

Advancing Understanding of Multipoint Competition

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Declaration

This thesis is my original work. I include all cited literature in bibliography.

Tuofu Jin

March 11, 2022

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Abstract

In 1997, Nongfu Spring launched its 4L bottled water as its first step in entering the bottled water market. Because there was little counterattack from incumbents, this product launch brought the company a solid revenue base and customer loyalty, which were essential for its later success in the market.

The Nongfu Spring example demonstrates that when deciding whether to initiate a competitive action into a market, besides considering the validity of the business model itself (e.g., whether the value a firm creates for customers is sufficiently large), a firm also needs to take into account the potential reactions from rivals (Porter, 1980). However, because many firms provide products in multiple product markets, the reactions from their rivals might not be constrained to a single market. Further, according to multipoint competition scholars, the likelihood of such cross-market retaliations from rivals often pressures firms to forbear from initiating competitive actions in their common markets (Chuang & Thomson, 2017). This is the key argument of the mutual forbearance hypothesis. The concern regarding potential cross-market retaliation has a large effect on a firm's decision about launching competitive actions. A miscalculation about competitors' future reactions may cause a significant loss for a firm.

There are three gaps in the existing multipoint competition literature. First, the majority of studies have examined how mutual forbearance varies depending on firm level, market level and firm-in-market level conditions. In contrast, little attention has been paid to the competitive action itself, for example, whether the action is inaugural or not.

Second, focusing on the future responses from rivals, multipoint competition literature has not engaged with theoretical perspectives emphasising other time dimensions. The mutual forbearance hypothesis assumes that future is the primary time orientation in decision-making and in its current decision about whether to launch a competitive action, a firm considers its rivals' retaliation in the future. However, a firm may also be influenced by decision principles with a past orientation when making this decision. Will the rivalry-weakening effect of multipoint competition be altered by a firm's knowledge about rivals' response strategy through prior interactions and observations?

Third, there is a lack of in-depth knowledge about inaugural and subsequent competitive actions. The sample for this thesis shows that many automobile firms have launched a variety of vehicles since they entered the United States of America (USA) market. This sample enables a close examination of the different types of product launches. This thesis aims to bridge these three research gaps.

The empirical context of this thesis is the USA automobile market. The following major findings are demonstrated in this thesis. First, an inaugural competitive action is more sensitive to mutual forbearance than a subsequent competitive action. Second, a firm's competitive history and its observation of rivals' response strategy enhance its understanding of the mutual forbearance logic. Third, entrant automakers adopt a sequential product launch strategy which is part of their localization efforts in the USA market. Their sequential product launches have also shaped a multisegment competition environment in American automobile market.

Keywords: mutual forbearance, inaugural competitive actions, subsequent competitive actions, competitive history, USA automobile market, product launch strategy

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List of Abbreviations

CEO	chief executive officer
CUV	cross-utility vehicle
GM	General Motors
M&A	mergers and acquisitions
MSC	multi-segment contact
MSR	multi-segment rival
R&D	research and development
SD	standard deviation
SUV	sport utility vehicle
USA	United States of America
VIF	variance inflation factors

Chapter 1. Introduction

A firm's decision about whether to launch a competitive action affects its market performance. When making such a decision, a firm must consider potential reactions from rivals (Porter, 1980). However, rivalry may occur in many product markets because a firm may operate within multiple business lines. Multipoint competition occurs when firms compete and meet each other in multiple markets (Chuang & Thomson, 2017). Edwards (1955) argued that when big firms meet each other in multiple lines of business, they tend to attenuate rivalry. This is the mutual forbearance hypothesis.

Although it is unknown which pair of firms were the first multipoint competitors in history, the proliferation of multi-business organisations (i.e., conglomerates in the 1950s) attracted the attention of business scholars. Subsequently, there was a growing call for incorporating cross-market competition in assessing the consumer welfare outcomes of mergers and acquisitions (M&A) in the USA (Arie et al., 2017; Bilotkach, 2011; Feinberg, 1985; Scott, 1982; Singal, 1996). According to multipoint competition scholars, focusing on the concentration index alone is insufficient for estimating the effects of M&A on consumer welfare (Singal, 1996). M&A can increase market overlap, through which firms will recognise their interdependence with each other. In turn, this will lead to tacit collusion among these firms, limiting competition in overlapping markets.

Since the 1990s, strategic management scholars began to test the mutual forbearance hypothesis empirically at firm level. The rivalry-reducing effect of market overlap was again supported. A general finding is that a firm's likelihood to initiate an

aggressive action¹ is reduced if it has extensive contact with competitors in multiple markets (Baum & Korn, 1996; Chuang et al., 2018; Ghertman & Guedri, 2012; Lee et al., 2020; Schmitt, 2018; Shankar, 1999; Young et al., 2000).

More recently, in a review published in the *Journal of Management*, Yu and Cannella (2013) called for exploring the boundary conditions of mutual forbearance. It seems that there is an assumption that the effects of mutual forbearance apply uniformly to all types of competitive actions. However, Thomas (1999) showed that incumbent firms in an industry respond more fiercely to aggressive actions initiated by new entrants than those initiated by existing competitors. This is because the new entrants are more threatening than existing competitors. In other words, a firm's inaugural actions are more likely to be retaliated against than its subsequent actions. Will the rivalry-reducing effect of multipoint competition start to dominate a firm's decision-making earlier for inaugural actions than subsequent actions? Study 1 (see Chapter 2) explores the following research question: is the logic of mutual forbearance consistent across inaugural and subsequent competitive actions?

The competitive action this thesis focuses on is a firm's product launch into a product segment. The baseline hypothesis in Study 1 is that the likelihood of an inaugural entrant (i.e., a firm that enters a segment for the first time) and a subsequent entrant (i.e., a firm that subsequently enters the same segment with a new product line to replace an existing one) launching a product into a segment will first increase and then decrease as its multi-segment overlap with competitors in that segment increases. More importantly, it is argued that the negative effect of multi-segment overlap on a firm's likelihood of launching a product into a segment will occur at a higher level of

¹ In this thesis, an aggressive or competitive action is defined as any action initiated by a firm that could reduce its rivals' market share and challenges the status quo in a market (Chen & Hambrick, 1995). It can be either strategic (e.g., introducing a new product) or tactical (e.g., price reduction).

the multi-segment overlap for a subsequent entrant than an inaugural entrant. This is because a subsequent entrant is considered less threatening than an inaugural entrant by the multi-segment competitors (Thomas, 1999).

When different time dimensions influence a firm's decision about whether to launch a competitive action, it is a theoretical puzzle that how they interact with each other. The mutual forbearance hypothesis predicts that a firm uses anticipation of the responses from multipoint rivals as a reference for decision-making. Conversely, the experiential learning and vicarious learning perspectives predict that a firm's direct and observational experience of making a particular type of decision in the past will be absorbed into its decision-making routines (Burns & Wholey, 1993; Ellis & Shpielberg, 2003; Huber, 1991; Miller & Chen, 1994; Turner et al., 2013) and these routines will be relied upon when a firm makes a similar type of decision (Beck et al., 2008; Denrell & Le Mens, 2020; Dodgson, 1993; Ginsberg & Baum, 1994; Knoke, 1982). For a competitive action launch, a firm's prior knowledge and observation about its multipoint competitors' response strategy will inform the firm of whether it is going to be retaliated and which type of retaliation it might be, for example, a price cut in the firm's important market or a new product introduction.

Therefore, exploring how experiential and vicarious learning interacts with mutual forbearance is worthwhile for resolving the time horizon puzzle of a firm's competitive action launch decision-making. Study 2 (see Chapter 3) asks the following research question: how the rivalry-deterring effects of multipoint contact (considering the potential retaliation from future rivals) on a firm's decision to launch a competitive action will be influenced by its accumulated knowledge about its rivals' response strategy learnt from their past interactions and the firm's observations about the competitive dynamics among rivals?

The baseline argument in Study 2 is that there is an inverted U-shaped effect of multi-segment overlap on a firm's likelihood of launching a product into a segment. As a firm learns about its multi-segment competitors' response strategy through their prior interactions and the firm's observation of the competitive dynamics among other firms, it will understand that the risk of retaliation is higher when they meet in many segments than when they only meet in a few segments. This direct knowledge and observation about rivals' response strategies will speed up a firm's product launch into a segment when its segment similarity with rivals is at a low to moderate level and accelerate a firm's hesitation to launch a product into a segment when its segment similarity with rivals is at a moderate to high level. Thus, this thesis predicts that a firm's prior knowledge and observation about its competitors' response strategy will strengthen the inverted U-shaped effects of multi-segment overlap on its likelihood of launching a product.

The hypotheses in Studies 1 and 2 are tested using data from the USA automobile market between 1980 and 2015, which provides an empirical setting suitable for both studies. The USA automobile market is well-segmented, and it is possible to identify a product launch based on whether a firm has launched a car line into a segment in a given year. The hypotheses are supported.

Study 1 demonstrates that the level of multi-segment contact (MSC) required for the forbearance effect is lower for an inaugural entrant than a subsequent entrant. Study 2 shows that a firm's prior knowledge and observation about its competitors' response strategy will strengthen the inverted U-shaped relationship between its likelihood of launching a product into a segment and its MSC with competitors.

The research for Studies 1 and 2 revealed that focal competitive actions (i.e., product launches) and the empirical setting also deserve further research. The literature

regarding multipoint competition has accumulated much knowledge about the boundary conditions of mutual forbearance; however, little is understood about the individual role of competitive actions. Although Study 1 analyses whether mutual forbearance is consistent across different types of competitive actions (i.e., inaugural and subsequent product launches), the knowledge regarding competitive actions is still incomplete.

The USA automobile industry was born in the late nineteenth century. However, during the first half of the twentieth century, there were few product segments, and the sedan was the dominant vehicle type in the passenger vehicle market. Since the 1950s, an increasing number of vehicle types have been developed. This was also the time when foreign automobile firms began arriving in the USA market.

The sample in this thesis demonstrates that after focusing on one product segment when they entered the USA automobile market for the first time, many entrant firms then penetrated into multiple product segments (e.g., large sedans, luxury sport utility vehicles [SUV] and small pickup trucks). This sample is convenient for conducting an in-depth study of the different types of product launches. What are the characteristics of inaugural and subsequent product launches? What is the story behind these product launches? Specifically, what factors do top managers of these firms consider when deciding whether to launch a product into a segment?

Therefore, this thesis also examines entrant automakers' product launch strategy adjustments in the USA market historically from the late 1960s to 2019.

In Chapter 4, my supplementary study demonstrates that, during their first entry into the USA market, entrant automakers have introduced products initially designed for their home markets into periphery segments that were largely unoccupied by incumbent automakers. During the next few years, they continuously launched products into segments where they were already present to refresh their ongoing commitment to those

segments. After gaining a strong market position and sufficient market knowledge, some firms adapted to local consumers' needs and penetrated segments that had been strongholds of incumbent automakers. The sequential product launch strategy contributes to entrant automakers' localization strategy which is important for their success in American market. By launching products into multiple segments, entrant automakers have become multisegment competitors among themselves and with incumbent automakers. These sequential product launches have shaped the competitive landscape of American automobile market. I also show that this sequential product launch strategy has been adopted by entrepreneurial firms in other markets and industries as well. Young firms such as start-ups should not take risks and challenge established firms' spheres of influence. By avoiding established firms' single market or multimarket counterattacks, entrant firms can have a quiet environment to grow its customer base. Being unnoticed by rivals, entrant firms can launch attacks by surprise when they have a buffer segment where they can easily retreat.

This thesis makes several theoretical contributions. First, it contributes to multipoint competition literature by highlighting that the identity of a competitive action initiator affects how much segment overlap is needed for the forbearance effect to occur. The level of MSC required for the forbearance effect is lower for an inaugural entrant than a subsequent entrant.

Second, this thesis refines the mutual forbearance hypothesis by identifying that a firm's prior knowledge and observation about its competitors' response strategy can interact with multipoint contact in deciding whether to launch a competitive action. A firm's understanding of its competitors' response strategy will intensify the inverted U-shaped relationship between its likelihood of initiating a competitive action and its multipoint contact with competitors. In other words, factors with other time

orientations, such as the past, can influence mutual forbearance, which is mainly driven by future orientations.

Finally, this thesis advances strategic management literature by embedding firms' growth paths in a new market into a historical context. In my supplementary study, historical narratives from different stakeholders explain the story behind entrant firms' product launches at different stages of their business journey in an unfamiliar market. By relying on historical archives and digging deeply into the phenomenon of interest in Studies 1 and 2 (i.e., firms' competitive actions), this thesis contributes to the interaction between strategic management and business history research. It is time to embrace history in strategic management research again (Bucheli & Salvaj, 2018; Jones & Khanna, 2006; Kandel et al., 2019; Klüppel et al., 2018). A close study of firms' product launch history helps maintain the practical relevance of this research.

Chapter 2. Study 1—Delayed Forbearance: Multipoint Contact and Mutual Forbearance in Inaugural and Subsequent Actions

2.1. Introduction

When rival firms interact in multiple markets, aggressive action by one firm in one market can invite retaliation against it in all the other markets they share. Thus, firms with multi-market (or multipoint) contact tend to refrain from rivalry against each other. This tacit collusion, known as ‘mutual forbearance’, is a cornerstone concept in the literature regarding multi-market competition.

Studies have clarified the theoretical foundations of mutual forbearance (e.g., Bernheim & Whinston, 1990; Matsushima, 2001) and offered empirical evidence for its key predictions (e.g., Baum & Korn, 1996; Busse, 2000; Fan, 2010; Gimeno, 1999; Gómez et al., 2017; Greve, 2008; Hannan & Prager, 2004; Klein et al., 2020; Lee et al., 2020; Reeve & Pennings, 2016; Ryu et al., 2020; Schmitt, 2018; Stephan et al., 2003). Several studies have also extended the theory by analysing the moderating conditions that amplify or weaken the occurrence of mutual forbearance (e.g., Golden & Ma, 2003; Sengul & Gimeno, 2013; Yu et al., 2009).

However, in parallel, a group of scholars have also questioned whether or not mutual forbearance applies uniformly to all types of competitive actions (Anand et al., 2009; Greve, 2008; Kang et al., 2010). For example, Anand et al. (2009) asked whether multi-market contact yields mutual forbearance for both ‘exploitation’ and ‘explorative’ actions. Similarly, Greve (2008) examined the implications for mutual forbearance when competitive behaviour is only imperfectly observable. These studies depart from

the traditional focus on the explanatory variable (i.e., the extent of multipoint contact between rivals and the variables that moderate its effect). Instead, they emphasise the dependent variable (i.e., the characteristics of competitive actions and how they matter).

A key finding from this strand of studies is that there are subtle yet important differences in how mutual forbearance manifests across competitive actions with different fundamental properties. Greve (2008), taking issue with scholars' inclination towards studying empirical contexts where competitive actions are perfectly observable, explained how 'mutual forbearance occurs—but sometimes fails—in markets with imperfect observability' (p. 229). Similarly, Anand et al. (2009) documented how differences between the certainty of payoffs in exploitation and exploration support the logic of mutual forbearance for exploitation activities but not explorative ones. By treating research and development (R&D) actions as explorative and market entry and sales actions as exploitative, Anand et al. (2009) found that mutual forbearance logic is only salient in the latter. For exploration, competitive actions are 'driven much more by mimetic behaviour, as opposed to mutual forbearance' (p. 816).

While such efforts to distinguish competitive actions based on observability and payoff certainty have undoubtedly been productive, they have overlooked the temporal sequence of actions. Within the subset of exploitative and observable actions, there are other relevant differences based on the 'sequentiality'. Some actions are firms' inaugural actions in a market domain, and others are subsequent to those. The key difference between these actions is how the rival perceives the initiator's identity.

Inaugural actions are made by firms that are new to the market (e.g., a new firm making its first entry into a market with a new product),² while subsequent actions are made by existing incumbents (e.g., when an incumbent updates its product line, cuts prices or launches a new advertising campaign). While inaugural and subsequent actions can provoke retaliation from a firm's rivals, the anticipation of such retaliation can be markedly different depending on the type of action.

Rivals will more likely (and forcefully) retaliate against inaugural competitive moves by new entrants than against subsequent moves by incumbents. Further, because the anticipation of retaliation encourages firms to forbear from rivalry, forbearance will be more immediate in the case of inaugural actions than subsequent ones.³ The crux of this argument is that the temporal sequence of competitive actions—whether they are inaugural or subsequent—further delineates the subclass of exploitation and observable actions that Anand et al. (2009) and Greve (2008) have shown to be fertile contexts for mutual forbearance.

This thesis facilitates this theorising by focusing on a specific competitive action: new product launches. New product launches pose a competitive threat to a firm's rivals (because they affect its sales and profits). There are two categories of new product launches: inaugural product launches by firms new to a product segment and subsequent ones by current incumbents of a segment. For example, Hyundai Motor Company's (Hyundai) launch of the Excel in 1986 was its inaugural product launch in the small-sized car segment; it did not have a product in that segment before launching

² A possible source of confusion is whether a new entrant will, by definition, have zero multipoint contacts. This thesis emphasises the newness of the firm to a specific market domain and not the newness of the firm per se. Thus, while a new entrant is new to a market domain, it can overlap with incumbents in other market domains. Therefore, a firm being new to one market does not imply that it has low multipoint contact with the incumbents of that market. It could be encountering those incumbents in other markets.

³ 'Delayed forbearance' does not mean forbearance is delayed in terms of 'time'. Instead, it means that the forbearance only occurs at a greater level of multipoint contact.

the Excel. Conversely, Honda Motor Company's (Honda) launch of the Civic in 1973 was its subsequent product launch in the small-sized car segment; the Civic replaced the N600 that Honda already had in that segment. Inaugural and subsequent product launches are observable, exploitation-driven actions⁴ that differ in temporal sequence and initiator identity. They provide an ideal context to pursue the theoretical development in this thesis.

The baseline argument is that the likelihood of both types of product launches into a segment initially increases but then decreases—an inverted U-shaped form—with a firm's MSC with a segment's incumbents. At low levels of MSC, both new and incumbent firms benefit from launching new products in that segment. However, at high levels of MSC, the expectation of retaliation in some or all of the overlapping segments encourages the focal firm to forbear from these actions.

These baseline arguments are similar to those in conventional studies on multipoint contact and market entry (e.g., Stephan and Boeker, 2001). However, crucially, this thesis also argues that the point at which forbearance occurs differs between inaugural and subsequent product launches. It is expected that forbearance occurs earlier (i.e., at lower levels of MSC) for inaugural product launches but later (i.e., at higher levels of MSC) for subsequent ones. Further, because the onset of forbearance is responsible for the downward inflection of the inverted U-shaped curve, it is expected that this inflection will occur earlier for the inaugural product launches by firms new to a segment and later for subsequent ones by incumbents of the segment.

⁴ It is possible to argue that inaugural product launches into a market segment are explorative actions. However, there is precedence that market entries are exploitative actions. For example, Anand et al. (2009) showed that 'if a firm began selling products in a given market' it was considered 'exploitative entry' (p. 808). Further, the difference in payoff certainty that distinguishes exploration and exploitation (e.g., between uncertain R&D and relatively more certain sales activities) is not nearly as distinct between inaugural and subsequent product launches.

The hypotheses in this thesis are tested using a dataset containing details about every car launched in the USA from 1980 to 2015. Fortunately, the USA automobile market has relatively well-defined product segments (e.g., small-sized pickup trucks, large-sized luxury SUVs, middle-sized cross-utility vehicles [CUV]) and easily identifiable new product launches. A ‘product launch’ includes the introduction of a new car into a segment by a firm. Inaugural and subsequent product launches are distinguished based on whether the firm was already selling a car in that segment.

There are two noteworthy observations from the empirical analyses. First, the results suggest that there is an inverted U-shaped effect from multi-segment overlap on a firm’s likelihood of inaugural or subsequent product launches into a segment. It is possible to replicate this conventional finding in the data, which confirms the validity of the empirical design choices for this study. Second, while the shape of the relationship is identical between both competitive moves, the inflection point of the inverted U-shaped curve occurs 1.133 standard deviations (SD) later for subsequent product launches than for inaugural ones. This corroborates the key argument that mutual forbearance occurs earlier for inaugural competitive actions than subsequent actions. The supplementary analyses also observe that the forbearance effect is stronger for inaugural product launches than subsequent ones.

This thesis makes two key theoretical contributions to the literature on multipoint competition. First, it extends the extant theory about how attributes of competitive actions matter for the emergence of mutual forbearance. Studies have highlighted attributes such as the observability of the action (Greve, 2008) and certainty of resulting payoffs (Anand et al., 2009). This thesis argues that the temporal sequence of the action—whether it is an inaugural or subsequent one—further distinguishes observable and exploitation-oriented actions. Second, this thesis advances the notion of

‘delayed forbearance’. While the extant literature has highlighted conditions that amplify or attenuate mutual forbearance, there has been relatively little attention regarding ‘how much’ multipoint contact is necessary for forbearance to occur. This thesis shows that forbearance occurs at lower levels of multipoint contact when the initiators are new to the market domain and is ‘delayed’ (i.e., effective only at higher levels of multipoint contact) when the initiators are incumbents of the market. Overall, the contribution lies in proposing additional sources of heterogeneity within the subclass of exploitative and observable competitive actions that influence the onset of mutual forbearance.

2.2. Literature Review

Empirical studies have generally confirmed the rivalry-detering effects of multipoint contact. Early work, reflecting the industrial organisation basis for the mutual forbearance hypothesis (Edwards, 1955; Yu & Cannella, 2013), focused primarily on the consequences of multipoint contact for industry-level rivalry and performance (Alexander, 1985; Heggstad & Rhoades, 1978; Jans & Rosenbaum, 1997). Subsequent studies have concentrated on firm-level rivalry decisions (e.g., Baum & Korn, 1996; Boeker et al., 1997; Ghemawat & Thomas, 2008; Hannan & Prager, 2004; Shankar, 1999; Ryu et al., 2020). For example, Hannan and Prager (2004) reported that a bank would keep a low deposit interest rate when it has a large market overlap with rival banks. It avoids behaving aggressively because its multi-market competitors may respond. Stephan and Boeker (2001) developed a theoretical interpretation for an inverted U-shaped effect of multi-market contact on market entry, and many studies have subsequently supported this hypothesis (Fuentelsaz & Gómez, 2006; Ghertman & Guedri, 2012; Klein et al., 2020; Stephan et al., 2003). For example,

Ghertman and Guedri (2012) found that a European airline's likelihood of entering a rival's route will first increase and then decrease as its multipoint contact increases.

Scholars have also studied the moderating effects of industries, firms and firm-in-market level variables on the relationship between a firm's competitive actions and its multipoint contact with rivals. Industry-level conditions, such as the industry concentration (Baum & Korn, 1996; Fuentelsaz & Gómez, 2006; Haveman & Nonnemaker, 2000; Jans & Rosenbaum, 1997), regulatory environment (Yu et al., 2009) and demand (Greve, 2008; Kalnins, 2004), have been shown to influence the mutual forbearance effect. Further, as examples of firm-level moderators, Ma (1998), Jayachandran et al. (1999), Golden and Ma (2003), Yu et al. (2009) and Sengul and Gimeno (2013) argued that intra-firm coordination is a precondition for mutual forbearance. More recently, Klein et al. (2020) found that the cooperation between a firm and its multipoint competitors weakens the inverted U-shaped effects of multipoint contact on a firm's likelihood of entering a market.

