Liability of Foreignness in Legitimacy Evaluation: The Legitimacy Challenge Facing Foreign Firms

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LIABILITY OF FOREIGNNESS IN LEGITIMACY EVALUATION:

THE LEGITIMACY CHALLENGE FACING FOREIGN FIRMS

By

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To my beloved wife, Jennifer, and my unbelievably sweet daughter, Esel.

And to my parents and parents-in-laws who never ceased to support me.
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ABSTRACT

A firm’s legitimacy becomes a critical issue during an organizational crisis. Blending social identity theory (SIT) and institutional theory, I explain why legitimacy is more difficult to maintain for foreign firms than domestic firms. Specifically, I argue that foreign firms are likely to suffer a greater loss in legitimacy from an organizational crisis because of their legitimacy characteristics and foreign identity. In building the discussion about foreign firms’ legitimacy characteristics, I argue that foreign firms face severe restrictions in establishing cognitive legitimacy due to constituents’ identity-based bias toward foreign firms. As a result, domestic firms and foreign firms develop differing properties of legitimacy. When an organizational crisis strikes a foreign firm, this \textit{ex ante} legitimacy property and the magnified foreign identity reinforce each other to result in more damage to legitimacy for foreign firms. Moreover, an organizational crisis that strikes a foreign firm is likely to have a stronger negative spillover effect on other foreign firms within the same industry. The proposition and hypotheses in this study were empirically tested using the recall data of 10 automakers in the US automobile industry between 2006 and 2013. The legitimacy of a firm was measured using two constructs from prior studies: tenor of media and volume of media (Pollock & Rindova, 2003). A total of 15,019 newspaper articles were analyzed using Linguistic Inquiry and Word Count (LIWC) software to estimate tenor of media, and additional 469 news articles were used to estimate volume of media. Lastly, this study employs GEE to test the ten hypotheses.

The results suggest that foreign firms are indeed at a higher risk of losing legitimacy not only from their own crises but also other foreign firms’ crises. More specifically, an organizational crisis results in a harsher legitimacy setback for a foreign firm than a domestic firm. Furthermore, when a foreign firm faces a crisis, its negative effects seem to spread only to other foreign firms, whereas domestic firms may even benefit from the foreign firm’s crisis. There was no negative spillover affecting domestic firms either from a foreign firm’s recall or domestic firm’s recall. Therefore, the empirical results point to the existence of the identity-based liability of foreignness.
CHAPTER 1
INTRODUCTION

Overview

Strategy scholars have suggested that firms operating in another country may be at a competitive disadvantage compared to domestic counterparts (Hymer, 1976; Mata & Portugal, 2002; Zaheer, 1995; Zaheer & Mosacowski, 1998). This disadvantage, known as the liability of foreignness (LOF), arises from two primary sources: capability-based and identity-based liabilities. First, unfamiliarity with the host market environment and lack of local ties limit foreign firms’ capabilities, as they incur higher costs in coordination, information search, networking, and lobbying (Hymer, 1976; Kostova & Zaheer, 1999). This type of disadvantage, reflected in knowledge, relational deficits, and legitimacy gaps, is rooted in the notion, ‘I (foreign firm) do not know you (host country) well’ (Kostova & Zaheer, 1999; Nachum, 2003; Suchman 1995). Another source of disadvantage is the lack of perceived legitimacy by stakeholders (e.g., consumers, competitors, investors, and regulators) simply because the firm is foreign, as typically manifested in discriminatory policy by the government or unfavorable views by consumers or suppliers (Hymer, 1976; Kostova & Zaheer, 1999; Nachum, 2003). This disadvantage is identity-based and cognitive in nature, with little relationship to actual competitive capabilities. Scholars suggest that the problem is rooted in another underlying sentiment, ‘you (host country) do not know me (foreign firm) well’ (Kostova & Zaheer, 1999).

Case of Identity-Based LOF

In this era of rapid globalization and ubiquitous digital technologies, constituents’ views of companies can be easily shared and built to be a powerful force to wield an influence on both national and global stages. In a host country, foreign firms can become focused targets of harsh criticism and negative judgments by constituents (Wang, 2005). One example of this is the recent Chinese media’s attack on Apple’s operation in China. Every year on their International Day, China’s state-run television network broadcasts an investigative report on a foreign company for mistreating Chinese customers. In 2013, their network focused their critique on Apple (a US-
The network claimed that Apple engaged in discriminatory practices in their warranty and customer services that were lower in standard than those they offer in other countries (*The Boston Globe*, April 2, 2013). Subsequently, this criticism took on a life of its own, spiraling out at a surprisingly viral pace. Soon after the initial TV reports, a social networking environment was created that became a forum to collectively criticize Apple. China’s Twitter-like social network (*Weibo*) was filled with negative comments from Apple users expressing their disappointment and disapproval of Apple. Other Chinese TV news and newspapers joined in on the criticism bandwagon, and even began attacking Apple on other grounds unrelated to the crisis origin. For instance, a few weeks after the initial report about Apple’s warranty policy, another Chinese news agency accused Apple of being responsible for the high debt level among the young Chinese—the debt these students had incurred to purchase Apple products (*Forbes*, March 24, 2013). Interestingly, the bandwagon effect of media criticism reached beyond Apple and subsequently placed other foreign companies under similar scrutiny. About a month after the initial criticism of Apple for its warranty and customer service, the news media accused Microsoft (another US-based company) of adopting a discriminatory service policy, the same accusation levied toward Apple (*Bloomberg News*, April 9, 2013). The criticism of one foreign firm spilled-over, selectively affecting another foreign firm. Yet, the domestic firms in the industry were not included in the snowballing effect of media criticism.

The recent event involving Apple and Microsoft illustrates how foreign firms’ identity becomes highlighted during a crisis, and their social desirability and approval may be evaluated on different grounds from domestic firms. Foreign firms (in this case, Microsoft and Apple) collectively became targets while their domestic counterparts remained unscathed during the public scrutiny. This difference in vulnerability to the negative publicity needs to be viewed as an identity-based legitimacy issue rather than a capability issue since there was no clear evidence that these foreign companies were offering worse warranties than China’s domestic firms and yet, their warranty policies became subject to public reprimand (*Forbes*, March 24, 2013). Institutional scholars define organizational legitimacy as the extent to which a firm’s actions or features are perceived acceptable or desirable within the society (Suchman, 1995). The above event illustrates how collective voice with a common focus is formed among the constituents in the host countries to identify and target foreign firms to revoke their social acceptance and approval following a focusing event.
Limitation in Extant Studies

Institutional theory has been widely used to explain liability of foreignness in legitimation (Kostova, Roth, & Dacin, 2008; Kostova & Zaheer, 1999). The theory postulates that organizations are perceived as legitimate to the extent that they adopt and reflect dominant logics in norms, rules, and cultures of an industry (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) or to the extent that foreign firms are well represented in the population (Hannan & Freeman, 1984). Based on these tenets, scholars have argued that foreign firms experience difficulties in legitimation mainly because a wide gap in institutional logics tends to exist between foreign firms and host environments (Kostova & Zaheer, 1999; Zaheer & Mosakowski, 1998). However, the increasing globalization of the economy and the multi-national presence of foreign firms have compelled both domestic firms and foreign firms to adjust their institutional logics, closing the traditionally-existing gaps (Kostova, Roth, & Dacin, 2008). Despite the narrowing gaps, constituents in host countries still seem to tacitly distinguish foreign firms from domestic firms and treat them differently (see Kostova & Zaheer, 1999; Zaheer & Mosakowski, 1998). This tendency suggests that there may be other legitimating (or illegitimating) factors relevant to foreign firms that cannot be or have not yet been properly explained by the traditional institutional theory (Kostova et al., 2008). Therefore, recognizing the gaps in previous LOF literature, this study aims to find answers to the following two primary questions:

1. Are foreign firms perceived differently from domestic firms because of their foreignness?
2. If then, how does the different perception affect foreign firms?

