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Entry Games: Capabilities-Based Entry Decisions in
Taiwan's Generic Pharmaceutical Industry

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中文摘要

近期資源基礎理論 (RBV) 擁護的企業層面研究顯著點出公司的經驗性知識的累積對於有關進入新市場的"路徑依賴"，從那裡得來適應或“動態”能力的發展，使一個公司能夠在它的模仿者中保持領先地位，且一貫地獲取更高的收益。

然而，因為這些研究中特別給予進入市場下的資源和能力唯一性和難達成性特權，企業常常會發現自己對某些行動許下承諾時，他們往往低估競爭的景況。

此論文採用不同的方法和測試來得知組織的能力是否一定大於直接競爭對手施加的競爭壓力，尤其著重在台灣的學名藥產業在進入決策的階段時。

我們發現，在與以往的組織學習文獻以及研究學名藥策略上一致認可，基於能力的決策凌駕於競爭壓力，但這一發現可能在具有同步賽局特性的行業中會受到限制。

雖然針對行業特點，使我們能夠更好地比較基於能力的決策 (Capabilities-based entry) 和基於競爭對手的決策 (Rivalry-based entry)，同步賽局的特色就是缺乏市場之間的協調，這使得察覺—動機—能力分析法 (AMC model)，在我們的行業背景下，從動態競爭理論文獻中來看是有缺陷的且無效。

這些發現表明，未來的研究在市場進入策略上應更加謹慎，尤其是在進入賽局中，且這將如何影響進入決策的動機。他們還指出，整合基於資源的研究和從察覺—動機—能力分析法的決策中強調評估管理的需求。

關鍵字：資源基礎理論，動態能力，察覺—動機—能力分析法動，態競爭理論

Abstract

Recent firm-level research as espoused by the resource-based view (RBV) highlights the path-dependence of the firm's experiential knowledge accumulation associated with entering into new markets, whence comes the development of adaptive or "dynamic" capabilities that enable a firm to stay ahead of its imitators and consistently earn superior returns. Yet because these studies privilege the uniqueness and inaccessibility of the resources and capabilities underlying firm entry, they tend to understate the competitive context in which firms often find themselves when they commit to certain actions. This paper takes a different approach and tests whether organizational capabilities necessarily outweigh the competitive pressures exerted by direct competitors in entry decisions for Taiwan's generic pharmaceutical industry. We find that, in agreement with previous organization literature as well as the research on generic entry, capabilities-based entry does take precedence over competitive pressures, but that this finding may be limited to industries characterized by simultaneous games. Although the industry features allow us to better compare capabilities-based entry and rivalry-based entry, the absence of coordination among markets as a result of the simultaneous game feature makes the AMC model from the competitive dynamics literature defective in our industry context. These findings indicate that future research on market entry should pay more heed to the entry game context and how this will affect incentives for entry. They also point to the need to integrate resource-based research and the emphasis on managerial assessment in decision-making from the AMC model.

Keywords: Resource-Based View of the Firm, Dynamic Capabilities, Awareness-Motivation-Capability Model, Competitive Dynamics

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1. INTRODUCTION

When firms enter new markets, by definition they must develop new capabilities or alter existing ones in order to incorporate the new product into its organizational systems and successfully commercialize it (Penrose, 1959; Teece, Pisano, Shuen, 1997). Recent firm-level research as espoused by the resource-based view (RBV) highlights the path-dependence of the firm's experiential knowledge accumulation associated with entering into new markets, whence comes the development of adaptive or "dynamic" capabilities that enable a firm to stay ahead of its imitators and consistently earn superior returns (Grant, 1991; Teece et al., 1997). Yet because these studies privilege the uniqueness and inaccessibility of the resources and capabilities underlying firm entry, they tend to understate the competitive context in which firms often find themselves when they commit to certain strategies (Ndofor, Sirmon, He, 2011). That is, these studies rarely consider the deployment of resources in market entry as a competitive reaction—whether as a preemptive strike or a deliberate means of reacting to competitors' actions—even as the act of market entry itself represents a challenge to the status quo of the market process (Ferrier, 2001).

Consequently, although resource-based research has established the importance of the development of capabilities to the direction of firm growth (Lockett and Thompson, 2001), less is known about how these might weigh against competitive considerations in the form of direct competitors in the marketplace. Given the evidence in favor of this "capabilities-based postulate" with regard to market entry, a broader question that arises is: Do firms *always* make entry decisions based on their capabilities alone? A separate body of literature has incorporated resource-based logic into the study of competitive dynamics in order to identify direct competitors and to explain firms' attacks on each others' markets in terms of similarity of

resources (Chen, 1996; Gimeno, 1999; Korn and Baum, 1999; Greve, 2000; Chen, Su, Tsai, 2007; Debruyne, Frambach, Moenaert, 2010). This research emphasizes “the expectation of retaliation” (Chen, 1996) as the driving force behind competitive decision-making, such that market expansion can provide only for relative, rather than sustainable, advantage. This approach contrasts with that of the RBV, where market entry expresses a commitment to a long-run “learning trajectory” (Helfat and Lieberman, 2002). In fact, market expansion reflects not only the result of but serves also as the vehicle for the experiential learning that affects the selection and execution of organizational routines which can lead firms to repeat inimitable strategic choices over time (Levitt and March, 1988; Grant, 1991).

These studies differ in their conceptual development and analytic focus, but retain the organizational resources of the firm as the principal driver of market entry. Taken together, they suggest that there is a point in time when capabilities-based entry is more advantageous to firms strategically than rivalry-based entry and vice versa. Although strategy researchers have done much to elucidate how organizational factors contribute to entry decisions, no one has yet addressed whether capabilities-considerations do in fact take precedence over competitive ones. The abovementioned resource-based research tends to silently assume that inimitable resources must lead to inimitable actions at any point in time (Miller, 2003). Because of this, it has not yet addressed managerial perspectives on how these resources are deployed (Sirmon, Hitt, Ireland, 2007; Ndofor et al., 2011), even as managerial perspective is key to resource deployment in the Penrosian growth theory of the firm (Mahoney and Pandian, 1992).

To this end, the foundational Awareness-Motivation-Capability (AMC) Model (Chen, 1996) proves useful. The AMC model highlights managerial assessment of competitive relationships (Chen et al., 2007) that develop as a result of past attacks on markets or market

expansion activity in general. This assessment is based on how competitors' actions affect the organizational components of the AMC model, an assessment which can lead to retaliatory action by the focal firm in the rival's market. Because the AMC components derive their theoretical roots from the RBV logic, we can thus compare a so-called capabilities-based perspective of entry considerations versus a rivalry-based perspective to determine whether organizational capabilities take precedence over pressures exerted by the external competitive context.