At the firm-in-market level, the sphere of influence has been proposed as a contingency that affects mutual forbearance. Firms gain a sphere of influence when they dominate in several different markets, thus, having asymmetric interests in those markets (Gimeno, 1999). Jayachandran et al. (1999) argued that the sphere of influence might accentuate the relationship between multi-market contact and the intensity of competition because a firm can leverage its forbearance from rivalry in rivals' spheres of influence in exchange for the same treatment in its own sphere of influence. Fuentelsaz and Gómez (2006) also found that the negative effects of multi-market contact on a savings bank's likelihood of entering a geographical market are stronger when various banks attach asymmetric strategic importance to different markets.

The review in Section 2.2. provides a sample of the current literature regarding multi-market competition where the predominant focus has been on the direct and moderated effects of multipoint contact on firm rivalry (i.e., on the explanatory variables). Thus, an emerging parallel field of study has begun to explore whether the mutual forbearance hypothesis holds evenly across all kinds of competitive actions (e.g., Anand et al., 2009; Greve, 2008; Kang et al., 2010).

Anand et al. (2009) found that while a pharmaceutical firm is more likely to invest in R&D in a rival's medicine discovery market as the multi-market contact level in that market increases, its likelihood of entering a rival's market for an existing medicine first increases but then decreases with its multi-market contact in that market. This suggests that the logic of mutual forbearance holds in exploitation activities but not explorative ones. Kang et al. (2010) showed that a firm's tactical and strategic actions are deterred by multipoint contact in the personal computer industry. Further, Greve (2008) examined whether mutual forbearance emerges even if the competitive actions of rivals are only imperfectly observable. He found that in insurance industry, firms mutually forbear from attacking each other's market when sales growth in a market is slow.

These studies have examined how the key characteristics of competitive actions matter and thus, emphasise the dependent variables. This thesis takes a similar direction and develops arguments to show that, among exploitative and observable actions, temporal sequence (i.e., whether they are inaugural or subsequent episodes) also matters.

2.3. Theory and Hypotheses

The theory developed in this thesis focuses on the competitive actions of new product launches into various product segments of a market. Inaugural product launches

(i.e., product introductions with which firms enter a segment) are distinguished from subsequent product launches (i.e., subsequent products by incumbents of the segment, usually aimed at refreshing their product offering in the segment). The key explanatory variable is the multi-segment overlap (i.e., MSC) a focal firm has with incumbents of a given product segment. The core idea of the argument is that at low levels of multi-segment overlap, inaugural and subsequent product launches provide deterrence benefits for the focal firm. Conversely, high levels of MSC might trigger large-scale retaliation by rivals, encouraging the focal firm to forbear from competitive actions. However, the onset of this forbearance behaviour will be different for inaugural and subsequent launches.

2.3.1. *Deterrence Capability Benefits of Product Launches*

When a firm introduces a new product into a segment, it raises the potential to steal sales away from incumbents. This is true for both inaugural and subsequent products. This escalation of competition in a segment can, in turn, invite retaliatory countermoves by incumbents. Therefore, it is reasonable to assume that managers will consider potential future retaliation by incumbents when contemplating a product launch into a segment.

However, at relatively low levels of MSC between a focal firm and incumbents of a segment, the scope for retaliation by the incumbents is rather narrow (compared to when the MSC is high). Additionally, there are benefits for the focal firm from new product launches. For inaugural product launches, entering the segment provides an additional point of contact with incumbents, thus, improving the deterrence capability (Ryu et al., 2020). This extended overlap helps deter incumbents from being aggressive in the other common segments (Ghertman & Guedri, 2012). Because the focal firm can retaliate in the current and other common segments, incumbents will be cautious of

initiating rivalry (Schmitt, 2018). Thus, at low levels of MSC with incumbents in a segment, a focal firm's inclination to make an inaugural product launch into a segment is positive.

The same is true for subsequent product launches, which are especially valuable at low levels of MSC with incumbents in a segment. When there are only a handful of segments in which a focal firm overlaps with incumbents of a segment, the contribution of each common segment to its deterrence capability is very high. Subsequent product launches signal the focal firm's continuing commitment to those segments and raise the credibility of its threat of retaliation if provoked. These benefits are similar to those of inaugural product launches, except that while inaugural product launches achieve deterrence by establishing new points of MSC, subsequent product launches do so by signalling the firm's commitment to its current segments and maintaining the threat of retaliation.

However, the marginal deterrence benefit from both types of product launches decreases with MSC. Their contribution to deterring rivals from future aggressive actions is greater when there are only a few common segments between the focal firm and incumbents. A firm's behaviour in each common segment transmits valuable deterrence signals to the incumbents in those segments. As MSC increases, the signalling benefit from an additional inaugural or subsequent product launch is marginal. Therefore, the deterrence benefit proposed in this thesis increases only at a decreasing rate with the firm's MSC with incumbents.

2.3.2. *Expectation of Retaliation Against Product Launches*

Alongside the deterrence benefit, which increases at a decreasing rate (see Section 2.3.1), the retaliation cost of launching a new product into a segment increases at an increasing rate with a firm's MSC with incumbents of a segment. High MSC with

incumbents in a segment exposes the entrant to possible retaliation in several other common segments (Klein et al., 2020). In other words, launching a new product in a segment in this situation risks a counterattack in all of the many overlapping segments. Thus, as a firm's MSC level increases, its potential costs associated with an additional product launch will increase as more segments become its rivals' counterattack targets (Reeven & Pennings, 2016). This potential for widespread retaliation pressures a focal firm into forbearing any aggressive action in the segment. It will tend to avoid both inaugural and subsequent product launches.

As a firm's benefit of launching a product increases at a declining rate while its costs of doing so rise at an increasing rate (at a low to moderate level of MSC), the net benefit of launching a product increases. Thus, a firm's likelihood of launching a product will increase when they have between a low and moderate level of MSC. As the costs catch up while the upward trend of benefits slows down (at the moderate level of MSC), a firm's net benefit and likelihood of launching a product reach their maximum level. After the moderate level of MSC, the net benefit of launching a product will decline. Accordingly, a firm's likelihood of launching a product will decrease when they have between a moderate and high level of MSC with existing firms in a segment. A firm's likelihood of launching a product into a segment will first increase and then decrease as its MSC with its competitors increases. Above discussion leads to the following hypotheses:

- Hypothesis 1 (Baseline)—the likelihood of a focal firm making an inaugural product launch into a segment will increase then decrease with its MSC with the incumbents in that segment.

- Hypothesis 2 (Baseline)—the likelihood of a focal firm making a subsequent product launch into a segment will increase then decrease with its MSC with the incumbents in that segment.

Inaugural and subsequent product launches are affected differently. Before launching a product, managers consider the intensity of retaliation by incumbents and the associated costs that their actions may trigger. Retaliation is more likely and fiercer when there is an inaugural product launch due to two main reasons.

First, subsequent product launches are made by existing incumbents in the segment; thus, the competitive landscape in the segment is disrupted less than when a new entrant arrives in the segment. The incumbent firm launching its subsequent product is already in the cognitive frames of existing competitors, and updated product launches are hardly a surprise. Haveman and Nonnemaker (2000) suggested that ‘firms are more concerned with keeping new rivals out of their domains than they are with keeping existing rivals small’ (p. 261).

Second, each incumbent’s portion of the segment becomes much smaller with the arrival of a new entrant than when an existing incumbent launches an updated or replacement product. New entrants encounter more resistance from existing incumbents (Thomas, 1999). For example, incumbents might respond by launching a new product after a product launch by a new entrant. Conversely, the former may cut the price of their existing products if the product launch is made by an incumbent entrant. Matching a new entrant’s response involves more resource commitments while cutting the price of existing products signals their displeasure at the incumbent entrant’s move. The matching response might take away a significant share of a new entrant’s potential customers and prevent loyal customers of the incumbents from leaving. Conversely, a price cut of existing products by incumbents may not stop loyal customers from trying

an incumbent entrant's product, thus, damaging an incumbent entrant's business as much as a matching response could.

Therefore, at any given level of MSC, the expected costs of retaliation are higher for a new entrant making an inaugural product launch than for an incumbent firm making a subsequent product launch. Compared with a new entrant, an incumbent entrant is less sensitive about potential cross-segment retaliation. Thus, the threshold at which the fear of retaliation deters a focal firm from launching a new product into the segment will be higher for subsequent product launches than inaugural ones. In other words, the forbearance effects of MSC (i.e., the pressure to refrain from competitive actions to avoid retaliation by incumbents) have a delayed onset in the case of subsequent product launches. The positive deterrence benefits of a subsequent product launch linger much longer.

2.3.3. Multi-Segment Contact and New Product Launches: The Net Effect

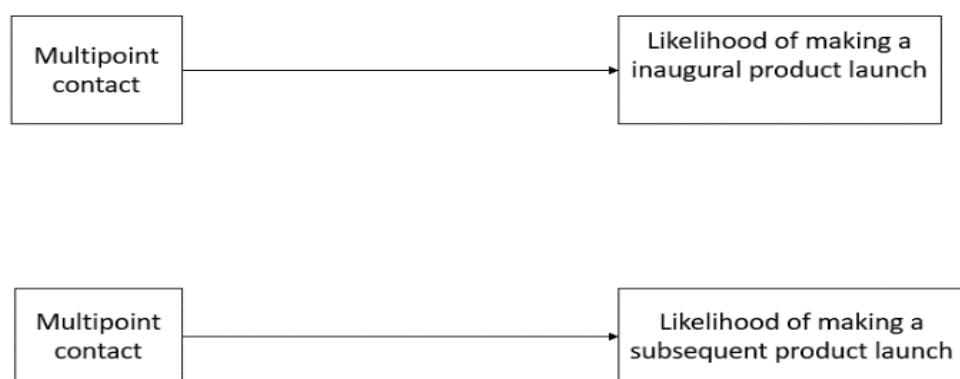
The arguments in Sections 2.3.1 and 2.3.2 demonstrate that at a low level of MSC with rivals in a segment, the deterrence benefits of an additional inaugural or subsequent product launch into a segment (i.e., from establishing an additional point of contact or signalling an ongoing commitment to the segment) dominate as the scope of costly retaliation remains low. After reaching a moderate level of MSC, with increasing levels of MSC with incumbents, the additional cost of a product launch incurred by possible retaliation by incumbents surpasses the marginal benefit of a product launch. The expectation of retaliation dominates the entrant's decision-making about whether to launch a product. The need to avoid actions that may trigger retaliation in any of the many overlapping segments takes over and decreases a potential entrant's likelihood of introducing new products into the segment.

Crucially, the expected costs of retaliation, and therefore, a firm's inclination to forbear from competitive actions, differs based on whether it is a new entrant or an existing incumbent. Because the intensity and costs of being retaliated against are much higher for an inaugural entrant than a subsequent entrant (because the competitors consider inaugural entrants more threatening than incumbent entrants), subsequent entrants are less alert about the risks of retaliation. Unlike inaugural entrants who are often ready to pause product launches in order to avoid fatal counterattacks, subsequent entrants are more determined to keep launching new products to strengthen their deterrent capability. Thus, the point where the forbearance effect dominates will likely be delayed for an incumbent's subsequent product launches relative to a new entrant's inaugural ones. Above discussion leads to Hypothesis 3:

- Hypothesis 3—the forbearance effect will outweigh the deterrence building effect at a higher level of MSC for subsequent product launches than inaugural ones.

Figure 2.1

Conceptual framework for study 1



2.4. Data and Method

Hypotheses 1 to 3 are tested using the data about global automobile manufacturers' new car launches in the USA automobile industry between 1980 and 2015. The USA automobile market is an excellent setting to test these hypotheses because it has relatively well-defined product segments.

Segments are confluences of buyer demand that can sustain a particular product type. Segmentation relies on the basic premise that customers are not homogeneous and have different preferences about the attributes they desire to purchase. For example, automobile buyers differ in their preference for car size; couples with children may opt for mini-vans while singles prefer two-seat convertibles. Buyers also differ in the image they want to project about themselves. *Car Design News* (Livingstone, 2015), a leading industry magazine for car designers, discussed the appearance of concept sports cars with a new body type that has more room for cargo at motor shows. Livingstone (2015) wrote that the new design, which designers call the 'sports shooting-brake':

suits those who want some of the very specific image that the sports shooting-brake confers on its driver; that of a person with an active leisure lifestyle, someone with more esoteric taste, and someone who has less to prove than the driver of the more overtly sporting sports coupe.

Whether for practical or image reasons, the key dimensions of buyer preferences in the car industry are body type, car size and price. The body type dimension is categorised into those that prefer the coupe, sedan, hatchback, CUV, SUV, van or pickup truck. The size dimension includes small, middle or large cars, and the price dimension includes lower, upper or luxury prices. Different combinations of body type, size and price create confluences of preferences, such as upper-middle SUV or luxury large CUV, which are different enough from one another that a single product will not simultaneously satisfy buyers in two separate product segments. In the automobile

industry, buyer preferences are quite heterogeneous, making it relatively easy to identify the product segments.

2.4.1. Data Collection

The first step in collating the dataset for Study 1 was to identify which manufacturers were selling cars in the USA market each year from 1980 to 2015. The observation window started from 1980 because an increasing number of domestic and foreign firms began overlapping their segment footprints during that time. Before 1980, domestic and foreign firms focused on different segments; domestic firms dominated the large-size vehicle segments, while foreign ones dominated the small-size vehicle segments. The status quo was disrupted during the mid-1970s when the United Auto Workers union for the USA automobile industry began lobbying for restrictions on automobile imports (Nelson, 1996). With the threat of trade protection, major foreign automobile firms began building production plants in the USA. Foreign firms gradually penetrated the strongholds of domestic firms because of their larger exposure to local markets, especially local consumer preferences. Figure 2.1 depicts the evolution of the number of firms in the USA from 1980 to 2015.

Figure 2.2

Number of firms in the United States of America automobile market from 1980 to 2015

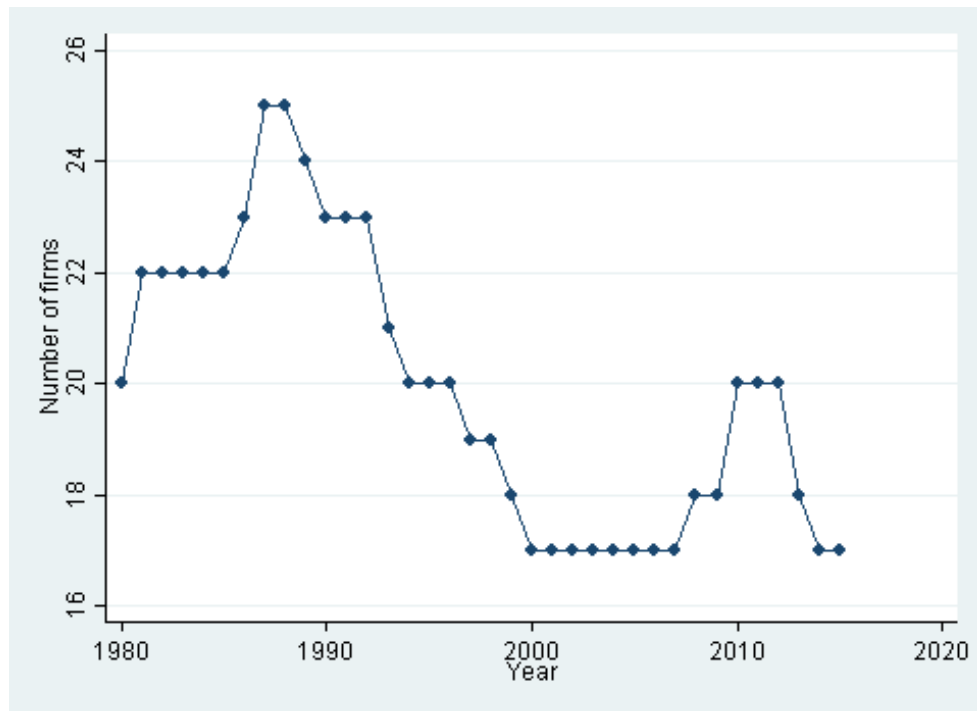


Figure 2.1 shows that there was an increase in the number of firms from 20 in 1980 to 25 in 1988. This was largely due to the influx of Japanese and Korean car makers during the 1980s (Isuzu Motors in 1981, Mitsubishi Motors in 1983, Suzuki and Hyundai in 1986 and Daihatsu in 1988). The number of firms decreased dramatically from 24 to 17 between 1989 and 2000, during which time a large number of market exits and M&As occurred. In 1993, Peugeot, Citroën and Zastava Automobiles exited the USA market. Daihatsu exited in 1994, and Groupe Renault exited in 1987 when the company sold its shares in the American Motors Corporation, Groupe Renault's USA partner (Ross, 1987). Ford Motor Company (Ford) acquired Jaguar Cars (Jaguar) in 1989 (Prokesch, 1989) and Volvo Cars (Volvo) in 1999 (Bradsher, 1999), while General Motors (GM) acquired Saab Automobile (Saab) in 2000 (White, 2000). From 2001 to 2007, the number of firms stayed at 17. In 2008, Tata Motors entered the

market, increasing the number of firms to 18. In 2010, the number of firms increased to 20 when Geely and Tesla joined the market. In 2013, the number of firms dropped by two when Saab's assets were acquired by NEVS (Milmo, 2012) and Porsche was acquired by Volkswagen (Bloomberg News, 2012). A year later, Suzuki also exited the USA market. The number of firms stood at 17 by the end of 2015.

The M&As were handled by modelling the firms separately until the year the M&As occurred. For example, Ford and Volvo were considered separate firms until 1999, when Ford bought Volvo. After 1999, Volvo was considered a part of Ford. Similarly, Tata Motors was considered to have entered the market in 2008 when it acquired Jaguar and Land Rover from Ford.

Next, *Ward's Automotive Yearbook* (*Ward's*) provided the segmentation of the product market for each year based on the consumer preferences for body styles, sizes and prices. The perspectives of the industry observers and participants were mapped. For example, articles have discussed how Volvo perceived that its S60 sedan competed against the BMW 3 Series, Mercedes-Benz C-Class and Audi A4 (Drive, 2009; McVeigh, 2009). *Ward's* pooled these four cars into the 'lower-luxury' segment. Over time, and as product markets have matured, buyer preferences have become more sophisticated and variegated.

Accordingly, *Ward's* has increased the number of product segments from 21 in 1980 to 27 in 2015. This increase indicates the emergence of new consumer classes. For example, the CUV segment was introduced in the mid-1990s to cater to consumers who wanted cars primarily for normal use but with some of the off-road capabilities of SUVs. Toyota pioneered the small CUV segment with its RAV4 line in 1995. Large and luxury variants of these cross-utilities were launched soon after to cater to customers who were not content with the initial models. The Honda CR-V and Subaru Forester

were the first entries in 1997 into the mid-sized CUV segment. In 2000, Honda launched the Acura MDX as the first car to cater to customers in the large-sized, luxury CUV segment. Table 2.1 lists the segments in the data for this thesis.

Table 2.1

Product segments in the United States of America automobile industry

Segment	Examples of car lines
Lower-small	Hyundai Elantra, Honda Civic
Upper-small	Ford Focus, Toyota Tercel
Small specialty	Dodge Daytona, BMW Mini Cooper
Lower-middle	Honda Accord, Volkswagen Dasher
Upper-middle	Chrysler New Yorker, Acura Integra
Middle specialty	Ford Mustang, Mazda RX-7
Large regular	Dodge Charger, Kia Amanti
Large specialty	Mercury Cougar, Ford Thunderbird
Lower-luxury	Acura Vigor, Volvo 200 Series
Middle luxury	BMW 5 Series, Acura RL
Upper-luxury	Cadillac Seville, Audi A8
Luxury specialty	Audi A5, Subaru SVX
Luxury sport	BMW Z3, Porsche Cayman
Small CUV	Jeep Compass, Hyundai Tucson
Middle CUV	Pontiac Torrent, Subaru Outback
Large CUV	Chrysler Pacifica, Mazda CX-9
Small luxury CUV	Mercedes-Benz GLK, BMW X1
Middle luxury CUV	Lexus RX300, Tesla Model X
Large luxury CUV	Cadillac SRX, Audi Q7
Small SUV	Daihatsu Rocky, Kia Sorento
Middle SUV	Ford Explorer, Mitsubishi Montero
Large SUV	Chevrolet Blazer, Nissan Armada
Middle luxury SUV	Saab 9-7X, Mercedes-Benz G-Class
Large luxury SUV	Infiniti QX56, Cadillac Escalade
Small pickup truck	Chevrolet Colorado, Isuzu Pickup
Large pickup truck	Ford F-Series, Toyota Tundra
Small van	Ford Freestar, Honda Odyssey
Large van	Plymouth Voyager, Nissan NV
Luxury van	Volkswagen EuroVan, Oldsmobile Silhouette

Note. CUV = cross-utility vehicle; SUV = sport utility vehicle.

The firm-segment-year spells were created after compiling the list of manufacturers in the USA and product segments from 1980 to 2015. These were coded for whether or not a focal firm had launched a new product into a segment in a given year. A list of all car lines sold in the USA by all manufacturers for each year in the sample was compiled. The segment, make and manufacturer identification information was collected for each car line from *Ward's*. These were confirmed using the *Standard Catalogue of American cars* (Gunnell, 2002) and the *Standard Catalog of Imported Cars 1946–2002* (Covello & Flammang, 2002).

2.4.2. Dependent Variables

The segment identification for each line enabled the product segment compositions to be tracked over time—that is, the lines sold for each product segment were tracked for each year. Further, this allowed Study 1 to highlight the appearance of new lines in the segment over time. When a new line appeared in a segment in a given year, it was coded as a product launch. For example, when the Honda S2000 line appeared for the first time in the luxury sport segment in 1999, it was coded as a product launch. The information linking the lines to the makes and the makes to the manufacturers meant that each product launch was correctly assigned to a manufacturer. For instance, for the Honda S2000, that particular product launch was assigned to the luxury sport segment for Honda.⁵

The historical information for each segment also helped distinguish a focal firm's inaugural product in a segment from its subsequent ones. An inaugural product launch was coded as a dummy variable and assigned a value of 1 when firm *i* entered a

⁵ Clark and Fujimoto (1991) describe how European cars makers usually maintain longer product lifecycles with fewer design changes, while Japanese and USA manufacturers rapidly replace existing lines by launching new ones. I examined the number of product launches in my data by European, Japanese, and USA carmakers and consistent with this description, find that European carmakers made significantly fewer number of product launches compared to their USA and Japanese competitors.

product segment m with a new car in a year t for the first time; they were assigned a value of 0 if otherwise. A subsequent product launch was coded similarly with a value of 1 when a firm that was already selling cars in a segment launched a new car line in that segment. During the study's timeframe (1980 to 2015), there were 855 new product launches, of which 228 were inaugural product launches and 627 were subsequent product launches.

2.4.3. *Independent Variable*

The measure for MSC was derived from the number of product segments in which a pair of firms overlapped. Given that the firm-segment was the level of analysis, it was impossible to include a dyad-level measure for MSC. A dyad-level measure captures the MSC between a pair of firms and is possible only when the level of analysis is for pairs of firms. Instead, Study 1 followed Gimeno and Jeong (2001) and aggregated MSC between pairs of firms into a firm-in-segment measure, thus, assessing the aggregate level of a firm's MSC with all its multi-segment rivals (MSR) in a given segment. Specifically, Study 1 adopted a measure for the aggregate MSC a firm had with all its rivals in a given product segment:

$$MSC_{imt} = \sum_{j \neq i} [MPR_{ijt} \times D_{jmt} \times \frac{\sum_{n=1}^k (D_{int} \times D_{jnt})}{\sum_{n=1}^k D_{int}}]$$

Where $MPR_{ijt} = 1$ if firm j is a multi-segment competitor of the focal firm i in year t , and 0 if otherwise; $D_{jmt} = 1$ if firm j is present in segment m at year t , and 0 if otherwise; $D_{int} = 1$ if focal firm i is present in segment n at year t , and 0 if otherwise; and $D_{jnt} = 1$ if firm j is present in segment n at year t , and 0 if otherwise. The number of segments focal firm i is present in year t is denoted by k .