In establishing arguments for identity-based LOF, this study blends social identity theory and institutional theory on legitimacy. SIT offers an explanation for the social cognitive dynamics responsible for categorization of foreign firms whereas institutional theory illuminates the legitimacy outcome of the categorization.

Overview of the Theoretical Frameworks

Social identity theory. The premise of social identity theory allows us to speculate about reasons for the liability of foreignness beyond the prevailing explanation that cites gaps in institutional logics or forms between foreign and domestic firms as the primary source of LOF. Social identity theory postulates that individuals are naturally inclined to identify themselves and others based on similar and dissimilar attributes with certain groups (Tajfel, 1982; Turner, 1975).
At the institutional level, and germane to this study, the theory also predicts that constituents are likely to categorize firms into domestic or foreign firms based on their national origins, a salient, socially-constructed identity (Ashforth & Mael, 1989; Hogg & Terry, 2000; Salazar, 1998). As a result of this identity-based social categorization, individuals will develop perceptions, attitudes, and behaviors toward foreign firms that are different from domestic firms. Specifically, this differentiated development can be summed up as a more favorable legitimacy evaluation for domestic firms as a result of perceived ingroup membership (Ashforth & Mael, 1989; Tajfel & Turner, 1979; Turner, 1975). This theory espouses a very deterministic view since foreign firms have little control over how constituents perceive their foreign identity.

Therefore, according to social identity theory, foreign firms are at a legitimacy disadvantage due to social identity categorization, but this should not lead to the simple interpretation that foreign firms are necessarily operating with less legitimacy than domestic firms. If then, it will be difficult to explain how there are many foreign firms that operate profitably and remain competitive against domestic firms in host countries over a long period of time. This study seeks to find the answer in different dimensions of organizational legitimacy.

**Institutional theory.** Institutional theory may hold a key explanation with its conceptualization of legitimacy dimensions. The literature on the legitimacy construct suggests that both domestic and foreign firms can gain legitimacy, but, as a result of social categorization between domestic and foreign firms, the two groups are legitimated on different grounds. In making contrasts between formations of foreign firms’ legitimacy and domestic firms’ legitimacy, I draw on recent works in the legitimacy literature and classify legitimacy into pragmatic legitimacy and cognitive legitimacy (Aldrich & Fiol, 1994; Bitektine, 2011; Foreman & Whetten, 2002; Tost, 2011).

According to the literature, pragmatic legitimacy is conferred when an organization, through its features and actions, demonstrate to the constituents self-interested exchange value that promises high utility and efficiency (Suchman, 1995; Tost, 2011). Cognitive legitimacy, on the other hand, is understood as a taken-for-granted legitimacy and is based on unspoken, widespread assumptions by constituents that an organization shares the same social and cultural values or same history with the constituents (Suchman, 1995; Tost, 2011). Scholars argue that both pragmatic and cognitive legitimacy contribute to overall legitimacy and both types of legitimacy can help firms to reach and pass legitimacy thresholds for acceptance and survival.
(Elsbach, 1994; Foreman & Whetten, 2002; Suchman, 1995; Tost, 2011), but cognitive legitimacy is more desirable and powerful among the two because the taken-for-granted nature of cognitive legitimacy renders it more resilient to a legitimacy threatening event (Miller & Eden, 2006; Henisz & Zelner, 2005; Suchman, 1995). However, foreign and domestic firms are likely to have different starting points and access to building cognitive legitimacy.

**Foreign firms’ legitimacy property.** Despite the benefit and desirability of cognitive legitimacy, foreign firms’ legitimacy is likely to be low on the cognitive dimension because foreign firms face restrictions in gaining cognitive legitimacy. Influenced by socially constructed stereotypes about foreign firms (Hogg & Terry, 2000), constituents in host countries can often be driven to assume that foreign firms have core value systems and histories that are intrinsically different from familiar domestic firms (see Bitektine, 2011; Hogg & Abrams, 1998). In contrast, pragmatic legitimacy is almost equally available for foreign and domestic firms and as such, foreign firms can be granted pragmatic legitimacy as long as they can demonstrate their instrumental value (Kostova, Roth, & Dacin, 2008). In many institutionalized markets, constituents feel free to endorse foreign firms for their high exchange value in ways that do not necessarily compromise moral or relational value they seek from identifying with their domestic firms (see Balabanis & Diamontopoulos, 2004; Klein, 2002). This is achieved by emotionally detaching economic activities from patriotism.

As a result of restrictions on cognitive legitimacy construction, foreign firms are likely to have relatively lower levels of cognitive legitimacy compared to their domestic counterparts given the same level of pragmatic legitimacy. In addition, foreign firms’ composite (general) legitimacy property is likely to show higher dependence on the pragmatic dimension than domestic firms, given the same overall level of legitimacy. For foreign firms, pragmatic legitimacy may be sufficient enough to earn profits and ensure survival under normal business circumstances, at which foreign categorization and stereotyping have only a moderate effect on the constituents’ decision to engage in market transactions with foreign firms (see Kostova, Roth, & Dacin, 2008; Wang, 2005). However, the shortage in cognitive legitimacy of foreign firms becomes a critical issue during an organizational crisis, a violation of stakeholders’ expectations (Yu, Sengul, & Lester, 2008; Zavyalova, Pfarrer, Riger, & Shapiro, 2012).

**Organizational crisis.** This study argues that organizational crisis is a catalyst that prompts the dormant issues of foreign firms’ legitimacy to the surface. It occurs through two
mechanisms of a crisis. First, a crisis triggers stakeholders’ legitimacy reassessment of the organizations involved. Second, an organizational crisis renders the nationality of a firm more salient.

When an organization violates a stakeholders’ expectation by engaging in misconduct or negligence, stakeholders are prompted to reconcile the high degrees of uncertainty as to the cause and responsibility (Jonsson, Greve, Fujiwara-Greve, 2009; Yu et al., 2008). Stakeholders will wonder if the problems could have been avoided with reasonable amount of caution, if the problems will persist in the future, or if the violating firm conforms to the rules and norms established in society. This process of inquiry is referred as a legitimacy reevaluation or reassessment (Jonsson et al., 2009; Yu et al., 2008). However, with the limited information and bounded rationality, stakeholders are inclined to take a cognitive shortcut in which they rely on social identity and preexisting legitimacy of the organization for evaluation (see Desai, 2009; Jonsson et al., 2009; Yu et al., 2008). The crisis becomes a more serious threat for foreign firms because of the ex ante legitimacy characteristics and magnified foreign identity during a crisis.

