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Shared Identity Schemas Shape Incumbent Responses to New Entrants

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Abstract. An outstanding question in research on competitive strategy is what determines the strength and type of strategic response that incumbents deploy against new entrants. We argue that strategists' assessment of threat from new entrants and their choice of strategic reactions depend on the shared identity schema in their field. Position of new entrants across identity categories indicate whether they pose a competitive threat within the same identity-based niche or outside it and whether they threaten to erode the incumbent's category's social value relative to other categories. Potential reactions to these threats can also be classified according to whether they protect or enhance the value that incumbents create and capture through their membership in their identity category. Matching identity-relevant strategic actions to the type of threat that new entries pose, we argue that incumbents (1) employ identity-deepening tactics in response to competition in their identity-based niche; (2) use identity-extending tactics in response to competition outside their niche; (3) respond to categorical identity threats by affirming their identities; and (4) are less likely to respond to either competitive or identity threats that originate from new entrants that do not clearly fit in the shared identity schema. We find support for our predictions in analyses using data on the population of Turkish universities over a 30-year period. We discuss theoretical implications for ecological and socio-cognitive studies of markets and practical implications for predicting patterns of strategic interaction and disruptive potential of new entrants.

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Keywords: organizational identity • competitive strategy • managerial and organizational cognition • strategic positioning • organizational ecology

Introduction

An outstanding question in research on competitive strategy is what determines the strength and type of strategic response that incumbents deploy against new entrants (Charitou and Markides 2003, Wang and Shaver 2016, Eggers and Park 2018, Uzunca 2018). Studies demonstrate that the relative positioning of incumbents and new entrants in category systems is an important factor: incumbents react more strongly to entrants that imitate strategies characterizing their own strategic groups (Caves and Porter 1977) and they may deploy different actions in response to entrants that compete in different market categories (Smith et al. 1997, Ethiraj and Zhou 2019, Chang and Sokol 2020). Incumbents embedded in their categories may be blinded to novel competitive threats and fail to act quickly or strongly

enough in response to them (e.g., Tripsas and Gavetti 2000, Sandström et al. 2009). Anticipating greater disruption by entrants spanning unusual combinations of industry categories, stock markets devalue incumbents that face such entrants more than incumbents whose new rivals are categorically typical (McDonald and Allen 2021). However, there exist counter-examples of incumbents taking well-reasoned and well-timed actions that enhance and extend capabilities in response to potential disruption, even among notoriously inertial organizations such as universities that were once forecasted to be left behind by new forms of organizations offering online education (Sørensen and Carroll 2021).

We propose that strength and type of incumbent reactions to new entrants can be predicted by considering how incumbents' and entrants' categories relate to

one another within the shared identity schema of their field. Categories frequently define collective organizational identities by referring to forms, such as “a bank” or “a cannabis dispensary,” or subforms, such as “an Islamic bank,” “a medical cannabis collective,” “a craft brewer” (Hsu and Hannan 2005). The shared identity schema of a field contains templates that define membership criteria for organizational identity categories that decision makers and audiences believe to exist in that field (Hsu and Hannan 2005). This “menu of available organizational forms embedded in cultural knowledge” (Whetten 2006; p. 225) can shape perceptions and cognitions of decision makers, directing their attention to certain rivals and not others (Porac et al. 1989, Porac et al. 1995, Peteraf and Shanley 1997) and impacting their strategies for value creation and capture through “competitive sensemaking” (Cattani et al. 2017, Cattani et al. 2018).

We consider two ways in which position of new entrants in relation to shared identity schema of a field can inform incumbents’ perceptions of threats to their capabilities for value creation and capture. First, identity categories define *strategic positions* of organizations *vis à vis* each other, delineating *identity-based niches* within which organizations claiming membership in the same category try to engage with and appeal to the same audience, competing within the parameters of the same identity template (Carroll and Swaminathan 2000, Hannan et al. 2007). Thus, incumbents can use new entrants’ positions’ in the shared identity schema to assess whether they pose a *competitive threat* within the same niche or outside it.

Second, membership in identity-based categories is a *strategic resource* (Dobrev 2007, Pontikes and Kim 2017). Identity categories impart social value on member organizations (Sharkey 2014), prompting new organizations to associate their organization with categories that have higher social worth (Durand et al. 2007, Granqvist et al. 2013, Kodeih et al. 2019). Incumbents can use the shared identity schema to assess whether entries signal a *categorical identity threat*—an indication that their own category is losing social standing relative to other categories.

The particular response that an incumbent will display against competition and categorical identity threats can be predicted by considering how its strategic actions might impact the value that the incumbent creates and captures thanks to its identity positioning. Prior research shows that decision makers evaluate strategic actions as appropriate or not, based on whether they conform to their category’s identity template (Tripsas 2009, Hsu et al. 2018, Irwin et al. 2018). We expand on this idea by developing a typology of identity-relevant strategic actions we find in the literature, based on whether these can affirm, deepen, or extend the value that incumbents derive from their identity categories. *Identity-affirming* tactics highlight

an organization’s membership in a particular category, typically by emphasizing its adoption of the category’s distinguishing features. For instance, Islamic banks pay zakat (religious tithe) to demonstrate their religious credentials (Syakhroza et al. 2019, Paoletta and Syakhroza 2021), medical cannabis dispensaries emphasize the therapeutic uses of their products (Hsu et al. 2018), and craft brewers use product labels that display an antimass-production ideology (Verhaal et al. 2015). *Identity-deepening* actions develop and enrich an organization’s identity-based resources within the parameters of its identity category’s template. Often, these involve product differentiation, as illustrated by Islamic banks developing new sharia-compliant financial products (Syakhroza et al. 2019), medical cannabis dispensaries adding high-CBD products to their menus (Hsu et al. 2018), or craft brewers producing multiple varieties of craft beers (Verhaal et al. 2015). *Identity-extending* actions attempt to enhance an organization’s identity by adding features that will be recognized and valued across categories, such as Islamic banks’ emphasis of sustainable investments to appeal to secular customers (Gümüşay et al. 2020), medical cannabis dispensaries’ advertisement of superior customer service (Hsu et al. 2018, 2019), and craft breweries’ promotion of their environmental work (Jones and Harvey 2017).

Matching these identity-relevant strategic actions to the type of threat that new entries pose, we argue that incumbents (1) employ identity-deepening tactics in response to competition in their identity-based niche; (2) use identity-extending tactics in response to competition outside their niche; (3) respond to categorical identity threats by affirming their identities; and (4) are less likely to respond to either competitive or identity threats that originate from new entrants that do not clearly fit in the shared identity schema. In testing these predictions on three decades of data on Turkish universities, we rely on the existence of a shared identity schema with particularly high agreement around templates for “ancestral” categories—categories that serve as models for new entrants and are likely to be used as benchmarks by audiences (Topaler et al. 2021). Hypothesis tests and supplemental analyses of incumbent behavior in ancestral categories support our arguments.

Our findings substantiate prior theory that incumbents respond to salient threats through actions that are aligned with their identities. They elaborate prior theory by showing that a shared identity schema informs which threats have salience and which strategies incumbents choose to deploy against a particular threat. Our hypothesis tests and supplemental analyses also contribute to an explanation for why certain threats may be more disruptive than others. It is new entrants’ position in relation to shared identity schema (rather than their feature similarity to incumbents) that drives incumbent responses. As a result, new entrants and novel dimensions of value

that originate outside the parameters of shared identity schema may gain support and strength before incumbents deploy an appropriate response, while innovations that originate within recognized categories elicit attention and some reaction.

Related Literature and Hypotheses

Studies document a wide range of strategic responses that incumbents display against new entrants, such as increases in capacity (Ethiraj and Zhou 2019), price cuts (Chang and Sokol 2020), decreases in quality (Prince and Simon 2015), increases in quality accompanied by increases in prices (Chang and Sokol 2020), changes in product features (Benner and Tripsas 2012, Seamans and Zhu 2017), introduction of new products (Jost et al. 2015, Wang and Shaver 2016), investments in R&D and innovation (Sandström et al. 2009), or imitation of strategic actions of entrants (Smith et al. 1997). In a given situation, incumbents may use one or more types of such actions, or none at all (Charitou and Markides 2003, Wang and Shaver 2016, Seamans and Zhu 2017), depending on their goals and capabilities (e.g., Ethiraj and Zhou 2019, Chang and Sokol 2020), managers' cognitive schemas that impact their perceptions of threat (e.g., Tripsas and Gavetti 2000), and histories of interaction with rivals that impact their motivations to respond (e.g., Baum and Korn 1999).