For example, in 2013, Honda was present in 12 segments. Honda's MSC with incumbents in the large luxury CUV segment was calculated by identifying Honda's

multi-segment competitors (i.e., incumbents that overlapped with Honda in segments other than large luxury CUVs). These were Daimler, Ford, Nissan and Volkswagen. Then, the ratio of the number of overlapping segments with Honda over the total number of segments in which Honda was present (i.e., 12) for each of those multi-segment competitors was calculated. Daimler shared six segments with Honda; thus, the ratio was 0.50 (6/12). Ford shared 11 segments with Honda; thus, the ratio was 0.92 (11/12). Nissan shared 11 segments with Honda; thus, the ratio was 0.92 (11/12). Volkswagen shared nine segments with Honda; thus, the ratio was 0.75 (9/12). Finally, the ratio for each multi-segment competitor of Honda was summed (i.e., $0.50 + 0.92 + 0.92 + 0.75 = 3.09$). Therefore, Honda's MSC in the large luxury CUV segment in 2013 was 3.09.

2.4.4. Control Variables

The variables were controlled for various other influences on a focal firm's propensity to launch new products into a given product segment.

2.4.4.1. Segment Level

2.4.4.1.1. Segment Growth Rate

The product segment-level variable was controlled for its attractiveness to firms by including the segment growth rate variable. A high sales growth rate in a given segment signals a strong potential for sales growth in the future, which could attract firms to launch new or updated products. The segment growth rate was controlled using the percentage change in sales of a given segment in the past year.

2.4.4.1.2. Segment Density

The possible effects of the existing number of car lines in a segment on its attractiveness were controlled by including the segment density variable (i.e., a simple count of the car lines in a segment in a given year). Due to the likelihood of a nonlinear

effect, a segment density squared term was also included. This was based on the notion that while increasing numbers of car lines in a segment may initially signal the viability of the segment to potential entrants, higher levels of presence may signal that the segment is saturated.

2.4.4.1.3. *Segment Concentration*

Another control for the attractiveness of a segment included the segment concentration variable, which captured the extent to which a segment was dominated by a few large players. This measure was a sum of the squares of market shares of all firms in a given segment. Higher values indicate a greater concentration among incumbents in the segment.

2.4.4.2. *Firm Level*

2.4.4.2.1. *Number of Segments*

The number of segments variable counted the number of segments in which a focal firm was already present. This control was included to account for the possibility that new product launches might have been motivated by the goal of making cars available in every segment of the market. For example, Subaru's recent launch in the seven-seater SUV segment was implemented to prevent existing Subaru customers from leaving the brand when they needed to upgrade to a seven-seater.

2.4.4.2.2. *Firm Size*

Because there is a potential confound between the multi-segment competition measure and firm size—larger firms are more likely to be present in multiple product segments and thereby more likely to have higher levels of MSC with other firms—firm size was controlled. The firm size variable was measured by the total number of cars a firm sold across all USA product segments in a given year. The firm size variable also controlled for other possible size-related influences on a firm's propensity to launch

new products in a segment, such as the availability of slack managerial and financial resources and the ability to access new funds for the expansion.

2.4.4.2.3. *Product Diversification*

Firms may have different propensities towards diversity in their segment portfolio, which could affect their tendency to be present in a given product segment at a given time. This influence was captured by including a firm's present level of diversification across segments. It was assumed that the current level of diversification across product segments indicated a firm's inherent preference for diversity. Firms that prefer generalist market postures straddling multiple segments may be more likely to expand into a given segment in a particular year than firms that maintain more focused, narrow portfolios (Clark & Fujimoto, 1991). The diversification was measured by applying the Herfindahl-Hirschman index (Blau, 1977; Haveman & Nonnemaker, 2000). The index for firm i in year t was calculated as the following ratio summed over all the segments m for that year:

$$\sum_{m=1}^k \left[\frac{(\text{Number of lines in a segment})_{imt}}{(\text{Total number of lines})_{it}} \right]^2$$

Where k denotes the total number of product segments in a given year. A measure that increases with product diversification was found by subtracting this summed ratio from 1. The index value was 0 for firms that operated in only one segment. If all the lines were equally distributed across all segments and there are, for example, 25 segments, the index will equal $1 - (1/25) = 0.96$.

2.4.4.2.4. *Other Product Launches*

The firms' other product launches variable was also controlled. This was the total number of product launches a firm made in other segments in a given year. It was included to control for the fact that the probability of a product launch in a given segment could be affected by the number of other launches the firm made in other

segments. Several new cars being launched in other segments could curtail the availability of resources to make the focal launch.

2.4.4.3. Firm-Segment Level

2.4.4.3.1. *Multi-Segment Rivals' Size*

Large rivals are more likely to be present in multiple product segments and thus, have high levels of MSC with the focal firm. The MSRs' size variable was controlled to separate the effects of the size of the rivals from the MSC measure. Given that the analysis is at the firm-segment-year level, the individual size of each multi-segment competitor cannot be controlled. Thus, using the total sales as a proxy for firm size, the aggregate size of the multi-segment competitors a firm encountered in a segment was calculated. The number of cars sold in a year for each MSR a firm encountered in a segment was counted, which was aggregated across all the MSRs in the segment.

2.4.4.3.2. *Experience*

With the subsequent product launch as a dependent variable, the focal firm's experience variables in the segment were controlled, including the focal firm's recent product launches (number of product launches in a segment the firm made during the previous year), tenure in a segment (length of time in years the firm was present in a segment) and total product launches (accumulated number of past product launches the firm had made in a segment). A positive sign was expected for both the tenure in a segment and total product launches variables. This is because the marginal cost of launching a product into a segment becomes smaller as the focal firm gains more experience. For the recent product launches, either a positive or negative sign was expected. If the segments chosen in the neighbouring years shared similar manufacturing technology, the recent product launches would stimulate an additional product launch into a segment. Simultaneously, the focal firm might also avoid

launching an additional product into the same segment to avoid decreasing the sales of recently launched products.

The control variables account for a range of possible influences on a firm's propensity to launch a new product in a segment and any confounding effects that may conflate with the key independent variable.

2.4.5. *Modelling Specification*

A discrete time hazard rate model was used to analyse new product launches (Allison, 1982). The hazard rate was modelled to vary with the theoretical and control variables while allowing the autonomous hazard rate—the baseline hazard rate—to vary across every combination of firm and segment by including the firm-segment fixed effects. A logit transformation was used to bound the hazard rate between 0 and 1. Like in other logit models, the estimations used the maximum likelihood method.

2.5. Results

Table 2.2 reports the means, SDs and pairwise correlations for the dependent, independent and control variables.

Table 2.2*Means, standard deviations and pairwise correlations for the dependent, independent and control variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Inaugural product launch	1.00															
2. Subsequent product launch	-0.02	1.00														
3. MSC	-0.01	0.07	1.00													
4. MSC ²	-0.02	0.06	0.95	1.00												
5. Segment growth rate	-0.00	-0.01	-0.07	-0.05	1.00											
6. Segment density	-0.02	0.12	0.74	0.66	-0.08	1.00										
7. Segment density squared	-0.01	0.11	0.66	0.62	-0.05	0.96	1.00									
8. Segment concentration	-0.01	-0.03	-0.27	-0.24	0.07	-0.09	-0.07	1.00								
9. Number of segments	0.02	0.19	-0.09	-0.14	-0.02	0.03	0.02	-0.07	1.00							
10. Firm size	0.02	0.19	-0.13	-0.15	-0.01	0.00	0.00	-0.03	0.82	1.00						
11. Product diversification	0.03	0.11	-0.02	-0.08	-0.03	0.02	0.01	-0.07	0.71	0.44	1.00					
12. Other product launches	0.02	0.09	-0.08	-0.10	0.00	-0.00	-0.01	-0.02	0.51	0.42	0.33	1.00				
13. MSRs' size	-0.02	0.03	0.74	0.61	-0.08	0.63	0.52	-0.17	-0.06	-0.13	0.09	-0.05	1.00			
14. Recent product launches	-0.02	0.11	0.08	0.08	0.01	0.13	0.13	-0.03	0.19	0.18	0.12	0.12	0.02	1.00		
15. Tenure in a segment	-0.08	0.22	0.33	0.29	-0.04	0.31	0.27	-0.16	0.51	0.38	0.38	0.24	0.19	0.18	1.00	
16. Total product launches	-0.07	0.23	0.27	0.23	-0.03	0.31	0.29	-0.16	0.56	0.44	0.36	0.27	0.13	0.35	0.79	1.00
Mean	0.01	0.04	3.40	15.15	0.44	10.98	160.96	0.86	7.96	74.61	0.71	0.35	836.24	0.04	1.02	0.37
SD	0.11	0.19	1.89	15.58	6.83	6.36	169.03	0.67	5.91	119.32	0.27	0.52	397.77	0.17	1.34	0.58
Minimum value	0.00	0.00	0.00	0.00	-0.77	1.00	1.00	0.15	1.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	1.00	1.00	13.00	169.00	168.17	30.00	900.00	3.94	24.00	625.65	0.95	2.56	1698.23	1.61	4.20	2.94

Note. MSC = multi-segment contact; MSR = multi-segment rival; SD = standard deviation.

Because some correlations are statistically significant, the variance inflation factors (VIF) associated with each independent variable were examined. All VIFs were below 7 when using inaugural product launches as the dependent variable except for those variables for which a squared term was also included (e.g., MSC, segment density and their squared terms). All VIFs were below 8 when using subsequent product launches as the dependent variable except for those variables for which a squared term was also included (e.g., MSC, segment density and their squared terms). Allison (2012) suggested that the multi-collinearity that occurs as a consequence of including the products of other variables (such as squared terms) is benign. Thus, it is reasonable to assume that multi-collinearity is not a major concern.

Tables 2.3 and 2.4 report the results of the analyses. In Models 1 and 2, the dependent variable is a focal firm's inaugural product launch into a given segment in a given year. Model 1 is the baseline model, where only the control variables are included, while Model 2 also includes the MSC and MSC^2 to test Hypothesis 1. In Models 3 and 4, the dependent variable is a focal firm's subsequent product launch in a segment in a given year. Model 3 contains only the control variables. Model 4 includes the linear and quadratic formulations of the MSC to test Hypothesis 2. The change of likelihood ratio chi-squared statistic was checked across the nested models to examine the improvements in the statistical explanatory power across these models. This demonstrated that Models 2 and 4 showed significant improvements in fit over their baseline counterparts (Models 1 and 3).

Table 2.3*The effect of multi-segment contact on an inaugural product launch into a segment*

Independent variables	Model 1	Model 2
MSC		0.841***
		(0.320)
MSC ²		−0.109***
		(0.034)
Segment-level control variables		
Segment growth rate	−0.027	−0.031
	(0.046)	(0.045)
Segment density	−0.142**	−0.245***
	(0.066)	(0.087)
Segment density squared	0.002	0.006**
	(0.002)	(0.003)
Segment concentration	0.352*	0.359*
	(0.191)	(0.202)
Firm-level control variables		
Number of segments	−0.174***	−0.196***
	(0.045)	(0.046)
Firm size	0.005*	0.005**
	(0.002)	(0.002)
Product diversification	0.450	0.654
	(0.803)	(0.816)
Firm-segment-level control variables		
Other product launches	0.183	0.184
	(0.159)	(0.159)
MSRs' size	0.001**	0.001
	(0.000)	(0.000)
Firm-segment fixed effects	(included)	(included)
Log-likelihood	−515.298	−508.254
Likelihood ratio chi-squared	56.29	70.37
Number of observations	4339	4339

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors in parentheses; independent variables in one-year lags.

Table 2.4*The effect of multi-segment contact on a subsequent product launch into a segment*

Variables	Model 3	Model 4
MSC		0.374* (0.199)
MSC ²		−0.031* (0.017)
Segment-level control variables		
Segment growth rate	0.041 (0.031)	0.038 (0.031)
Segment density	0.117** (0.047)	0.048 (0.061)
Segment density squared	−0.002 (0.001)	−0.000 (0.002)
Segment concentration	0.030 (0.112)	0.093 (0.121)
Firm-level control variables		
Number of segments	0.134*** (0.030)	0.135*** (0.030)
Firm size	−0.000 (0.001)	−0.000 (0.001)
Product diversification	−0.109 (0.854)	−0.229 (0.863)
Firm-segment-level control variables		
Other product launches	−0.027 (0.081)	−0.022 (0.082)
MSRs' size	−0.000 (0.000)	−0.000 (0.000)
Recent product launches	0.584*** (0.178)	0.586*** (0.178)
Tenure in a segment	1.824*** (0.146)	1.816*** (0.147)
Total product launches	−3.038*** (0.212)	−3.019*** (0.212)
Firm-segment fixed effects	(included)	(included)
Log-likelihood	−1349.872	−1348.004
Likelihood ratio chi-squared	287.39	291.12
Number of observations	5687	5687

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors in parentheses; independent variables in one-year lags.

The key variables of interest are the MSC and MSC² in Models 2 and 4. In Model 2, the linear term of the MSC was positive ($b = 0.841$; $p = 0.009$), and the quadratic term was negative ($b = -0.109$; $p = 0.001$). In Model 4, the linear term of the MSC was positive ($b = 0.374$; $p = 0.061$), while the quadratic term was negative ($b = -0.031$; $p = 0.060$). These are evidence of inverted U-shaped effects that are consistent with Hypotheses 1 and 2.

However, as Haans et al. (2016) highlighted, a significant and negative coefficient for the MSC² is a necessary but insufficient condition to conclude that an inverted U-shaped effect exists. Lind and Mehlum's (2010) three-step procedure was followed to confirm the findings. Table 2.5 summarises this analysis.

Table 2.5

Confirmation of the inverted U-shaped effect

	Inaugural product launch	Subsequent product launch
Slope at lowest point of MSC	0.841*** (2.628)	0.374** (1.877)
Slope at highest point of MSC	-1.989*** (-3.322)	-0.435** (-1.689)
Lowest value of MSC	0	0
Highest value of MSC	13	13
Inflection point	3.864	6.005
Inverted U-shaped test	2.63***	1.69**

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; t-values in parentheses; MSC = multi-segment contact

The first requirement is that the coefficient of the quadratic term is negative and statistically significant. Table 2.3 and Table 2.4 show that this is the case in the analyses. The second requirement is that the slope at the low end of the MSC is positive and statistically significant, while the slope at the high end of the MSC is negative and

statistically significant. In Model 2, the slope is the first derivative of the probability of an inaugural product launch with respect to the MSC. In Model 4, the slope is the first derivative of the probability of a subsequent product launch with respect to the MSC. In both cases, $S = \beta_{MSC} + 2\beta_{MSC^2} * MSC$. In Model 2, at the low end of the MSC (i.e., when the MSC = 0), the slope is $S = 0.841 > 0$ and significant ($p = 0.004$). At the high end of the MSC (i.e., when the MSC = 13), the slope is $S = -1.989 < 0$ and significant ($p = 0.000$). In Model 4, at the low end of the MSC, the slope is $S = 0.374 > 0$ and significant ($p = 0.030$). At the high end of the MSC, the slope is $S = -0.435 < 0$ and significant ($p = 0.046$).

These results conform with Lind and Mehlum's (2010) second prerequisite for an inverted U-shaped finding. Their third requirement is that the turning point of the inverted U-shaped curve must be located within the range of the MSC (Lind & Mehlum, 2010). The turning point was estimated to be 3.864 using the estimated coefficients for the MSC in Model 2. In contrast, the turning point was 6.005 in Model 4. In both models, the turning point was well within the range of the MSC in the data. Given that all three conditions are satisfied, it is clear that an inverted U-shaped relationship exists between the MSC and the likelihood of both inaugural and subsequent product launches. Therefore, Hypotheses 1 and 2 are supported.

The turning points for the curvilinear effect of the MSC on the inaugural and subsequent product launches are different. The turning point in the case of subsequent product launches (i.e., MSC = 6.005) was 1.133 SDs of MSC greater than that for inaugural product launches (i.e., MSC = 3.864). As an approximate test for whether the difference between the turning points was statistically significant, Models 2 and 4 were re-estimated simultaneously under a seemingly unrelated equations framework (using the `suest` command in Stata).

Because the turning points were determined by the estimated coefficients of the MSC and MSC^2 , the cross-model constraint that these coefficients were equal across Models 2 and 4 was tested. While it was impossible to reject the hypothesis of no difference between the coefficients of the main effect ($\chi^2 = 1.91$; $p = 0.167$), it was possible to confirm the statistically significant differences between the coefficients of the squared term ($\chi^2 = 4.89$; $p = 0.027$).⁶ These observations constitute sufficient support for Hypothesis 3—that the forbearance effect of the MSC is delayed for subsequent product launches.

Several control variables were not significant; however, this is attributable to the relatively small proportion of positive events (i.e., inaugural and subsequent product launches) in the data. Only 1% of the observations were inaugural product launches, and 4% were subsequent product launches. In this context, finding significant effects is analogous to searching for a needle in a haystack.

The results for the control variables that were significant were mostly consistent with the expectations. The segment density had a predominantly negative effect on the inaugural product launches. While the quadratic term was positive and significant in Model 3, its effect size was rather negligible. Further, the segment concentration increased the likelihood of inaugural product launches. While this may seem counterintuitive—because of the traditional association of market concentration with entry barriers—it is actually a plausible result. Segment concentration denotes the

⁶ The turning points in Models 2 and 4 occurred at $-\beta_{MSC, Model 2}/2\beta_{MSC^2, Model 2}$ and $-\beta_{MSC, Model 4}/2\beta_{MSC^2, Model 4}$, respectively. For evidence of ‘delayed forbearance’, the turning point in Model 2 for the inaugural product launches should be lower than that in Model 4 for the subsequent product launches. Thus, the required constraint is $-\beta_{MSC, Model 2}/\beta_{MSC^2, Model 2} < -\beta_{MSC, Model 4}/\beta_{MSC^2, Model 4}$, or $\beta_{MSC, Model 2}/\beta_{MSC^2, Model 2} > \beta_{MSC, Model 4}/\beta_{MSC^2, Model 4}$. This test shows that there is a statistically significant difference between the coefficients of the squared terms such that $\beta_{MSC^2, Model 2} < \beta_{MSC^2, Model 4}$. Together with the lack of a statistically significant difference between the coefficients of the linear terms in Models 2 and 4, this condition indicates a turning point in Model 2 that is significantly lower than that in Model 4.

presence of a limited number of manufacturers in a segment. This could signal to potential entrants that there is space for an additional variety of products offered in the segment, and therefore, it is an attractive segment to enter. There were also indications of a momentum-driven effect for the subsequent product launches. Both the tenure in a segment and recent product launches, which indicate a firm's experience with a segment and launching products, appeared to facilitate further product launches in a segment.

There was an interesting contrast between how the number of segments variable affected the inaugural and subsequent product launches. In Models 1 and 2, the number of segments decreased the likelihood of an inaugural product launch in a segment. This could be because there were fewer segments to expand into when a firm was already present in an increasing number of segments. However, this effect was reversed for subsequent product launches. Possibly, the economies of scale and scope enabled by the cross-sharing of components across cars sold in various segments made subsequent product launches relatively easier.

Robustness check

I also conduct a robustness check. I measure MSC by counting a firm's total number of segments shared with multisegment rivals at a given segment and in a given year. I want to see whether all three hypotheses are still supported when MSC is measured in this way. Rather than a ratio, the count measure of MSC is a more direct way to reflect the level of segment overlap a firm has with its multisegment rivals. All my hypotheses are supported. Importantly, the level of segment overlap required for mutual forbearance effect to dominate is higher for subsequent product launches than for inaugural product launches. Table 2.6 and Table 2.7 show results of regression analysis. Table 2.8 shows the confirmation of an inverted-U shape and the delayed forbearance.

Table 2.6

The effect of multi-segment contact (count measure) on an inaugural product launch into a segment

Independent variables	Model 5
MSC	0.072** (0.030)
MSC ²	−0.001*** (0.000)
Segment-level control variables	
Segment growth rate	−0.035 (0.047)
Segment density	−0.195** (0.081)
Segment density squared	0.004* (0.002)
Segment concentration	0.324* (0.202)
Firm-level control variables	
Number of segments	−0.131** (0.060)
Firm size	0.004 (0.003)
Product diversification	−0.940 (0.864)
Firm-segment-level control variables	
Other product launches	0.401** (0.161)
MSRs' size	0.001* (0.000)
Firm-segment fixed effects	(included)
Log-likelihood	−503.097
Likelihood ratio chi-squared	80.69
Number of observations	4339

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors in parentheses; independent variables in one-year lags.

Table 2.7

The effect of multi-segment contact (count measure) on a subsequent product launch into a segment

Independent variables	Model 6
MSC	0.030** (0.013)
MSC ²	−0.000** (0.000)
Segment-level control variables	
Segment growth rate	0.024 (0.029)
Segment density	0.018 (0.054)
Segment density squared	−0.000 (0.002)
Segment concentration	0.096 (0.110)
Firm-level control variables	
Number of segments	0.025 (0.029)
Firm size	0.002* (0.001)
Product diversification	−0.290 (0.786)
Firm-segment-level control variables	
Other product launches	0.001 (0.078)
MSRs' size	−0.000 (0.000)
Firm-segment fixed effects	(included)
Log-likelihood	−1476.514
Likelihood ratio chi-squared	34.10
Number of observations	5687

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors in parentheses; independent variables in one-year lags.

Table 2.8*Confirmation of the inverted U-shaped effect (count measure of multi-segment contact)*

	Inaugural product launch	Subsequent product launch
Slope at lowest point of MSC	0.072*** (2.399)	0.030** (2.229)
Slope at highest point of MSC	-0.204*** (-3.513)	-0.018* (-1.424)
Lowest value of MSC	0	0
Highest value of MSC	128	128
Inflection point	33.315	80.228
Inverted U-shaped test	2.40***	1.42*

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; t-values in parentheses; MSC = multi-segment contact

As another robustness check, I want to see whether my hypotheses are still supported if I control for imitation among firms. Top managers want to convince stakeholders of their leadership capability. One way to do so is by imitating product launches of competing firms. In other words, top managers convey a message that they are as capable as their counterparts in rival firms. I add a new variable *total product launches into a segment*. It is measured as the number of product launches made into a segment in previous year. Results show that my findings remain the same.

2.6. Discussion

This thesis contributes to the multipoint competition literature by studying how the onset of mutual forbearance differs between two types of competitive actions: inaugural and subsequent product launches in product segments. The key difference between the two is the initiator's identity. Inaugural product launches are initiated by a new entrant to a segment, and subsequent product launches are initiated by an existing

incumbent. Section 2.6 discusses the findings by focusing on two issues: how much MSC matters and the implications of Study 1 for current and future scholarly work.

2.6.1. Does Multi-Segment Contact Matter?

Does MSC really matter? And if yes, by how much? Two reasons support the finding that MSC has tangible effects on product launches. First, the results for the MSC were obtained after controlling for a variety of other influences and with only a small proportion of the observations experiencing an inaugural or subsequent event. Controls were implemented for the attractiveness of the segment, characteristics of the focal firm and characteristics of the firm-segment pair. If the effects of MSC were weak, it would not have been useful to persist with these results despite the controls for alternative influences and the rare occurrences of inaugural and subsequent product launches in the data.