Highly dependent on pragmatic legitimacy and with limited cognitive legitimacy, foreign firms are more susceptible to legitimacy setbacks as compared to domestic firms whose cognitive legitimacy serves as a source of continuous protection and a shield during and following a crisis (Suchman, 1995). For example, when Mattel, a US-based toy manufacturer, recalled 19 million toys in 2007, they were able to shift attention to their Chinese suppliers, initially alleging that the recall was primarily due to the lead paints used (New York Times, 2007). With support of the cognitive legitimacy as a domestic firm, Mattel successfully relocated the attention on their foreign suppliers, thus playing off of the foreignness aspect of its manufacturing operation. Overwhelmingly, the US media and consumers sided with Mattel’s action to blame the Chinese suppliers. This disparaging narrative continued until Mattel later came forward to report that most of the products were actually recalled due to Mattel’s design defect. On the other hand, when Toyota, a Japanese auto manufacturer, recalled a massive number of vehicles in 2009 and 2010 for an acceleration issue, the media and US consumers almost exclusively blamed Toyota for the crisis even though some critical parts were manufactured by US suppliers (USA Today, January 28, 2010). In these similar vignettes, the outcomes contrast sharply in favor of domestically based firms during a crisis.
The cognitive shortcut through identification can be devastating for foreign firms. Once constituents find that the crisis-stricken firm is a foreign firm, the constituents become less motivated to search and process information that may mitigate the negative-impression building process after the crisis (Hong & Wyer, 1989; Klein, 2002) and rather, allow the bias about foreign firms dictate the judgment. From the social identity perspective, a foreign firm is always identified by its national origin; in a relatively subliminal way during its normal operation, but during a crisis, its nationality becomes the most prominent attribute used by constituents in reassessing the foreign firm’s legitimacy (Hogg & Abrams, 1998; Salazar, 1998). On the contrary, the cognitive shortcut works in favor of domestic firms as constituents tend to give the benefit of the doubt to domestic firms and are led to believe that the crisis was inevitable for any business with reasonable precaution. Being categorized as an ingroup member, domestic firms’ crises are evaluated with a different standard—typically, of more generous and forgiving one. Constituents may become less interested in searching for information that attests to socially despicable negligence of the domestic firms but more interested in reestablishing the ties and links through historical memory.

Therefore, legitimacy is more difficult to maintain during a crisis for foreign firms than for domestic firms. For ease of conceptualization, this study uses the term, “focal effect,” when a firm suffers penalties from its own crisis and calls it “spillover effect” when a firm suffers penalties as a result of another firm’s crisis. Foreign firms are at a higher risk of losing legitimacy not only from their own crisis but also a crisis that strikes another foreign firm in the industry.

**Negative spillover of legitimacy loss.** When a foreign firm causes a crisis, its foreignness becomes a salient feature of identification; moreover, the identity of the foreign firm category as a whole is rendered salient by association. As a result, one foreign firm’s crisis may stigmatize all other foreign firms in the industry. Scholars have relied on institutional theory to argue that a crisis to a firm may also have negative consequences on other firms that are perceived to have a similar institutional logic or form to the focal firm (Jonsson et al., 2009; Yu et al., 2008; Zavyalova et al., 2012). However, SIT makes a somewhat different prediction from institutional theory when the unit of analysis involves foreign firms. Institutional theory views similarity or dissimilarity in institutional logics and forms between the crisis-stricken organization and others as the primary determinants of the spillover effects, whereas SIT views...
the perceived social membership of the crisis-stricken organization and others (i.e., ingroup/outgroup) as the primary determining factor for spillover effects of an organizational crisis (Hogg & Abrams, 1998). In SIT, an organizational crisis striking a foreign firm becomes a social representation of the foreign identity group. As such, during a foreign firm’s crisis, constituents in the host country are likely to believe that other foreign firms have the same issue or problem as the foreign organization in crisis. Henceforth, in this study, I rely on social identity theory to predict that foreign firms suffer a more severe spillover effect of legitimacy loss than their domestic counterparts when the crisis-stricken firm is a foreign firm because constituents in the host country believe that the crisis-stricken foreign firm represents the group from which it emerges in terms of quality of products and service, trustworthiness, and business ethics (Hogg & Abrams, 1998; see also Jonsson et al., 2009). Figure 1 presents the general research model of the study.

Figure 1. General Conceptual Model

Research Context

To empirically test how foreign firms face harsher legitimacy penalties after an organizational crisis, I select the US automobile industry. The US automobile industry provides an appropriate empirical test context for this research. First, the industry is well represented by
both domestic and foreign automakers, allowing opportunities to observe how a crisis differently affects foreign firms and domestic firms. In 2013, the big three US automakers (GM, Ford, and Chrysler) represented 28.6% market share in the passenger car category in North America (Automotive News), with Japanese, European, and Korean automakers representing 41.9%, 11.4%, and 12.8% respectively. As of December 2013, there were 39 auto brands (this figure excludes high-end boutique car brands such as Lamborghini) that sold passenger cars in the United States (Automotive News). Among these 39 auto brands; 10 are US brands (Buick, Cadillac, Chevrolet, Chrysler, Dodge, Ford, GMC, Jeep, Lincoln, and Ram); 11 originated from and are headquartered in Japan (Acura, Honda, Infinity, Lexus, Mazda, Mitsubishi, Nissan, Scion, Subaru, Suzuki and Toyota); and 16 originated from and are headquartered in European countries, and finally two brands originated from and are headquartered in South Korea. Second, the industry is well institutionalized in normative, cognitive, and regulative domains (DiMaggio & Powell, 1983; Rao, 1994). Most automakers participate in the same tradeshows, engage in similar marketing campaigns, and use similar technologies, by and large. Also, automakers in the US are subjected to strict government regulations and certification process, and compliance with these rules and regulations are critical for survival (Rao, 1994).

In addition to being institutionalized, most foreign firms have long histories of US operations, which reduces the possibility of the liability of newness. For example, Toyota has been operating in the US since 1957, Honda since 1959, and Volkswagen since 1955. Therefore, given the years of operation and large market shares represented by foreign firms, it is very unlikely that foreign automakers are particularly susceptible to the liability of newness. Not only do they have a long history of operation in the US, many foreign automakers have become formidable competitors of US automakers and have been operating profitably and successfully. Many of the foreign automakers also brought in innovations to the industry that led changes in the ways US automakers operate (Cusumano & Takeishi, 1991; Train & Winston, 2007). This highly successful US operation by many foreign automakers minimizes the possibility that the liability of foreignness found in this study is due to the capability gap between domestic and foreign automakers, rather than due to the identity-based legitimacy issue.

Third, most foreign automakers in the US are wholly owned subsidiaries, operating quite independently from the parent companies (Sturgeon, Van Biesebroeck, & Gereffi, 2008). Such independent operation of the foreign subsidiaries should provide fewer motives for US
constituents to identify these firms with their foreign identity, making this context a stronger test of the proposed theory. Lastly, the US automaker industry was an appropriate context for this study because the industry experiences frequent recalls of varying magnitude, many of which could be viewed as crises and legitimacy threatening events. There were 571 recall campaigns by three US automakers only between 2006 and 2013, and 297 recall campaigns by three Japanese automakers in this study (Honda, Nissan, and Toyota). The number of units recalled in each campaign varies to a great extent. Some recall campaigns involve only a few vehicles, but some others involve much larger units (as witnessed in GM’s recall of 1.6 million vehicles in 2014). The relatively frequent recalls with varying magnitudes provide a useable sample to measure the degrees of effect of crises on the firms’ legitimacy and performance.

**Study Contributions**

This study offers four unique contributions to the field of international study and institutional theory. Foremost, I extend the liability of foreignness theory by further clarifying the social psychological processes underlying the LOF in legitimacy evaluation. While there are studies that have examined foreign firms’ legitimacy, no study has ever attempted to explain why foreign firms’ legitimacy is more susceptible to setbacks than the legitimacy of domestic firms. A study by Kostova et al. (2008) recognized the limitation of institutional theory in explaining the LOF in terms of legitimacy but did not clearly suggest any alternative theoretical lenses to be used in future studies. This project aims to address this need in foreign firms’ legitimacy scholarship.