The purpose of this paper, then, is to compare organizational capabilities and the AMC model as theoretical explanations of entry decisions. This is not the same as comparing the effects of organizational capabilities and firm-specific competitive conditions, which Henderson and Mitchell (1997) have shown to be less than fruitful, as these two are reciprocal. Rather the question is whether the causes of market entry are consistent with the principles of either organizational learning trajectories or with those of confronting and managing competitive relationships, as seen in the competitive dynamics literature, and whether these two can be at odds with each other.

We examine this question empirically by analyzing entry patterns for the top 21 companies in Taiwan's generic pharmaceutical industry. The generic pharmaceutical industry offers a unique setting in which to test our propositions because market entry is characterized here as simultaneous, as opposed to sequential (Scott Morton, 1999). Generic drug firms must sink significant costs prior to knowing when or if their application for a manufacturing license will be approved, or how many rivals have already applied for the same license. Thus, in the moment that firms begin the application process, they are characterized as simultaneously sinking their fixed costs. Post-patent generic competition, then, depends primarily on first-

mover advantages and time-to-market, such that complementary assets in the form of the establishment of marketing and distribution forces, as well as firm reputation built up over many years, become a generic drug firm's core resources in terms of new product performance (Nerkar and Roberts, 2004). As a result, our paper includes some unique considerations. As suggested by previous research on the generic drug industry, we emphasize a generic manufacturer's special relationship with medical institutions as a complementary asset and operationalize this situation as Institutional Match. This measure allows us to examine whether the relatedness between a manufacturer's portfolio and the institutional venue plays a role in attracting entry. Additionally, the feature of simultaneous entry allows us to tweak Chen et al.'s (2007) AMC model in order to better compare the two theoretical explanations of entry and to highlight its extent of its applicability in the industry context.

No one has yet considered a context in which entry decisions are made simultaneously and how this might change the incentives previously thought to drive entry. Our core insight is that in the context of simultaneous entry, capabilities tend to dominate entrants' decisions, whereas the predictions of the AMC model were found to be defective in this industry. This finding, in turn, points to the need to revisit the question of how much organizational capabilities actually determine the direction of firm expansion given different entry game assumptions. Resource-based studies on market entry principally focus on firms' previous experiences, entry modes or geographical expansion and never consider the entry game managers face. Additionally, they take as their context industries in which directed preemption and retaliation are possible, and—analogue to the capabilities-directed expansion postulate—presume that market entry on the part of the focal firm represents the lack of ability by competitors to erode its position, without ever considering the motivation behind firm behavior (Gimeno, 1999). The

assumption of simultaneous entry eliminates the option of coordinated actions across markets, and thus eliminates market entry as a retaliatory act against a specific competitor. The conventional RBV postulate of path-dependent capabilities leading to inimitable actions proves adequate in the latter context. Yet this study tentatively suggests that just as the AMC model's predictions did not hold true for this context, the RBV postulate may not always hold true for different entry games either. Accordingly, this study's central contribution to the strategic management literature is not only to test the boundaries of the AMC model, but at the same time to bring to the forefront the need to consider entry in resource-based research as part of a framework in which potential entrants' and incumbents' behavior configure into the decision.

This paper is organized as follows. The next section provides a brief overview of the focal industry and the importance of simultaneous entry to this research. The third section delves into the literary background and leads to the development of the hypotheses. The fourth section deals with the data sample and empirical specifications. The results are reviewed in the fifth section and are followed by a discussion and conclusion.

2. INDUSTRY BACKGROUND

We refer the reader to the description from Reiffen and Ward's (2005) study of the U.S. generic pharmaceutical industry as to the industry's particular institutional details. Here we highlight the distinctive features of this industry context relevant to our study. Two characteristics distinguish the generic pharmaceutical industry from other contexts used to analyze market entry. First, a market begins the moment the patent for the branded version of the existing drug expires. At this point, imitative firms can enter the market to produce the "me-too" version of the drugs, or generic drugs, which contain the same chemical ingredients as the

brand-name drugs, such that after the mandated bioequivalency tests, the generic and brand-name drugs are substitutable in achieving the same goal of treatment. Accordingly, the generic drugs compete with the brand-name drugs within the same “ingredient” market. In this way, the date at which the market opens to competitors as well as the potential revenue to be reaped are all known beforehand.

This brings us to the most notable feature for this research, namely that entry resides largely outside the control of the prospective entrant. Entry requires approval from an external regulatory agency; thus, firms must sink significant costs in the application process “prior to knowing when, or how many, rivals will enter the market” (Reiffen and Ward, 2005). Consequently, these entry decisions are considered *simultaneous*, as opposed to sequential, even if actual entry is sequential (Scott Morton, 1999). Because payoffs depend upon the number of firms in an ingredient market, an entrant’s share of the aggregate generic profits is a function of its entry timing relative to that of other generic drug producers (Scott Morton, 1999). Earlier entrants face fewer competitors initially and can sell longer, and are also more likely to recover application-related costs and earn greater profits even after more entry (Hollis, 2002; Reiffen and Ward, 2005). In this way, prospective entrants have an incentive to file an application for a manufacturing license two to three years before patent expiry in order to take advantage of the monopolist status that exists immediately after patent expiry (Scott Morton, 1999). Nevertheless, generic drug firms face “the difficult problem of how to form expectations about where others will enter” (Scott Morton, 1997).

The underlying assumptions guiding the behavior of economic actors in a market differ decidedly depending on which game most accurately characterizes the industry in question (Bresnahan and Reiss, 1991). The implications in this case are such that the current number of

generic pharmaceutical firms in the market cannot be used to predict entry patterns as they could in industries characterized by sequential entry (Scott Morton, 1999). For example, other analyses examining market entry, typically in the commuter airline industry, approach entry from the perspective of sequential games wherein competitors can adjust pricing or entry deterrence strategies depending on previous action in a market recently taken by a rival (Gimeno and Woo, 1996). In other words, firms in these industries can coordinate actions across markets in the form of retaliatory or preemptive market entry based on behavior already witnessed (Chen, 1996). In contrast, for the generic pharmaceutical industry, the industry characteristics configure a sort of “lottery” of entry (Reiffen and Ward, 2005), where generic drug firms have no way of pre-committing *ex ante* to entry, even with having submitted an application (Polidoro and Toh, 2011). Due to unexpected difficulties with bioequivalency tests, missing material, or regulatory uncertainties, approval can be delayed or simply not granted (Hollis, 2002). In brief, simultaneous entry eliminates the option of coordinated behavior.