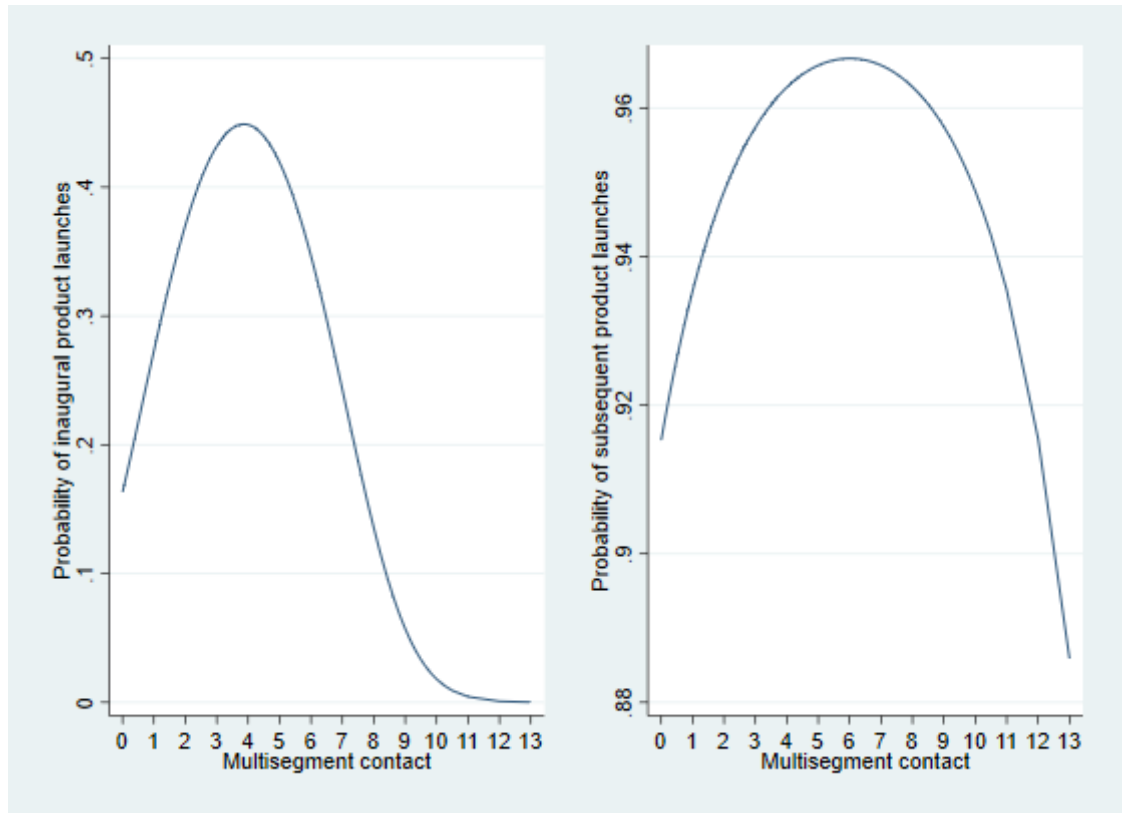
Second, the magnitude of the effects was reassuringly sizeable. For inaugural product launches, it was calculated (from the coefficients in Model 2) that the probability of a launch for the average firm increased from 0.16 when MSC was at a minimum value to 0.45 at the turning point of the inverted U-shaped curve. The probability of a product launch further declined to 0 at a maximum value of the MSC. Therefore, there was a substantial increase in the likelihood of a new product launch between the minimum and mid-range levels of MSC. The declining probability was drastic between the mid-range and maximum values of the MSC.

The effects were comparatively smaller for the subsequent product launches. The probability of subsequent product launches (based on the coefficients in Model 4) increased from 0.92 to 0.97 from the minimum to turning point values of the MSC. This probability then declined to 0.89—a less pronounced decrease than the inaugural

entries—as the MSC increased to its maximum value in the data. Figure 2.2 graphically presents these marginal effects for both types of product launches.

Figure 2.3

Marginal effect of multi-segment contact on inaugural and subsequent product launches



The results indicate two main findings. First, the effects had remarkable magnitudes (more so for the inaugural product launches than the subsequent ones); thus, MSC affects new product launches. Second, the declining probability of product launches due to the forbearance effect was substantially larger for the inaugural launches than the subsequent launches. In other words, the forbearance effects were delayed (supporting the theory in this thesis) and dampened for the subsequent competitive actions relative to the inaugural ones.

2.6.2. *Theoretical Contributions*

The primary contribution of Study 1 is to the ongoing literature that explores whether all competitive actions are equally sensitive to mutual forbearance considerations (Greve, 2008; Anand et al., 2009). Although it is known that there are differences across competitive actions that affect whether or not the mutual forbearance hypothesis is salient, the collective understanding of the relevant dimensions that distinguish these actions is still developing.

Studies have shown that the observability of actions to rivals (Greve, 2008) and certainty of resulting payoffs (Anand et al., 2009) are important. However, this is potentially only a subset of the relevant dimensions that differentiate competitive actions. Research that theorises and tests how other dimensions might also be relevant will provide a fuller understanding of the types of actions that respond well to mutual forbearance behaviours. This is the key avenue along which this thesis expands current knowledge.

This thesis theorises and tests the notion that, within the realm of observable and exploitation-driven actions, temporal sequence—whether an action is an inaugural or subsequent one—affects how the mutual forbearance mechanism functions. Given that these two types of actions are different depending on who initiates them, Study 1 has found that mutual forbearance occurs later for subsequent competitive actions when the initiator is an existing incumbent. This argument has significant implications for work that usually does not differentiate between whether the actions being studied are inaugural or subsequent.

Further, it is worth highlighting that Haveman and Nonnemaker (2000) used market entry and sales growth as dependent variables to demonstrate that the multi-market contact point at which forbearance occurs is lower for entries than sales growth.

This was an empirical observation in their work. The theoretical arguments proposed in this thesis offer a conceptual basis for this finding. While the entries in Haveman and Nonnemaker's (2000) schema were actions by firms new to the market, growth in sales is an action undertaken by existing incumbents. From the hypotheses in this thesis, the realisation of mutual forbearance will be delayed for subsequent actions (such as growth in sales) initiated by incumbents. Therefore, an ancillary note to the above contribution is that this thesis provides a conceptual explanation for Haveman and Nonnemaker's (2000) empirical observation.

The second key contribution of this thesis is the notion of delayed forbearance. One theoretically fragile area in the multipoint competition literature is the issue of timing. The default assumption is that mutual forbearance increases with multipoint contact. However, it is theoretically ambiguous how much MSC is needed for mutual forbearance to occur. Study 1 contributes towards resolving this problem. It identifies one plausible factor (i.e., the identity of the initiator) that affects the onset of mutual forbearance. It proposes and empirically documents a sizeable delay in the onset of forbearance for actions initiated by an existing incumbent. In contrast, the forbearance effect manifests more immediately when the initiator is a new firm to the market domain. These theoretical arguments (and empirical findings) develop the understanding of the timing-related aspects of mutual forbearance.

This thesis's third contribution is the conventional empirical observation of an inverted U-shaped effect of multipoint contact on market entry. The results show that a focal firm's MSC with incumbents of a segment has an inverted U-shaped relationship with the likelihood of entering it for the first time (with a new product). The finding of an inverted U-shaped effect of MSC is consistent with Stephan and Boeker's (2001) theoretical arguments and other empirical findings (e.g., Baum & Korn, 1999;

Fuentelsaz & Gómez, 2006; Ghertman & Guedri, 2012; Haveman & Nonnemaker, 2000; Klein et al., 2020).

This is useful for two reasons. First, the ability of Study 1 to replicate existing results indicates the validity of the empirical design choices in the study. This increases the confidence in the core empirical finding of delayed forbearance. In other words, if Hypotheses 1 and 2 are consistent with the established results in the literature, then it is highly likely that the empirical support of Hypothesis 3 demonstrated by this study is also trustworthy. Second, the replication validity offered for the inverted U-shaped hypothesis comes from a different setting. Most existing studies have focused on how multi-market contact influences decisions, such as pricing, exits and geographic market entries. Studies based on product/service segment decisions are rare—however, see Stephan et al. (2003). Testing and finding support for the inverted U-shaped hypothesis in the context of product dynamics in product segments further supports the empirical evidence for the mutual forbearance hypothesis.

2.6.3. *Practical Implications*

Study 1 is highly relevant for helping firms plan their market entries. In their initial entry into a market, managers should be highly alert about their multi-market rivals' countermoves. A signal of displeasure from multi-market rivals is sufficient for a focal firm to hold back its aggressive move. Incumbents are more sensitive to attacks from inaugural entrants than those from subsequent entrants (Thomas, 1999). They might launch a full-scale counterattack in overlapping markets with the focal firm. Thus, managers of an inaugural entrant who might be technologically and financially weak should closely observe incumbents' signals and promptly cancel their plans for aggressive actions when incumbents show intentions to retaliate. Attacks and counterattacks decrease the profitability of all firms involved. For example, in 1992, the

annual losses resulting from the price war among airlines in the USA market were even larger than the accumulated profits of the USA airline industry since it was first established (Rao et al., 2000).

2.6.4. *Limitations and Future Research*

Like any empirical study, Study 1 is not without limitations. Nonetheless, these limitations also highlight the areas for future research. A key potential constraint of Study 1 is its application of a uniform definition of product launches for all firms. A firm's inaugural or subsequent product launch was recorded when a new car line (with a new name) was launched into the segment. While this captures a large majority of new product instances, it could miss those entries where the manufacturer has chosen to retain the same name for the car line. However, this limitation does not appear to have severely biased the results of this study—it was still possible to replicate the conventional inverted U-shaped prediction that has been documented in past research. Additionally, recording fewer product launches than there actually were may only make it more difficult to identify significant effects. Therefore, this omission may render the analysis conservative. Nonetheless, future research could explore alternative means of recording product launches in a segment that captures the manufacturers' different naming conventions.

A second limitation of Study 1 is that it did not consider the global multipoint connections between rivals. The empirical analysis was limited to the MSC between rivals within the USA market. However, it is possible that the actions a firm takes in a given segment in the USA also depend on its multi-market contact with incumbents in countries other than the USA. An interesting avenue for future research would be to explore whether the deterring effects of MSC within a geographical boundary on a

firm's competitive behaviour are affected by its multi-market contact with rivals in other geographical markets.

A third limitation of Study 1 is that it does not consider the performance consequences of inaugural and subsequent product launch decisions. If rivals' perceptions of the threat posed by new entrants and incumbents are different, the resulting performance for these two types of launches may also differ. While several studies have examined the relationship between multipoint contact and industry and firm performance (e.g., Chuang et al., 2018; Chuang & Thomson, 2017; Hannan, 2006; Hannan & Prager, 2009; Heggstad & Rhoades, 1978; Hughes & Oughton, 1993; Li & Greenwood, 2004; Mester, 1987; Prince & Simon, 2009; Reeven & Pennings, 2016), few have separately examined the effects of mutual forbearance on the performance of new entrants and incumbents (Fan, 2010). Lastly, it would be fruitful to examine the generalisability of the findings of this study to other industries. While there are no reasons to believe these findings are unique to the automobile industry, future work in other industry contexts could help confirm the replicability of the results.

Chapter 3. Study 2—When Future Meets Past: How Competitive History Shapes Mutual Forbearance

3.1. Introduction

On a summer day in 1989, America West Airlines cut fares on the routes from Minneapolis, a busy market of Northwest Airlines. In response, Northwest Airlines reduced its fares from USD208 to USD168 on its Phoenix to New York route, a major source of revenue for America West Airlines. Receiving this signal, America West Airlines withdrew its price cut five days after it was introduced (Nomani, 1990). This example demonstrates that when firms compete over multiple markets, they are likely to take advantage of any overlapping market to deter the aggressive actions initiated by rivals. Fearing potential counterattacks across multiple markets, firms will refrain from undertaking rivalrous moves and adopt a ‘live and let live’ policy towards each other. This is the core idea of the mutual forbearance hypothesis (Edwards, 1955).

An implicit assumption in the mutual forbearance hypothesis is that a firm’s decision about whether to act aggressively in the present is based on its anticipation of its multipoint competitors’ response in the future (Baum & Korn, 1996; Chuang et al., 2018; Gómez et al., 2017; Heggstad & Rhoades, 1978; Karnani & Wernerfelt, 1985; Schmitt, 2018). If its multipoint competitors might counterattack fiercely in the future in overlapping markets, especially in a major market of a focal firm, the latter will be very cautious about behaving aggressively. However, it is unclear whether the future is the only time orientation considered in a firm’s decision about initiating competitive actions.

Organisational theorists have argued that a firm’s decision-making might be influenced by its experiences from making similar types of decisions in the past (Kelly

& Amburgey, 1991; Turner et al., 2013) and peer firms' decisions (Dodgson, 1993; Huber, 1991). Specifically, when encountering a new problem, a firm tends to rely on routines that have been developed when conducting a similar type of action in the past (Levinthal & March, 1993). For example, during its competitive history, a firm observes and learns how its rivals react to competitive actions, and this knowledge helps their decision-making about whether to launch competitive actions.

The mutual forbearance hypothesis is based on the premise that competitors may respond in any overlapping market in the future (Chuang & Thomson, 2017). In contrast, according to the experiential learning and vicarious learning perspective, a firm is more likely to make a current decision based on routines formed through direct interaction (Miller & Chen, 1994; Nelson & Winter, 1982; Ocasio, 1999; Stoeberl et al., 1998; Turner et al., 2013) and observation (Burns & Wholey, 1993; Guillén, 2002; Haunschild & Miner, 1997; Huber, 1991; Knoke, 1982; Martin et al., 1998) in the past. There is a tight theoretical tension between a theory that bases its predictions on the reactions from rivals in the future (i.e., mutual forbearance) and theories that rely on past learning opportunities (i.e., experiential learning and vicarious learning). It is necessary to discover how these different theoretical perspectives with different time orientations will be integrated into a firm's decision about initiating a competitive action.

Thus far, little work has attempted to examine the interactive effects of mutual forbearance and decision principles with other time horizons on a firm's decision about initiating an aggressive move (except for Baum & Korn, 1999; Kalnins, 2004; Stephan et al., 2003). Being one of the first to propose an inverted U-shaped effect of multi-market contact on a firm's likelihood to behave aggressively, Baum and Korn (1999) argued that it takes time for an airline to understand that it is competing in a multi-

market context. Focusing on the moderating effects of a chief executive officer's (CEO) tenure in managing a firm, Stephan et al. (2003) found that shorter-tenured CEOs were more interested in seeking legitimacy and imitating rival hospitals' market entries than longer-tenured CEOs. Driven by organisational inertia, the longer-tenured CEOs tended to maintain the status quo of a hospital's position in its multi-market ties and pursue mutual forbearance strategies. In contrast, Study 2 will focus on how a firm's organisational memory about competitors' response strategies in the past will interact with its market overlap with competitors and decisions about whether to launch rivalrous actions.

Kalnins (2004) found that localised searches and imitations weaken the negative effects of a focal franchisee's multi-market contact with sister divisions and divisions in other organisations on its likelihood of being assigned to a market. Kalnins (2004) emphasised headquarter-division coordination and the resulting inter-division mutual forbearance. Conversely, this thesis examines how the rivalry-detering effects of multipoint overlap on a firm's decision about whether to initiate an aggressive action will be altered by its accumulated understanding of its rivals' reaction strategies. This thesis emphasises resolving the theoretical tension between future-oriented mutual forbearance and past-oriented competitive history by testing their combined effects on a firm's decision about launching competitive actions.

Consistent with Stephan and Boeker's (2001) theoretical argument, this thesis predicts that a firm is more likely to launch a rivalrous action to build deterrence when its multipoint overlap with rivals is small, while the likelihood of doing so will decrease when its multipoint overlap with rivals keeps increasing due to the fear of counterattacks. Further, it argues that a firm will deepen its understanding rivals' response strategies through prior product launches. By launching products in multiple

segments, a firm will have a direct understanding about how rivals react to its aggressive behaviour and will also observe action-reactions among rivals within the same segment or across multiple segments. This competitive history will make a firm develop its awareness of the potential risk of being counterattacked across different levels of its multipoint overlap with competitors. At a low to moderate level of multipoint overlap, the risk of being counterattacked is small. Conversely, at a moderate to high level of multipoint overlap, the risk of being counterattacked is large. This information will make a firm launch a competitive action more quickly when its multipoint overlap with competitors is at a low to moderate level (when the retaliation risk is small) and more willing to postpone launching a competitive action when the firm has extended its multipoint overlap with competitors (when the retaliation risk is large).

These theories are developed in the context of firms' product launch decisions. Firms often introduce new product lines into product segments. For example, Honda launched the Acura Legend into the mid-sized luxury segment in 1986. The basic hypothesis is that a firm's likelihood of launching a product into a product segment will first increase and then decrease (i.e., an inverted U-shape) as its multi-segment overlap level with competitors in that segment increases. At a low level of multi-segment overlap, the benefit of signalling its capability to deter competitors' attacks (i.e., deterrence building) encourages a firm to launch a product line into a segment. At a high level of multi-segment overlap, a firm will forbear from doing so to avoid the financial costs of being counterattacked in many overlapping segments.

More importantly, this thesis hypothesises that a firm with more information about competitors' response strategies will be quicker to introduce a product into a segment when the multi-segment overlap is between a low and moderate level and more

determined to delay the product launch when the multi-segment overlap is between a moderate and high level. In other words, the inverted U-shaped relationship between a firm's likelihood of introducing a product into a segment and its MSC will be strengthened by their prior knowledge and observation about competitors' response strategies.

These hypotheses are tested using data from the USA automobile industry during a period between 1980 and 2015. This data provides an empirical context suitable for this thesis. The outcome of interest is whether an automobile company introduced a product line into a segment in a given year. The USA automobile market is well-segmented, and it is possible to identify a product launch into a segment based on whether a new product line emerges in a segment in a given year. The findings support the hypotheses. A firm's likelihood of launching a product into a segment first increases and then decreases as its multi-segment overlap with rivals increases. Further, this inverted U-shaped effect of multi-segment overlap on a firm's likelihood of launching a product into a segment is stronger for a firm with more prior knowledge and observation about its rivals' response strategies than a firm with less prior knowledge and observation about its rivals' response strategies.

Study 2 contributes to multipoint competition literature. First, the engagement between mutual forbearance and a firm's competitive history helps build an understanding of the role of a firm's prior knowledge and observation in leading to future-oriented mutual forbearance. This study shows that a firm's understanding of the risk of being counterattacked by competitors accelerates its deterrence building and forbearance process, intensifying the inverted U-shaped effect of multipoint contact on the firm's likelihood of conducting an aggressive action. Second, this study contributes to the debate about whether firms purposefully seek to adopt multipoint competition

strategies. The findings suggest that a firm may unintentionally establish multipoint contact with competitors when they first enter a market while it will purposefully avoid extending its market overlap after gaining a better understanding of rivals' reaction potential. Third, by testing mutual forbearance in the context of product launch decision-making, this study extends the application of mutual forbearance beyond geographical markets. The mutual forbearance hypothesis has been tested extensively in geographical markets. However, although many firms compete in product markets, the research of mutual forbearance in product markets is insufficient (Sengul & Dimitriadis, 2015).

The rest of Study 2 is organised as follows. First, the relevant literature is reviewed. Second, hypotheses are developed based on the prior literature. Third, the empirical context of this study is described (i.e., the USA automobile industry). Fourth, the model and results of this study are presented. Finally, the findings and conclusions are discussed.

3.2. Literature Review

Section 3.2 reviews the multipoint competition and experiential learning literature in the context of firms' decision-making.

3.2.1. *Mutual Forbearance*

When making decisions such as whether to launch a product into a segment, firms can calculate the expected future costs and benefits of a single launch. This is known as the rational decision-making approach (Goll & Rasheed, 1997; Simon, 1979). A theory that is closely related to the rational decision-making approach is the mutual forbearance theory.

The basic idea of mutual forbearance is that when firms meet over multiple markets, their rivalry level tends to attenuate (Barnett, 1993; Edwards, 1955; Karnani &

Wernerfelt, 1985). It is widely acknowledged among scholars in economics and strategic management fields that the first formal articulation of the mutual forbearance hypothesis appeared in Edwards's (1955, p. 335) seminal paper, 'Conglomerate Bigness as a Source of Power', studying collusive behaviour among USA conglomerates. He observed that large firms met in multiple industries, and their rivalry appeared to weaken in overlapping industries. The logic behind mutual forbearance is that the threat of counterattack in overlapping markets will reduce a firm's likelihood of initiating a competitive action (Jayachandran et al., 1999).

Empirical studies support the rivalry-reducing effects of multi-market contact (Barnett, 1993; Baum & Korn, 1996; Boeker et al., 1997; Busse, 2000; Heggstad & Rhoades, 1978; Hughes & Oughton, 1993; Pilloff, 1999; Sandler, 1988; Young et al., 2000; Yu & Cannella, 2013). Hughes and Oughton (1993) found that the price–cost margin and return on capital were higher in industries with a high level of multi-market contact. Similarly, Pilloff (1999) showed that a bank's profitability increases as its multi-market contact increases. Instead of examining industry or firm performance, Young et al. (2000) studied the effects of market overlap on a firm's behaviour. They found that a firm's competitive moves in the USA software industry decreased as its multi-market contact with rivals increased.

Since the late 1990s, scholars have proposed an inverted U-shaped relationship between multipoint contact and the intensity of a firm's competitive actions (Baum & Korn, 1999; Fuentelsaz & Gómez, 2006; Haveman & Nonnemaker, 2000; Klein et al., 2020; Stephan & Boeker, 2001; Stephan et al., 2003). For example, Baum and Korn (1999) found an inverted U-shaped relationship between an airline's multi-market contact level and its likelihood of entering a route.

Scholars have also studied the boundary conditions of mutual forbearance at different levels (Baum & Korn, 1996; Fuentelsaz & Gómez, 2006; Gimeno & Woo, 1999; Greve, 2008; Haveman & Nonnemaker, 2000; Jans & Rosenbaum, 1997; Ma, 1998; Mas-Ruiz & Ruiz-Moreno, 2011; Ryu et al., 2020; Stephan et al., 2003). At a firm level, Mas-Ruiz and Ruiz-Moreno (2011) found that strategic groups comprising large firms are more likely to achieve better performance than strategic groups comprising small firms. They argued that this is because the scope of multi-market contact among large firms is wider than that among small firms. At a firm-in-market level, Ryu et al. (2020) found that the positive effects of multi-market contact on two firms' likelihood of cooperating in R&D activities were stronger when the contacts were reciprocal than when they were nonreciprocal. This finding also supports Bernheim and Whinston's (1990) theoretical prediction that asymmetry in markets is a precondition for mutual forbearance to occur.

3.2.2. *Experiential Learning and Vicarious Learning*

Besides conjecturing future reactions from multipoint competitors, firms also rely on their prior experience of making decisions. The experiential learning perspective predicts that a firm exhibits strategic momentum when conducting an action because it has conducted the same type of action before (Nelson & Winter, 1982). This momentum effect of past actions on a firm's decision-making has been supported extensively in empirical studies (e.g., Amburgey et al., 1993; Amburgey & Miner, 1992; Beck et al., 2008; Delacroix & Swaminathan, 1991; Ginsberg & Baum, 1994; Greve, 1998b; Kelly & Amburgey, 1991; Miller & Chen, 1994; Ocasio, 1999; Stoeberl et al., 1998; Turner et al., 2013).