First, drawing on social identity theory and the legitimacy concept in institutional theory, I suggest that the foreign firms’ legitimacy challenge may not be as much due to the differences in institutional logics or forms as is due to social identification and resulting stereotypes. SIT predicts that constituents’ legitimacy evaluation is likely to be influenced by whether they believe the legitimated organization is one of their own (ingroup) or one of the others (outgroup). The creative approach of employing SIT in the LOF context allows further elaboration of the current conception as this study explores some of the root causes of why constituents distinguish foreign firms from domestic firms and legitimate them differently.

Second, I extend institutional theory on legitimation by theoretically delineating the differences in the property of legitimacy between foreign firms and domestic firms and also by delineating how the differences in property manifest themselves in the process of legitimacy loss.
Institutional theory scholars continue to move our understanding of legitimacy constructs by introducing various dimensions, antecedents, and consequences of legitimacy in the past two decades (e.g., Ashforth & Gibbs, 1990; Reuf & Scott, 1998; Suchman, 1995). Meanwhile, international business scholars have often employed the legitimacy concept to discuss additional costs and challenges facing foreign firms. However, despite advancement and contribution in their own realms of research, these two research paths have not yet merged their theoretical understandings of organizational legitimacy to delve more deeply into the issue, a development I believe to be important in advancing our understanding of the complexity of the phenomenon. Considering the gap between the two research paths, it was timely and necessary to analyze the differences in legitimacy between foreign firms and domestic firms along the dimensions established in the institutional theory literature.

Third, this study extends understandings of legitimacy spillover by focusing on the foreign identity of firms as an important variable in judging other firms’ potential liability following an organizational crisis. The previous studies on legitimacy spillover argued that firms that are similar in institutional logics and forms are equally susceptible to negative spillover of legitimacy loss, but these studies have not considered the possibility that spillover effects may manifest differently between foreign and domestic firms under certain conditions. Relying on SIT, I argue that a crisis that strikes a foreign firm increases the salience of the foreign identity of firms, accentuates the perceived dissimilarity between foreign firms and domestic counterparts, and eventually results in more legitimacy loss for foreign firms as compared to domestic counterparts in the same industry.

Fourth and last, I extend social identity theory by applying the theoretical tenets of cognitive orientation to a macro context and examining how it can systematically inform broader organizational phenomenon when combined with a macro organizational theory such as institutional theory. Doing so provides a rich explanation of the legitimation process of a firm operating in a foreign country.

Chapter Summary

In this introductory chapter, I provided an overview of the motivation, theoretical underpinnings, and contribution of my research study. In the next chapter (Chapter 2), I present a review of the literature in the areas of liability of foreignness, organizational legitimacy, and social identity theory to explain how each conceptual domain informs this particular study. This
literature review will be followed by hypotheses development in Chapter 3. Chapter 4 delineates methods employed to test the hypotheses presented in Chapter 3. Chapter 5 presents the full empirical results of this study. Lastly, this dissertation study concludes with discussions of results and limitations in chapter 6.
CHAPTER 2
LITERATURE REVIEW

Overview
This chapter presents a literature review on the three theoretical tenets underlying this study: the liability of foreignness, social identity theory, and organizational legitimacy. Firstly, the section on the liability foreignness presents the definition, types, and empirical results from seminal studies on LOF. The section on social identity highlights the motives and social cognitive dynamics leading to the foreign firm identification and categorization. Then, the section on organization legitimacy focuses on granting grounds and properties of the two types of legitimacy addressed in this study—pragmatic legitimacy and cognitive legitimacy. Lastly, I discuss how these three broad concepts interconnect to postulate how organizational legitimacy suffers a setback during an organizational crisis.

Liability of Foreignness
Firms that operate outside their home countries face additional costs that domestic firms do not incur, and these additional costs leave foreign firms at a competitive disadvantage (Hymer, 1976; Nachum, 2003; Zaheer, 1995). The literature refers to these additional costs facing foreign firms the liability of foreignness (LOF) (Mezias, 2002a; Zaheer, 1995). For clarification, it needs to be noted that liability of foreignness is distinguished from liability of newness. Unlike the liability of foreignness that is applicable only to foreign firms, liability of newness refers to the additional costs facing any new organizations at their outset of existence (Singh, House, & Tucker, 1986; Stinchcombe, 1965). Therefore, any young organizations—domestic or foreign—can be subject to the liability of newness and face challenges due to the lack of trade knowledge, network deficit, and lack of recognition and legitimacy by stakeholders (Singh et al., 1986). On the contrary, the liability of foreignness is applicable only to foreign firms, and it is likely to persist over time, even in organizations’ maturity, despite abatement of certain sources of liability of foreignness over years of operation.

Sources of LOF
With increasing awareness of the foreign firm-specific liability, a number of studies have identified sources and circumstances that hamper foreign firms’ operations in host countries (Kostova & Zaheer, 1999; Mezias, 2002b; Miller & Parkhe, 2002; Nachum, 2003). A few of these sources are discussed in detail below because of their unique contributions to the literature.
First, in defining LOF, scholars mainly focused on explicit disadvantages facing foreign firms such as legal restrictions, insufficient networks, and hostilities toward foreign firms (Mezias, 2002b; Miller & Parkhe, 2002). However, Mezias (2002b) argued that LOF does not have to arise from the disadvantages of foreign firms, but rather it can indirectly arise from the benefits that are available only to domestic firms. For example, if the governments offer contracts exclusively to domestic firms, this benefit for domestic firms is a liability for foreign firms. Mezias (2002b) also argued that LOF can arise from costs that are not exclusive to foreign firms. That is, both domestic and foreign firms are subject to costs or penalties from a certain action, but if the costs and penalties are disproportionately higher for foreign firms, then this disproportion is an indication of the LOF. Many other scholars take similar approaches and suggest that LOF develops not only from policies and practices disfavoring foreign firms but also from those favoring domestic firms, sometimes in very implicit ways (Eden & Miller, 2001; Hymer, 1976).

Comprehensively defining the concept of LOF, Zaheer and colleagues (Zaheer, 1995; Zaheer & Mosakowski, 1998) suggested that there are four different types of LOF: (a) costs associated with transportation and coordination over long distance between parent firms and their subsidiaries; (b) costs incurred by foreign firms because of their unfamiliarity with host country’s economic, social, and cultural differences; (c) costs from economic nationalism and lack of legitimacy given to foreign firms; (d) costs associated with sales restrictions imposed by the host country. However, these studies recognize that these four types of liabilities can be further grouped into two higher categories; the first and second types are closely related to economic or capability deficit while the third and fourth are more relevant to social or legitimacy deficit than anything else (see also Kostova & Zaheer, 1999). This larger categorization of the LOF sources has been frequently adopted by many subsequent studies on LOF.

Eden and Miller (2001, 2004) present a slightly different view about the definition and sources of LOF. They make a distinction between the costs of doing business abroad and LOF. They argue that, while the former includes both economic and social costs of doing business abroad, LOF stresses the social costs arising from relational and discriminatory hazards. According to them, disadvantages in production costs, transportations, or networks should not be considered LOF because these disadvantages are relatively easy to predict and can be overcome with additional investments and other advantages of being a multinational corporation. One of
their main contributions is that they shifted attention from capability-based LOF to identity-based LOF by delineating these two types with their differences and implications.