Prior research also shows that managers' perceptions of their organizations' identities can play a significant role in shaping their reaction to strategic threats. Dutton and Dukerich (1991) find that organizational members' perceptions of their organization's identity and image (members' perception of the way their organization is perceived by outsiders) can inform their motivation for responding to strategic events over time and their choices of specific courses of action. Similarly, Tripsas (2009) finds that organizational identity can serve as a perceptual filter, shaping which technological changes members notice and which ones they miss. Moreover, research on category-based identities finds that organizations' strategic actions and reactions can be predicted at the category level, because strategic alternatives are evaluated with respect to their conformity to categorical identity templates (Hsu et al. 2018, Irwin et al. 2018).

We add to this prior work by proposing that the shared identity schema of a field shapes whether managers perceive potential threats as worthy of a response and which responses they see fit to deploy against a particular threat. In what follows, we consider how strategic actions can be classified according to their potential impact on the value that incumbents create and capture through their membership in their identity category (Table 1).¹ We propose that incumbents react to new entries by matching these identity-relevant strategic actions to the type of threat

they perceive based on new entrants' positioning within the shared identity schema (Figure 1).

Incumbents Use Identity-Deepening Tactics in Response to Competition within Their Identity-based Niche

Prior research on competitive interactions finds that incumbents can respond to new rivals entering their niche by utilizing their established capabilities to introduce new products (e.g., Wang and Shaver 2016) or increase capacity (e.g., Ethiraj and Zhou 2019). We expect to find a parallel in identity-relevant strategic actions, with incumbents responding to new competitive pressure from rivals that enter the same identity-based niche by increasing offerings that can capture a greater share of the category-specific demand.

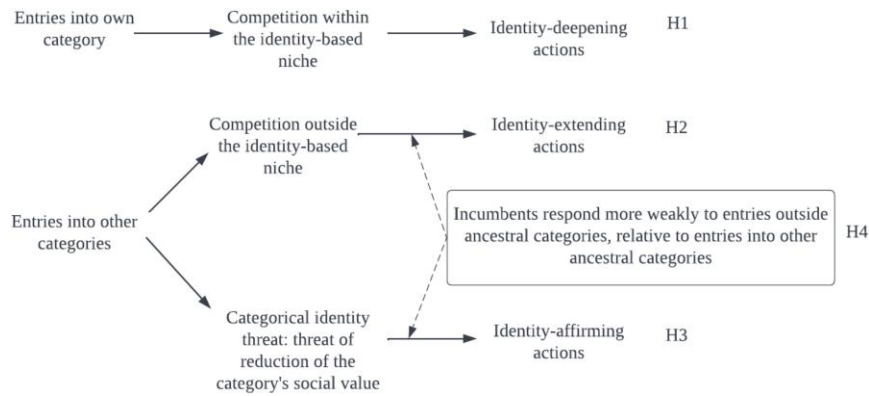
Identity categories correspond to niches in markets where consumer preferences align with identity appeal. For instance, especially in the early decades of the craft movement, microbreweries had a following among craft beer enthusiasts and operated in a specialist niche separate from the mainstream market served by large scale mass brewers (Carroll and Swaminathan 2000). Similar instances of specialist niches emerging through identity-based appeal have been documented for grass-fed versus conventional meat and dairy (Weber et al. 2008), energy (Sine et al. 2005), and micro radio (Greve et al. 2006). Even after these products enter mass markets, organizational identity serves as a principal descriptor of strategic position because the subform identity continues to create appeal (Verhaal et al. 2017). When new entrants claim the same category-based identity as an incumbent, they encroach on its identity-based niche, creating a competitive threat by increasing the number of firms that consumers in that niche will consider (Hsu and Hannan 2005, Dobrev 2007).

We expect incumbents to respond to such imitative threats through identity-deepening actions that build up an organization's capabilities and offerings within the parameters of its identity category. Our label for this type of actions makes an explicit reference to "resource deepening" actions that strengthen the existing portfolio of a firm (Karim and Mitchell 2000). Just like a firm might acquire a related business to further develop and effectively exploit a core competence, identity-deepening actions further develop and exploit an organization's existing category affiliation. Our review of the literature shows that within-niche product proliferation is a common method. Also called depth or product versioning, within-niche product proliferation involves augmenting the quantity of different variants to sell in one submarket niche (Barroso and Giarratana 2013). For instance, craft breweries produce more beers with symbolic ties to local character (Schnell and Reese 2014) or different varieties of craft beers (Verhaal et al. 2015); Islamic banks offer more types of sharia-compliant products (Syakhroza et al. 2019);

Table 1. Types of Strategic Responses in Relation to an Incumbent Organization's Category and the Broader Identity Schema in the Field: Examples from the Literature

Market category and identity	Key features in identity code	Identity-affirming tactics	Identity-deepening tactics	Identity-extending tactics
Large, mass production breweries	large size, mass-production	1994 Anheuser Busch television commercial that stated: "We used to be a microbrewery too. Then we got better. And better. And better. And, yeah, a bit bigger as well." (Carroll and Swaminathan 2000) 2015 Super Bowl ad presenting Budweiser as "Proudly a macro beer" (Jones and Harvey 2017)	Promote brand associations for existing products (Day and Schoemaker 2005)	Develop low-carb and alcohol-free beers for customers interested in healthier products (Day and Schoemaker 2005)
Craft breweries	small size, craft-based methods of production, local character	Advertise commitment to sourcing local ingredients (Schnell and Reese 2014; Jones and Harvey 2017) and use of craft methods (Carroll and Swaminathan 2000) Strategic use of product names: product names and images on labels that reference and promote local ties (Schnell and Reese 2014); oppositional naming of products to ally with antimass-production ideology (Verhaal et al. 2015)	Consumer-education events (Jones and Harvey 2017) Within-niche product proliferation: produce more beers with symbolic ties to local character (Schnell and Reese 2014); produce different varieties of craft beers (Verhaal et al. 2015).	Promote environmental work (Jones and Harvey 2017)
Medical cannabis dispensaries	sell cannabis for therapeutic uses	Make identity claims that show "a clear medical orientation, as reflected in explicit references to the therapeutic functions of cannabis, diseases, symptoms, and medical conditions, as well as general references to medicine and patient care." (Hsu et al. 2018)	Within-niche product proliferation: add more medicinal (high-CBD) products to their menus (Hsu et al. 2018).	Advertise new preference dimensions such as customer service approach, convenience of access, or product quality (Hsu et al. 2018, 2019).
Islamic banking	offer Sharia-compatible financial products	Pick identity-revealing names like "Medical Marijuana Couriers" (Khessina et al. 2021). Have a sharia supervisory board (Syakhroza et al. 2019) Make zakat (religious tithe) payments (Syakhroza et al. 2019, Paolella and Syakhroza 2021).	Within-niche product proliferation: offering more types of sharia-compliant products (Syakhroza et al. 2019)	Advertise corporate responsibility, accountability, and sustainable investment to also appeal to secular customers (Gümüşay et al. 2020)
Movie theaters	films projected on a large screen for an audience in the theater	Emphasize symbolic value of going to the cinema, such as glamour and fantasy (Corbett 2001)	Invest in conventional dimensions of competition: better films, better services, better marketing (Kim and Mauborgne 1997)	Invest in "megaplex" theaters located outside of the city center, with ample parking and operating at much larger scale (Kim and Mauborgne 1997)

Figure 1. Strategic Responses of Incumbents to Market Entry: Theoretical Model



medical cannabis dispensaries add more medicinal (high-CBD) products to their menus (Hsu et al. 2018); and restaurants affiliating with nouvelle cuisine introduce more exemplary dishes (Rao et al. 2003). Like Apple releasing advanced models of its MacBook laptops or Coca Cola new types of carbonated beverages, within-niche product proliferation can bolster the competitive advantage an organization gains from its current identity position within its category.

Note that identity-deepening actions may typically involve product differentiation but not all product differentiation is identity-deepening. For instance, if craft brewers introduce new types of mainstream style beers or if Islamic banks introduce products that are not specific to Islamic banking, these would be product differentiation but not of the identity-deepening kind, because they do not entail differentiation on dimensions of value that are relevant for that identity category. In other words, what is identity deepening for one category is not likely to be so for another category, even though they might involve product differentiation in both.

Hypothesis 1. *Incumbents use identity-deepening tactics in response to entry of new organizations into the same category.*

Incumbents Use Identity-Extending Tactics in Response to Competition Outside Their Identity-based Niche. Identity-deepening tactics, designed to appeal to audiences within a particular identity-based niche, are unlikely to be effective when competing with organizations in other categories. Incumbents that are faced with entries into other categories may instead try to compete through identity-extending actions—by adopting new identity-relevant features that are not part of the template for their category but carry positive identity value within the shared identity schema of the field. Like other examples of vertical differentiation (Lancaster 1979, Prince and Simon 2015, Zuckerman 1999), these enhancements can increase capabilities of the organization to compete with organizations outside its niche, but, as a

special case, by creating appeal on the basis of identity. Analogous to resource-extending investments, identity-extending actions represent path-breaking change (Karim and Mitchell 2000), though we expect organizations to enhance their identities by adding features that can complement the existing identity template or enhance it in novel ways, not challenge or create an inconsistency with it. For instance, craft breweries can advertise their sustainable production efforts (Jones and Harvey 2017); Islamic banks can try to appeal to secular customers by promoting their corporate responsibility, accountability, and sustainability (Gümüşay et al. 2020); and medical cannabis dispensaries can try to cater to preference dimensions such as customer service, convenience of access, or product quality (Hsu et al. 2018, 2019).