This “one-shot” aspect of simultaneous games (Bresnahan and Reiss, 1991) should significantly impact managers’ incentives for entry and augment the primary factors that configure into the decision. Scott Morton (1999) finds that as entry costs play a dominant role in these decisions, economies of scope in distribution channels and sales relationships—that is, complementary assets—shape a large part of these decisions. As such, generic drug firms are very aware of each other’s costs, even as they are unaware which firms will actually enter which markets (Scott Morton, 1999). Accordingly, relative rather than absolute costs drive decisionmaking concerning competitors (Scott Morton, 1999), because the higher the entry costs, the later a generic drug firm can enter the market, if at all (Kyle, 2006). We now turn to how

firms might weigh these rivaling influences concerning firm competence and competitive pressures.

3. THEORETICAL BACKGROUND

3.1 Determinants of Entry

The idea that the development of a firm's capabilities directs its expansion stems from Penrose's growth theory of the firm (1959). Theorists of this school maintain that as firms learn over time, they develop excess resources in their basic activities which are both fungible and yet subject to market imperfections (Barney, 1991; Peteraf, 1993). Consequently, the most efficient way to take advantage of these resources is for the firm to exploit them internally by expanding product offerings into new markets or within existing markets (Teece, 1980).

Extant research in this area highlights the match between the market entered and the firm's pre-entry resources and capabilities as influencing market entry (Helfat and Lieberman, 2002). Because the coordination among teams of imperfectly imitable and non-substitutable resources reflects superior organizational routines (Nelson and Winter, 1982), there is necessarily some "stickiness" associated with capabilities (Grant, 1991), a characteristic which paradoxically enables a firm to consistently earn abnormal economic rents relative to those of close competitors (Barney, 1991). This stickiness also means that they are not necessarily transferable across all markets (Teece et al., 1997), such that "the existing capability set determines what external linkages are competitively viable" (Levinthal and Myatt, 1994). Capabilities develop, then, as a result of managers consistently identifying and exploiting the resources under its control and "matching" them to market opportunities such that entrants can obtain economies of scope (Nelson and Winter, 1982; Amit and Shoemaker, 1993; Lockett and

Thompson, 2001). In this way, firms can acquire external complementary resources to further develop the firm's core competences (Grant, 1991). Path-dependent capabilities are important to the RBV framework on entry because the most difficult resources to replicate are those acquired by firm-specific experience (Thompson, 2007).

Prior empirical research has broadly confirmed the Penrosian contention that entrants match their pre-entry resources and capabilities to the required resource profile of industries when making entry choices (Lockett and Thompson, 2001) and then subsequently proceed to accumulate additional resources and capabilities tailored to the new products and markets that in turn form the basis for future entry, evidencing a firm's so-called "learning trajectory" (Helfat and Lieberman, 2002; Fuentelsaz et al., 2002). In fact, this contention has been confirmed for the generic pharmaceutical industry as well. Scott Morton (1999) finds that for successful ex-patent compounds, prior technological, scientific, and marketing experiences determine which new product markets individual firms choose to enter. Nerkar and Roberts (2004) also find that prior product-market experience is a significant predictor for the performance of newly launched generic drugs. Additionally, Scott Morton (1999) points out that potential entrants were more likely to enter markets when they had greater prior experience with the same type of therapy or drug ingredients, indicative of scope economies and knowledge gained from prior R&D.

Missing in this research, however, is how the actions necessary to leverage capabilities become apparent, especially when value is created only when resources are evaluated, manipulated, and deployed appropriately within the firm's environmental context (Lippman and Rumelt, 2003). RBV assumes the development of capabilities in the pursuit of strategy to be automatic (Grant, 1991), and the actions necessary to leverage them self-evident (Barney and Arikan, 2001). Yet previous research leads one to expect that economies of scope arising from

resource-sharing activities across markets necessarily lead to encounters with common competitors over time (Penrose, 1959; Teece, 1980; Gimeno, 1999). That is, “[t]o the extent that market expansion options based on resource-sharing opportunities are sufficiently visible, competitors are likely to independently perceive the gains from the same market expansions, so multimarket contact results” (Gimeno and Woo, 1999). In effect, Ingham and Baum’s (1997) study of the failure rate of U.S. hotel chains suggests not only that firms gain experiential learning from the industry’s competitive context, but also that internal efficiency is not a sufficient condition for success when performance results depend on competitors’ actions. If the skills of top management have to be combined with resources and capabilities in order to generate rent (Castanias and Helfat, 2001), then included in those skills must be the configuring of internal efficiency considerations with the pressures exerted by competitors’ behavior with regard to the focal market opportunity.

In examining how a firm might assess these varying influences in the entry decision, we build on the literature from competitive dynamics, which emphasizes the intentionality of response to rival’s actions in the market. In this case, market entry is the result of a managerial decision to engage a competitor’s challenge (Debruyne et al., 2010), with the aim of enhancing one’s competitive position or even establishing multi-market contacts to limit competition in the future (Chen, 1996; Gimeno and Woo, 1996; Gimeno, 1999). Its theoretical foundation is the “Awareness-Motivation-Capability” model (Chen, 1996), which underscores the internal behavior of the defending organization as a central component in understanding the influence of firm competitive response in rivalrous situations (Chen and Miller, 1994). These findings reveal that multimarket contact (Chen, 1996) in addition to firm-specific capabilities (Baum and Korn, 1996) can influence entry, as well as competitive tension as perceived by the firm’s top managers

(Chen et al., 2007). Other studies analyzing entry in geographic markets find that firm capabilities predict entry, but that strategic interactions between entrants and incumbents and within the group of entrants possibly deterred entry (Fuentelsaz and Gomez, 2001).