As described above, there are some differences in how scholars view and define the concept of LOF, but most tend to agree that there are largely two types of LOF, referred to as a capability-based LOF and an identity-based LOF (see Eden & Miller, 2001; Hymer, 1976; Miller & Eden, 2006; Zaheer, 1995). The former highlights the de facto differences in capability whereas the latter emphasizes the perception or bias of constituents in the host countries (Vernon, 1977).

**Capability-Based LOF**

According to the literature on LOF, foreign firms are at a disadvantage vis-à-vis domestic counterparts simply because of their unfamiliarity with the host environments (Eden & Miller, 2004; Zaheer, 1995). The unfamiliarity is directly associated with the knowledge deficit and capability deficit of foreign firms, and it is the root cause of capability-based LOF.

Some studies describe capability-based LOF as the temporal disadvantage resulting from the lack of experiences in the home country as the foreign firms enter the new market (Hymer, 1976; Kostova & Zaheer, 1999). Hymer (1976) posits that capability-based LOF can be overcome with a one-time fixed expense such as R&D investment or marketing spending. However, the capability-based LOF is not a temporal disadvantage and can still exist even after many years of operations in home countries. For example, some MNCs send their expatriates to take charge of foreign subsidiaries instead of hiring locals who are familiar with the local environments. Although these expatriates may have extensive knowledge in products, new technologies, plant operations about their host country and global experiences, they can lack home-country specific knowledge and experiences (Mezias, 2002b). Sometimes, MNCs hire locals to run their foreign subsidiaries but still retain a strong control over the foreign subsidiaries and try to make important decisions for them from geographically and culturally distant places. Then, the unfamiliarity with the home countries can hinder these MNCs from being as responsive to the local needs as domestic firms whose managers can observe the market in closer distance (Miller & Parkhe, 2002; Salomon & Wu, 2012).

The unfamiliarity and lack of knowledge may lead foreign firms to operational inefficiencies in many areas. One example will be foreign firms’ additional costs in obtaining resources in host countries (Zaheer, 1995). In most markets, firms compete against each other to
procure resources that are necessary for successful operations. These resources include materials for productions, sites for physical locations, quality suppliers, and skilled employees. However, due to a lack of information about the resource market, it may be very difficult for foreign firms to compete with domestic firms in locating and obtaining these resources (Mezias, 2002a).

Additionally, foreign firms face difficulties in complying with legal requirements. Compared to domestic competitors, foreign firms are likely to be less familiar with the legal systems and requirements of the home countries; for this reason, foreign firms often fail to comply with local legal requirements (Kostova & Zaheer, 1999; Miller & Parkhe, 2002). Mezias (2002a) argued that one of the reasons foreign firms face significantly more labor lawsuit judgments in the US is due to the foreign firm executives’ lack of understanding of the US legal system. These additional costs of unfamiliarity may be exacerbated under certain circumstances. Studies suggest that cultural and geographic distance between the home country and the host country may determine the extent of a foreign firm’s unfamiliarity with the host country (Brannen, 2004; Miller & Parkhe, 2002; Salomon & Wu, 2012) the greater the distance between the home country and the host country, the larger the predicted costs from unfamiliarity. In general, capability-based LOF is easier to describe, observe, and operationalize than identity-based LOF, and perhaps this is the reason that past studies on LOF have predominantly focused on capability-based LOF (Mezias, 2002b).

Identity-Based LOF

Thus, a substantial number of studies on LOF point to the existence of capability-based LOF. However, the other frequently recognized type of LOF, identity-based LOF, has received scant attention from scholars. In particular, no known research has systematically investigated why and how the identity-based LOF exists in institutionalized markets. Nevertheless, some studies have laid foundations for other scholars to initiate theoretical refinement and empirical tests (Hymer, 1976; Vernon, 1977; Zaheer, 1995). These studies suggest that identity-based LOF renders foreign firms at a disadvantage vis-à-vis domestic firms because the host countries treat foreign firms fundamentally differently from their domestic counterparts (Hymer, 1976; Kostova & Zaheer, 1999). Hymer (1976) notes that:

Of a more permanent nature is the barrier to international operations arising from discrimination by government, by consumers, and by suppliers . . . . in given countries, foreigners and nationals may receive very different treatment. (pp. 34-35)
Such ‘very different treatment’ could be observed in different forms. Often, governments impose special restrictions on foreign firms, limiting their access to certain resources and business opportunities. Sometimes, consumers apply different standards in evaluating foreign firms, typically leading to stricter evaluation for foreign firms and their products (Hymer, 1976; Kostova & Zaheer, 1999; Li, Yang, & Yue, 2007). Furthermore, markets may react differently to foreign firms’ failures or scandals. For example, investors react more negatively to foreign firms’ failure to meet market expectations, or foreign firms’ failures may lead to higher consumer defection than domestic firms’ failures (Barber & Darrough, 1996; Jonsson et al., 2009).

Again, not much is articulated in the literature on why foreign firms are treated differently. Vernon (1977) argued that the different treatment of foreign firms is due to the bias of host governments and domestic firms viewing MNCs as threats to their domestic economic welfare. Some studies suggest that political and economic environments in the host countries affect how foreign firms are viewed and treated in the host countries (Dacin, 1997; Kostova et al., 2008), but other studies also argue that foreign firms are treated differently for reasons not necessarily related to those political or economic reasons (Hymer, 1976). For example, Miller and Eden (2006) argue that foreign firms are stigmatized for simply being foreign. Zaheer and Mosakowski (1997) also suggested that the difference in treatment arises due to the perceived foreign identity of the firm that operates independently of political or economic motives.

Hence, both capability-based LOF and identity-based LOF are important concerns for foreign firms as they relate directly to firms’ performance and survival (Hymer, 1976; Kostova & Zaheer, 1999; Zaheer, 1995; Zaheer & Mosakowski, 1997). However, the LOF literature seems to view the identity-based LOF as a more serious issue than the capability-based LOF because of its innate and permanent nature of being foreign (Eden & Miller, 2004; Hymer, 1976; Vernon, 1977; Zaheer & Mosakowski, 1997). More specifically, scholars suggest that capability-based LOF can be reduced and becomes less significant by incurring fixed costs in information and accumulating experiences in the host countries (Hymer, 1976). In contrast, this legitimacy disadvantage of foreign firms stemming from their social identity is beyond their control and without a direct and obvious fix (Zaheer, 1995). Therefore, the identity-based challenge for foreign firms is a more lingering and potentially most damaging issue than capability-based LOF. As Zaheer and Mosakowski (1997) notes:
cultural knowledge may be acquired by the managers of the foreign firm such that, over time, the managers align their internal and external business practices with the expectations of the local labor pool and local customer needs . . . . On the other hand, the practice of preferential purchasing, which locks foreign firms out of government contracts, may not change quite easily. (p. 441)

Despite the complexity and seriousness of the identity-based LOF, the current status of the LOF literature does not provide an adequate nor in depth explanation about why or how foreign firms are treated differently. Therefore, a systematic exploration of possible legitimatizing contexts of foreign firms is critical.