For example, Kelly and Amburgey (1991) found that an airline's likelihood of changing from a generalist to a specialist airline will increase as its prior number of

such business line changes increases. This is because, over time, a firm accumulates knowledge about using a routine (e.g., an operating procedure) related to a business activity and becomes path-dependent (Beck et al., 2008). Miller and Friesen (1984) stated that organisations ‘reinforce or extend their past structures and strategy-making practices, adhering to previous directions of evolution’ (as cited in Kelly & Amburgey, 1991). However, the availability of solutions in a firm’s knowledge base may become a ‘competency trap’ (Denrell & Le Mens, 2020). Organisational members may fall into this competency trap and become overconfident when executing certain types of organisational changes (Beck et al., 2008). In other words, when encountering new problems, a firm may narrow its search area and attempt to find solutions in existing routines even though old approaches have resulted in poor performance (Greve, 1998b).

Part of a firm’s experiential learning is formed by accumulating knowledge about other stakeholders such as competitors. The vicarious learning perspective predicts that a firm can learn information, knowledge and practices by observing and modelling their actions after other firms’ competitive actions (Levitt & March, 1988; March, 1991). This understanding of rivals’ competitive strategies forms part of a firm’s knowledge repository.

Huber (1991) argued that a firm will acquire, distribute, interpret and memorise knowledge through inter-organisational learning. In this process, the firm can reduce the uncertainty associated with launching a competitive action based on its prior knowledge of rivals’ reactions. Embedded in inter-organisational networks, a firm can also observe the behaviour of various stakeholders, such as competitors, business partners, customers and suppliers. Thus, it will be informed about the current best examples in the product and service development field (Powell et al., 1996). Essentially, being embedded in multiple inter-organisational networks provides information about innovative ideas and

advice regarding the feasibility of research plans (Scott, 1990). Dodgson (1993) attributed Japanese industrial organisations' innovative success to their frequent learning from members of other business networks. In some extreme cases, firms obtain information and expertise from other firms by grafting. Grafting gives the focal firm access to personnel who possess skills that the focal firm lacks but requires. One way of grafting is by M&As; for example, GM acquired an electronic data system to gain the information system technology of a rival (Huber, 1991).

Empirical evidence for inter-organisational learning has been shown in hospitals adopting new organisational structures (Burns & Wholey, 1993), multinational enterprises (MNE) choosing foreign production (Guillén, 2002; Martin et al., 1998), radio station's adopting new music formats (Greve, 1998a), firms choosing investment banks (Haunschild & Miner, 1997), cities adopting council managers (Knoke, 1982) and firms diversifying their services (Haveman, 1993). Specifically, Martin et al. (1998) found that a Japanese automotive supplier's likelihood of establishing a production facility in a foreign market will increase as the number of buyers entering that market increases. Interestingly, Burns and Wholey (1993) found that the adoption of matrix management by hospitals of high prestige increased low prestige hospitals' adoption of such organisational structures. Greve (1998a) showed that a radio station is likely to follow another station's music format, exhibiting an imitative behaviour.

Baum et al. (2000) examined experiential learning, vicarious learning and mutual forbearance simultaneously in nursing home chains' acquisition decisions and found that past-oriented learning perspectives and future-oriented multipoint competition perspectives drive firms' strategic decisions. They also highlighted that a firm might intentionally try to profit from mutual forbearance after some contact with its multipoint competitors. Thus far, little is known about whether the predictive content

of mutual forbearance varies with influences from other time orientations (see Baum & Korn, 1999; Kalnins, 2004; Stephan et al., 2003 for exceptions).

Baum and Korn (1999) argued that, over time, a firm will recognise its interdependence with its multipoint competitors, leading to an inverted U-shaped effect of market overlap on a firm's likelihood of entering a market. Kalnins (2004) reported that imitation weakens the rivalry-reducing effects of a focal franchisee's multi-market contact with sister divisions and divisions in other organisations. Stephan et al. (2003) showed that when embedded in the multipoint competition context for a longer period, CEOs with longer tenures are more likely to recognise the benefits of mutual forbearance than CEOs with shorter tenures. However, the theoretical mechanism through which learning affects the function of mutual forbearance is unclear. Thus, to fill this gap, Study 2 explores how prior action–response instances where a firm learns its competitors' response strategies affect the nonlinear relationship between a firm's likelihood of launching a competitive action into a product segment and its MSC level with competitors.

3.3. Theory and Hypotheses

3.3.1. *Multipoint Contact and Product Launches*

Firms consider the future responses from competitors when launching a product. The mutual forbearance theory predicts that firms tend to have a lower level of rivalry in all overlapping markets they meet because they fear the potential cross-market counterattacks (Chuang et al., 2018). The effects of multi-market contact on product launches are likely to be nonlinear. At a low level of MSC with the existing firms in a segment, a focal firm will be motivated to introduce products to that segment to develop its deterrence against future attacks. By entering a given segment, it is signalling its ability to respond vigorously if attacked (Porter, 1980). If its MSRs violate the tacit

collusion, a focal firm can punish them in any overlapping segment by adopting either tactical moves, such as offering discounts, or strategic moves, such as launching products or services (Chen & MacMillan, 1992).

At a high level of MSC, the focal firm has already established credible deterrence through its presence in multiple segments (Ghertman & Guedri, 2012). Thus, the marginal gain from an additional product launch will be smaller than at a low level of MSC. The benefits of launching a product into a given segment will increase at a decreasing rate with a firm's MSC level.

A cost function operates simultaneously alongside the benefits mentioned above. As a focal firm's MSC level with rivals rises, they will have more segments exposed to rivals. These segments can serve as rivals' countermove targets (Chuang et al., 2018). In other words, launching a product into a given segment is associated with additional risks of being counterattacked (Chuang & Thomson, 2017). Specifically, the costs associated with launching a product, such as reduced sales, will increase as a focal firm's segment overlap with rivals increases because more contact points will transform into counterattack targets and sources of revenue loss (Klein et al., 2020). Thus, the costs stemming from rivals' counterattacks will keep increasing at an increasing rate as a focal firm's MSC level with their rivals increases.

As the anticipated benefits associated with the rising segment overlap increase at a decreasing rate and the anticipated costs increase at an increasing speed, the net effect of MSC on the probability of launching a product into a given segment will be nonlinear. At a low to moderate level of MSC, the net benefit of launching a product into a segment, namely, the gap between the benefit (i.e., establishing a deterrence point) and the cost of launching a product into a segment (i.e., the loss of sales in any overlapped segments being counterattacked) is positive and keeps widening; however,

the marginal net benefit of launching a product becomes narrower. This explains why a firm's likelihood of launching a product into a segment will increase at a decreasing rate as its multi-segment overlap with competitors increases from a low to moderate level.

In contrast, at a moderate level of MSC, the marginal benefit of launching a product (i.e., further developing additional deterrence) falls behind the marginal cost of the launch. Then, the net benefit of launching a product will decrease, and an additional net cost of launching a product will occur. This additional net cost will rise as a firm's segment overlap with competitors increases. Thus, from a moderate to high level of MSC, a firm's likelihood of launching a product will decrease at an increasing rate. Consequently, the probability of a focal firm's product launch into a given segment peaks at the moderate level of MSC with its competitors. These arguments lead to the following hypothesis:

- Hypothesis 4—A firm's probability of launching a product into a segment will first increase and then decrease with the extent of its MSC with competitors.

3.3.2. *Moderating Effect of Prior Product Launches on Mutual Forbearance*

A firm will accumulate information about its competitors' response strategies during prior product launches. After each product launch into a segment, the focal firm can observe how its multi-segment competitors react (Cabanelas et al., 2020).

Specifically, it will be able to estimate at what level of MSC these competitors will launch cross-segment counterattacks (Sengul & Dimitriadis, 2015).

When the focal firm has a low to moderate level of MSC with its competitors (after a product launch), its potential risk of being counterattacked is low. At this stage, a firm may not realise that it is competing with other firms in multiple segments and may not be aware of the associated costs with the multi-segment competition.

Conversely, when the focal firm has a moderate to high level of MSC, its likelihood of

being counterattacked in multiple segments is high because a further increase in segment overlap might damage the competitors' dominant positions in their core segments (Ryu et al., 2020). As a firm makes more product launches that lead to more action–response encounters with competitors, it will accumulate a larger information repertoire about its rivals' response techniques (Miller & Chen, 1994). Thus, it will have a higher awareness of the varying levels of the risk of being retaliated at different levels of MSC (Chuang & Thomson, 2017).

At a low to moderate level of MSC, the net benefit of launching a product (i.e., the difference between the benefit of launching a product and the cost of doing so) continues to rise. The effects of MSC on a firm's likelihood of launching a product into a segment will be positive, and deterrence building will dominate a firm's multipoint competition strategy. Through several competitive interactions, firms will tolerate each other's aggressive actions and mutually respect their spheres of influence when their segment overlap is low (Gimeno, 1999). Thus, a firm with more product launches and knowledge about its competitors' response strategies will be confident that at a low to moderate level of MSC, the risk of being counterattacked by competitors is relatively low and that this is an opportunity to increase its deterrence capability by launching more products (Stephan & Peters, 2013). This suggests that at any given point of a low to moderate level of MSC, the likelihood of launching a product into a segment by a firm that has more knowledge about its competitors' reaction strategies will increase at a faster rate than that of a less knowledgeable firm.

At a moderate to high level of MSC, given that a certain level of segment overlap (i.e., deterrence capability) has been established, extending it will be interpreted as an aggressive action by a firm's multi-segment competitors. They are very likely to counterattack in some or all shared segments (Chen, 1996). The marginal cost of

extending a firm's multi-segment network exceeds the marginal benefit. As the pace of the cost of launching a product keeps accelerating while the benefit of product launch continues to lose its momentum, the net benefit of launching a product decreases. Thus, the effect of MSC on a firm's likelihood of launching a product into a segment will be negative.

Additionally, a firm's organisational memory of encounters with MSRs after initiating competitive actions will inform it that the danger of being counterattacked increases significantly at this range of MSC (Greve, 1998b; Ocasio, 1999). This is because, at a moderate to high level of MSC, further aggressive actions will be interpreted as violating the tacit agreement and a signal to disrupt the mutual forbearance. Thus, a firm that has initiated more product launches and had more action-response instances with competitors will become more hesitant to launch a product into a segment. This indicates that at any given point of a moderate to high level of MSC, driven by the fear of being counterattacked, the likelihood of launching a product by a firm with more information about its rivals' response strategies will decrease more rapidly than that of a less informed firm.

Besides direct interactions with competitors, by being present in multiple segments through product launches, a firm can also observe the competitive dynamics among competitors (Huber, 1991). The focal firm is likely to see that competitors with little segment overlap tend to behave aggressively while competitors with large segment overlap often avoid attacking each other's spheres of influence. In rare situations, a new entrant will attack an existing firm's sphere of influence. However, the new entrant will be forced to exit that segment because of the heavy retaliation. These observations will be absorbed into the focal firm's competitive history (Burns & Wholey, 1993; Powell et al., 1996). Based on its learning of other firms' competitive strategy and a scan of the

competitive dynamics within a multi-segment environment, a focal firm will take every opportunity to build deterrence when its segment overlap with rivals is low while it will restrain its deterrence building desire when the counterattack risk is high.

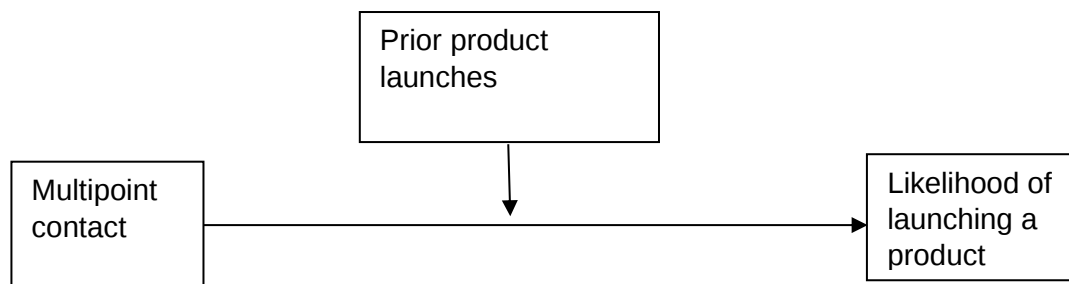
Therefore, the prior product launches of a focal firm will accelerate the deterrence building process and forbearance process as a firm's MSC level with rivals increases. This leads to:

- Hypothesis 5—a firm's prior product launches will accelerate its product launches when its MSC level with competitors is low and reinforce its hesitation of launching a product when its MSC level with competitors is high.

Figure 3.1 provides the conceptual framework for Study 2.

Figure 3.1

Conceptual framework for Study 2



3.4. Data and Method

3.4.1. Data Collection

The population used in Study 2 was the companies selling cars in the USA automobile market. The data comprises product launches of global automobile manufacturers into product segments in the USA market between 1980 and 2015. The data was sourced from various editions of *Ward's*, an annual publication by WardsAuto that has produced industry data for more than 90 years. WardsAuto is the transportation/automobile division of Penton, an information services company.

The USA car industry offers a useful context for analysing product launch decisions. First, the industry has fairly clear market segments. In the sample for this Study 2, the number of segments increased from 21 in 1980 to 27 in 2015, reflecting an increasing level of sophistication in consumer preferences over time. Segmentation is based on three dimensions: body size, price and vehicle type. For example, a large luxury SUV is an SUV with a large body size (associated with large engine sizes) and high price (associated with the high-end features). Second, many firms sell car lines in more than one segment, making MSC relevant and measurable in this context. For example, in 2015, Volkswagen and Toyota sold cars in over 13 and 19 segments, respectively. The number of overlapping segments is counted to discover Volkswagen's MSC level with Toyota in the lower end of the luxury sedan segment (lower-luxury). Because both firms were present in multiple segments, it appeared more likely that they met each other in segments other than the focal segment. Third, identifying product launches is relatively easy; once a new car line is introduced into a segment, it can be counted as a product launch.

The data structure is panel data, and the number of firms and segments changed over time. For example, in 1990, there were 20 firms and 23 segments and thus, 460 firm-segment combinations (20×23), whereas in 2015, there were 17 firms and 27 segments and thus, 459 combinations (17×27) in the sample. Given that this empirical analysis focuses on firms' likelihood of launching products into segments, the unit of analysis in Study 1 is the firm-segment-year.

3.4.2. *Dependent Variable*

3.4.2.1. *Product Launch*

The product launch into a segment (L_{imt}) was coded as a dummy variable that was assigned a value of 1 when firm i launched a car line into segment m at year t , and 0

if otherwise. For example, in the 1990 model year, Ford launched the Jaguar Rouge into the luxury sports car segment. For a more detailed explanation of how a product launch into a segment is defined, please see the method section of Study 1.

3.4.3. *Independent Variable*

3.4.3.1. **Multi-Segment Contact**

Hypothesis 4 argues that a firm's probability of launching a product into a given segment will first increase and then decrease with the extent of MSC it encounters in that segment. The MSC is measured as a focal firm's segment overlap with its multi-segment competitors in a given segment in a given year. Following Haveman and Nonnemaker's (2000) procedure, the focal firm's MSRs in each segment are identified, and if the focal firm meets a rival in other segments besides the focal one, that rival is considered an MSR of the focal firm. Next, for each of the focal firm's MSRs present in the focal segment, the number of other segments in which they overlap is calculated. Then, for each of the focal firm's MSRs, the ratio of the number of overlapped segments over the total number of segments in which a focal firm is present is calculated. Finally, this ratio is summed across the focal firm's MSRs, and the aggregate MSC level that the focal firm encounters in a given segment in a given year is found. The mathematical formula is as follows:

$$MSC_{imt} = \sum_{j \neq i} [MPR_{ijt} \times D_{jmt} \times \frac{\sum_{n=1}^k (D_{int} \times D_{jnt})}{\sum_{n=1}^k D_{int}}]$$

Where $MPR_{ijt} = 1$ if firm j is a multi-segment competitor of the focal firm i in year t , and 0 if otherwise; $D_{jmt} = 1$ if firm j is present in segment m at year t , and 0 if otherwise; $D_{int} = 1$ if focal firm i is present in segment n at year t , and 0 if otherwise; and $D_{jnt} = 1$ if firm j is present in segment n at year t , and 0 if otherwise. The number of segments focal firm i is present in year t is denoted by k .

For example, in 1983, BMW was present in four segments (i.e., luxury specialty, middle luxury, upper-luxury and upper-middle). The MSC level BMW encountered in the middle luxury segment was calculated as follows. First, BMW's multi-segment competitors (firms that shared other segments besides middle luxury with BMW) were identified. There were three companies: Daimler, Ford and GM. Second, the competitors' segment overlapping ratio with BMW was calculated. Daimler shared two segments with BMW, with a ratio of 0.50 (2/4). Ford shared three segments with BMW, with a ratio of 0.75 (3/4). GM shared three segments with BMW, with a ratio of 0.75 (3/4). Finally, these ratios were summed (i.e., $0.50 + 0.75 + 0.75 = 2$) to calculate that BMW's MSC level in the middle luxury segment in the year 1983 was 2.

3.4.4. Moderator

3.4.4.1. Prior Product Launches

Hypothesis 5 argues that a firm that has made more product launches and thus, gained more information about its rivals' response strategies will increase its deterrence building and forbearance process. A firm's prior product launches were measured by counting the accumulated number of new car lines a firm had launched across segments over previous years. The prior product launches capture a firm's understanding of its rivals' reaction strategies through the firm's interactions with rivals and the firm's observation about rivals' action-reactions among themselves within the same segment or across multiple segments. Hence, both the direct learning and vicarious learning about rivals' response strategy are captured by a firm's prior product launches. Specifically, prior product launches allow a firm to learn about the risks of being retaliated against at different levels of MSC. As a firm launches more products, it will accumulate more multi-segment competition knowledge by observing competitors' counterattack techniques. Hypothesis 5 was tested by including the interactions between

MSC and prior product launches and between MSC² and prior product launches. A positive sign is expected for the interaction between MSC and prior product launches, and a negative sign is expected for the interaction between MSC² and prior product launches.

3.4.5. Control Variables

Because other factors may also affect a focal firm's decision to launch a product into a segment, control variables were included to ensure that the estimation of results was not biased. These control variables were grouped into three categories:

(1) segment-level factors that capture variations in properties of segment structure; (2) firm-level factors associated with heterogeneous resource deposits and innovative capabilities across firms; and (3) firm-segment-level factors that vary across firm-segment combinations. Section 3.4.5 discusses the segment-level, firm-level and firm-segment-level control variables.

3.4.5.1. Segment Level

3.4.5.1.1. Segment Growth Rate

The segment growth rate variable is the percentage change in sales of a given segment between the focal year and the previous year:

$$\text{Segment growth rate} = \frac{(\text{Segment sales}_t - \text{Segment sales}_{t-1})}{\text{Segment sales}_{t-1}}$$

A high sales growth rate in a given segment indicates strong potential for sales growth in the future, which attracts firms to launch products into that segment. Thus, the segment growth rate was controlled, and a positive sign was expected.

3.4.5.1.2. Segment Density

In the context of Study 2, the segment density variable was measured as the number of car lines in a given segment in the previous year. A large number of incumbents in a given segment reflects the profit opportunity, which may encourage

firms to launch a product into that segment first. Then, as more entrants arrive, the rivalry level in the segment rises, which will discourage further entries. For example, Hannan and Freeman (1987) found an inverted U-shaped relationship between the USA labour unions' founding rates and the number of existing unions. The segment density and segment density squared were included to control this curvilinear effect of density. A positive sign is expected for the linear term, while a negative sign is expected for the quadratic term.

3.4.5.1.3. *Segment Concentration*

The extent to which a few large players dominated a given segment (the concentration variable) was controlled because the segment structure will affect a firm's decision to launch a product into a given segment. According to the oligopoly theory, when there are fewer sellers in a market, those sellers will recognise their interdependence and collude (Coccorese & Pellicchia, 2013). By setting up barriers to entry (e.g., the required economies of scale, control of key supplies, established dealership and brand loyalty) and market powers to retaliate, the existence of oligopolists can deter potential entrants from entering a given segment. Thus, a negative sign is expected for segment concentration. The sum of the squares of the market share of all firms in a given segment was used to measure the extent to which a segment was dominated by a few automakers; higher values indicated higher concentrations of firms.

3.4.5.2. *Firm Level*

3.4.5.2.1. *Number of Segments*

The number of segments in which the focal firm was already present was controlled. This control variable was included to account for the possibility that new product launches are sometimes motivated by the goal of growing into a big firm and

making cars available in every segment of the market. For example, Honda launched the Odyssey to attract existing and new customers in the market to buy a mini-van.

3.4.5.2.2. Firm Size

Larger firms are more likely to introduce a new product into a given segment than smaller firms because the former possess a higher level of financial, technological and marketing resources than the latter (Alexy et al., 2018). Thus, the firm size variable was controlled. It was measured as the total number of cars sold by a firm during the previous year. A positive sign was expected for the firm size.

3.4.5.2.3. Product Diversification

A diversified firm is more likely to launch more products. For automobile firms, financial success is largely reflected by their ability to adapt their products to the needs and tastes of different customers (Chamberlin, 1962). A generalist firm, such as GM that pursues a ‘cars for all purses and purposes’, will have a product development strategy that is more likely to introduce a new car line to a given segment than a specialist firm, such as Ford during its early years, when it maintained the Model T for over nearly 20 years. Thus, a firm’s product diversification in the previous year was controlled using the following method (Berry, 1975):

$$Productdiv = 1 - \sum_{n=1}^k S_n^2$$

Where a firm sells cars in k segments and S_n is the share of its number of lines in the n th segment over its total number of car lines across k segments. A larger value of *Productdiv* indicates a higher level of product diversification. A positive sign was expected for product diversification.

3.4.5.3. Firm-Segment Level

3.4.5.3.1. Other Product Launches

A firm may show strategic momentum by launching a product into a focal segment after launching products into other segments. A firm's most recent decisions will have an immediate momentum effect on its subsequent decision-making (Turner et al., 2013). This effect is stronger if the focal segment of entry and segments entered during the previous year share similar R&D and manufacturing technology. A focal firm's number of new car line introductions into segments other than the focal segment during the previous year were measured. It is also possible that product launches in other segments left fewer resources for the product development in the focal segment, which might lower the likelihood of launching a product into the focal segment. Thus, a positive or negative sign was expected for this variable.

3.4.5.3.2. Multi-Segment Rivals' Size

Firms are reluctant to launch a product into a given segment when large rivals who can use their market power as barriers to entry are present, making the segment unattractive. Thus, the MSRs' size was controlled. A negative sign was expected for MSRs' size. First, a firm's MSRs were identified using calculations similar to those for the MSC level a firm faces in a given segment. Second, the total number of cars sold for each MSR was determined. Finally, these MSRs' sales were summed, providing their overall size. The mathematical formula is as follows (Haveman & Nonnemaker, 2000):

$$MSRsize_{imt} = \sum_{i \neq j} (MPR_{ijt} \times D_{jmt} \times \sum_{n=1}^k Sales_{jnt})$$

Where $MPR_{ijt} = 1$ if firm j is focal firm i 's MSR at year t and 0 if otherwise; $D_{jmt} = 1$ if firm j sells car lines in focal segment m at year t and 0 if otherwise; $Sales_{jnt}$ is firm j 's sales in segment n at year t ; and k is the number of segments in which firm j is present at year t .