Hypothesis 2. *Incumbents use identity-extending tactics in response to entry of new organizations into other categories.*

Incumbents React to Categorical Identity Threats by Using Identity-Affirming Tactics. In addition to marking boundaries around identity-based niches, categories confer symbolic value on their members (Dobrev 2007, Pontikes and Kim 2017). This value originates in a category’s cognitive legitimacy (Suchman 1995, Ruef and Scott 1998, Hsu and Grodal 2015), its normative legitimacy (Scott 1995, Suchman 1995, Ruef and Scott 1998), its status (Sharkey 2014), and its valence or currency (Kennedy et al. 2010, Delmestri and Greenwood 2016). Thus, whether categories convey high social value or not ultimately depends on cultural beliefs of stakeholders such as customers and investors (Kennedy et al. 2010, Negro et al. 2015, Chatterji et al. 2021), as well as audiences that are not engaged in a direct relationship with the organization (Hsu et al. 2018). These are subject to change (Pedeliento et al. 2020), sometimes to the detriment of category members (Hsu and Grodal 2021). We define “categorical identity threat” as the risk of erosion of the appeal that a category carries and can confer on its members. As with “identity-referent threats” (Whetten 2006) or “organizational identity threats” (Ravasi and

Schultz 2006), organizations facing categorical identity threats risk loss of social standing. As a specific case, however, the risk originates at the category level.

While various events can precipitate a categorical identity threat, we focus on the potential impact of new entrants. (In supplemental analyses, we examine reactions to category-blending actions by rivals in other categories.) New entrants into a field can pose a categorical identity threat if they join categories that are distinct from the incumbent's category. Prior research in ecology finds that while organizational forms may transfer legitimacy from the growth of related or similar other forms (Carroll and Swaminathan 2000, Dobrev et al. 2006), growth of dissimilar and unrelated forms may be interpreted as an endorsement of those in comparison with the incumbent's category and therefore a signal of decreasing comparative value for the focal form (Carroll and Swaminathan 2000). Desirability of category-based identities can diminish if audience preferences for the features that characterize these identities decline (Kennedy et al. 2010, Delmestri and Greenwood 2016). Thus, incumbents may perceive a challenge to the identity value of their category, especially if new entrants have an oppositional stance (Hsu and Grodal 2021) or if they differ in technology or business model (McDonald and Allen 2021). In particular, they may experience this as a type of substitution threat, a competence-destroying development in the competitive identity landscape.

We argue that incumbents will deploy identity-affirming actions in response to such categorical identity threats. Identity-affirming actions are those that emphasize the most characteristic, distinguishing features for membership in a category that serve as a "test code" for membership (Whetten 2006, Hannan et al. 2007, Negro et al. 2015). Through identity-affirming tactics, organizations strengthen their distinguishing features and/or make them more salient to their audiences, thus reiterating their conformity to the category's template and reminding the audience of categorical boundaries between the organization and its rivals. Many examples of identity affirmation in the literature involve symbolic and communicative actions. For instance, craft breweries advertise their commitment to distinguishing features of their category, such as sourcing local ingredients (Schnell and Reese 2014, Jones and Harvey 2017) and use of craft methods (Carroll and Swaminathan 2000); sometimes picking product names that reference "small-scale production, artisanality, exclusivity, authenticity, and quality" to emphasize their "anti-mass-production ideology" and "perceptually reinforce their membership in an organizational form" (Verhaal et al. 2015; p. 1481). Meanwhile, mass brewers promote their large size and the consistency and accessibility of their products (Carroll and Swaminathan 2000, Jones and Harvey 2017). Islamic banks advertise their sharia supervisory boards and zakat (religious tithe) payments (Syakhroza et al. 2019, Paoella and

Syakhroza 2021), medical cannabis dispensaries emphasize their medical orientation (Hsu et al. 2018), and traditionalist wineries showcase their use of large barrels on their labels (Negro et al. 2011). Prior work finds that such identity affirmation influences audience perceptions of legitimacy and worth for the organization (Carroll and Swaminathan 2000, Verhaal et al. 2015, Hsu et al. 2018).

There are several reasons incumbents may use identity-affirming actions in response to categorical identity threats. First, they may see this as a way to defend the value of their category. Prior research shows that identity-affirming tactics can help overcome even extreme categorical identity threats, including stigma. For instance, Khessina et al. (2021) find that cannabis dispensaries were able to dispel the stigma around their category by exposing their identities to the public through identity-revealing names such as "Medical Marijuana Couriers." Second, even as the appeal (and perhaps status) of their category declines, incumbents can hope to benefit from the cognitive and normative legitimacy the category still carries or the remaining positive worth associated with it. When faced with a threat, emphasizing categorical associations that are still legitimate can help organizational members maintain both personally and externally favorable perceptions (Elsbach and Kramer 1996). Third, incumbents may strengthen their association with the category to compete more successfully for customers that are still interested in the category. Even as a category gets substituted by another, a core group of customers may remain interested in its value proposition, making retrenching in the existing niche a viable tactic (Adner and Snow 2010). In addition to these potential benefits, identity-affirming tactics may be used despite being seen as outmoded (Ashforth and Mael 1996), lacking any immediate instrumental benefit (Syakhroza et al. 2019), or foregoing opportunities that are inconsistent with the identity (Hsu et al. 2018), because they provide a sense of continuity in times of change or because organizations are likely to fall back on well-known scripts when faced with significant threats (Ashforth and Mael 1996, Sasaki et al. 2019). We thus predict:

Hypothesis 3. *Incumbents use identity-affirming tactics in response to entry of new organizations into other categories.*

Note that both identity-affirming and identity-deepening actions operate on features that are relevant for a categorical template, but the former reinforce the distinguishing features of membership, while the latter are not a necessary condition for membership. For instance, producing beers in a variety of recognized craft styles demonstrates mastery of the craft and thus constitutes an identity-deepening strategy (Verhaal et al. 2015; p. 1474) but is not necessary for being recognized as a craft brewer. A craft brewer can be perceived as a legitimate and authentic member of its category even though it produces a few products (e.g., Davis 2013). Though,

the two types of strategic actions are likely to be used in concert if firms face an imitative competitive threat *and* a categorical identity threat. Indeed, previous studies of identity-based reactions to rivals have tended to focus on threats from other-category-rivals entering an incumbent's category, which pose, simultaneously, a competitive threat and a categorical identity threat (e.g., Verhaal et al. 2015, Syakhroza et al. 2019).

Our empirical focus on reactions to new entries allows us to tease apart the differential use of these two types of tactics according to whether the incumbent faces a competitive threat within the same identity niche or a categorical identity threat. In terms of Phillips and Zuckerman's (2001) two-stage model of competition, identity-affirming and deepening tactics can be seen as respectively targeting the first stage of audience evaluations (about which producers belong into a category) and second-stage audience evaluations (about which organizations within the category are more competent). When targeting customers who have already chosen the category, organizations need to differentiate from similar rivals to increase their share of the category-specific demand. Entries into the same category may in some cases make the incumbent's position in its category more precarious, thus triggering identity-affirmation, but we think the primary response will be identity-deepening. Conversely, identity-deepening will be less useful when the value of a category is called into question. Thus, while incumbents can use multiple tactics, we expect to see identity-deepening in response to same-category entries (Hypothesis 1), and identity-affirmation in response to other-category entries (Hypothesis 3).

Incumbents Display Weaker Responses to Entrants That Do Not Fit in the Shared Identity Schema. We have argued that incumbents interpret the degree of competitive and categorical identity threats posed by new entrants and choose appropriate strategic reactions through the lens of a shared identity schema. This elaborates on socio-cognitive perspectives in strategy research, which show that decision makers use categorical schema to classify other organizations as rivals, orient to them as they partner in value creation and bargain over value capture, and determine courses of action as they reposition their strategies (Porac et al. 1989, 2011; Porac and Thomas 1990; Reger and Huff 1993; Fiegenbaum and Thomas 1995; Porac et al. 1995; Rindova et al. 2012; Cattani et al. 2017; Cattani et al. 2018). According to this perspective, incumbents may not realize the severity of threat from new rivals, business models, or technologies if managers' mental models fail to direct their attention to novel stimuli (e.g., Tripsas and Gavetti 2000, Kaplan et al. 2003, Eggers and Kaplan 2009). More specifically, perceptions of threat are driven not only by resource similarity or niche overlap of entrants but by the familiarity of their identities (Tripsas 2009).