These trends imply that not only do competitors play a critical role in entry decisions for potential capabilities-based entrants, but also that capabilities-based entry could in fact be strategically executed under different conditions from those entry decisions executed in spite of the competitive conditions. Most intriguingly, in studying firms' reactions to new product introductions through the AMC lens, Debruyne et al. (2010) find that possessing the resources to react does not mean they will in fact be deployed to react to competitors, unless resources are specifically being devoted to the analysis of competitor behavior, a characteristic they denote as "competitor orientation." Their work highlights the distinction between being in possession of resources and the actual deployment of resources, a concept which has surfaced in recent organization research (Barney and Arkan, 2001; Sirmon et al., 2007; Ndofor et al., 2011). In particular, this distinction, captured by the AMC model's premise of competitive asymmetry (Chen, 1996), places emphasis on the intentionality behind managerial decision-making and subsequent firm action.

Although both streams of literature incorporate RBV logic into their explanations of entry decisions, they tend to differ particularly in terms of how capabilities are evaluated in the entry decision. Where capabilities in the RBV are cultivated automatically within and without the firm and intrinsically direct its expansion, capabilities in the AMC model are intentionally executed as a result of their evaluation against those of direct competitors with whom the focal firm exists in a market relationship. As Gimeno and Woo suggest (1999), a focal business in certain instances may perceive that its profitability is not only dependent on its own economies of scope, but also

on its rivals' economies of scope and its competitive interaction with their rivals. Consequently, the expected outcomes and therefore the intent behind entry decisions must differ for these two different viewpoints. In fact, it is the particular features of the generic pharmaceutical industry that allows us to compare the two competing theoretical explanations. As mentioned earlier, the characteristic of simultaneous games eliminates the assumption of coordinated behavior across markets normally employed to reduce competition. In the absence of "mutual forbearance," or the competitive restraint that arises from multimarket contact, firms are likely to exhibit behavior in accordance with their competitive capability (Chen, 1996; Gimeno and Woo, 1999). Thus, we can distinguish between *capabilities-based entry* according to the RBV and *rivalry-based entry*, where direct rivals' capabilities are taken into consideration as per the AMC model, in the following section.

4. HYPOTHESES

4.1 Capabilities-Based Entry

In this section, we investigate firm entry decisions in view of the RBV, which means in exclusion of the consideration of rival capabilities. From this perspective, entry decisions for generic drug firms are strongly influenced by prior organizational experience with a product-market (Nerkar and Roberts, 2004). Building off of the work of Scott Morton (1999) and Nerkar and Roberts (2004), we categorize this experience as particular to two types: 1) technological experience with a drug in terms of the drug's various attributes, which we classify as prior organizational experience, and 2) the specialized complementary assets, especially distribution and marketing, included in a firm's product-market experience, which we will label collectively as the institutional venue.

4.1.1 The Role of Organizational Experience

The ease with which a firm can launch a new product depends on the firm's prior experience in related markets and the resource requirements of the target market (Helfat and Lieberman, 2002). This experience is captured by a firm's growing efficiency in using certain resources such that the excess thereof provides a basis for diversified expansion into markets in which the firm can redeploy its unproductive services (Mahoney and Pandian, 1992; Teece et al., 1997). Sharing these specialized and generalized pre-entry resources and capabilities across markets enables the firm to obtain economies of scope (Panzar and Willig, 1981). Accordingly, entrants tend to target industries that have resource requirements similar to the firms' pre-entry resource and capability profiles (Wernerfelt, 1984; Peteraf, 1993).

As we mentioned earlier, prior technological experience with the therapeutic class, delivery system, as well as dosage determines which niche a generic drug manufacturer will choose to enter (Scott Morton, 1999). The reason for this is that the costs of preparing for manufacturing licenses are lower if the firm already has procedures and equipment in place related to any one feature of the market opportunity. Accordingly, the more a firm's technological experience "matches" the characteristics of the focal drug opportunity, the lower the fixed costs of entry and the increase in its likelihood. In this way, generic drug firms also tend to specialize in a particular drug therapy, drug form, dosage, as approvals have to be obtained separately for each (Iizuka, 2009; Gallant, Hong, Khwaja, 2011). Scott Morton's work (1999) strongly suggests that it is the very nature of the simultaneous game with regard to entry decisions that induces specialization on both scientific and marketing dimensions by firms in order to protect against profit loss associated with overentry. She also points out that firms have incentive to enter multiple related markets in order to spread the cost of learning over several

projects (1999: 429). Iizuka (2009) corroborates her findings for the highly regulated Japanese market. He shows that economies of scope in entering multiple markets affect entry decisions and product line extension. Given the substantial confirmation of this relationship for generic drug firms in other work (Lockett and Thompson, 2001; Helfat and Lieberman, 2002; Thompson, 2007), the first hypothesis, replicating prior findings, is included for theoretical completeness of the model rather than for its original contribution.

Hypothesis 1: The higher the product match the more likely the focal firm will commit to generic entry.

4.1.2 The Role of the Institutional Venue

Prior research and anecdotal evidence suggests that the complementary assets required to support generic drug firms' specialization in selected research programs or therapeutic categories lead the firm to focus on selected medical institutions which would be served by these programs. Scott Morton notes that "[a] therapy or a product that is part of a drug family may create distribution or reputation economies of scope if the firm manufactures related products" (1991: 429). Purchasing agents for chain drugstores and hospitals or for large distributors already familiar with the manufacturer are likely more willing to stick with the same manufacturer than acquire different products from different generic drug firms (Scott Morton, 1999). Iizuka (2009) also finds that other demand-side factors which affect entry include medical institutions which in principle are more likely to substitute generics in prescribing treatment. Roberts and McEvily's study (2005) underscores that efficiency in diagnosing and resolving physicians' problems is vital to success in the pharmaceutical industry. These relationships give access to complementary assets which facilitate the introduction of new products into a particular area,

such as specific customers, established distribution channels, and area-specific reputations (Nerkar and Roberts, 2004).

Firm capabilities in distribution and marketing have been shown to be particularly relevant to the successful merchandizing of new products in the pharmaceutical industry, due especially to the fact that they play an indispensable role in the management of the timing of new product introductions (Nerkar and Roberts, 2004; Roberts and McEvily, 2005; Graham and Higgins, 2008). As having complementary assets on hand streamline production for generic drug firms by minimizing adjustment costs (Graham and Higgins, 2008), established relationships with specific types of medical institutions, be they regional clinics, hospitals, or medical centers, must certainly play a role in affecting entry. Medical institutions differ not simply according to size, but also in prescription habits, availability of specializations and expertise, and so on (Chen, Chen, and Yang, 2008), and consequently also have different demands on drug manufacturers. Therefore, we extend the previous research in proposing that generic drug firms specialize in certain institutional venues the same way they specialize on scientific dimensions. The reasons for this is that 1) capabilities developed with these institutional venues require substantial resources and time to create and 2) maintaining unproductive downstream assets is costly, such that specialization is necessary (Graham and Higgins, 2008). When assets are specialized to a particular technology, the firm is generally unable to direct the assets to alternative uses internally (Mitchell, 1989; Lieberman and Montgomery, 1998). Thus we predict that generic drug firms' entry decisions are affected not simply by product-market experience in general, but especially by the institutional experience that comes concomitantly with product-market experience. This necessarily will consist of healthcare facilities where the institutional activities closely resemble the expertise of the generic

drug firm. Thus we hypothesize that firms will enter in markets of drugs frequently prescribed by those medical institutions which possess similar operating conditions to the drugs in the entrants' portfolio.