**Empirical Findings on LOF**

There are several empirical studies that provide evidences of LOF. Before introducing the empirical studies, it needs to be noted that these empirical studies do not make a distinction between capability-based LOF and identity-based LOF. Rather, most of the empirical studies attempt to show that foreign firms indeed face additional costs regardless of whether it emerges from capability or identity-related legitimacy issues. One reason behind this is a measurement problem. Mezias (2002a) recognized that the literature on LOF suffers from difficulties in methodology and research design, but most importantly, from an aggregation problem: extant empirical studies failed to parse out foreign firm advantages from disadvantages, separate capability-based and identity-based LOF, and properly control for liability of newness. He further argued that the aggregation problem mostly lies in the dependent variable because the dependent variables used in empirical studies cannot specifically locate the sources of LOF. Nevertheless, these prior empirical studies on LOF significantly advanced the understanding of LOF, and therefore, they need to be examined thoroughly.

First, recognizing the aggregation issue with existing empirical studies, Mezias (2002b) used the number of labor lawsuit judgments in selected metropolitan areas as the dependent variable. He claimed that lawsuit judgments can effectively measure only the disadvantage, leaving the advantage out. His sample included 486 British, German, and Japanese subsidiaries operating in the US. Mezias (2002b) found foreign subsidiaries faced significantly more labor lawsuit judgments in both federal and state jurisdictions. Moreover, his study also found that foreign subsidiaries that hired American top officers faced fewer lawsuits. Li, Poppo, and Zhou
(2008) tested how managerial ties benefit foreign and domestic firms differently. From the survey on 28 firms in China, they found that domestic firms in China benefit more than foreign firms from managerial ties although both groups use managerial ties at the same level. Analyzing 1,300 banks in 13 countries, Miller and Parkhe (2002) found that foreign banks have disadvantages because of their lack of experience in and information about the host country. Specifically, they found that foreign-owned banks show lower level of $x$-efficiency than domestic banks, and the $x$-efficiency of a foreign-owned bank is strongly influenced by the competitiveness of its home country and host country.

Moreover, using a sample of 2,667 market making trading rooms in 47 countries, Zaheer and Mosakowski (1997) compared the survival rate between a domestic group and a foreign group. They found that a liability of foreignness in fact exists as manifested in lower survival rates of foreign trading rooms, but they also found that LOF diminishes over time as the survival rate of foreign trading rooms approach that of domestic rooms. Zaheer (1995), using the survey data on 198 traders in 28 trading rooms in NY and Tokyo, measured the LOF as the difference between the average profit of local trading rooms and the average profit of foreign trading rooms. She found that foreign trading rooms are less profitable than local trading rooms in the same location, ceteris paribus, suggesting the existence of LOF.

There are also studies whose results reject the existence of a liability of foreignness. For example, looking at the financial institutions in London, Nachum (2003) examined if the performance of foreign subsidiaries is lower than that of British-owned institutions, but found no significant difference. She concluded that the advantages of being multi-national are strong enough to offset the home-based disadvantages, but this result can be changed by the length of operations, cultural distance, entry mode, and organizational structure.

Despite some inconsistency, empirical results generally support the existence of LOF, but again, due to the aggregation issue in measurement, current studies do not effectively provide specific evidence of an identity-based LOF. The purpose of this study is to delineate the dynamic process of the formation of an identity-based LOF and present the empirical evidence of its existence by blending social identity theory and theories of organizational legitimacy. The literature review on social identity theory is presented first, in the following section.
Social Identity of Foreignness

This study argues that foreign firms suffer from an identity-based LOF due to a lower level of cognitive legitimacy resulting from socio-cognitive restrictions imposed on them. Social identity theory (SIT) provides an important theoretical lens through which the phenomena of different treatment can be viewed and understood. The theory helps us to find an answer to the fundamental questions in regards to why we perceive foreign firms differently and how the different treatment evolves.

As originally introduced by Tajfel and Turner in the 1970s (see Hogg & Terry, 2000; Tajfel, 1982; Tajfel & Turner, 1979), social identity theory has been employed by scholars to explain how individuals’ perceptions of social membership affects intergroup behavior. Social identity refers to the individual’s recognition or knowledge that he or she “belongs to certain social groups together with some emotional and value significance to him of this group membership” (Tajfel, 1982, p. 292).

Motivation for Social Identification

The social identification behavior serves an important function for individuals because it is largely driven by the need to simplify decisions regarding attitude and behavior toward other individuals and groups (Hogg & Abrams, 1998). Hogg and Abrams (1998) suggest that, without simplifying the evaluation process by relying on social identification as a conceptual tag, individuals will be overwhelmed by the sheer amount of information that needs to be processed before efficiently evaluating others. Thus, from an evaluation perspective, pre-set categorization serves to save time and effort by allowing individuals to rely on their past experiences with individuals who are perceived to belong to the same identity group, or rely on others’ judgments about the focal individuals to be evaluated (Hogg & Abrams, 1998; Tajfel, 1982).

Literature suggests that individuals’ needs to rely on social identification for evaluation purposes are amplified under certain circumstances such as an organizational crisis (Hogg & Abrams, 1998). During an organizational crisis, uncertainty about the crisis stricken organization sets in immediately but usually there is neither enough time nor information to resolve the uncertainty as quickly as desired. In such circumstances, cognitive simplification may seem like the most effective and useful way to make sense out of the crisis and reevaluate the organization. Perhaps, this cognitive simplification is what sets social identity theory apart the most from institutional theory. Social identity theory assumes that individuals will process very limited
information for legitimacy due to the information availability and due to constraints in individuals’ information processing capabilities (March & Simon, 1958). In contrast, institutional theory is based on the assumption that individuals will thoroughly review available information in normative, regulative, and cognitive realms to decide whether the evaluated organizations conform to the norms set in the society (Scott, 1987). However, I argue that during a crisis where the equilibrium is disturbed, individuals (or constituents) wish to find the quickest way of explanation to restore the cognitive balance. In so doing, the bias and stereotyping underlies the legitimacy evaluation process under social identity theory.

Although social identification serves individuals’ heuristics by simplifying the world around them, the cognitive simplification is more of a functional outcome than the driver, *per se*, of the social identification behavior. That is, social identification occurs as a result of human nature rather than as the result of cognitive intention (Hogg & Terry, 2000; Tajfel, 1982; Tajfel & Turner, 1979). Hogg and Abrams (1998) argued that social categorization is a “fundamental adaptive function for the human organism” (p. 502) and further argued that the process of social identification is trans-historical since individuals are born into certain social categories that existed before and will last after them. Therefore, social identification and categorization function at the subconscious level. It is not really a matter of individuals choosing to do so or not. Socially defined membership largely determines an individual’s attitude toward others, and this tendency is almost uncontrollable not only at an individual level but at a collective level, such as a group, organization, community or nation.

Although social identification is driven by individuals’ lived proclivities rather than conscious decision, it still serves two underlying subliminal motivations: self-enhancement and uncertainty reduction (Hogg & Terry, 2000). First, individuals can enhance the projections of themselves by identifying with the group that they find more prestigious (Ashforth & Mael, 1989; Elsbach & Kramer, 1996). Whether the group chosen is actually prestigious or not is a subjective matter and less important—that is, the social category with which individuals identify might be perceived to be prestigious only to the category group members, the eyes of the beholder (Ashforth & Mael, 1989; Hogg & Abrams, 1998). Nonetheless, to the members of the group, the feeling of prestige is a reality. As such, while there is a high level of consensus about how to categorize individuals and how to define categories (e.g., nationality, gender, occupation, and religion) in a society, interpretation and evaluation of those social categories are highly
subjective and typically biased. The important motivation here is that one’s own category (ingroup) is elevated so that the traditions, values, and related social attributes are viewed as the best examples. Hence, social identification involves the process of turning objective reality into subjective reality, wherein being perceived as a member of a group means being able to appropriate all of the positive traits as well as all the negative traits attributed to it (Hogg & Abrams, 1998).