Expanding on this prior work, we argue that the 'sharedness' of an identity schema is an important factor to consider. Incumbents are likely to use a *shared* identity schema to determine their reactions to market entrants, both because strategists' understanding of their market is likely to overlap with the shared schema and because strategists are likely to expect audiences and rivals to act on the shared schema. Prior research shows that organizations regulate their strategic behavior with an awareness of how audiences classify them (Irwin et al. 2018). Categorical templates that are known to be shared by evaluators, taken for granted by audiences, or supported by formal institutions become "categorical imperatives" (Zuckerman 1999, Whetten 2006). Thus, a schema that is consensual and is known to be consensual is likely to have a stronger impact on incumbent behavior.

At the core of identity schema are likely to be ancestral categories (Topaler et al. 2021). Not only are these categories associated with institutionalized identity templates that have high cognitive legitimacy and taken for grantedness (Pólos et al. 2002, Patvardhan et al. 2015), but they also provide a particularly salient benchmark for evaluation and action (Dobrev et al. 2006, King et al. 2011), being used as points of reference by incumbents and new entrants alike (Topaler et al. 2021). Typically established in the early history of an organizational field (such as craft and industrial forms of labor unions (Hannan and Freeman 1987)) and well-known regardless of changes in their popularity (such as craft breweries, whose popularity has waxed and waned over history (Carroll and Swaminathan 2000)), ancestral categories occupy a central place in identity schema. Accordingly, there is likely to be greater consensus on their templates.

For incumbents in ancestral categories, entries into other ancestral categories are presumably easier to comprehend than entries into new, emerging categories, because categorical templates provide a clear indication of which organizations belong and which do not (Ruef and Patterson 2009). Conversely, threats that are hard to classify according to ancestral categories may be unnoticed or overlooked. Competition from new entrants that do not clearly belong to any of the ancestral categories will be hard to evaluate, as the degree of overlap these organizations have with an incumbent's identity-based niche will be hard to assess. The extent of categorical identity threat may also be unclear, as new categories themselves may not have yet converged on a particular configuration of features that are recognized as a clear template (King et al. 2011). We therefore expect that all else being equal, incumbents are less likely to respond to new organizations that locate outside ancestral categories than to those that join other ancestral categories.

Hypothesis 4. *Incumbents are less likely to respond to competitive or categorical identity threats from new entrants outside*

ancestral categories. That is, Hypotheses 2 and 3 will be weaker when entrants locate outside ancestral categories, relative to when they locate in other ancestral categories.

Note we cannot predict *ex ante* whether entries into or outside other ancestral categories pose a greater threat. Degree of categorical identity threat increases with the difference between the incumbent's and the new entrant's category, peaking if they are oppositional. Prior research includes examples of both ancestral (Carroll and Swaminathan 2000, Verhaal et al. 2017) and emerging (Sine et al. 2005, Greve et al. 2006, Weber et al. 2008, McKendrick and Hannan 2014) oppositional categories whose growth poses a categorical identity threat. Degree of competitive threat increases with niche overlap and with strength of new competitors in terms of resources and capabilities they command. This too, could be higher or lower for entries into versus outside ancestral categories.

Threat of disruption, which is often revealed *ex post*, refers to changes in the competitive landscape that undermine incumbents' advantage because incumbents do not respond to them in a timely manner, whether because they do not perceive them, do not want to respond to them, do not know how to respond, or are not able to execute a response. Thus, even though we expect the threat from new entrants in other ancestral categories and outside ancestral categories to be similarly challenging on average *ex ante*, Hypothesis 4 implies that threats originating outside ancestral categories will cause more disruption *ex post*, because incumbents are less likely to respond to them.

Empirical Context and Study Design

We test our hypotheses on the population of universities in Turkey, using longitudinal data from 1983 to 2014. This was a mature field at the start of our observation period, with a consensual identity schema that defined three ancestral identities. Over the course of our study, the number of universities grew from 19 to 160, with most new universities emulating one of the ancestral identities. For each year in our observation period, we measure university features to locate new universities *vis a vis* the three ancestral categories and track identity-relevant strategic actions of incumbent universities. This allows us to run panel regressions that estimate incumbents' actions as a function of market entries in the previous year(s).

This context has several advantages for testing our arguments. First, universities compete partly on the basis of their identities, meaning that their identities are relevant to audiences. Second, a centralized system of university admissions supports a shared identity schema by creating a high level of transparency in the field, with information on university features published and disseminated to the public every year. Information about

universities that are being founded and their intended features are also publicly available (as they are reported in daily newspapers and other media) and closely followed by university faculty. Third, the strategic actions we observe can plausibly be seen as strategic reactions to entrants and other competitors in this field. Universities cannot prevent other universities from being established, making preemptive moves against potential entrants infeasible. Moreover, there is no other form of higher education organization that competes with universities. All new entries in this field are *de novo*, meaning that there is no history of interaction between incumbents and entrants. Fourth, even though new entrants may pick their strategic position at founding partly on the basis of density of organizations in each category and possibly also on the history of incumbent reactions to prior entries, we are able to examine how heterogeneity of entrants across categories might affect our hypothesis tests.

The Shared Identity Schema

The question of how to determine categorical boundaries in a population of organizations has been a subject of debate (e.g., Cool and Schendel 1987, Barney and Hoskisson 1990, Ketchen and Shook 1996). The so-called "infinite dimensionalization" problem refers to the existence of many organizational feature dimensions and there being no theoretical limit to the number that can be used to define organizational identities (McKelvey 1975, Cattani et al. 2017). We take a two-pronged approach to this problem.

First, an institutional history of the field helps us identify ancestral identity categories in the field and their historically significant characteristics that can be used to differentiate them from one another and from newer categories (Dranove et al. 1998). Histories of the field point to three ancestral identity categories that emerged early in the history of Turkish higher education. The earliest to be established were the *Classical* universities, modeled after European universities with their characteristic feature being a wide disciplinary range of faculties, typically including professional schools like medicine, business, and law, in addition to sciences and humanities. *Technical* universities were established to produce engineers for the modernizing nation and continued to put greater focus on technical disciplines, even as they incorporated other disciplines. *American-modeled* universities, established after the Second World War, with increasing American influence in the Middle East, were known for and recognized by their use of English as the primary language of instruction. These three distinct identities were implicitly institutionalized during a legislative overhaul that introduced a common regulatory framework for all universities in 1981.² Befitting our characterization of them as being ancestral, they continued to serve as templates for most new universities,

even as the rate of new university establishment accelerated after the early 1990s.

Second, we validate the continued relevance of these ancestral identity categories and the salience of their characteristic features in interviews with two primary audiences: faculty members in universities and high school counselors. Faculty members are not only core employees of universities but also main decision makers, in their roles as leaders and administrators. High school counselors are a key subset of outside stakeholders as they play an active consulting role in high school students' university choices. They are knowledgeable about universities and experienced in comparing them to one another from the "consumer" point of view. Because we define a shared identity schema as being shared by the audience at large, data on categorical perceptions of both internal and external stakeholders are useful for evaluating similarity of schema across these two subsets of the audience.

We interviewed ten faculty members with varying levels of experience, in different academic disciplines, employed by universities in several different cities; and ten high school counselors also with different levels of experience, working in different cities, and in different types of schools. Online Appendix 1 provides further details on the sample and on our interview procedure. In interviews using card-sorting techniques, each informant named identity categories and their associated core features. A cultural consensus model that we applied to the card sorting data shows a high degree of consensus about the ancestral categories and universities' membership in them (Online Appendix 1). Informants also had substantial agreement on the three diagnostic features that define ancestral categories, with a Cohen's kappa statistic of 0.75. Given that findings from these twenty interviews fully validated what we expected on the basis of historical sources and our own observations of the field, we did not seek to do more interviews.

In addition to the three features that distinguish ancestral identities from the rest, informants indicated features that they see as relevant for defining identities, such as research orientation, orientation to quality (rather than quantity) in teaching, private versus public ownership, and location in large cities versus in provincial towns. They used some of these features to describe newly emerging identity clusters outside ancestral identity categories or to make further distinctions among universities in ancestral categories. We find high agreement on the importance attributed to these features, except on research orientation. While faculty saw this as being relevant for organizational identities, high school counselors did not.