3.4.5.3.3. *Recent Product Launches*

A firm may also launch products into the same segment repeatedly because the marginal cost of launching a product into a segment will decrease as the focal firm becomes more skilled in doing so (Amburgey & Dacin, 1994; Beck et al., 2008; Ginsberg & Baum, 1994; Turner et al., 2013). This strategic momentum effect of past product launches into the focal segment was accounted for by controlling for the focal firm's recent number of product launches in a segment, which was measured as its number of product launches into a segment during the previous year. A contrary argument was that a firm is less likely to launch additional products into a segment if it has already done so during the previous year. It may not want to sacrifice the sales of existing products in the same segment. Thus, a positive or negative sign was expected for the recent product launches into the focal segment.

3.4.5.3.4. *Tenure in a Segment*

Study 2 also controlled for the time a firm had spent in a segment. As older organisations exhibit inertia (Ruef, 1997), it was expected that a firm that has spent more time in a segment is more likely to stay in the same segment and resist launching products into other product families. A firm's tenure in a segment was measured by the number of years the firm had been present in the segment. A positive sign was expected for this variable.

3.4.5.3.5. *Total Product Launches*

A firm might launch products into the same segment if its prior number of product launches into that segment keeps increasing. This is because the marginal cost of launching a product decreases as the firm becomes familiar with the competitive dynamics in a segment (Miller & Chen, 1994; Ocasio, 1999; Stoeberl et al., 1998).

Thus, Study 2 controlled for the total number of product launches a firm had made into a segment. A positive sign was expected for this variable.

3.4.6. *Modelling Specification*

The outcome of interest in Study 2 is whether or not a firm launches a product into a given segment in a given year. Because the dependent variable was a set of discrete choices rather than a continuous measure, such as a firm's sales, a limited dependent variables method was appropriate (Wiersema & Bowen, 2009). The probability of a product launch was estimated using the discrete time logit model (Allison, 1984) because the precise time when a product launch occurred between $Year_{t-1}$ and $Year_t$ was unknown.

The discrete time logit model is a statistical model used in event history analyses. Scientists from demography, sociology, biology, education and economics have relied on event history analyses (survival analyses) to understand the causes of certain events. An event is an individual's qualitative change at a given point in time (Allison, 1984). Examples of an event include death, marriage, divorce, unemployment, arrest and migration. Recurrent and multi-state events can be analysed by using event history data (Aalen et al., 2008). Recurrent events refer to situations where the same type of event can repeatedly occur during an individual's life. For example, a criminal may be arrested several times during their life. Multi-state events refer to the change from one state to another state. For example, an individual may change sleep stage from falling asleep to rapid eye movement sleep and waking up throughout the night (Yassouridis et al., 1999).

Study 2 attempted to apply an event history analysis to track a sample of individual firms' product launch decisions into a product segment longitudinally. A focal firm may switch from one segment to another or returning to the same segment

repeatedly by updating its product lines over time. The focal event is a firm's product launch into a given segment:

$$H_{imt} = bX_{imt} + cX_{mt} + \varepsilon_{imt}$$

Where H_{imt} is the hazard rate that firm i launches a product into segment m at the beginning of year t . A log transformation was also performed for H_{imt} to guarantee that the hazard rate was bounded between 0 and 1:

$$\log\left[\frac{H_{imt}}{1 - H_{imt}}\right] = bX_{imt} + cX_{mt} + \varepsilon_{imt}$$

Where b and c are coefficient estimates of a vector of the firm-segment-year level independent variables and the segment-year level independent variables, respectively. These indicate the change in the log-odds of a product launch into a segment associated with a one-unit increase in each independent variable. All independent variables and control variables were measured with a one-year lag ($t - 1$), and the likelihood of launching a product into a segment was measured for the current period (t).

The error term ε_{imt} included all the unobserved factors that may have influenced the likelihood of launching a product into a segment. Dummy variables were included for each firm, segment, year and firm-segment combination to allow the intercept to change with different combinations of firms, segments and years. The modelling used maximum likelihood estimation, which chooses estimators b and c to maximise the log-likelihood function.

There is an implicit profit function in the discrete time logit model. Firm i 's profit in segment m at year t can be expressed as follows:

$$Profit_{imt} = W_{imt}\alpha + \varepsilon_{imt}$$

Where W_{imt} is the vector of observable characteristics of segment m at year t and α is the vector of estimated coefficients. A firm will launch a product into segment m only when $Profit_{imt} > Profit_{izt}$, $m \neq z$.

Estimation may suffer from the issue of omitted variable bias. Besides the control variables mentioned earlier, other unobserved factors may have affected the firms' likelihood of launching a product into a segment. Omitting these factors in the analysis could bias the coefficient estimates. One possible factor is the R&D expenditure at the firm-segment level. Omitting R&D expenditure will overestimate the coefficient of MSC.

The direction of bias depends on the sign of $\beta_{omitted} \times r_{omitted, focal\ independent\ variable}$ (Halcoussis, 2005). $\beta_{omitted}$ is the coefficient estimate of the omitted variable if it is included, and $r_{omitted, focal\ independent\ variable}$ is the correlation between the omitted variable and the focal independent variable. A firm with higher R&D expenditure for one segment is more likely to launch a product into that segment. Thus, $\beta_{omitted}$ is positive. A firm with extensive segment overlap with rivals (i.e., high MSC) may be more likely to have high R&D expenditure at the segment level because otherwise, it will not have a presence in many segments. Thus, $r_{omitted, focal\ independent\ variable}$ is positive. The sign of $\beta_{omitted} \times r_{omitted, focal\ independent\ variable}$ is positive; thus, the coefficient estimate of MSC will be larger than its true value.

Unlike firm-level R&D data, the firm-segment level data on R&D is difficult to obtain. This problem was partially mitigated by following Yu et al.'s (2009) suggestion of using a fixed-effects panel model (in Stata, the xtlogit command with the fe option). In a fixed-effects panel model, each firm's autonomous baseline hazard of launching a product into a given segment in a given year varies with each firm-segment

combination, which partially captures the effects of the omitted variables at the firm-segment level.

3.5. Results

Table 3.1 reports the descriptive statistics and correlations among the variables. A VIF test was performed. All variables' VIFs were below 10, except for the linear and squared terms of the same variable—that is, MSC and MSC² and segment density and segment density squared. These tests offer reasonable confidence that multi-collinearity is not a major issue in Study 2.

Table 3.1*Means, standard deviations and pairwise correlations*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Product launch	1.00																	
2. MSC	0.06	1.00																
3. MSC ²	0.04	0.95	1.00															
4. Prior product launches	0.16	0.16	0.13	1.00														
5. MSC x prior product launches	0.14	0.71	0.65	0.73	1.00													
6. MSC ² x prior product launches	0.10	0.81	0.82	0.50	0.93	1.00												
7. Segment growth rate	-0.01	-0.07	-0.05	-0.03	-0.05	-0.04	1.00											
8. Segment density	0.09	0.74	0.66	0.23	0.62	0.65	-0.08	1.00										
9. Segment density ²	0.09	0.66	0.62	0.22	0.58	0.62	-0.05	0.96	1.00									
10. Segment concentration	-0.04	-0.27	-0.24	-0.25	-0.31	-0.27	0.07	-0.09	-0.07	1.00								
11. Number of segments	0.18	-0.09	-0.14	0.60	0.32	0.13	-0.02	0.03	0.02	-0.07	1.00							
12. Firm size	0.18	-0.13	-0.15	0.54	0.23	0.06	-0.01	0.00	0.00	-0.03	0.82	1.00						
13. Product diversification	0.11	-0.02	-0.08	0.48	0.30	0.15	-0.03	0.02	0.01	-0.07	0.71	0.44	1.00					
14. Other product launches	0.09	-0.08	-0.10	0.30	0.14	0.03	0.00	-0.00	-0.01	-0.02	0.51	0.42	0.33	1.00				
15. MSR size	0.02	0.74	0.61	0.06	0.52	0.56	-0.08	0.63	0.52	-0.17	-0.06	-0.13	0.09	-0.05	1.00			
16. Recent product launches	0.08	0.08	0.08	0.17	0.17	0.13	0.01	0.13	0.13	-0.03	0.19	0.18	0.12	0.12	0.02	1.00		
17. Tenure in a segment	0.15	0.33	0.29	0.49	0.55	0.47	-0.04	0.31	0.27	-0.16	0.51	0.38	0.38	0.24	0.19	0.18	1.00	
18. Total product launches	0.17	0.27	0.23	0.51	0.53	0.44	-0.03	0.31	0.29	-0.16	0.56	0.44	0.36	0.27	0.13	0.35	0.79	1.00
Mean	0.05	3.4	15.15	2.15	7.75	35.34	0.44	10.98	160.96	0.86	7.96	74.61	0.71	0.35	836.24	0.04	1.02	0.37
SD	0.22	1.89	15.58	1.36	6.71	42.32	6.83	6.36	169.03	0.67	5.91	119.32	0.27	0.52	397.77	0.17	1.34	0.58
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00	-0.77	1.00	1.00	0.15	1.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	1.00	13.00	169.00	5.21	36.38	363.76	168.17	30.00	900.00	3.94	24.00	625.65	0.95	2.56	1698.23	1.61	4.20	2.94

Note. MSC = multi-segment contact; MSR = multi-segment rival; SD = standard deviation.

Table 3.2 reports the Hypotheses 4 and 5 analyses results. Model 1 is the baseline model, where only the control variables were included. In Model 2, the MSC and MSC² were included to test Hypothesis 4. In Model 3, the prior product launches, MSC x prior product launches, and MSC squared x prior product launches were added to Model 2 to test Hypothesis 5.

Table 3.2

Results of logistic regression with the likelihood of launching a product into a segment as dependent variable

Independent variables	Model 1	Model 2	Model 3
MSC		0.444*** (0.165)	-0.015 (0.287)
MSC ²		-0.036** (0.014)	0.030 (0.027)
Prior product launches			-0.231 (0.378)
MSC x prior product launches			0.230** (0.092)
MSC ² x prior product launches			-0.033*** (0.011)
Segment growth rate	0.002 (0.027)	-0.001 (0.027)	-0.001 (0.027)
Segment density	0.108*** (0.038)	0.022 (0.050)	-0.015 (0.052)
Segment density squared	-0.002* (0.001)	0.000 (0.001)	0.001 (0.001)
Segment concentration	-0.105 (0.099)	-0.036 (0.104)	-0.034 (0.104)
Number of segments	0.225*** (0.025)	0.225*** (0.026)	0.222*** (0.026)
Firm size	-0.002** (0.001)	-0.001 (0.001)	-0.001 (0.001)
Product diversification	-0.102 (0.555)	-0.183 (0.558)	-0.083 (0.570)
Other product launches	-0.045 (0.073)	-0.040 (0.073)	-0.042 (0.073)
MSRs' size	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Recent product launches	0.083 (0.172)	0.083 (0.173)	0.071 (0.173)
Tenure in a segment	0.210** (0.098)	0.203** (0.099)	-0.213** (0.099)
Total product launches	-2.085*** (0.176)	-2.067*** (0.177)	-2.096*** (0.198)
Log-likelihood	-1800.68	-1796.96	-1792.24
Likelihood ratio chi-squared	246.27	253.71	263.16
df	12	14	17
p-value	0.000	0.000	0.000
Number of observations	7639	7639	7639

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors are in parentheses.

Several control variables show interesting results in Model 1. Unexpectedly, large firms are less likely to launch a product than small firms maybe because the former's hierarchical structure slows down the approval process of new projects. Both the recent and other product launches were statistically insignificant, although their signs deserve an explanation. The negative sign of the other product launches shows that the expertise in one segment cannot be transferred smoothly to another segment in the automobile industry. Indeed, the body and chassis of a light truck are separately built, while a CUV is built with a uni-body frame. The recent product launches variable was positive, indicating that a firm with more frequent product launches in a segment during a previous year is more likely to launch new products into the focal segment. The immediate momentum effect outweighs the cannibalisation consideration. Consistent with the expectation in Study 2, a firm that has stayed in a segment for a long time is also more likely to launch new products into the focal segment. The results of the recent product launches and tenure in a segment variable show that organisational inertia is difficult to overcome and firms can become dependent on one segment, falling into the competency trap (Denrell & Le Mens, 2020). For example, in the 1970s, Honda committed its R&D and marketing resources to develop and market small-sized cars and focused on that segment with continuously updated car lines.

In Model 2, the MSC was statistically significant and positive ($b = 0.444$, $p = 0.007$), and the MSC^2 was statistically significant and negative ($b = -0.036$, $p = 0.011$). However, as Haans et al. (2016) highlighted, a significant and negative coefficient for MSC^2 is a necessary but insufficient condition to conclude that an inverted U-shaped effect exists. Lind and Mehlum's (2010) three-step procedure was followed to confirm these findings. The first requirement is that the coefficient of the

squared term of the MSC is statistically significant and negative. This requirement has been met.

The second requirement is that the slope at the lower end of the MSC is statistically significant and positive; conversely, the slope at the higher end of the MSC must be statistically significant and negative. The slope was the first derivative of the probability of product launch variable with respect to MSC (i.e., $S = b_1 + b_2 \times 2MSC$). At the low end of the MSC (i.e., when $MSC = 0$), the slope was $S = 0.444 > 0$ and significant ($p = 0.004$). At the high end of the MSC (i.e., when $MSC = 13$), the slope was $S = -0.501 < 0$ and significant ($p = 0.013$). These results conform with Lind and Mehlum's (2010) second prerequisite for an inverted U-shaped finding.

The third requirement is that the turning point of the inverted U-shaped curve must be located within the range of the MSC. From the estimated coefficients for MSC in Model 2, it was calculated that the turning point was 6.109, which was well within the range of the MSC in the data. Given that all three conditions have been satisfied, an inverted U-shaped relationship exists between the MSC and the likelihood of product launches. Thus, Hypothesis 4 is supported by the results of Study 2.

Hypothesis 5 was tested by checking the coefficient of the interaction terms between the MSC, MSC^2 and a firm's prior product launches in Model 3. The coefficient of the interaction between the MSC and a firm's prior product launches was statistically significant and positive ($b = 0.230, p = 0.012$). The coefficient of the interaction between the MSC^2 and a firm's prior product launches was statistically significant and negative ($b = -0.033, p = 0.003$). This indicates that the inverted U-shaped relationship between a firm's likelihood of launching a new product into a segment and its MSC with rivals is strengthened by its understanding of competitors' response strategies. However, as Haans et al. (2016) argued, a negative sign for the

quadratic interaction term is neither sufficient nor necessary for a steepening effect to occur.

Therefore, a three-step procedure was conducted to check whether steepening had occurred (Haans et al., 2016). Suppose the simplified form of Model 3 is expressed as follows:

$$\begin{aligned} \text{Probability of launching a product into a segment} = Y = \\ \beta_0 + \beta_1 MSC + \beta_2 MSC^2 + \beta_3 MSC \times \text{priorproductlaunch} + \beta_4 MSC^2 \\ \times \text{priorproductlaunch} + \beta_5 \text{priorproductlaunch} \end{aligned}$$

The derivative of Y with regards to MSC is:

$$Y' = \beta_1 + 2\beta_2 MSC + \beta_3 \text{priorproductlaunch} + 2\beta_4 MSC \times \text{priorproductlaunch}$$

Let $Y' = \text{zero}$. The turning point is:

$$MSC^* = \frac{-(\beta_1 + \beta_3 \text{priorproductlaunch})}{2\beta_2 + 2\beta_4 \text{priorproductlaunch}}$$

First, two values of the moderator, prior product launch, $\text{priorproductlaunch}_1$ and $\text{priorproductlaunch}_2$ were chosen, and the MSC_1^* and MSC_2^* turning points when the prior product launch was equal to the $\text{priorproductlaunch}_1$ and $\text{priorproductlaunch}_2$, respectively, were calculated. Second, a distance (a) from the left of each turning point was chosen, and the slope S_1 at $MSC_1^* - a$ and slope S_2 at $MSC_2^* - a$ were calculated. Third, the S_1 and S_2 values were compared. If $S_2 > S_1$, the moderator amplifies the inverted U-shaped main effect of the MSC on the probability of launching a product into a segment. Let $\text{priorproductlaunch}_1 = 20$ and $\text{priorproductlaunch}_2 = 70$. When $a = 3$, $S_2 = 13.68$, $S_1 = 3.78$ and $S_2 > S_1$; thus, the steepening occurs. Replicating these procedures when choosing different values of a (e.g., $a = 1, 2$) produced consistent results.

The values of S_1 at $MSC_1^* + a$ and S_2 at $MSC_2^* + a$ (i.e., when the point chosen was at a distance right of the turning point) were compared. When $a = 3$, $S_2 = -13.68$,

$S_1 = -3.78$ and $|S_2| > |S_1|$. Thus, the upward and downward parts of the inverted U-shaped curve becomes steeper as a firm's accumulated number of product launches across segments increases. In other words, a firm's prior knowledge about how MSRs react to a product launch accelerates both the process of deterrence building and avoidance from further product launches, supporting Hypothesis 5.

3.5.1. Robustness Check

Table 3.3 reports the results of the analyses when the whole sample is divided into two subsamples. For further testing Hypothesis 5, the sample was divided into two subsamples based on a firm's prior product launches (i.e., the logged value of a firm's prior number of product line introductions across segments). The median of a firm's prior product launches was 2.20. Subsample (a) included those firms whose prior product launches were less than 2.20. Subsample (b) included those firms whose prior product launches were more than 2.20. In Model 4, subsample (a) was used for estimation. In Model 5, subsample (b) was used for estimation.

Table 3.3

Results of logistic regression with the likelihood of launching a product into a segment as dependent variable when the sample is divided into two subsamples

Independent variables	Model 4	Model 5
MSC	−0.268 (0.304)	0.939*** (0.228)
MSC ²	0.015 (0.023)	−0.089*** (0.023)
Segment growth rate	0.022 (0.042)	−0.018 (0.038)
Segment density	0.105 (0.110)	−0.056 (0.060)
Segment density ²	0.000 (0.003)	0.002 (0.002)
Segment concentration	−0.419* (0.217)	0.081 (0.122)
Number of segments	0.236*** (0.061)	0.201*** (0.030)
Firm size	−0.000 (0.004)	−0.001 (0.001)
Product diversification	0.141 (0.802)	0.579 (0.950)
Other product launches	−0.272 (0.191)	−0.011 (0.080)
MSRs' size	−0.000 (0.000)	0.000 (0.000)
Recent product launches	0.549 (0.452)	0.010 (0.189)
Tenure in a segment	0.442** (0.216)	0.246** (0.118)
Total product launches	−2.890*** (0.435)	−2.056*** (0.205)
Log-likelihood	−404.93	−1360.34
Likelihood ratio chi-squared	87.60	196.68
df	14	14
p-value	0.000	0.000
Number of observations	2050	5529

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors are in parentheses.

In Model 4, the linear term of the MSC was negative ($b = -0.268$; $p = 0.379$), and the quadratic term was positive ($b = 0.015$; $p = 0.496$). An inverted U-shaped effect of MSC on a firm's likelihood of launching a product into a segment was not found for

firms with less knowledge about rivals' response strategies. In Model 5, the linear term of the MSC was positive ($b = 0.939$; $p = 0.000$), and the quadratic term was negative ($b = -0.089$; $p = 0.000$). Testing confirmed an inverted U-shape following Lind and Mehlum's (2010) three-step procedure. An inverted U-shaped effect of MSC on a firm's likelihood of launching a product was found for firms with more knowledge about rivals' response strategies. Hypothesis 5 was further supported.

As what I did in study 1, I want to test the robustness of my results when I control for the modelling behaviour among firms. When competing firms launch products into a segment, a focal firm's interpretation will be that the demand is strong in this segment and it will help sales grow by launching products into this segment. It may not be a rational behaviour to follow rival firms' competitive moves. Sometimes, too many product launches in the same market segment will result in price war when product features are similar which will lead to a downward spiral of all firms' profit margin. Interestingly, modelling behaviour and price competition within the same market segment often occur among firms. I measure the modelling behaviour by counting the number of product launches into a segment in previous year. Both the inverted-U effect of segment overlap on a firm's likelihood of launching a new product and the intensifying effect of competitive history on mutual forbearance are found. I'm more confident that both hypothesis 4 and hypothesis 5 are supported.

Lastly, I use the number of segments a firm is present in as an alternative moderator to test Hypothesis 5. When a firm is present across multiple segments, it will have more opportunities to observe competitive interactions among rivals and gain deeper understanding of its rivals' response strategy. Table 3.4 reports the results when a firm's number of segments interacts with a firm's segment overlap. The results indicate that a firm's knowledge about rivals' response strategy accelerate both the

deterrence building and forbearance process as a firm's segment overlap with rivals increases. Hypothesis 5 is further supported.

Table 3.4

Results of logistic regression with the likelihood of launching a product into a segment as dependent variable when the moderator is Number of Segments

Independent variables	Model 6
MSC	−0.004 (0.348)
MSC ²	0.013 (0.030)
Number of Segments	2.056*** (0.501)
MSC x Number of Segments	0.264* (0.150)
MSC ² x Number of Segments	−0.032** (0.016)
Segment growth rate	0.001 (0.027)
Segment density	−0.002 (0.052)
Segment density squared	0.001 (0.001)
Segment concentration	−0.058 (0.105)
Firm size	−0.001 (0.001)
Product diversification	−2.762*** (0.773)
Other product launches	−0.055 (0.073)
MSRs' size	0.000 (0.000)
Recent product launches	0.067 (0.173)
Tenure in a segment	0.253** (0.099)
Total product launches	−1.985*** (0.174)
Log-likelihood	−1802.21
Likelihood ratio chi-squared	243.21
df	16
p-value	0.000
Number of observations	7639

Note. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; MSC = multi-segment contact; MSR = multi-segment rival; standard errors are in parentheses.

3.6. Discussion

The finding of an inverted U-shaped relationship between a firm's likelihood of entering a product segment and its segment overlap level with competitors replicated prior findings (e.g., Baum & Korn, 1999; Fuentelsaz & Gómez, 2006; Ghertman & Guedri, 2012; Haveman & Nonnemaker, 2000; Klein et al., 2020). Replication is important for advancing the understanding of a baseline theory.

Study 2 identified an intensifying effect of a firm's prior product launches on the curvilinear effect of MSC on the firm's likelihood of launching a product into a segment. When a focal firm sells products across product segments, they also accumulate knowledge about maintaining a healthy, competitive relationship in a multi-segment environment. Over prior encounters with its MSRs and by observing competitive interactions among them, the firm will establish routines for dealing with multi-segment competition. Specifically, it knows to accelerate its efforts for building deterrent capabilities when the risk of counterattacks from rivals is low and slow down this process when the risk of retaliation is high. This finding is also supported by anecdotal evidence.

In 1994, United Airlines entered Californian commuter air travel routes, which were dominated by Southwest Airlines. Southwest Airlines reacted by announcing its plans to enter some longer-haul routes where United Airlines had a presence (Jayachandran et al., 1999). Based on an analysis of Southwest Airlines' competitive history, United Airlines quickly withdrew from those commuter air travel routes because Southwest Airlines had a reputation for retaliating in multiple routes. Indeed, a firm is less likely to enter a new market if incumbents have a reputation for responding fiercely to prior entrants' aggressive moves (Robertson et al., 1995).