Second and more relevant to this study, individuals engage in social identification in order to reduce uncertainty about “one’s perceptions, attitudes, feelings, and behaviors and ultimately, one’s self-concept and place within the social world” (Hogg & Terry, 2000, p.124). Ashforth and Mael (1989) argued that, through social identification, individuals fulfill a functional need to find an answer to the question, ‘Who am I?’ (Ashforth & Mael, 1989); this need is fulfilled by finding oneself belonging to one group as opposed to another group. However, although less emphasized, social identification also allows us to answer the question, ‘Who are they?’ (Albert, Ashforth, & Dutton, 2000). Finding the answer to the question often involves the process of assigning others to other groups while re-affirming their own assignment to their identity group.

Individuals have intrinsic needs to evaluate other individuals or groups with which they directly or indirectly interact, but rationally bounded and limited (Cyert & March, 1963; March & Simon, 1958), they cannot search and/or process all the necessary information to evaluate these others. Given the constraints, individuals rely on referent others to make inferential reasoning about other individuals and groups. In this process, whatever meanings and evaluations an individual assigns to a group will determine the individuals’ perception, attitude, and behavior toward the members of the group as a result of generalization (Ashforth & Mael, 1989; Hogg & Terry, 2000; Jackson & Smith, 1999).

**Outcome of Social Identification**

The literature suggests that social identification leads individuals to polarize and classify individuals into either the ingroup or outgroup (Hogg & Terry, 2000; Tajfel & Turner, 1979). This ingroup/outgroup categorization greatly simplifies the task of sifting through the complex networks in the social environment; it serves to protect, maintain, and enhance the status of a group to which an individual belongs. In addition, this seemingly simple dichotomization of ingroup and outgroup helps individuals to take cognitive shortcuts and to reach a conclusion
about their attitudes and behavior faster toward members of each group without extensive and
detailed research (Hogg, Terry, & White, 1995). Two aspects of the categorizing process into
ingroup and outgroup need further discussion: (a) accentuation and (b) ingroup favoritism and
outgroup stereotyping.

**Accentuation.** First, ingroup and outgroup categorization involves a process of
accentuating intragroup similarity and intergroup dissimilarity (Hogg & Abrams, 1998). This
process involves depersonalizing members of each group in order to amplify intragroup
similarity and intergroup dissimilarity. Hence, inter-personal differences among the same group
members are ignored, and the sense of cohesion among the members of the same group dominate
the view of an individual (Jackson & Smith, 1999; Tajfel & Turner, 1979).

Sometimes the group distinctions are quite clear, particularly when at least one of the
groups has values, procedures, and features that are distinct from the other group (Ashforth &
Mael, 1989). In this case, the comparison between the groups is clearer and based on prominent
differences between them. At other times when the group distinctions are not as clear,
individuals still use cognitive accentuation to make the needed distinction. Interestingly, social
identity scholars suggest that the actual difference between groups may not be as important as
the motivation to categorize them into ingroup and outgroup (Hogg & Abrams, 1998; Tajfel,
1982). The perceived difference between the ingroup and the outgroup may be illusory and
entirely subjective and yet, such illusion is instrumental for clear boundary drawing between the
ingroup and outgroup. Thus, even when values, procedures, and features between two groups are
not different enough to tell the two groups apart, individuals are cognitively inclined to amplify
and accentuate any differences to separate them.

This theoretical underpinning of identification casts an important question about
perceiving and treating foreign firms differently. Some studies suggest that cultural distance
influences how we perceive foreign firms. If the foreign firm has similar culture, values, and
norms to domestic firms, the constituents in the host country are less likely to perceive the
foreign firm to be fundamentally different from the domestic firms (Brannen, 2004; Nachum,
2003; Salomon & Wu, 2012). However, social identity theory posits that the actual differences
between the two organizations do not matter. Rather, the theory predicts that if two organizations
are similar in culture, values, and norms, individuals exert cognitive accentuation to set apart the
two similar organizations for clarification. Within this theoretical tenet, foreign firms that look similar to domestic firms will still be recognized as members of the foreign firm category.

**Ingroup favoritism & outgroup stereotyping.** In addition to accentuation, categorization leads to *ingroup favoritism* (Ashforth & Mael, 1989). As a result of categorization, individuals are likely to favor their own category (*ingroup*) and appropriate the group goals, norms, and values. Tajfel (1982) notes even “when there is not explicit or institutionalized conflict or competition between the groups, there is a tendency toward ingroup-favoring behavior” (p. 24). He further claimed that the strength of ingroup favoritism is determined by the need to preserve or achieve positive group distinctiveness. The form of ingroup favoritism ranges from a mere positive perception about their ingroup to a strong sense of common fate in which individuals believe that their fate or destiny is intertwined with that of the group (Ashforth & Mael, 1989; Jackson & Smith, 1999). Altruistic behavior is one of the byproducts of ingroup favoritism; for instance, Brewer and Silver (1978) found that individuals sacrificed opportunities for personal financial gains when they judged taking opportunities was going to weaken their social identities tied to the ingroup. At the level of society, studies find that consumers prefer purchasing domestic products even when foreign products have better products qualities and higher ratings because it preserves their relational ties (Balabanis & Diamantopoulos, 2004; Wang, 2005).

In addition to ingroup favoritism, the process of social identification involves *stereotyping of the outgroup* leading to the bias that the ingroup always deserves a higher evaluation and better treatment from society (Tajfel & Turner, 1979; Turner, 1975). Ashforth and Mael (1989) claim that “in-group members often come to share pejorative perceptions of the out-group and experience the real or imagined slights against other members” (p. 32), indicating that negative stereotyping of the outgroup coincides with ingroup favoritism. Tajfel (1982) suggests that as social identification intensifies, individuals develop negative stereotyping of the outgroup. Sumner (1906) also asserts that favorable attitudes toward an ingroup is followed by unfavorable attitudes toward the outgroup. Therefore, SIT predicts that individuals are likely to develop a positive perception toward the members of the society who they believe belong to the same social group but may resist to fully embrace those who are considered to reside outside the social group boundary.
Social Identification and Foreignness

For social identity scholars, an important research agenda was to isolate and investigate the individual or group identity cues and the minimal conditions that activate the social categorization (Hogg & Terry, 2000; Turner, 1975). Social identity scholars suggest that the mere awareness of being in one group as opposed to another is a sufficient condition to trigger a process of social identification (Tajfel, 1982; Turner, 1975). Likability or history of interactions may facilitate identification but they are not necessary conditions for identification to occur (Ashforth & Mael, 1989). In fact, researchers found that individuals often identify with a group without the feeling of commitment or internalizing organizational values and goals (Jackson & Smith, 1999; Tajfel, 1982; Turner, 1975). In some instances, the motivation for social identification are so strong that individuals even identify with a group that they perceive negatively as long as social identity attributes suggest that the individual and the group share the same attributes (Tajfel, 1982; Turner, 1975).

Researchers have been pondering if nationality still plays an important role in today’s highly globalized environment, especially where the technologies and increased transnational interactions bring the perceived gap between nations much narrower than it has been (Salazar, 1998; Tajfel, 1982). In response to the question, Salazar (1998) posits that, although those environmental elements (technological and global transaction) have facilitated mutual imitation and copying of each other, these elements have also created consciousness of both “similarities and differences” (p. 123) rather than leading to the idea of homogenization. Moreover, certain categories are salient across time and space because there is a strong sense of consensus and awareness of the category within any society; nationality is one of these highly salient categories (Bonaiuto, Breakwell, & Cano, 1996; Li & Brewer, 2004; Sumner, 1906; Tajfel, 1982).