Data Sources

Data on all universities in Turkey for each year between 1983 and 2014 were collected from five sources: (1) the

manual of higher education programs published annually by the Student Selection and Placement Centre (ÖSYM), which lists quotas for every undergraduate degree program in every university, together with information on geographical location, language of instruction, and admission scores from the previous year; (2) the Law on Organization of Higher Education Institutions (*Yükseköğretim Kurumları Teşkilatı Kanunu*, No. 2809); (3) annual higher education statistics published by the Higher Education Council (YÖK), which include information on number of faculty members and number of students; (4) grant program statistics published by The Scientific and Technological Research Council of Turkey (TÜBİTAK); and (5) exchange student statistics published by Turkish National Agency.

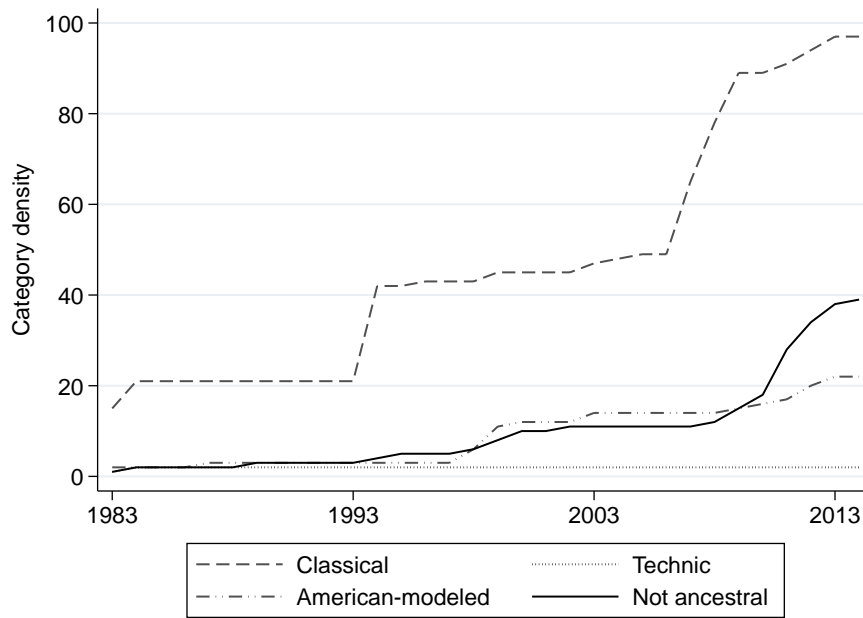
Regression Sample

As we have shown above with examples, identity-relevant strategic actions in each field can only be defined through its shared identity schema and the category templates within it. Identity-affirming or deepening actions necessarily build on the incumbent's own categorical template; and identity-extension tactics, which build on features that can appeal across categories, are found within the parameters of the broader identity schema. This prevents us from studying incumbents that are outside any categories, or even those in newly emerging categories, whose distinguishing (and other) features are hard to detect. Therefore, like other studies of identity-relevant strategic actions (e.g., Verhaal et al. 2015, Hsu et al. 2018), we limit our analyses to incumbents in established, in this case, ancestral, categories. Moreover, because identity affirming and deepening actions are necessarily different for each ancestral category, we use separate models for incumbents in each ancestral category to test Hypotheses 1, 3, and 4.

In order to classify universities, at their founding, into (or outside) one of the ancestral categories, we performed cluster analysis on annual measures of distinguishing features (i.e., disciplinary range of faculties, specialism in technical disciplines, and instruction in English). Online Appendix 2 provides details about the procedure. Note that our approach to measuring categorical memberships rules out membership in multiple categories. Universities that exhibit characteristics of multiple ancestral categories are classified as being outside them. This is consistent with how our informants saw these organizations—as hybrids that did not belong to an ancestral category. It leads to a more liberal interpretation of what constitutes a deviation from ancestral templates, thus creating a more conservative set up for testing Hypothesis 4.

Figure 2 shows the density for each of the ancestral categories and the number of new organizations that positioned outside them throughout our study period. In 1983, there were 19 universities in Turkey, 18 of which

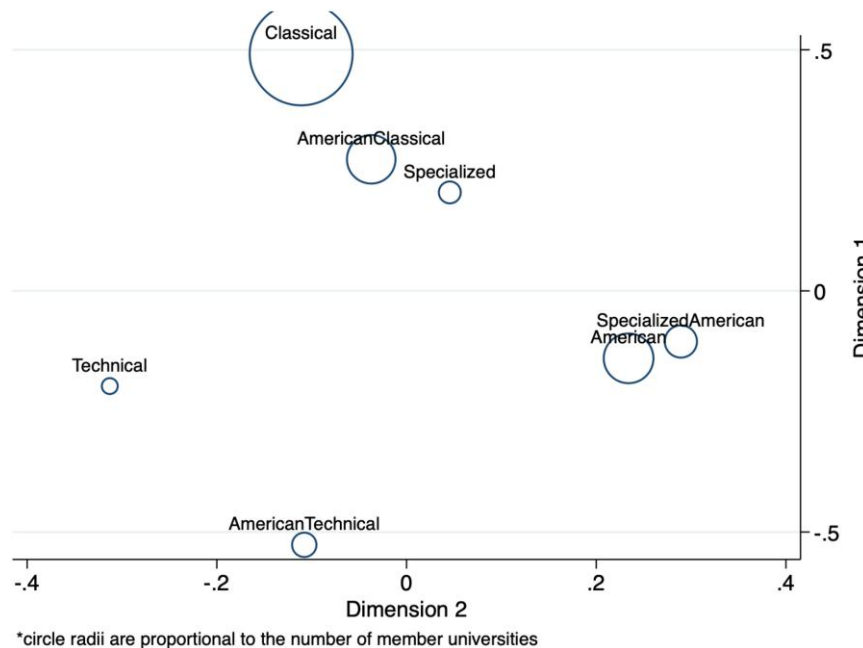
Figure 2. Number of Universities in Each Ancestral Category and Outside Ancestral Categories



were positioned within the three ancestral identity categories. One hundred thirty-one new universities were established until 2014, 103 of which were categorized in one of the three ancestral identity categories in our cluster analysis (which we ran on the distinguishing features for these three categories). The remaining 38 entrants fell outside ancestral identity categories, across two categories that hybridized ancestral features and two categories that were entirely novel. Figure 3 shows the relative

proximity of each category (by collapsing distances based on the three distinguishing identity features into two dimensions) in 2014. As can be seen in this graph (and others (available from the authors) that we drew for other years in our study period), ancestral categories remained distant to one another while nonancestral categories tended to emerge in close proximity to an ancestral category. As a result, new entrants into other ancestral categories were on average more distant to

Figure 3. (Color online) Positions of Ancestral and Nonancestral Categories in Identity Space (Multidimensional Scaling on the Basis of Ancestral Categories’ Distinguishing Features)



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Table 2. Ancestral Categories in Turkish Higher Education, Their Key Features, and Types of Strategic Responses Examined

Category	Key features in identity code	Identity-affirming tactics	Identity-deepening tactics	Identity-extending tactics
Classical	Disciplinary range of faculties	Increase number of disciplines represented across faculties	Addition of new programs	Increase investments in research capabilities; Quality orientation in teaching
American-modeled	Instruction in English	Increase programs taught in English	Exchange programs in English	
Technical	Focus on technical/engineering faculties	Increase focus on technical faculties	Addition of new programs in technical faculties	

incumbents than new entrants outside ancestral categories. Our analyses include only incumbents in ancestral categories and define incumbents as universities with at least five years of tenure. Universities outside ancestral categories or those that enter an ancestral category during the last five years of our observation period enter our analysis only as entrants and never as incumbents. No university closed during this period.

Dependent Variables. Table 2 summarizes our operationalization of identity-based strategic responses for our context. We measure identity-affirming actions by the degree to which universities manifest distinguishing features of their category. Distinguishing features are disciplinary range (number of disciplines represented among the 12 that are officially recognized by the Interuniversity Assembly) for the Classical category, focus on technical faculties (proportion of faculties in engineering and architecture fields) for the Technical category, and programs taught in English for the American category.

Identity-deepening actions, for Classical universities, are measured as the average number of programs they offer across their faculties. Offering a greater variety of degree programs constitutes an identity deepening action for this category, which has at its core the provision of many different types of programs within the same university. We use a similar measure for Technical universities, though coding only the average number of technical programs per faculty as an identity-deepening tactic. (Because the Technical category remained with the same two members throughout our study period, we cannot test Hypothesis 1 concerning identity-deepening actions with this category. We do, however, use this dependent variable in some supplemental analyses.) For incumbents in the American category, we use investments in exchange programs with foreign universities, which complement and enrich these universities' focus on English-language education. Lacking data on number of exchange programs, we rely on the number of students that participate in these programs. While

there is high demand for exchange programs and they are available in many universities, the number of students that are able to participate in each university is driven by the university's focus on its exchange operations and the funding it secures and allocates for these operations.