Hypothesis 2: The higher the institutional match, the more likely the focal firm will commit to generic entry.

4.2 Rivalry-Based Entry

Whereas the first section addresses entry decisions purely in terms of the possession of resources, in the following section we turn to the external considerations of the firm in the form of direct competitors. To this end we draw on the AMC model as developed by Chen (1996) and Chen et al. (2007). According to Chen et al. (2007), the similarity of competences between firms plays a key role in the entry decision due to the fact that it heightens perception of competitive pressure between firms. Gimeno and Woo (1999) point out that if “managers are attempting to exploit economies of scope among market-units, decisions concerning these market-units will probably be more coordinated in the organization's decision-making process,” which should facilitate the perception of extended interdependence with multipoint competitors present in those markets (1999: 243). Because similar firms tend to tap the same resources in their respective task environments, they are usually competitively interdependent and thus impose great pressure on each other (Gimeno and Woo, 1996; Chen et al., 2007). In the AMC model (Chen, 1996), then, similarity of competences serves to elucidate to the focal firm's managers whether a competitor should be considered as a direct rival and consequently whether action is required against the rival firm.

This situation is especially relevant to our context industry, precisely because the option of coordinated behavior across markets—usually assumed in the aforementioned studies—is taken out of the equation with the feature of simultaneous entry games. Indeed, due to the time lapse between the application for the manufacturing license and its market introduction, alternative means of deterrence, such as investment in excess production capacity, new brand introductions, or fast moves into the market tend to be less applicable in our chosen industry context (Polidoro and Toh, 2011). Prior research indicates that the lack of effective coordination or synchronization of response undercuts the incentives for forbearance (Gimeno and Woo, 1999) and thus firms cannot influence each other’s motivation to attack (Gimeno, 1999). Accordingly, in the absence of competitive restraint, firms will exhibit competitive behavior in accordance with their competitive capabilities (Chen, 1996; Gimeno and Woo, 1999). Moreover, Gimeno and Woo (1999) find that intensity of rivalry for the focal market-unit will be higher if focal-market rivals enjoy efficiencies gained from resource-sharing opportunities with other markets in which the focal market-unit is not present.

Thus, when entry decisions take external competitors into consideration, a competitor’s competence compared to the focal firm’s, or capability to contest, is brought into the configuration, as opposed to simply the focal firm’s own resource-base. Although generic drug firms have no way of pre-committing to a market due to the application process, heterogeneous costs are known among generic drug firms, such that managers have an estimate of a firm’s own rank order of entry cost (Scott Morton, 1999). Since low relative costs are suspected to play a role in entry, we can predict that the closer a focal firm is in costs compared to competitors for a focal market opportunity, the higher the tension it will perceive vis-à-vis these competitors. That is, the more features of a focal firm’s drug portfolio find matching characteristics with the focal

market opportunity vis-à-vis competitors with similar product portfolios, the higher the likelihood that the focal firm will respond to competitive pressure. Capturing the argument above, we predict that in accordance with “similarity consideration” (Chen et al., 2007) in the AMC model, when a focal firm considers entry,

Hypothesis 3: The higher the product match relative to the focal firm’s similar competitors, the more likely the focal firm will commit to generic entry.

Analogous to Gimeno and Woo’s (1999) argument on the relationship between scope economies and intensity of rivalry, the exploitation of distribution and sales relationship economies across institutional venues could likewise lead firms to recognize their interdependence with competitors with similar relationship economies. Should the focal firm find that a competing firm is a salient player in similar institutional venues, therefore indicative of similar competitive stances, we predict that the focal firm will consider that firm to a direct competitor. That is, the more features of a focal firm’s drug portfolio find matching characteristics with the focal institutional opportunity vis-à-vis competitors with similar product portfolios, the higher the likelihood that the focal firm will respond to competitive pressure.

Hypothesis 4: The higher the relative institutional match relative to the focal firm’s similar competitors, the more likely the focal firm will commit to generic entry.

It should be accentuated that we have tweaked the AMC-model to accommodate the industry context. As the “mutual forbearance” is not viable in this context, neither do we focus on pairwise comparisons between a focal firm and its competitors as our focus of analysis. Instead, we posit that generic drug firms view competitors aggregately and thus rarely in terms of individual dyadic relationships as asserted by Chen (1996). While we assume, like Chen (1996),

that each firm brings idiosyncrasies to the market as a result of varying resource profiles and market experiences, we nevertheless argue that as market entry in the generic pharmaceutical industry presents an attack on every competitor in the market and not just one rival, so must entry decisions be made based on an assessment of competitive relationships in the aggregate.

For our research setting we chose Taiwan's generic pharmaceutical industry. Foreign multinational firms selling patented medicines for chronic conditions dominate the pharmaceutical market in Taiwan, such that these drugs account for over 60% of the market's total value. In contrast, local drug manufacturers specialize in generic medicines alone, even as the government has recently implemented a special subsidy program to encourage some firms to engage in more original research and thereby increase international competitiveness.

Since March 1995, Taiwan has had universal health insurance, also known as the National Health Insurance (NHI) program. Taiwan's health care system is comprised of two key institutional features. First, health care is publicly financed by the government, or the Bureau of National Health Insurance (BNHI), in that it provides universal insurance coverage for personal health care services, including prescription drugs (Liu, Kao Yang, Hsieh, 2011). Secondly, these services are supplied by the private sector. Along with the Pharmaceutical Benefit Scheme (PBS), the BNHI provides comprehensive coverage for prescription drugs by establishing a national formulary in which are included all pharmaceuticals subject to reimbursement (Liu et al., 2011).

