizations influence audience evaluations and, in turn, market outcomes by strategically managing the meaning systems using categories, frames, and evaluation criteria.

Mark T. Kennedy (mark.kennedy@imperial.ac.uk) is an associate professor in the Business School at the Imperial College London. He received his Ph.D. from Northwestern University. His research focuses on the emergence of new markets and industries and the more basic building blocks of organizing, such as categories, identities, forms, and strategies.