We consider two types of identity-extending actions. As we noted above, our informants reported some features that they see as relevant for organizational identities but not associated closely with any of the ancestral categories. Among these were research orientation and orientation to quality (rather than quantity) in teaching. While always a core part of all universities' missions, neither dimension attracted attention as a potential identity marker until the central regulatory body and other authorities started producing rankings in the early 2000s that quantified these dimensions and rated universities on them. By the time we interviewed informants, some saw these dimensions as characterizing some of the newer categories or some subsets of incumbents in ancestral categories. Accordingly, we use these as measures of identity extension, examining whether incumbents in ancestral categories exhibited a stronger orientation toward research or quality in teaching when faced with new entrants. We measure orientation to quality in teaching with the faculty-student ratio, which was mentioned as a mark of quality in teaching by our informants. This is correlated highly ($r = 0.91$) with the ratio of associate or full professors to students and gives the same results in analyses. We measure research orientation with the proportion of doctoral students among all students. The size of graduate programs is widely seen as a sign of research orientation. We also use a second measure for research orientation: applications to the various grant programs that were started by The Scientific and Technological Research Council of Turkey (TÜBİTAK) in 2003. When YÖK started to use TÜBİTAK funding as a measure of quality in its ranking systems, this became a salient signal of research orientation. We use a measure of applications for grants rather than approvals or subsequent publications because this

likely captures early stages of orientation to research better than the latter.

Independent Variables

We measure market entry into identity categories, using *number of organizations founded in the incumbent’s category* and *number of organizations founded in other categories*. In order to test Hypothesis 4, we divide the latter into *number of organizations founded in other ancestral identity categories* and *number of organizations founded outside ancestral identity categories*. The classification of new entrants into categories relies on the cluster analysis we perform on annual data, as we described above. We lag these variables by one year. Incumbents are likely to learn about potential entries a couple years before new entrants start admitting students (marking the date of entry in our data), because each founding requires government approval. Therefore, a one-year lag in practice corresponds to incumbents having several years to respond. Using entries in the previous three years yields the same pattern of results.

Estimation and Model Specification

We estimate panel regression models in Stata 16 (StataCorp 2019), using OLS for continuous dependent variables, negative binomial models for counts, and fractional logit models for proportions. Fixed effects at the organization level control for incumbent characteristics and category-level factors that are stable and may be unobservable yet have an impact on strategic actions. We control for *university size* (measured as number of total students) to account for the possibility that university growth drives strategic actions (except in models for faculty member and doctoral student ratios, which use this variable in the construction of the dependent variable). We use fixed effects for each year to control for potential period effects, such as secular trends in demand for certain features or influence from regulators and ratings.

Results

Table 3 displays descriptive statistics for the unbalanced university-year panel of incumbents in ancestral identity categories (78 in Classical, 2 in Technical, and 14 in American-modeled).

Estimates of identity-deepening actions in Table 4 support Hypothesis 1: incumbents in both Classical and American categories engaged in identity-deepening actions in response to same-category entries (Model 1: $\beta = 0.28, p = 0.007$; Model 2: $\beta = 0.57, p = 0.000$). We cannot test this hypothesis for the Technical category incumbents because this category received no new entries.

In Table 5, we examine identity-extending actions—in the form of investments in research and teaching—by incumbents in all ancestral categories. As predicted

Table 3. Summary Statistics and Pairwise Correlations

Variables	N ^a	Mean	St. Dev	min	max	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
(1) Identity-affirming feature (Classical): Disciplinary range of all faculties	954	8.17	1.68	4	12	1.00												
(2) Identity-affirming feature (Technical): Proportion of technical faculties	51	0.74	0.15	0.33	0.91	-0.39	1.00											
(3) Identity-affirming feature (American): Number of programs in English	178	19.92	9.33	0	38	-0.33	0.30	1.00										
(4) Identity-deepening feature (Classical): Average number of programs per faculty	954	4.03	1.02	1	8	-0.04	0.02	0.48	1.00									
(5) Identity-deepening feature (American): Number of students going on exchange	123	90.34	96.89	0	411	0.18	0.19	0.17	0.33	1.00								
(6) Identity-extension: Teaching quality (ratio of faculty members to students)	1,183	0.10	0.07	0.01	0.41	-0.27	0.42	0.33	0.15	0.26	1.00							
(7) Identity-extension: Investment in research (proportion of PhD students)	1,183	0.02	0.03	0	0.20	-0.17	0.40	0.45	0.40	0.37	0.68	1.00						
(8) Identity-extension: Investment in research (number of grant proposals)	667	64.09	65.53	0	374	0.34	0.10	0.04	0.29	0.65	0.29	0.54	1.00					
(9) Number of students (divided by 10,000; $t - 1$)	1,183	0.55	0.38	0.02	2.21	0.63	-0.29	-0.31	0.21	0.36	-0.26	-0.04	0.49	1.00				
(10) Number of organizations founded in the incumbent’s category ($t - 1$)	1,183	2.75	4.85	0	21	0.15	-0.14	-0.13	0.03	0.03	-0.07	-0.08	0.02	0.15	1.00			
(11) Number of organizations founded in other categories ($t - 1$)	1,183	3.5	4.28	0	22	-0.10	0.15	0.28	0.05	0.27	0.08	0.04	-0.01	-0.04	-0.09	1.00		
(12) Number of organizations founded in other ancestral categories ($t - 1$)	1,183	1.55	3.02	0	21	-0.19	0.21	0.30	0.03	0.10	0.09	0.08	-0.03	-0.17	-0.13	0.79	1.00	
(13) Number of organizations founded outside ancestral categories ($t - 1$)	1,183	1.95	2.63	0	10	0.06	0.01	0.11	0.05	0.31	0.02	-0.02	0.03	0.13	0.01	0.72	0.14	1.00

^aN: number of observations in each subsample, based on the categories included in analyses.

Table 4. Tests of Hypothesis 1: Incumbents’ Use of Identity-deepening Tactics in Response to New Entries

	Identity-deepening tactics		
	Classical: number of programs per faculty (OLS)	American: number of students going on exchange (Negative binomial)	
		Model 1	Model 2
Number of universities founded in the incumbent’s category ($t - 1$)	0.28* (0.10)	0.57* (0.05)	0.64* (0.06)
Number of universities founded in other categories ($t - 1$)	-0.04 (0.03)	0.30* (0.02)	-0.01 (0.01)
Number of students (divided by 10,000; $t - 1$)	0.12 (0.14)	0.21 (0.69)	0.21 (0.69)
Proportion of English language programs offered by new entrants in other categories ($t - 1$)			9.85* (0.92)
Year fixed effects	Yes	Yes	Yes
University fixed effects	Yes	Yes	Yes
Intercept	3.56* (0.15)	-0.08* (0.41)	0.29 (0.39)
Observations	954	123	123
Number of universities	78	14	14
R^2 (within)	0.20		
F-stat	8.19*		
Wald χ^2		672.56*	576.01*

Note. Standard errors are in parentheses.
 * $p < 0.05$.

in Hypothesis 2, we find that incumbents increase their faculty-to-student ratio, increase their focus on doctoral programs, and submit more grant applications in response to growth of other categories (Model 1: $\beta = 0.06$, $p = 0.000$; Model 3: $\beta = 0.06$, $p = 0.002$; Model 5: $\beta = 0.08$, $p = 0.000$).

Estimates of identity-affirming actions in Table 6 show partial support for Hypothesis 3. Incumbents in the Technical category react to entries into other categories by using identity-affirming tactics (Model 3: $\beta = 0.03$, $p = 0.000$). The reaction by American-modeled incumbents is weak (Model 5: $\beta = 0.15$, $p = 0.08$) while Classical universities do not engage in identity affirmation at all (Model 1: $\beta = -0.01$, $p = 0.690$).

We test Hypothesis 4 by comparing the estimated coefficients for identity-extending and identity-affirming reactions displayed against entrants into other ancestral categories versus entrants outside ancestral categories. In Table 5, new entries into other ancestral categories elicit stronger identity-extension relative to entrants outside ancestral categories, thus supporting Hypothesis 4 (Model 2: $\chi^2 = 6.55$, $p = 0.01$; Model 4: $\chi^2 = 14.23$, $p = 0.000$; Model 6: $\chi^2 = 82.12$, $p = 0.000$). In Table 6, identity-affirmation by Technical universities is stronger in reaction to entrants into other ancestral categories relative to entrants outside ancestral categories (Model 4:

$\chi^2 = 6.36$, $p = 0.01$), while there is marginal difference for incumbents in the American-modeled category (Model 6: $\chi^2 = 2.64$, $p = 0.10$) and no difference for incumbents in the Classical category (Model 2: $\chi^2 = 0.48$, $p = 0.490$).