The BNHI imposes direct controls on pharmaceuticals by fixing the reimbursement prices product by product. This strategy is designed to control pharmaceutical spending and targets particularly hospitals, as these represent the largest portion of pharmaceutical expenditures (Chen et al., 2008). Accordingly, the BNHI only reimburses for prescription drugs

listed in the PBS. Patients enrolled in the BNHI system cannot request drugs outside the formulary by paying price differences, such as in a reference pricing system.

5. METHODOLOGY

5.1 Data Selection

A statistical random selection process produced three active ingredients out of a data set of 60 active ingredients approved by the Food and Drug Administration under Taiwan's Department of Health (DOH) during our five-year sample period, 2002 to 2007. Because the focus of this analysis is on the comparison of drug development decisions among local pharmaceutical companies, 15 patent-expired active ingredients never introduced by any local firms during the observation window are further excluded. The active ingredients randomly chosen among the data set are: acarbose, repaglinide, and simvastatin. The first two are anti-diabetic drugs (A10BF01 and A10BX02 respectively), while simvastatin (C10AA01) is used to control elevated cholesterol levels or in the prevention of cardiovascular disease. According to the DOH, heart disease moved up to being the second leading cause of death in Taiwan in 2007, behind malignant neoplasms and in front of cerebrovascular disease.

By the end of 2008, 868 pharmaceutical firms were classified as holding "current good manufacturing practice" (CGMP) certifications and labeled as qualified drug manufacturers. However, only a few of them were active in launching new off-patent drugs. For excluding those not active in the generic market, we only include firms that have developed at least one of the selected active ingredients during 2002 to 2007, which led to a sample size of 21 local pharmaceutical companies.

5.1.1 Statistical Model and Dependent Variable

The study adopted Cox's proportional hazards model (Cox, 1972) to examine the independent variables influencing the likelihood of a local pharmaceutical company's decision to develop new off-patent drugs. This approach appropriately handled right-censored data (here, cases in which firms had not received approval for a focal active ingredient by the end of 2007). The likelihood (i.e., the hazard rate) of new drug approval received at time t for each firm is expressed as:

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{P(t, t + \Delta t)}{\Delta t} = \lambda_0(t) \exp(\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k)$$

where λ_0 is the baseline hazard function, t is the time of approval, and X_i denotes the i^{th} explanatory variable, which can be time invariant or time varying during the observation window.

The study adjusted the time frame for each active ingredient. In other words, it examined the relative drug approval timing among pharmaceutical firms for each ingredient. The base time (i.e., $t = 0$) indicates the year of the first approval of a generic drug for the focal ingredient. The dependent variable was a dummy variable indicating whether a firm received drug approval at each adjusted time period.

5.2 Independent Variables

5.2.1 Product Match

Hypothesis 1 states that the higher the product match, the more likely the generic drug firm will commit to market entry. The premise is that a generic drug manufacturer's organizational experience with some aspect of the entry opportunity lowers the cost of entry and thereby increases the probability of entry (Scott Morton, 1999; Kyle, 2006). Scott Morton's (1999) work is the only work that we know of which has directly examined the effect of a firm's

organizational experience on market entry. In order to capture a firm's organizational experience, she creates match variables by counting the number of different drugs in a firm's portfolio that share a characteristic with the current entry opportunity. For example, if a firm has the option to make a pill and its portfolio data already contains 25 pills, then the value of the "form match" variable is 25. Our approach differs from hers in that we take the generic drug firm's entire portfolio and compare each ingredient in the portfolio to the total sales projected for that ingredient's current entry opportunity. Thus, Product Match is calculated as the focal firm's proportion of sales for a specific ingredient market:

$$Dij = \sqrt{\sum_{m=1}^n \left[\left(\frac{A_{im}}{A_i} \right) - \left(\frac{A_{jm}}{A_j} \right) \right]^2}$$

where A_{im} = total sales for a specific product market operated by focal firm i

A_i = total number of ingredients contained in focal firm i 's product portfolio

A_{jm} = total sales for a specific active ingredient market

A_j = total sales for active ingredient j

m = market segment or institutional venue

5.2.2 Institutional Match

Institutional Match for Hypothesis 2 is measured with a procedure analogous to that of Product Match. Previous studies attempting to capture the unique institutional details that affect generic entry have typically focused on hospital share (Scott Morton, 1999; Iizuka, 2009). Iizuka (2009) distinguishes between hospitals and medical institutions where the function of describing and dispensing medication are separate, given that in Asian health care institutions these two functions typically reside in the same facility. Here we provide a more refined

measure of these institutional effects by including the differing institutional foci for each generic drug firm. Taiwan's Department of Health categorizes Taiwan's medical facilities into five types: medical centers, regional hospitals, local hospitals, local clinics, and psychiatric hospitals. Depending on the healthcare facility type, the specializations available, the number of beds, as well as the ability to accommodate certain patients will differ. Accordingly, we predict the demand for generic drugs will vary among these institutions. For example, we expect medical centers, with their focus on quality care and expertise, in addition to their extensive connections with academic research institutions, will prescribe fewer if any generic medicines (Liu, Kao Yang, Hsieh, 2009). This measure should better illuminate the focal firm's specialization in institutional venues along its dimensions of expertise.

5.2.3 Relative Product Match

Hypothesis 3 posits that when a generic drug firm factors in competitors in the entry decision, especially its competitors' capability to contest, it tends to commit to markets wherein its competitors' resource profiles are also applicable to the market opportunity. That is, the more similar the competitors vying for the same market opportunity in terms of competence, the more likely the focal firm will commit to entry for that market. While this argument resonates with Chen et al.'s (2007) prediction concerning the similarity of strategic endowments between firms, we mentioned previously that our research differs in that we do not adopt the dyadic relationship as the level of analysis. Because we argue that generic drug firms necessarily view competitive pressure in aggregate terms, we compare the focal firm's resource endowment with that of all other firms in terms of the same specific ingredient market. Thus, we arrive at the following measure of similarity:

$$D_{ij} = \sum_{m=1}^n \left[\left(\frac{A_{im}}{A_m} \right) \times \left(\frac{A_{jm}}{A_j} \right) \right]$$

where A_{im} = total sales for a specific product market operated by focal firm i

A_m = total sales for market segment m

A_{jm} = total sales for the specific active ingredient j in market segment m

A_j = total sales for active ingredient j

m = market segment or institutional venue

This firm-specific analysis falls in line with our argument that firms in industries which have no way of coordinating strategic interaction across markets will also not view competition in dyadic relational terms, but rather judge competitors in the aggregate when making entry decisions.