The findings regarding the steepening effect of a firm's prior product launches on the nonlinear effect of MSC on the firm's likelihood of launching a product into a segment also confirms the theoretical arguments in experiential learning (e.g., Ahuja & Lampert, 2001; Amburgey & Dacin, 1994; Turner et al., 2013) and vicarious learning literature (Burns & Wholey, 1993; Haunschild & Miner, 1997; Huber, 1991; Knoke, 1982; Martin et al., 1998) that routines are formed through direct interactions and inter-firm observations. Study 2 shows that firms rely on their routines when deciding whether to launch a new product into a product segment. When a focal firm launches a product, it develops routines for managing the reactions from its competitors. It understands that the likelihood of being counterattacked is different at different levels of segment overlap. By being present in another segment, a focal firm can also have an additional opportunity to observe the action-reactions among other firms in the segment. This additional observation of other firms' competitive dynamics will strengthen the focal firm's understanding of its rivals' response strategy. In addition, as the focal firm conducts R&D, produces and sells an accumulative number of products, it will become more efficient at minimising the risk of being counterattacked because counterattacks can occur at downstream markets (e.g., product markets) and upstream markets (e.g., R&D activities).

3.6.1. *Theoretical Contributions*

First, Study 2 contributes to the multipoint competition literature by exploring decision principles with another time horizon as a boundary condition for mutual forbearance. Yu and Cannella (2013) suggested more research exploring the contingency for mutual forbearance. One encouraging stream of research has focused on the role of organisational structure in sustaining intra-firm coordination and implementing the mutual forbearance strategy. For example, Yu et al. (2009) found that

maintaining a high shareholding in a subsidiary is crucial for smoothly implementing a parent firm's mutual forbearance strategy across its multiple host markets. This study has also demonstrated that implementing a corporate level strategy, such as future-oriented mutual forbearance, is also influenced by the decision principles of other time dimensions.

Interestingly, a firm's knowledge in selling products across different product segments makes it more long-term oriented. Specifically, a firm's prior knowledge and observation of competitive relationships helps it balance the need to build deterrence against future attacks from MSRs and the risk of being punished in the future. Thus, a more knowledgeable and informed firm's likelihood of launching a product into a segment increases (to build deterrence) and then decreases (to avoid counterattacks) at a faster rate than a less knowledgeable and informed firm.

Second, Study 2 contributes to the debate about whether mutual forbearance is an intentional strategy or not. Korn and Baum (1999) showed that airlines form multi-market contact by chance. Korn and Rock (2001) argued that firms' uncoordinated actions such as M&As could cause unintentional multipoint contact. Thus far, little empirical research has been conducted to explore the antecedents of mutual forbearance.

The findings from Study 2 show that as a firm's prior knowledge and observation about its rivals' response strategies increases, the nonlinear effect of segment overlap on its likelihood of launching a product into a segment becomes stronger. This suggests that a firm's mutual forbearance strategy is formed after several interactions between a firm and its rivals. During the initial contacts with its rivals, a firm may accidentally start establishing multi-segment links with them. As a firm launches more products and receives more responses from its rivals, it may become increasingly aware that it has already been part of a multi-segment map and that its

rivalrous actions could trigger a large scope of counterattacks from rivals. Thus, mutual forbearance becomes an intentional strategy with the help of a firm's competitive history while it might build its multipoint links with rivals unintentionally at the beginning. These findings are consistent with Greve's (2006) argument that banks intentionally build multi-market contact only after frequently meeting with rivals.

Third, Study 2 also contributes to the encouraging amount of literature that explores how mutual forbearance interacts with theoretical perspectives with different time orientations in the context of a firm's decision about whether to launch a competitive action (Baum & Korn, 1999; Baum et al., 2000; Kalnins, 2004; Stephan et al., 2003). This study echoes Yu and Cannella's (2013) suggestion to explore how mutual forbearance engages with other theoretical perspectives. It has confirmed that firms with knowledge and observation about their multipoint rivals' response strategies tend to stick to routines (Dodgson, 1993; Huber, 1991; Kelly & Amburgey, 1991; Popper & Lipshitz, 1998; Turner et al., 2013). Firms acquire knowledge about the potential consequences of extending their market commonality with rivals by observing rivals' reaction strategies in prior encounters and inter-organizational learning of the competitive dynamics among rivals.

Study 2 has demonstrated that firms are embedded in their own histories, which affect managerial decision-making (Beck et al., 2008; Delacroix & Swaminathan, 1991; Ginsberg & Baum, 1994; Greve, 1998b; Kelly & Amburgey, 1991; Ocasio, 1999; Stoeberl et al., 1998). In the context of multipoint competition, routines formed during a firm's competitive history guide its decisions about initiating competitive actions. Specifically, a firm with a rich competitive history knows when to accelerate launching aggressive actions and when to delay them. Thus, history may not necessarily be a

liability and it may not make a firm more difficult to adapt to a changing business environment as the theory of organisational inertia suggests (Hannan & Freeman, 1984).

Instead, a firm's historical knowledge could help it maintain a healthy relationship with its competitors. For example, although an increasing number of consumers began to care about price and fuel efficiency, GM, Ford and Chrysler chose to avoid the small car segment in the USA market to prevent BMW and Toyota's counterattacks in world markets. The Big Three's choice might be based on their understanding of competitors' response strategies during prior interactions in multiple national markets. Competitive histories will always be a consideration for firms—Porter (1979, para. 1) argued that 'the essence of strategy formulation is coping with competition'.

3.6.2. *Practical Implications*

Study 2 has practical implications. Top managers should consider competitors' reputations to respond to aggressive actions in deciding whether to offend rivals' markets. They should speed up their rivalrous actions when their firms' market overlap with competitors remains low and slow down these actions when their market overlap with competitors is high. While competition has been the main theme in strategic management research since the publication of Porter's (1980) seminal work, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, not every manager is interested in what their firms' competitors are doing. For example, Zachary Wang, the CEO of Neuron (a mobility solutions company that provides an electric scooter ride-sharing service), stated: 'we don't focus on competition, we believe in what we are working on ... Start-ups seldom get killed by others, they normally fail from not looking within or learning from themselves' (as cited in Gladman, 2020, para. 28). Zachary is partially right. By 'looking within', for example, through learning a

company's competitive history, the focal company will be more realistic about its environment and the multipoint competition network in which it is embedded.

Ultimately, most top managers will acknowledge that 'firms feel the effects of each other's moves and are prone to respond to them' (Porter, 1980, p. 88).

3.6.3. *Limitations and Future Research*

Study 2 has limitations. First, a simple count of the product lines that have been launched in the past may not effectively measure a firm's competitive history and its understanding about rivals' response strategy. Future research could measure a firm's understanding about rivals' response strategy by counting the accumulated number of action–response instances between a focal firm and its MSRs. The routines for maintaining a competitive equilibrium might be tacit. Two future research questions are: How do firms store their knowledge for managing multipoint competition? For those firms without a written routine for managing their relationships with their multipoint competitors, will the strengthening effect of prior knowledge about rivals' response strategies on the inverted U-shaped effect of multipoint contact on a firm's decision to launch a rivalrous action become weaker when the firm has a new top management team? Boeker (1997) found that introducing a new executive is associated with organisational changes, such as a new product family.

Second, Study 2 is based on a single industry, and the findings may not be generalisable to other industry settings. Future research could explore the boundary conditions of mutual forbearance using a sample of conglomerate firms that compete in multiple industries. Third, quantitative research using large N samples may not uncover the nuances linking explanatory variables and the outcomes of interests. Future research could use qualitative methods (e.g., interviews and historical narratives) to test this

study's hypothesis that a firm's competitive history strengthens the mutual forbearance logic. This could help with discovering the learning mechanisms.

Chapter 4—Entrant Automakers' Product Launch

Strategies in the United States of America: A

Supplementary Study

There has been little focus on the competitive action itself in multipoint competition literature. While Study 1 analysed whether the rivalry-reducing effect of multipoint contact varies across different types of competitive actions, an in-depth study of these competitive actions is needed. The empirical context of Studies 1 and 2 was the USA automobile market. Domestic automobile firms had been operating in the USA market since the late 1800s. However, during the early years of the USA automobile industry, consumers had fewer product segments from which to choose. The sedan was one of the few passenger vehicle categories in the market.

Since the early 1960s, more vehicle types have emerged as consumer preferences have become more sophisticated and, coincidentally, foreign automobile firms began entering the USA market during the late 1950s. Over time, many of these foreign automobile firms have launched products in more than one segment in the USA, although they have concentrated on one segment during the first a few years after entering the market. These entrant automobile firms provide a convenient sample to analyse the different types of competitive actions, such as inaugural and subsequent product launches. By examining their business growth history in the USA market, it is possible to distinguish their first-time product launches into a product segment from their subsequent product launches into the same segment.

The USA automobile market is a field where entrant automakers compete fiercely among themselves and with incumbent automakers. Entrant automakers have

grown from a tiny presence to significant players. Over time, the market share of foreign automakers has increased significantly in the USA automobile market. This happened in the USA, the birthplace of mass-production cars and the country where the number of vehicles owned per 1000 people is among the highest in the world. By local production and marketing, entrant automakers become fully integrated into the American automobile industry. This is a story about entrant automakers' product launch journey and their localization efforts in America. The historical narratives in this supplementary study help understand the rationale behind entrant firms' product launch decisions in a new market from managerial and industry practitioners' perspectives and how entrant automakers have become part of the multisegment competition network in American automobile market.

4.1 Introduce Home Market Products and Build a Foothold

This historical exploration tracked entrant automakers in the USA from their first product launches in the USA market. First, on their inaugural entry into a new market, entrant automakers attack incumbent automakers' vulnerabilities by introducing products originally designed for their home markets into periphery segments where incumbent automakers have little presence, particularly the small car segment. By doing so, they reduce their resource commitments and avoid a head-on rivalry with existing firms. This was exemplified by BMW, Honda and Hyundai's dedicated efforts when entering the USA market.

BMW of North America was founded in 1975. The German performance automaker launched the 3 Series, a small-sized luxury sedan: 'we had a luxury sporty car. Good engine, good handling, and we got as high a price as possible', said von Kuenheim, the then chairperson of BMW's management board (as cited in Johnson, 2005, p. 66). The 3 Series filled a niche for young professionals who were neglected by

Cadillac, Lincoln and Mercedes-Benz: ‘the 1980s yuppies didn’t want to be seen as the stodgy executive who drives a Mercedes, they wanted to be seen as the rapidly rising, dynamic go-getter who drives a much hipper Bimmer’, commented Karl Brauer from Edmunds (as cited in Maynard, 2003, p. 191). BMW’s focus on driving performance for luxury sedans earned the company customer loyalty: ‘...they are very customer-friendly in free maintenance, which BMW customers just love...’, said Mike Jackson, CEO of AutoNation, in an interview with the press (as cited in Automotive News Europe, 2016, para. 9).

In 1969, Honda targeted the small passenger car segment, which was less competitive than the large car segments, and entered the USA automobile market by launching the N600, a two-door passenger car. The N600 was the export version of the N360. The two cars shared the same design features. For example, both cars were driven by the front wheels. The minor difference was that the N600 had a larger engine than the N360 (Skwarczek, 2020).

In 1967, the N360 was introduced to the Japanese market (Toyota Automobile Museum, n.d.). In the same year, Honda indicated its plan to make the N360 a successful model in Japan and other markets: ‘our policy has always been to have a global outlook, and we always will have that policy. Today, we must build a system as soon as possible so that we can begin exporting the N series...’, said Honda’s founder, Soichiro Honda, when he discussed the price of the N360 in a company newsletter (as cited in Honda, n.d.d, From Japan: a people’s car for the world section). When the N600 arrived in the USA market, it was sold through Honda’s motorcycle sales network in Hawaii first before sales began on the west coast. The company was cautiously testing local consumers’ tastes because the mainstream cars in the USA were large and fast.

From a competitive strategy perspective, instead of bringing its trucks to the USA market, Honda targeted the small car segment because it had been abandoned by incumbent automakers at that time. Although the American Motors Corporation's compact cars, such as the Rambler, helped the automaker increase its market share during the 1950s, the company's focus shifted away from small cars (Feder, 1987). GM, Ford and Chrysler had lacked confidence about the value of small cars for many years, and as a result, small cars played a minor role in their product mix. Although in the 1970s, Lee Iacocca, the former president of Ford, identified the necessity to embrace small cars (Serrin, 1984), it was not until 2008 that Ford shifted to small car production as the sales of big cars and light trucks declined: 'we view the move to smaller, more fuel-efficient vehicles as permanent, and we are responding to customer demand', said Alan Mullaly, CEO of Ford (as cited in Bensinger, 2008, para. 4).

Similarly, Hyundai chose the marginal segment of small passenger cars for their entry into the USA market. The then-president of Hyundai, America O'Neill, explained the South Korean automaker's launch of its first USA car line, the Excel, a small-sized passenger car in 1986: 'there is a whole market of people who have a quiet confidence about life. They have a sense of what life is about. It's not the automobile, it's their lifestyles that make their statements' (as cited in Maynard, 2003, pp. 183–184).

The common theme exhibited by BMW, Honda and Hyundai's entry into the USA market is that entrant automakers have avoided direct competition in their entry into a new market and, therefore, have launched products into marginal segments that incumbent automakers gave up. When they entered a new market for the first time, they had a strong desire to survive. Basically, these entrant automakers were like startups. When entering an unfamiliar market, they did not want to take risks, and the safest strategy was to find a niche segment where the competition was very low. At this stage,

entrant automakers brought cars initially designed for their home markets to the USA market. By doing so, they effectively lowered the likelihood that R&D expenditures related to developing new cars would become sunk costs given their incomplete understanding of what features the local consumers wanted in a car. Like any new player, they were testing the market. To some extent, they changed the concept of an automobile for consumers in the USA. They showed that an automobile could be small and cute.

Throughout their history of conducting business in American market, entrant automakers have also continuously introduced new cars into segments in which they were already present. These subsequent product launches into a segment aimed to signal their commitment and solidify their presence in the segment. They either replaced existing lines in the segment or were sold alongside them. For example, Honda returned to the small car segment with the Civic in 1973 to replace the N600, while Suzuki launched the Sidekick to the small SUV segment in 1988 to sell alongside the Samurai. The introduction of the Honda Civic was timed to occur when air pollution became a problem and environmental policies were tightened.

In the early 1950s, Arie Haagen-Smit, a chemist from the California Institute of Technology, reported that the major cause of the smog in Los Angeles was automobile fume emissions (Mcnally, 2010). During the 1960s, Honda's managers in Greater Los Angeles noticed public concerns about the air pollution in the area (Johnson, 2005). In 1968, Honda's R&D team started working on a project to develop a new engine for its Civic sold in the USA market to contribute to a cleaner environment by cutting carbon emissions through a car's tailpipe: 'we thought that by tackling this pollution-fighting problem we, as a latecomer in the automobile field, would have an opportunity, a big chance', recalled Kiyoshi Kawashima, then the president of Honda (as cited in Johnson,

2005, p. 55). Being able to meet the emission standards required by the *Clean Air Act*, Honda Civic (especially its variant with water-cooled CVCC engine) played an important role in securing Honda's reputation and success in the USA automobile market. By focusing on the small car segment, Honda's market share in the USA increased from 0.04% in 1970 to 1.14% in 1976. The Honda Civic has remained a major contributor to the automaker's revenues until recently. In the first eight months of 2019, the Honda Civic generated 24% of Honda's sales (Iliff, 2019).

Besides the compact sedan segment, Honda also attempted to build its foothold in the mid-sized sedan segment. It launched its first car (i.e., the first-generation Accord) in this segment in 1977. In 1982, Honda returned to the mid-sized sedan segment by launching the second-generation Accord. Since then, another eight generations of the Honda Accord have been launched. Each generation has some modifications, such as the design style and engine technology. For example, later generations of the Honda Accord have a rounder shape than early generations. However, it has always been a mid-sized and mid-priced sedan compared to the Honda Civic.

The company's strong presence in sedan segments continued until recently. In the first eight months of 2019, 47% of Honda's total sales were from cars, and in the first six months of 2019, 29% of the USA automobile industry sales were from cars (Iliff, 2019). In an interview with Forbes, Steve Center, the vice-president of American Honda, stated that 'as some of our competitors exit [sedans], they have their reasons. But in our case, we started out there, and it's our great strength. And we make money on sedans' (quoted in Buss, 2019, para. 5).

Similar to Honda's dedication to mass-market passenger cars, Kia kept making subsequent product launches into an entry-level car segment during its first few years in

the USA market. Kia entered the USA market in 1994 with the Sephia, a four-door sedan (Covello & Flammang, 2002). The 1994 version of the Sephia had an engine size of 1.8 L. In 1997, an updated version of the Sephia replaced the original version. The new version had an engine of 1.6 L. Accordingly, both the height and length of the new vehicle were smaller than the 1994 version. In 1998, another version of the Sephia replaced the 1997 version. The 1998 version had an engine of 1.8 L, and its tire size increased from 33.02 cm (13") to 35.56 cm (14") (Covello & Flammang, 2002). The Kia Sephia maintained a price below USD13,000 during its first six years in the USA market, aiming to target the lower end of the market.

This focus on the entry-level car segment proved successful. The Kia Sephia's USA sales increased from 9340 units in 1994 to 72,939 units in 1999 (WardsAuto, 1994, 1999), representing a nearly seven times increase. Laura Ries, the president of the branding firm Ries & Ries for Kia's marketing strategy in the USA, commented that:

the most successful brands are those that focus on a singular idea ... Marketing is illogical. Logic suggests that expanding a line will increase sales. Not so. Expanding a line will cause sales to decline because the brand's position in the mind will be weakened... (as cited in Williams, 2018, para. 11–13).

Many entrant automakers that had remained in the USA market for some time and gained some popularity began adopting the philosophy of 'market locally and produce locally'. By doing so, they could overcome potential trade barriers, reduce transportation costs and deliver new cars, parts and components more efficiently. Once their local production started, entrant automakers employed local people, served local customers and purchased from local suppliers. As their resource commitments in the new market increased, they were able to observe consumer preferences closely and establish trust with their customers. The top managers of these entrant automakers' subsidiaries could also bring their families to their workplace. Over time, the employees of these entrant automakers considered themselves part of the local community and

contributed to solving problems that affected the local people. For example, Honda voluntarily tackled the air pollution problem in Los Angeles by developing the Honda Civic.

By making subsequent product launches into the segment they have chosen at their inaugural entry into a host market, entrant automakers can build their market shares, brand awareness and legitimacy. At the end of this life stage in a new market, they will overcome the liability of being new. The footholds they have built can become forward posts that provide the market knowledge and capital to challenge incumbent automakers' spheres of influence.

4.2 Adapt to Local Consumers' Needs and Challenge Mainstream Segments

After maintaining a presence in the lower and middle end of the USA market for more than two decades, Toyota's market share in the USA increased from about 0.1% in 1965 to about 6% in 1988 (Knoema, 2020). The company expanded into the luxury passenger car segment, which was dominated by the USA (e.g., GM) and European companies (e.g., Mercedes-Benz), in 1989 by creating the Lexus division (Yamawaki, 2002). The first two car lines (the LS400 and ES 250) were tailored to and launched in the USA market.

Market research led by Lexus's chief engineer, Ichiro Suzuki, identified that Lexus should target existing Toyota customers and those who could not afford a Cadillac, Lincoln or BMW (Maynard, 2003). However, Lexus's quality was not sacrificed by its lower price. The LS400 had an aluminium V8 engine and a simple and attractive interior. Toyota also established a separate dealership for Lexus. The new dealership had been rated the top franchise for customer satisfaction by J.D. Power for 12 years (Maynard, 2003). Eiji Toyoda, the chairman of Toyota, stated during an interview with *Fortune* that 'the people who have been buying our cars were moving up

in life ... We wanted to meet their heightened needs' (as cited in Maynard, 2003, p. 125). By 1999, Cadillac and Lincoln, once the dominant players in the luxury segment, began losing their top positions to Audi, BMW, Lexus and Infiniti (Wernle, 2015).

Before exporting to the USA, Toyota already had a large market share and a long history in their home market. Conversely, when Honda was a relatively young automaker when its automobiles arrived in the USA market. Its automobile sales in the Japanese market began in 1962 (Honda, n.d.b), and it entered the USA automobile market in 1969.

Although the focus on sedan segments brought the company rising revenues, Honda was not constrained by inertia. It has been agile and quick to adapt to the evolving market demand. In 1998, in response to the increasing popularity of mini-vans, Honda launched its first mini-van, the Odyssey, to the USA market. At the same time, Honda's market share in the USA automobile market increased from 0.04% in 1970 to 5.50% in 1997 (Carsalesbase, 2021).

Honda designers wanted to design a vehicle that was as spacious as a personal jet. Kunimichi Odagaki, the team leader of Honda's Odyssey project, stated that 'the walk-through aisle was the thing that really impressed me with many minivans in the US. When the car is driving through beautiful scenery, passengers could easily change seats to get a better view...' (as cited in Honda, n.d.e, target concept: a personal jet section). Additionally, Honda designers wanted to know what features customers wanted. Odagaki commented that 'we wanted to know precisely what the customer wanted. Only after understanding their needs could we create a value that no other car provided...' (as cited in Honda, n.d.e, developing a car with a roomy interior section). Honda observed that parents outside a school in California found it difficult to open a minivan's door for other children while holding a baby (Maynard, 2003). This

observation led to their decision to have sliding doors on both sides of the Odyssey. In an interview with potential customers, a female interviewee said that she would not purchase a minivan: 'I have a career. I don't want to be seen to be a housewife' (Maynard, 2003, p. 105). Based on this feedback, Odagaki decided that Odyssey needed a stronger shape than the round shape that characterised the minivans by Honda's competitors.

Similar to Honda's starting point as a humble player in the small car segment, Hyundai entered the USA market by launching a small-sized passenger car, the Excel, in 1986. During the 1990s, Hyundai had focused on producing passenger sedans, such as the Sonata and Elantra. In February 2015, Hyundai announced that it would invest USD363.13 million in increasing the production of vans, trucks and buses (Jin, 2015). In 2019, 53% of Hyundai's sales were SUVs and crossovers. Angela Zepeda, Hyundai Motor America's chief marketing officer, stated that 'there is a transition between the Hyundai people knew in the past and the Hyundai I'd like them to know in the future' (as cited in Buss, 2020, para. 5).

Like other manufacturing industries, the automobile industry is characterised by economies of scale. An automaker must increase its production output to cover the fixed cost of production and earn a profit on every vehicle produced. As an automaker's production capacity increases, the cost of production per vehicle will decrease, providing more space for the automaker to lower the vehicle's price.

Additionally, consumer preferences in the automobile industry change over time. Consumers will abandon an automaker if it fails to respond to consumers' needs. For example, Suzuki exited the USA market in 2012. Its narrow line-up was one of the factors leading to the company's failure in the USA market (Beene, 2012). Today, the top six automakers in the USA market are diversified across different product segments.

After their market position is strengthened, driven by the desire to reduce costs and meet consumers’ evolving needs, foreign automakers make inaugural product launches into segments that existing automakers have controlled. At this stage of their life in a host market, they become more adventurous. They can retreat to their comfort zone (i.e., the foothold they have built) if their attack on an existing automaker’s core territory fails.

Figure 4.1 summarises the findings from Section 4.1 to 4.2 in a process model of entrant automakers’ product launch strategy in a new market.

Figure 4.1

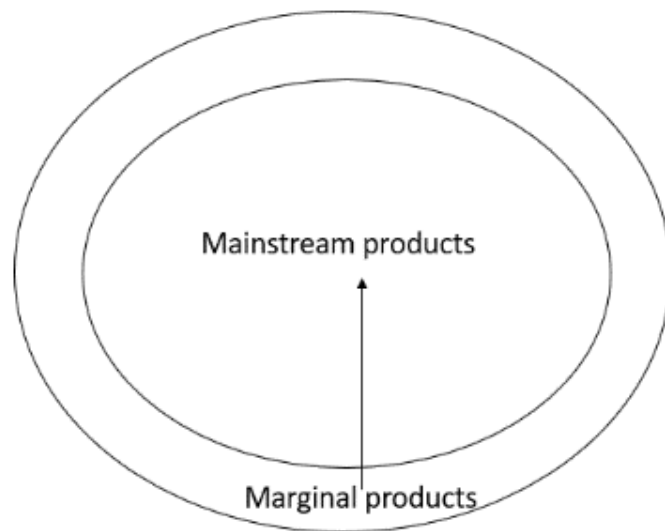
Process model for entrant automakers’ product launch strategy in a new market



Entrant automakers’ sequential product launch process model can also be illustrated in the following pie chart (Figure 4.2). Entrant automakers build a foothold in the new market by launching marginal products before they launch mainstream products which are incumbent automakers’ spheres of influence.