While we had not hypothesized about identity-affirming and identity-enhancing responses to same-category entries or identity-deepening responses to other-category entries, it is interesting to reflect on these estimates. We find that American-modeled incumbents used identity-deepening tactics in response to other-category entrants (Table 4, Model 2), even though we would expect these to be ineffective as reactions to extra-niche competition or categorical identity threats. We suspect these reactions may have stemmed from the partial adoption of English language programs by new entrants that located outside the American category, which possibly created perceptions of intrusion into the niche. In a *posthoc* test (Model 3), we find that adding a control for English language programs offered by new entrants in other categories accounts for this response. In other words, identity-deepening reactions of American incumbents to other category entrants appears to have been driven entirely by the latter’s adoption of the former’s distinguishing feature. In Table 5, we see that incumbents in all categories used identity-extending tactics in response to same-category entrants. These reactions were about as strong as those against entries into

Table 5. Tests of Hypotheses 2 and 4: Incumbents' Use of Identity-extending Tactics in Response to New Entries

	Identity-extending tactics (same for incumbents in all ancestral categories)					
	Orientation to quality in teaching: ratio of faculty members to students (Fractional logit)		Orientation to research: proportion of PhD students (Fractional logit)		Orientation to research: grant proposals (Negative binomial)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number of universities founded in the incumbent's category ($t-1$)	0.06* (0.01)	0.16* (0.04)	0.06* (0.02)	0.44* (0.11)	0.09* (0.01)	0.53* (0.05)
Number of universities founded in other categories ($t-1$)	0.06* (0.01)	0.15* (0.04)	0.06* (0.02)	0.44* (0.11)	0.08* (0.01)	0.52* (0.05)
Number of universities founded in other ancestral categories ($t-1$)		-0.06 (0.04)		-0.42* (0.12)		-0.36* (0.04)
Number of universities founded outside ancestral categories ($t-1$)						
Number of students (divided by 10,000; $t-1$)					0.38* (0.09)	0.38* (0.09)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
University fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-2.91* (0.09)	-2.91* (0.09)	-5.63* (0.17)	-5.63* (0.17)	2.37* (0.13)	1.93 (0.14)
Observations	1,183	1,183	1,183	1,183	654	654
Number of universities	94	94	94	94	81	81
Log pseudolikelihood	-270.36	-270.36	-82.87	-82.87		
Deviance	6.09	6.09	4.88	4.88		
Wald χ^2					447.06*	447.06*

Note. Standard errors are in parentheses.

* $p < 0.05$.

Table 6. Tests of Hypotheses 3 and 4: Incumbents' Use of Identity-affirming Tactics in Response to New Entries

	Identity-affirming tactics					
	Classical: disciplinary range of faculties (Negative binomial)		Technical: proportion of technical faculties (Fractional logit)		American: number of programs with instruction in English (Negative binomial)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number of universities founded in the incumbent's category ($t - 1$)	0.11 (0.06)	0.11 (0.06)	n/a	n/a	-0.34 (0.24)	-0.05 (0.07)
Number of universities founded in other categories ($t - 1$)	-0.01 (0.02)	-0.03 (0.05)	0.03* (0.01)	0.12* (0.04)	0.15 (0.08)	0.15 (0.08)
Number of universities founded in other ancestral categories ($t - 1$)		0.004 (0.01)		-0.08* (0.04)		0.004 (0.01)
Number of students (divided by 10,000; $t - 1$)	0.05 (0.08)	0.05 (0.08)	0.89 (0.52)	0.89 (0.52)	-1.05 (0.65)	-1.05 (0.65)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
University fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	17.94 (119.01)	19.90 (184.53)	1.17 (0.19)	1.17 (0.19)	3.28* (0.18)	3.28* (0.18)
Observations	941	941	51	51	178	178
Number of universities	65	65	2	2	14	14
χ^2	36.71	36.71			349.37*	349.37*
Log pseudolikelihood			-17.97	-17.97		
Deviance			0.12	0.12		

Note. Standard errors are in parentheses.

* $p < 0.05$.

other ancestral categories and weaker than those against entrants outside ancestral categories. In Table 6, we observe Classical category incumbents to weakly respond to entries in the same category (while they did not respond to other-category entrants as we had hypothesized). Based on our understanding of the context, we conjecture that both effects may have been due to the huge growth the Classical category experienced during this period, especially in the provinces. This would have validated the appeal of the category in comparison with other ancestral categories while also possibly challenging its categorical template (as provincial location came to be seen as a relevant identity marker and a lower status one). In additional analysis (available from the authors) where we divide Classical entrants into those that were in the three large cities versus the provinces, we find that Classical incumbents engaged in identity-affirmation in response to the latter but not the former.

Robustness Checks

Our models control for unobserved heterogeneity at the university level and at the year level through fixed effects. They also control for university size, which may potentially drive the use of strategic actions. In supplemental models that control for lagged incumbent performance (measured by university selectivity in admissions), we find no appreciable difference in results. Models that count entries over the previous three years (instead of the previous year) also replicate the results reported above. Note that these analyses do not rule out the effect of omitted variables at the category-year or university-year level that could be correlated both with entries and with incumbent reactions. For instance, we cannot statistically rule out the possibility that institutional pressures acted on particular categories in certain periods, leading them to use identity-extending tactics. We suspect this to be unlikely, based on our knowledge of the context. By law, decisions of the Higher Education Council are binding for all universities. Moreover, all public universities, regardless of category, depend on government funding. There is no reason to expect that there would be differential pressures on them to adopt certain actions.

In order to examine a potential alternative explanation pertaining to Hypothesis 4, that entrants outside ancestral categories may be less resourceful and therefore constitute a weaker threat, we compare entrants into and outside ancestral categories on observable features. *t*-tests find no difference between these groups in number of faculties, faculty members, or students at the end of their first year of operation. The only difference we find is that entrants *outside* ancestral categories had *more* publications at the end of their first year. In other words, entries into ancestral categories are no more resourceful than entries outside ancestral categories on average (Online Appendix 3, Table R1). Finally, we run additional analyses

in which we control for the average similarity of entrants to incumbents in terms of the entire set of identity-relevant features that our informants identified and we could measure (adding research orientation, quality orientation in teaching, presence of a faculty of medicine, location, and private foundation ownership to the distinguishing features of the three ancestral categories). We find that average proximity of new entrants generally leads to a decrease in use of identity-affirming and identity-extending tactics. Controlling for this variable strengthens tests of Hypotheses 2, 3, and 4 (with the identity-affirmation effect for American-modeled universities turning statistically significant). Overall, these tests provide additional evidence that the lower propensity of incumbents to respond to entrants outside ancestral categories (Hypothesis 4) does not stem from the dissimilarity of these entrants to incumbents but from their lack of fit into ancestral categories (Online Appendix 3, Table R2).

Supplemental Analyses

As we noted earlier, prior studies on identity-based responses to rivals have typically examined threats arising from rivals in other categories adopting distinguishing features of focal organizations' categories (Verhaal et al. 2015, Syakhroza et al. 2019)—presenting both a competitive threat in the identity-based niche (because the rivals can be perceived as appealing to the same audience on the basis of the distinguishing feature) and a categorical identity threat (due to rivals' violation of category boundaries). We examine whether incumbents in our sample respond to such rivalrous behaviors by engaging in both identity-deepening and identity-affirming tactics. As we surmised, we find that in all three ancestral categories, incumbents responded to universities in other categories adopting the distinguishing feature of their own category by engaging in both identity-affirming and identity-deepening tactics (Online Appendix 4, Table S1).

Our finding above that incumbents are less likely to display identity-extending moves in response to entries outside ancestral categories (Table 5) suggests a refinement of prior studies on disruption, which find that incumbents may not realize the severity of threat from new rivals if managers' mental models fail to direct their attention to them (e.g., Tripsas and Gavetti 2000, Kaplan, et al. 2003, Eggers and Kaplan 2009). In supplemental analyses, we examine if this disregard for new entrants outside ancestral categories varies by cohort. We expect that decision makers in older incumbents may underestimate threats from new types of entrants because the identity schema that they hold is more deeply anchored in the categorical templates of ancestral categories. Older organizations have longer histories of interacting and competing with organizations in ancestral categories. This experience is likely to be encoded in routines

(Miner et al. 2008) and imprinted on cognitive maps of individuals socialized into the organization (Higgins 2005), thus having long-lasting effects. As new categories emerge and templates of existing ones evolve, identity schema that is used in older organizations may be updated more slowly and become outdated (Hsu et al. 2019). Conversely, decision makers in younger incumbents that made their first strategic positioning choices more recently are likely more attuned to emerging identities and the changing identity landscape. We test this by using incumbents' founding year as a moderator. Interacting the number of new entrants outside ancestral categories with focal university's founding year, we find that younger cohorts of incumbents invested more on all forms of identity-extension (faculty-student-ratio, doctoral programs and grant applications) in response to entries outside ancestral categories (Online Appendix 4, Table S2).