Relative Institutional Match for Hypothesis 4, likewise, is measured analogously.

5.3 Control Variables

Other variables are included to control for the effects of factors that have a well-reported influence on entry in the generic drug industry. In relation to firm characteristics, we control for *Firm age* (number of years since first established) and *Firm size*. Apart from firm-specific factors, entry incentives may also be affected by target market characteristics. *Market size* (total sales of branded ingredient) has been found to have a sizeable effect on entry decisions in the generic pharmaceutical industry, thus we include it in our research. As drugs which treat chronic illnesses have also been known to attract entry (Scott Morton, 1999), *Chronic* was included in the initial analysis, but due to problems of multicollinearity, this variable was omitted in the analysis which led to the following results.

TABLE 1
Means, Standard Deviations, and Correlations

Variables	Mean	s.d.	Min	Max	Dep. Var.	1	2	3	4	5	6	7
<i>Dep. Var.: Entry Decision</i>	0.05	0.23	0	1	1							
1. <i>Product Match</i>	0.05	0.09	0	0.58	0.23*	1						
2. <i>Institutional Match</i>	1.74	0.18	1.11	2	-0.05	0.02	1					
3. <i>Rel. Product Match</i>	0.01	0.04	0	0.34	0.15*	0.06	-0.1	1				
4. <i>Rel. Instit. Match</i>	0.03	0.02	0.01	0.09	0.15*	0.09	0.32*	0.29*	1			
5. <i>Firm Size: Log of Sales</i>	20.24	0.65	19.05	21.87	0.21*	0.15*	-0.03	0.34*	0.86*	1		
6. <i>Market Size</i>	31.81	14.7	12.87	55.28	0.02	-0.27*	-0.17*	0.31*	0	0.01	1	
7. <i>Firm Age</i>	32.58	9.13	9	52	0.1	0.07	0.20*	0.02	0.42*	0.42*	0.04	1

n=21

*p < .05

6. RESULTS

Table 1 reports summary statistics and correlations for our analysis of entry in Taiwan's generic pharmaceutical industry. With the exception of Institutional Match, all variables are highly correlated. Out of the 21 firms sampled, 17 experience entry. Our analysis of entry decisions focused on three active ingredients which recently went off-patent during our sample period: acarbose, repaglinide, and simvastatin. For acarbose, there were eight entrants; for repaglinide, five; and for simvastatin, six. Only China Chemical & Pharmaceutical Group (CCPG) launches all three active ingredients, although at different time intervals.

Table 2 presents the regression results showing the effects of the antecedents of entry. Each model is presented with the coefficient estimates and standard errors (in parentheses) of the parameters, and fit statistics are given below. The values for the Pseudo-R-square measure do not seem overwhelming as a proportion of explained variance, but increase with each model. The chi-square statistic also shows increase of fitness with the addition of variables.

Model 1 includes only the control variables and shows firm size to be relevant across all models, except for Model 4 and Model 5. This outcome would lead us to believe that size plays a less important role when external considerations of competitors come into play, as opposed to when the internal resource considerations take precedence. Market size and firm age have negligible influence on entry decisions, in contrast to previous research. Models 2 to 3 predict the effects of internal resource considerations on entry, while Models 4 to 5 test the effects of external competitive consideration. Product Match from the first hypothesis shows a positive and significant effect across all models, supporting H1 ($p < 0.01$). Model 3 adds Institutional Match, which, though not significant, shows a surprisingly negative effect. This outcome needs to be further investigated. It should be noted that with the inclusion of Institutional Match, the

coefficient for Product Match increases appreciably. Because high levels of multicollinearity can lead to unstable and unreliable coefficients, we investigate the possibility of this phenomenon by employing variance inflation factors (VIF). VIF reflect the impact of multicollinearity on each independent variable in the model. In our analysis, VIFs do not indicate the presence of multicollinearity in a way that could render the coefficients unreliable, with the mean VIF showing a value of 2.93, and with Institutional Match having the highest value of 7.03. We thus reject H2.

TABLE 2
Results of Regression Analysis

Variables	Internal			External	
	Model 1	Model 2	Model 3	Model 4	Model 5
Firm Size: Log of Sales	1.03**	0.67*	0.67*	0.53	0.44
Market Size	0.01 (-0.02)	0.04 (-0.03)	0.03 (-0.03)	0.01 (-0.03)	0.01 (-0.03)
Firm Age	0 (-0.03)	0.01 (-0.03)	0.02 (-0.03)	0.03 (-0.04)	0.03 (-0.04)
Product Match		9.57** (-2.48)	9.85** (-2.51)	9.17** (-2.55)	9.15** (-2.56)
Institutional Match			-2.1 (-1.42)	-2.14 (-1.45)	-2.25 (-2.01)
Rel. Product Match				5.24 (-4.6)	5.25 (-4.6)
Rel. Institutional Match					2.69 (-34.9)
Pseudo R-squared	0.05	0.13	0.15	0.15	0.15
Chi-square	8.38	20.84	22.77	23.96	23.97

†p < 0.10

* p < 0.05

** p < 0.01

H3 posited that the more similar the ingredients in the resource profile of a focal firm as compared with its closest competitors, the more likely the focal firm will commit to entry. Relative Product Match shows very positive albeit no significant effects, preventing us from being able to confirm support for H3. Nevertheless, the inclusion of Relative Product Match in the model has the effect of substantially reducing the coefficient for Product Match in Model 4. This would lead the researcher to infer that external competitor considerations might not be as helpful in explaining entry decisions as much as organizational experience. Likewise, Relative Institutional Match shows positive albeit not significant effects and therefore does not support H4. Thus, Chen et al.'s (2007) hypotheses on competitive relationships were not found to be replicable in our context.

7. DISCUSSION

The aforementioned findings would appear to lend empirical support for a marked emphasis on the internal considerations of the generic drug firm when making entry decisions, albeit a very tentative support. The effect of a firm's organizational experience was highly supported, thus confirming previous research on the generic drug industry (Scott Morton, 1999, 2000; Nerkar and Roberts, 2004; Iizuka, 2009) as well as recent capabilities-based literature on market entry (Lieberman and Helfat, 2002; Thompson, 2007). An important element of the RBV is the assumption that those resources forming the basis of an existing firm's competitive advantage are rarely easy to identify from the outside (the causal ambiguity problem) and, if identified, are difficult to replicate, even for the firm's own managers (Barney, 1991). Accordingly, Penrose's resources approach puts emphasis on strategic experimentation in diversification strategy through adaptive and creative responses. Strategic experimentation is a

component of the competitive process, and it is often the key to maintaining the existing capabilities and protection of a current advantage (Kor and Mahoney, 2004). Thus, capabilities-building, although assumed to be an automatic process in the RBV, still denotes reliability in entry decisions, especially when put in contrast to AMC's competitive relationships, for which the intensity may often ebb and flow.