Figure 4.2

Process model for entrant automakers' product launch strategy in a new market (pie chart)



4.3 Reflections on the Process Model

Most of the entrant automakers that have been discussed so far in this thesis have eventually diversified into the core segments (e.g., SUVs, pickup trucks and mini-vans) of incumbent automakers. Over time, entrant automakers have accumulated an increasing number of contact points with each other and with incumbent automakers. Although incumbent automakers remain a significant presence in segments such as SUVs, pickup trucks and mini-vans, entrant automakers' market share has gradually increased. This is evidence that some entrant automakers' sequential product launch strategies have been successful. By targeting the vulnerabilities (e.g., the small sedan segment) of incumbent automakers, they have shifted some customers away from

incumbent automakers' large cars and weakened the latter's financial capabilities.

Subsequently, entrant automakers focused on building their brand awareness by introducing new versions of the vehicle they initially launched (mainly the small-sized sedan). This focused strategy further eroded the market share of incumbent automakers.

Two external factors facilitated the rise of fuel-efficient sedans during the 1970s. First, two oil shortages led to a sharp increase in oil prices. Second, environmental regulations tightened. On 2 December 1970, the United States Environmental Protection Agency was established (EPA, 2021) to assure that firms complied with the *Clean Air Act*. For automobile companies, this meant that their new vehicles could not release harmful waste gases higher than the standard set by the law. These elements supported the implementation of entrant automakers' strategies to focus on compact sedans that were energy-saving and less polluting.

During the early 1980s, expansion into other segments became a natural choice for entrant automakers. Due to the increasing popularity of foreign imports, incumbent automakers began advising the federal government to restrict car imports. Entrant automobile companies accelerated their local production plans; however, it is unclear how this decision was affected by USA trade policies. The big market size, high income level, good quality of labour and friendly local business environment can all attract FDIs (Axaroglou, 2005). For example, state governments welcomed inward FDIs from foreign automakers. They considered that creating jobs was important for both their resident's welfare and winning future elections. Thus, entrant automakers accelerated their localisation. For example, in 1982, Honda opened its first automobile plant in the USA, producing a mid-sized sedan, the Accord. It employed thousands of local employees from rural towns in Ohio. The company has become a respected employer producing family sedans and supporting local communities by sponsoring sports events

and education programs. By immersing itself in the local environment, Honda could closely observe consumer needs and understand consumer culture in the USA. During the next few years, Honda established more assembly plants and expanded into luxury sedans and light truck segments. These were the stronghold segments of incumbent automakers.

From an economic perspective, after absorbing sufficient market knowledge, entrant automakers are highly likely to enter segments dominated by incumbent automakers because of the high profit margin per vehicle sold. Additionally, ambitious CEOs wish to conquer those heavily occupied segments. Whether they were aware of it or not, entrant automakers' adventures in new territories also increased their segment overlap with incumbent automakers, and these newly entered segments could deter incumbent automakers' potential retaliation (Carmeli & Markman, 2011). If an increasing number of entrant automakers implement this sequential product launch strategy, who will be the top six automakers in the USA market in a decade? South Korea's Hyundai and Kia have captured higher market share by expanding their local production capacity and experimenting with SUV and pickup truck models. Although they are latecomers to the market compared with the Japanese and German automakers, it seems that they have adopted a similar product launch strategy, for example, by targeting and concentrating their resources on a vulnerable segment before challenging the core segments of the established automakers.

For example, Kia entered the USA market in 1994 with the Sephia, a low-priced sedan (Covello & Flammang, 2002). The automaker focused on the entry-level niche throughout the next few years. During 2001, Kia's product portfolio became more diversified, and it launched products into segments dominated by incumbent automakers. The company launched the Sedona to enter the mini-van segment

(WardsAuto, 2001). In 2005, it launched the Amanti, entering the large sedan segment, and the Sportage, entering the CUV segment (WardsAuto, 2005). In 2013, it introduced the Cadenza, signalling its entry into the luxury sedan segment (WardsAuto, 2013). Michael Cole, the chief operating officer at Kia Motors America, said that ‘...Kia has evolved to a world-class automaker with a full line of diverse vehicles that suit the needs of every driver today...’ (quoted in Fromm, 2019, para. 5).

Rome’s defeat of Veii is a good analogy to explain the process model of entrant automakers’ product launch strategies. In 425 BC, Rome controlled Fidenae, a city located between Rome and Veii. Therefore, it was able to stop supplies, such as labour and food, from being transported to Veii. In 405 BC, Rome initiated its attack against Veii. In 395 BC, Veii fell after running out of essential supplies (Carmeli & Markman, 2011). Decision-makers of the entrant automakers covered in this study might not have time to read the Roman story before formulating their sequential product launch strategies for the USA market. Thus, it will be interesting to analyse the similarities between Rome’s journey to Veii and entrant automakers’ product launch strategies in the USA market.

Entrant automakers have converted some incumbent automakers’ customers into their customers by seizing periphery segments. Over time, aided by their product quality, marketing efforts and external factors (e.g., stricter environmental regulations), entrant automakers’ brand awareness has improved, and customer loyalty towards incumbent automakers has decreased. This has become the foundation for further encroachments into the strongholds of the Big Three. Similarly, Rome captured Fidenae first. This move eliminated the available supplies to Veii, which weakened the city’s capability to feed its population and fight back against Rome. Thus, although these two strategies were adopted in different scenarios, they provide historical reasoning that a

firm needs strategic planning to fulfil its objectives. This is especially relevant for young firms aiming to compete in a product segment that is controlled by a few established incumbents.

The automakers that did not adopt a sequential product launch strategy after their initial entry into a new market suffered setbacks. Volkswagen was the best performing foreign brand in the USA market in 1970, capturing the largest market share among entrant automakers. However, its market share has decreased since then. Volkswagen has relied too heavily on sedans and was slow to launch emerging types of vehicles, such as SUVs. Its market share in the USA was 1.9% in 2017 (Shepardson, 2017). The good news is that the automaker had begun building a wider product portfolio by focusing on SUVs. Hinrich Woebcken, the Volkswagen Group of America CEO, said that the company wanted to transform itself into a ‘family-oriented SUV company’ from a ‘niche’ player (Cremer, 2016). Herbert Diess, the chairman of the board for Volkswagen, stated that ‘SUVs will drive our business worldwide because SUVs are becoming very important worldwide’ (as cited in Shepardson, 2017, para. 5).

Sometimes, examining the details of companies’ histories may reveal outliers that conventional theories cannot explain. For example, in the late 1950s, when deciding which foreign market to enter first, Honda chose the USA over Southeast Asia, which is culturally closer to Japan. Takeo Fujisawa, senior managing director of Honda, stated: ‘...let’s do America ... to take up the challenge of the American market may be the most difficult thing to do, but it’s a critical step in expanding the export of our products’ (as cited in Honda, n.d.a, Achieving a breakthrough in America section).

Perhaps in a company led by a risk-taking top manager, its internationalization process will be less conventional, and it may begin exports in a culturally distant market. Maybe Fujisawa considered the USA market a learning opportunity because

consumers in high-income markets are more demanding, and Honda could improve its products and service quality. As a co-founder of Honda who managed the startup's marketing and sales, Fujisawa demonstrated his vision, courage and determination.

A key lesson for top managers that are leading their companies' market expansion is that an entrant firm needs to build its brand image and market position step by step. First, during its inaugural entry into a new market, an entrant firm attacks its competitor's weaknesses using its own strengths by launching products into a marginal segment. By targeting its competitors' Achilles heel, the entrant firm might have an opportunity to escape its competitors' counterattacks. At this stage, an entrant firm only needs to pick an available product. With the help of its good quality and other innovative features, such as good fuel efficiency, the entrant firm will have a chance to attract some customers away from the mainstream product categories. During its early years in a new market, an entrant firm must keep making subsequent product launches into the marginal segment. By doing so, the entrant firm can build its customer loyalty and acquire knowledge about consumer preferences in the new market. This is a transition stage from being an unknown firm to a local firm. The Honda Odyssey's success in the USA market was based on its thorough investigation of potential consumers' lifestyles. By purchasing local supplies, participating in local community programs and adapting to the local culture, the entrant firm is more likely to launch a product that meets local consumers' needs. Put simply, when in Rome, do as Romans do.

Next, after gaining a foothold, an entrant firm can penetrate into mainstream segments dominated by incumbent automakers. It must meet the evolving needs of its local customers and involve potential customers in the product design process. For

example, if a Honda Civic owner becomes an entrepreneur, they might decide that they need a pickup truck and that a Honda Ridgeline would be suitable.

Indeed, an entrant firm's sequential product launch strategy is part of its localization strategy. Besides launching products that meet local consumers' preferences, entrant firms also participate in community building actively. For example, in 2012, Honda donated USD500,000 in cash and products to the American Red Cross to help with relief efforts in areas affected by Hurricane Sandy. By withstanding hardships together with the community, Honda tells its stakeholders, such as the suppliers, employees and consumers, that the company is part of the local community. If expanding into segments that incumbent firms have controlled poses the risk of retaliation, involvement in corporate social responsibility activities could earn respect from almost all stakeholders.

Notably, the sequential product launch strategy is particularly useful for young firms that lack capability to fight back existing firms' counterattacks across multiple markets. Established companies may not follow this strategy. They may be more concerned with lowering the cost of operation by spreading the fixed costs, such as R&D expenditure, over a large user base. For example, when it entered the Australian market, Netflix, a video streaming service provider, offered a range of subscription plans ranging from basic to premium and covered many segments, such as TV drama, movies and documentaries. In theory, as an international company, Netflix is financially more capable of surviving local cinemas' possible reactions such as offering discounts. One thing it could do is to transfer profits made in other markets to a loss-making market.

Another lesson that firms could learn from entrant automakers' product launch processes in the USA market is that they should adjust their internationalization strategy

in response to changes in the business environment of the host market. The *North America Free Trade Agreement* came into force in 1994 (Golden, 1994). Since then, more foreign automakers have started building manufacturing plants in North America to benefit from the free flow of goods within the free trade zone. For example, they could manufacture parts and components using the low labour costs in Mexico and import these supplies to their USA assembly plants at a low cost. Peprah et al. (2021) found that Jumia, an ecommerce startup's business model, evolved from an 'Amazon model' to a localised one. The company operated across several African countries. Initially, the two founders, who were Harvard University master of business graduates, simply imitated Amazon's business model by launching a user-friendly website and promoting it through online advertisements. After discovering that local consumers lacked trust in online shopping websites, the company sent staff to greet potential customers on the street and explain Jumia's payment and delivery process. This strategy adjustment won Jumia an increasing number of purchasing orders.

There are two things that incumbent automakers could learn from entrant automakers' competitive and product strategies in the USA market. First, openness to consumers' suggestions can save a firm. During the 1960s and 1970s, incumbent automakers did not listen to consumers' concerns about the air quality and rising oil prices. Their indifference to the shifting consumer preferences towards fuel-efficient cars was the primary reason for the loss of their dominant position in the market. However, more recently, many domestic and foreign automakers have embraced consumers' requests that companies place the wellbeing of humans at the centre of their product developments.

For example, automakers are accelerating their production of electric vehicles. In November 2020, GM announced that it will launch 30 electric vehicles by 2025.

Mary Barra, GM chairperson and CEO, said: ‘...we want to be part of the solution by putting everyone in an electric vehicle...’ (as cited in Corporate Newsroom, 2020, para. 2). By 2025, Volkswagen aims to emit 45% less carbon dioxide and use 45% less energy in its production processes than in 2010 (Volkswagen, 2021). Automakers will also compete in the areas of autonomous vehicles and connected vehicles. In the future, we may live in a world where driverless cars can talk to each other. Again, automakers must listen to users’ opinions about the design of these technologically advanced vehicles. Human factors need to be considered. For example, how much control do people want to have in a driverless car?

Second, inter-organisational learning is essential for a firm to win the competition with its rivals. If incumbent automakers could learn to appreciate their foreign competitors’ small cars, they would not lose the battle in that segment. Incumbent automakers should also learn from entrant automakers’ methods for managing their factories and controlling costs. Although this is beyond the scope of this study, it is necessary to compare incumbent and entrant automakers’ cost management and product quality control management because this may also contribute to the rise of foreign brands in the USA automobile market (Womack et al., 2007).

For example, in a Toyota factory, a ‘just in time’ inventory management method means that it may be difficult to observe the piles of components and parts. Toyota’s supplies would be purchased when new orders from downstream customers arrived. Conversely, on a domestic automaker’s plant floor, unused inventory could be observed, which would increase its inventory costs. Another example is a unionised factory in GM, where the healthcare benefits for retired workers accounted for more than USD1600 in the total cost of a car produced. In contrast, Toyota’s healthcare

benefits for retired workers cost less than USD200 for each car produced (Ingrassia, 2010).

During the 2008 financial crisis, in a trip to Washington, DC, to argue for a bailout, the top managers of the Big Three used their corporate aeroplanes, which costed substantially more than first-class seats on commercial airlines (Ross & Rhee, 2008). In contrast, Honda's top executives drove their own cars for business travel. Further, in Honda's factory, a worker at any department along the assembly line is responsible for detecting product flaws; this is the total quality management. Conversely, in Detroit, a car will be checked at the inspection point, which is usually the last step in the manufacturing process. If incumbent automakers could absorb some of the cost management and quality control methods adopted by their foreign competitors, the market share loss resulting from their distrust in small cars might be compensated, and the competitive landscape in the USA automobile market may be quite different.

The sequential product launch strategy is not a privilege for foreign firms. It can be adopted by any new entrant in its market expansion journey. In order to minimize competition with GM, Ford and Chrysler, as the youngest and smallest domestic automaker, American Motors Corporation built a foothold in the market by launching compact cars continuously. After it established a solid brand loyalty, American Motors Corporation launched SUVs and pickups. The sequential product launch strategy has been seen in other industries as well. Midea, now a top performing firm in China's stock market, started as a fan manufacturer and gradually diversified into air conditioner, washing machine and fridge markets. The young firm would face strong competition if it chose to enter multiple businesses at the same time. More recently, Midea entered the industrial robot business and the acquired automation technology will increase the company's manufacturing efficiency and improve its quality control. Another company

which has adopted sequential product launch strategy is Amazon. Amazon was originally an online bookstore. It was an innovative idea to read and buy a book on a website because physical bookstores have been the norm in the book industry for centuries. During the early days of e-commerce, physical bookstores might not treat Amazon as a rival. However, consumers embraced e-commerce and Amazon secured a place in the market. Subsequently, the company successfully added more product categories to its website. In China's dairy product market, Milkground is now a popular brand. At the company's entry into the cheese business, the market was small and controlled by foreign brands. In addition, cheese was a foreign product which was not accepted by the mainstream population yet. Milkground chose cheese bar as its first product and targeted children as the product's consumption group. With the help of advertising and imitative behaviour among children, the company's sales increased significantly. Then, Milkground launched cheese products for family and adults, competing directly with market leaders.

These days, automakers launch products on a regular basis. Aggressive product launches across multiple segments are rare. Automakers understand that they are meeting each other in many segments and the risk of cross-segment counterattack is high. Yes, in most industries, firms have become multipoint competitors. It is more common to see subsequent product launches than inaugural product launches in recent years. The multipoint competition map will change when the next disruptive innovation is launched. Maybe the competitive dynamics is already moving in the areas such as flying cars and electric cars?

Notes

1. The positive effects of market integration have been found empirically. For example, Scott-Green and Clegg (1999) reported that the increase of Japanese firms'

FDI inflows to the European community was associated with their expected gains from single market programs, such as the large market size and free movement of labour and supplies.

Chapter 5 Conclusion

This thesis comprises three studies. Study 1 (see Chapter 2) demonstrated that the rivalry-reducing effects of multipoint contact on a firm's decision to launch a competitive action are delayed for subsequent competitive actions than for inaugural competitive actions, advancing the notion of delayed forbearance.

Study 2 (see Chapter 3) examined whether mutual forbearance is conditional upon decision principles with other time horizons than the future. It found that the inverted U-shaped effects of multipoint contact on a firm's decision to launch a competitive action are intensified by its direct knowledge and observation about competitors' response strategies in the past. In other words, multipoint competition and competitive history can interact in a firm's decision-making about whether to behave aggressively towards its competitors.

A supplementary study (see Chapter 4) was conducted to clarify the different types of product launches explored in Studies 1 and 2 and illustrate how majority of automakers in America have grown into multisegment competitors. Based on historical narratives, my supplementary study showed that entrant automakers follow certain patterns in their product launch strategy adjustments in a new market. During a firm's inaugural entry into a new market, firms tend to launch products into a periphery segment with little direct competition with incumbent automakers. The products they initially introduce to the new market may be similar to what they sell in their home markets. They then strengthen their market position by making subsequent product launches in the periphery product segment. After gaining a foothold in a new market, entrant automakers begin responding to local consumers' tastes and launching mainstream products within incumbent automakers' spheres of influence. Today, most automakers in American automobile market have become multisegment competitors with each other.

This thesis makes several theoretical contributions. First, it contributes to multipoint competition literature by highlighting that the identity of a competitive action initiator affects when forbearance will occur. Specifically, it identifies that the level of MSC required for the forbearance effects to occur is higher for a subsequent entrant than an inaugural entrant.

Second, this thesis challenges the notion that the future is the primary time orientation emphasised in mutual forbearance. The thesis demonstrates that a firm's understanding of its competitors' response strategies through their competitive interactions and vicarious learning in the past will intensify the inverted U-shaped relationship between a firm's likelihood of launching a competitive action and its multipoint contact with competitors.

Finally, this thesis contributes to the field of strategic management by incorporating historical narratives to understand how automakers decide which types of products to launch in a new market and how automakers develop overlapping contact points with each other. It is demonstrated that history can inform strategic management (Argyres et al., 2020). A deeper understanding of the context and how it is linked to organisational decision-making outcomes is as equally important as analysing the statistical relations between the outcome of interests and key explanatory variables (Kahl et al., 2012).

Organisation and management scholars should interact more with the humanities fields, such as history (Clark & Rowlinson, 2004). Fortunately, the historical tradition of organisation studies has not been lost. Business historians have examined the evolution of individual industries or companies (Kandel et al., 2019; Leblebici, 2012; Sinha et al., 2020) since the publication of Chandler's (1962) *Strategy and Structure: Chapters in the History of American Industrial Enterprise*. Organisation studies can benefit from incorporating historical details. For example, anecdotal evidence can be used to provide a more vivid understanding of the statistical relations among dependent and independent variables and of those variables themselves.

This thesis has practical implications. First, in implementing the mutual forbearance strategy, compared with an incumbent entrant, a firm attempting to enter a product segment for the first time should be more alert about the cross-segment counterattacks from segment incumbents. The inaugural entrant should stop entering additional product segments and abandon its deterrence building at a low level of segment overlap. It should constantly assess existing firms' probability of launching counterattacks and show subordination when needed. For example, when its multi-segment competitors signal their displeasure by speaking to the press, the inaugural

entrant should exit the new segment to avoid counterattacks in multiple segments. In the late 1980s, McDonald's added pizza to its menu; in response, Pizza Hut's spokesperson said, 'we certainly don't take McDonald's lightly. It's an enormous company with tremendous resources. We're going to deal with it and we'll be fierce competitors' (Newby, 1989, as cited in Gao et al., 2017, p. 136). After receiving Pizza Hut's signal, McDonald's paused its pizza business.

Second, when deciding whether to launch a product into a segment, a firm should learn from its past competitive history and consider the possibility of multi-segment counterattacks. The firm needs to accumulate knowledge about competitors' response strategies from its prior encounters with its competitors and from its observation of competitive dynamics among other firms. For example, which level of segment overlap triggered retaliation and what retaliatory tactics did the competitors adopt (e.g., new product launch or price cut)? This knowledge will help the firm navigate its multi-segment competition network by developing its deterrence and forbearing from initiating aggressive actions at the appropriate times.

Third, an entrant firm should behave differently at different stages of its life span in a new market. During its inaugural entry into a new market, an entrant firm should minimise its resource investment by introducing the products developed for its home market and avoiding confrontations with its incumbent competitors. This is an opportunity to test local consumers' reactions to these products. During the next few years, an entrant firm must concentrate on making subsequent product launches in the marginal segment it has chosen. Simultaneously, it will accumulate market knowledge, build trust with employees, customers and suppliers and earn a reputation in the local community. This is the process of building a foothold in the market. With distribution networks, brand loyalty and a market position established, the entrant firm can localise

its product design and encroach on mainstream segments that incumbent firms typically dominate. It has little to lose if the attack on incumbent firms' core segments fails because it could easily retreat to the segment where it already has a solid position.

The sequential product launch strategy can be adopted by any entrepreneurial company which is venturing in a new market. The setting for this strategy is far beyond entrant automakers' product launches into American automobile market. Walmart targeted the rural market before entering urban market which had been controlled by large department stores. Nongfu Spring initially chose the 4L product category before it launched mainstream water products. Wing is a firm which provides food and grocery delivery by a drone. It is the first grocery delivery service by drone in Australia. It is a smart strategy to avoid facing competitors directly in the red sea of grocery delivery market. Dropping grocery from a vertical distance is a creative idea. Existing firms have not been able to develop this technology. Wing has its competitive advantage. It will take some time to nurture consumers and build its customer base. Will Wing compete face to face with Deliveroo and UberEats by making delivery by cars? I believe that it will. Cars can carry groceries with larger weight and will contribute more revenues to the firm.

Although this thesis provides some practical guidelines for firms to follow that may help their growth when dealing with competition, top managers are not encouraged to view their businesses as merely profit-seeking machines. Profits are very important for firms to continue their business activities, provide jobs and pay dividends and taxes. Firms can use strategy to lessen competition (they do not want to be dragged into a price war) and reduce costs which will improve their financial performance. All ambitious top managers want to see that their companies climb to the top of a market. As a field in management, from its birth, strategic management has a mission to advise

business practices and help firms grow. However, it is advised that besides a desire for profits, firms also need to ensure that the wellbeing of consumers is a high priority. The profit-seeking logic and wellbeing-seeking logic can be reconciled.

In September 2015, Volkswagen acknowledged that it had cheated on the United States Environmental Protection Agency's emissions test. The automaker installed software that could direct the engine to emit less during a test while emitting more during ordinary drives (Colvin, 2020). Volkswagen's emission fraud is a reminder that it is difficult to get rid of greediness in human nature. The development and deployment of clean air technology might increase the cost of production and reduce the profit margins per car produced. From a cost control perspective, it may not be wise to invest in this technology. However, for fulfilling societal goals as corporate citizens, it may be essential to produce cars that are fuel-efficient and emit less pollution. Although it is difficult to predict how long a firm will survive market competition, humans will always live on this planet. In the novel *King Solomon's Mines* (Haggard, 2010), a group of adventurers were looking for King Solomon's treasure. They found it but they could not take all of it. Indeed, King Solomon's fortune may not stay with him forever, but the trees, grass, rivers and the blue sky will always be there.

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