Discussion and Conclusion

Incumbents can react to new organizations in a variety of ways. We have argued that researchers equipped with the knowledge of shared identity schemas can predict strength and type of incumbent reactions by classifying entrants and strategic actions that can be used against them according to their potential impact on the value that incumbents derive from their category-based identities. Our framework based on category-based identities is a useful addition to prior theories of competitive dynamics for several reasons. First, it elaborates strategic implications of prior work showing that membership in a valued identity category is a type of strategic resource, in that organizations derive competitive advantage from categories that are associated with high social worth (e.g., Sharkey 2014). The value of this resource, which depends on social validation, may decline due to, among other things, growth of other categories, prompting incumbents to use identity-affirming tactics. We find partial support for this hypothesis for incumbents in Technical and American categories but not those in the Classical category. Supplemental analysis of Classical incumbents' response to growth of their category in the provinces suggests that categorical identity threats can arise even as a category grows, if new entrants are associated with lower status identity markers. Future studies may improve on our study by examining if strength and type of strategic responses vary according to rankings of categories by social worth or status, their relative proximity to one another, or oppositional stance.

Second, our research design focusing on incumbents' responses to new market entries adds to the literature on strategic interactions. By focusing on reactions to entries, we can show that identity-affirming actions

and identity-deepening actions are more likely to be used in response to identity and competitive threats respectively. In contrast, when we examine incumbent responses to category-blending activities (which presumably pose both identity and competitive threats), we replicate prior findings that these two tactics are used together (Verhaal et al. 2015, Syakhroza et al. 2019). Future studies may further examine the trade-offs and complementarities between identity affirming, deepening, and extending actions. For instance, prior work finds that deployment of some strategic actions may lead firms to cut back on other costly actions (Simon 2005, Wang and Shaver 2016). An identity-based perspective may find more reasons for strategic actions to be used as complements or substitutes, possibly depending on the interactions between features that define categorical templates.

Third, our study speaks to research on disruption. Unlike identity affirmation and identity deepening, which respectively reinforce and elaborate on feature dimensions that associate an organization with a recognized category, identity-extending actions provide a potential avenue for organizations to expand their target scope. We reasoned that they can be particularly useful when incumbents are faced with new entrants in other categories. Prior literature finds that incumbents are more likely to lose their competitive advantage in response to novel sources of value creation when these do not fit the existing mental models of managers (Tripsas and Gavetti 2000, Kaplan et al. 2003, Eggers and Kaplan 2009). Our findings show the significance of shared identity schema for these mental models, by demonstrating that incumbents are less likely to respond to potentially disruptive elements that originate with outsiders to the identity schema than they are to respond to threats from other categories within the schema, even if these outsiders resemble incumbents in their overall features more than they resemble rivals in other categories. Moreover, we find that incumbents are just as likely to attempt identity extension in response to entries into their own categories, as they are in response to entries into other ancestral categories, suggesting that even entries that can be seen as endorsements of the focal category may prompt identity-extension. These results are consistent with the pattern we observe in US higher education, where online education has been seen as a potential source of disruption since the late 1980s, one that could undermine institutions that primarily focus on degree programs delivered through in-person instruction. Parallel to what we find in our data, universities were more likely to adopt online education technologies not in reaction to virtual community colleges (first of which was established in 1976), in response to corporate models, or even after University of Phoenix (founded in 1989) had granted more than 370,000 degrees (Gumport and Chun 1999),

but after nonprofit universities and especially higher status ones started doing it.

Fourth, our study builds on and expands socio-cognitive and ecological studies of markets by demonstrating that identity schema frame the relevance of organizational features for marking niches and as a basis for strategic actions. We predict and find that distinguishing features of ancestral categories play a special role: incumbents reinforce these features to affirm their category-based identities and react to rivals in other categories adopting these features. As we articulate and test in Hypothesis 4, we expect framing effects of an identity schema to be stronger for categories on which there is greater consensus (in this case operationalized as ancestral categories). An identity schema can create “common ground” (Clark 1996) for engaging in and predicting strategic action only if it is similar across market participants and is also perceived to be similar. This likely limits the generalizability of our arguments to mature markets and to markets where shared schema is not in flux. It also implies that observers interested in predicting strategic responses need to consider potential variability in schemas and categorical templates for the same type of organizations across geographic markets and in time. For instance, audience acceptance of Islamic banks as legitimate forms varied across provinces in Turkey, leading to variation in conventional banks’ strategic interactions with this new form (Koçak and Özcan 2013). Different features of craft breweries were celebrated in China as compared with the West, leading microbreweries to target local customers and expats differently (Carroll and Swaminathan 2000). Schemas can also change as institutions change (Hsu et al. 2018) or as consumer preferences shift (Hsu et al. 2019).

While our data on the shared identity schema in the Turkish higher education field allowed us to measure identity-relevant strategic actions and classify incumbents and entrants into categories, we were not able to observe and therefore did not analyze communicative and symbolic actions such as advertisements or identity claims. Future studies that examine those may identify other kinds of identity-relevant strategic actions in addition to identity-affirming, deepening, and extending ones, such as identity concealment or deception (Carroll and Swaminathan 2000). Furthermore, lack of data prevents us from examining the decision-making process through which incumbents deployed identity-relevant strategic actions against new entrants. Decision makers in universities could have been using “competitive action routines” (Luoma et al. 2020) or devising strategies in a deliberate decision-making process. The strategic actions we have studied in our context could have arisen from centralized decision making within universities or from decentralized actions by faculty and administrators in different units. They may have accumulated as

distributed actions or been the result of collective mobilization. We also do not know if some strategic actions were entertained but not deployed, perhaps because the threat was not seen as relevant to identity (Gioia and Thomas 1996, Anthony and Tripsas 2016) or because the action appeared as a “strategic taboo” (Hoon and Jacobs 2014). Future work at the “strategy-identity nexus” (Ravasi et al. 2020) can complement our research design with techniques of measuring mental maps (e.g., Marcel et al. 2011) to further examine how shared identity schema influence strategic decision making. An examination of how the degree of sharedness of schema among decision makers influences exploratory versus exploitative actions with respect to categorical identity templates can be a useful addition to studies of category leniency (Pontikes and Barnett 2015) and frame flexibility (Raffaelli et al. 2019).

Even though our arguments can be applied to a greater range of identity-relevant actions than we have studied, the applicability of our framework is limited to markets in which organizational identity is a relevant strategic concern. Markets vary in the extent to which audiences use organizational identities to evaluate producer offerings. We think that our empirical context lies somewhere near the middle of a continuum ranging from markets where identity is very important (e.g., Islamic banks and craft brewers) on the one pole and not that significant a consideration (e.g., gas stations) on the other pole. In some “identity markets,” categories are seen as oppositional (such as Islamic versus conventional banks, craft versus large scale breweries). In such markets, organizational behavior and growth can be driven by oppositional identity activation (Koçak and Carroll 2008), likely reinforcing perceptions of categorical identity threat and within-niche competition, leading to stronger responses respectively through identity-affirmation and identity-deepening. Conversely, we expect weaker effects in markets where identity does not play a significant role in value creation.

Finally, we perceive a potentially interesting avenue of research on the long-run recursive effect of strategic actions on identity schema. Prior research suggests that whether growth of new categories leads to erosion of categorical boundaries or to categorical segregation and speciation depends partly on whether incumbents respond to new entries by affirming, deepening, or extending their categorical identities (Rao et al. 2003, 2005; Negro et al. 2011; Hsu et al. 2018). If displayed by a sufficient number of organizations, identity-deepening and identity-extending actions can eventually become taken for granted as part of the categorical template. Identity-extending actions pursued by some members and not others can lead to speciation, as the use of particular kinds of barrels divided Barolo wines into two sub-categories (Negro and Hannan 2022) and the use of high quality ingredients by Shake Shack was heralded as a

distinguishing feature of the newly emerging fine casual category (Raz 2020). Future research may track changes in identity schema over long periods of time and study how these may arise from endogenous dynamics, as organizations use identity-based strategic actions in response to one another.

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Endnotes

¹ Note that the identity-relevance of a strategic action depends on the particular schema being considered. For instance, in beer brewing, production capacity separates one identity category (microbrewers) from another (large scale mass brewers). In other markets, capacity may not carry any meaning *vis a vis* the shared identity schema, despite having powerful effects on competitive advantage through relative costs.

² The new law instituted in 1981 brought universities under greater control of the government, setting up a regulatory body called the Council of Higher Education (CHE). Despite the new regulations, universities retained considerable degree of autonomy with respect to their identity-defining features, including the creation or closure of faculties, core features such as the language of instruction, and student intake. Our observation period ends in 2014, before the government started interfering more directly and more dramatically in university governance.

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