This assumption might be highly relevant in explaining why Hypotheses 3 and 4 were not supported, as the unpredictability of competitor's actions is heightened in a context of simultaneous entry games, which characterize the generic pharmaceutical industry. Even if generic drug firms have the ability to enter a market in response to competitive pressure due to risk to overall profits, accumulating and developing internal efficiency takes precedence in dynamic context of the generic drug industry. A working paper by Gallant et al. (2011) extends Scott Morton's work with the finding that knowledge spillovers related to drug form potentially applicable to future market profitability rather than the current market opportunity's profitability configures into firm entry decisions. They point out that while cost advantage of entry dissipates with additional entry rather than the passage of calendar time, additional entry is usually the result of the focal firm's capacity or resource constraints. When the resources required for entry are strained, expanding the pool of resources that can be devoted to additional projects becomes difficult. For example, a team that is working on formulating a particular drug or guiding it through the manufacturing approval process may only be able to work on a small number of projects at a given time and it may not be easy to hire additional members for the team. Thus, internal efficiency concerns necessarily take precedence in entry considerations of simultaneous nature.

Gallant et al.'s (2011) findings may also explain why H2 was not supported. The negative coefficient for Institutional Match is intriguing, as it directly contradicts anecdotal accounts by managers in the generic drug field as well as previous research on the importance of complementary assets in the industry (Nerkar and Roberts, 2004; Graham and Higgins, 2008), especially distribution or reputation economies of scope (Scott Morton, 1999; Iizuka, 2009), in reducing the costs of entry. In fact, with the inclusion of the external competitor considerations in the models, only the reverse sign of the Institutional Match coefficient increased, whereas the explanatory power of the rest of the independent variables trended downward. This tendency would lead us to believe that a firm could either be competent in creating and absorbing knowledge spillovers or competent in serving institutional venues, but perhaps not both at the same time. This is a matter that needs to be further investigated in future research.

Thus, this study's key contribution is to highlight the boundaries of the AMC model. Although the resource-based view of the firm (RBV) is concerned with the deployment of existing resources as well as the development of these strategic assets (Penrose, 1959; Grant, 1991), few studies in this field actually address issue of how firms decide to deploy them. Because the AMC focuses on the organizational drivers of firm actions, we believe the AMC model has useful insights for the RBV take on market entry. First, it provides an action/response framework, such that when undertaking competitive action, firms consider rival responses that such action will elicit. In this way, when making decisions that potentially affect rivals, a firm has to take into account the competitive dynamics the decisions may engender, especially how the ensuing activity will threaten the status of the focal firm (Chen and Miller, 1994) upon entry. As such, it highlights the relational nature of competition, which RBV tends to neglect, though

for organization and strategy management literature, the primary concern is firms and their relationships (Baum and Korn, 1996).

Secondly, competitive dynamics in terms of the AMC framework introduces the notion that any two firms' actions can be asymmetric—that is, either's actions can influence entry decisions of either competitor or both, but both need not act (Korn and Baum, 1999). This conceptualization of firm competitive relationships is missing in RBV, which, although it assumes heterogeneity in performance “in a population of close competitors” (Grant, 1991), still treats these firms symmetrically and never actually delineates a firm's direct competitor. Yet this conceptualization has rather significant implications in terms of weighing entry decisions in terms of competitive reaction. For one, if competitive reaction is the result of a decision-making process, then the absence of or differences in competitive reactions stem from varying assessments of competitors' actions (Debruyne et al., 2010). In other words, the AMC model highlights the intentionality behind firm action and lends a competitive assumption to any analysis of market entry. Although this aspect was not applicable to our industry context, it does go to show that revisiting the issue in the contexts frequently employed in resource-based research might be in order. The question asked in this case, then, is: how much do organizational capabilities actually determine the direction of firm expansion, as per the Penrosian growth theory of the firm?

Indeed, Penrose (1959) maintained that the interaction between a firm's resources and a firm's managers and the reciprocal influence they exert upon each other shape the “special productive opportunity of a particular firm” (Kor and Mahoney, 2004). Because resources ultimately constrain the actions available to a firm (Fuentelsaz et al., 2002; Ndofor et al., 2011), we subscribe to the notion that “the firm's current resources influence managerial perceptions

and hence the direction of growth” (Mahoney and Pandian, 1992), such that underutilized resources and organizational capabilities become obvious via experiential learning (Roberts and McEvily, 2005). Following Lieberman and Montgomery (1998), however, we propose that while a firm’s resource base influences the likelihood of entry, it does so in ways that are complex and poorly understood.

7.1 Limitations and Future Research

Our severest limitation, namely the limitation of the sample size, both in terms of the selection of off-patent active ingredients and the number of local drug manufacturers, owes itself to Taiwan’s relatively small generic pharmaceutical market, and is not as large as we would like in order to ensure the elimination of bias. Consequently, the generalizability of the results may be limited. However, we strongly urge further research comparing both the RBV perspective and the AMC perspective on market entry to be conducted in not simply the generic pharmaceutical industries of other countries, but also in other industries characterized by sequential entry, in order to further illuminate the antecedents behind entry decisions.

8. CONCLUSION

This paper investigated whether firms distinguish between capabilities-based market entry and competitive/rivalry-based entry in entry decisions. In particular, we examine this question in the context of simultaneous entry games in the generic pharmaceutical industry in Taiwan. We find that, in agreement with previous organization literature as well as the research on generic entry, capabilities-based entry does take precedence over competitive pressures, but that this finding may be limited to industries characterized by simultaneous games. Although the

industry features allow us to better compare capabilities-based entry and rivalry-based entry, the absence of coordination among markets as a result of the simultaneous game feature makes the AMC model from the competitive dynamics literature defective in our industry context. These findings indicate that future research on market entry should pay more heed to the entry game context and how this will affect incentives for entry. They also point to the need to integrate resource-based research and the emphasis on managerial assessment in decision-making from the AMC model.

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