Salazar (1998) suggests four elements that enable social identification based on nationality—territoriality, culture, historical memory, and national state. First, humans are territorial as reflected in the tendency to describe themselves in tangible and object-based ways, such as geographic affiliation. Second, culture often sets the boundary of a nation. Culture is an important indicator for national boundary as it is perceived as a commonly recognized code. Third, historical memory of communality affects the nationality based social categorization by individuals. This notion of historical memory is based on a community-wide perception that they have a “common origin” (p. 118). Fourth and last, the national state (such as political and
economic environments) facilitates individuals’ identifications with their own nation and the distinction between foreign and domestic entities. These four elements work together to drive external consensus about and increasing awareness of the nationality as a social identity (Salazar, 1998).

Similarly, Tajfel (1982) suggests that language, ethnic background, and national territorial boundary can serve as social identities. Sumner (1906) describes how social categorization based on ethnic background leads to biased positive evaluation of one’s own ethnic group. Some marketing research discusses nationalistic purchasing behavior by consumers. For instance, Balabanis and Diamantopolous (2004) empirically found the existence of ethnocentric tendencies among UK consumers in which consumers prefer domestic products over imported products. Liu and Smeesters (2010) found that serious psychological threats led consumers to make a distinction between products in favor of domestic firms over foreign firms. Thus, as suggested by scholars, social identification based on nationality has always been in existence and still exerts influence on individuals’ decisions and attitudes although the strength of the influence may differ depending on the specific circumstances (Tajfel, 1982; Salazar, 1998; Sumner, 1906).

Therefore, based on prior research, this study argues that even low levels of awareness about foreign firms will likely initiate the social categorization process of domestic and foreign firms by the constituents, and further argues that this categorization is responsible for different legitimacy properties between domestic firms and foreign firms. As discussed previously, the outcome of social identification includes favoritism toward the ingroup and stereotyping of the outgroup, although the degree and strength of the outcome vary depending on circumstances. This study argues that different treatment will manifest in how a host country’s constituents grant legitimacy to foreign firms differently from domestic firms. Specifically, being considered as an outgroup member, foreign firms face difficulties in gaining cognitive legitimacy which is presumably the most subtle yet most powerful type of legitimacy. The next section discusses the types of organizational legitimacy and their properties.

Organizational Legitimacy

Suchman (1995) defines legitimacy as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs and definitions” (p. 574). Organizational scholars have stressed how critical
legitimacy is to an organization, domestic and foreign firms alike (Dowling & Pfeffer, 1975; Kostava & Zaheer, 1999). Legitimacy permits an organization to secure necessary resources from stakeholders—investors, consumers, or suppliers—as they view the organization to be appropriate, proper, and reliable (Suchman, 1995). Legitimacy justifies an organization’s existence and role in society (Ashforth & Gibbs, 1990) and helps to reduce variance in the performance and eventually, increases the chances of survival (Dowling & Pfeffer, 1975; Kostava & Zaheer, 1999; Tost, 2011).

Pragmatic Legitimacy versus Cognitive Legitimacy

Despite recognized importance and frequent use by scholars, the legitimacy construct remains conceptually complex and suffers from inconsistencies in the literature. Many institutional scholars view organizational legitimacy as a multidimensional construct, and they have developed typologies of organizational legitimacy (e.g., Ashforth & Gibbs; 1990; Suchman; 1995). For instance, Aldrich and Fiol (1994) argue that new firms may have gained pragmatic legitimacy but are likely to have less cognitive legitimacy as compared to established firms because these new firms are not yet well known to constituents. In their study of 143 hospital organizations, Ruef and Scott (1998) observed that hospitals focus on different dimensions of legitimacy depending on the environmental contexts, thus recognizing that organizations can differ in their properties of legitimacy, not only in terms of the overall degree of legitimacy. As such, the studies suggest the possibility that exploring the multiple dimensions of legitimacy can uncover new nuances of legitimacy differences between foreign and domestic firms within the same industry (Bitektine, 2011; Ruef & Scott, 1998).

The emerging pattern in legitimacy studies is the distinction between the pragmatic dimension of legitimacy and the cognitive dimension of legitimacy (Aldrich & Fiol, 1994; Bitektine, 2011; Foreman & Whetten, 2002; Suchman, 1995; Tost, 2011). Pragmatic legitimacy is dependent on the self-interested exchange value that constituents expect to receive by giving supportive acceptance to an organization’s practices and policies (Suchman, 1995). Pragmatic legitimacy is closely related to tangible benefits or rewards that organizations’ actions and features can provide (Suchman, 1995; Tost, 2011). The most basic question constituents will ask before granting pragmatic legitimacy is whether the organization is beneficial or hazardous to one, one’s social group, or one’s society. As long as an organization can deliver the practical
value that contributes to the economic exchange or enhances quality of life, pragmatic legitimacy is likely to be granted to the organization.

On the contrary, cognitive legitimacy is understood as a taken-for-granted legitimacy that is based on general knowledge of the organization itself (Suchman, 1995; Tost, 2011). Cognitive legitimacy does not require evaluation of tangible outcomes or benefits; rather, it largely operates at the subconscious level based on unspoken assumptions, affective factors, and uncontested beliefs about an organization and their cultural or societal roles (Bitektine, 2011; Tost, 2011). An organization’s longevity and cultural or other symbolic linkages are important determinants of cognitive legitimacy (Aldrich & Fiol, 1994; Henisz & Zelner, 2005). The most basic question constituents will ask before granting cognitive legitimacy is whether the organization belongs to a group with which one is familiar. This distinction of the two forms of legitimacy is important to note because constituents may withhold cognitive legitimacy if they think that an organization is not part of their social community, but yet the organization still can gain pragmatic legitimacy. That is the reason this study argues that foreign firms have lower levels of cognitive legitimacy compared to domestic firms given the same capabilities for product offerings.

The critical difference between pragmatic legitimacy and cognitive legitimacy is the difference in their levels of protection and resilience to organizations during organizational crisis, during which organizations are in their most vulnerable state (Bitektine, 2011). Because of its substantive nature, pragmatic legitimacy is subjected to more frequent and active evaluations (Suchman, 1995; Tost, 2011), and as a result, it is more unstable and fragile. The trust or acceptance built on pragmatic legitimacy can be easily discounted or revoked when constituents find better exchanges from other organizations (Ashforth & Gibbs, 1989; Suchman, 1995). Therefore, pragmatic legitimacy of an organization is easily challenged or revoked when the products served by the organization do not meet the consumers’ expectations (e.g., technical failure, poor functionality, or too high price).

The intangible and taken-for-granted nature of cognitive legitimacy, by comparison, makes it more resilient to legitimacy threatening events (Henisz & Zelner, 2005; Suchman, 1995). Suchman (1995) noted that cognitive legitimacy is “the most subtle and the most powerful source of legitimacy” (p. 583). Cognitive legitimacy of an organization represents the constituents’ subliminal and implicit assumption that their fate and the organization’s fate are interwoven. These strong emotional ties are also based on the assumption that they share the
same histories and cultural values. When individuals find that they share the same fate with an organization, they will develop more generous and forgiving attitudes toward the organization. As such, cognitive legitimacy allows organizations to quickly recover from distrust or rejection caused by an organizational crisis (Bitektine, 2011; Suchman, 1995). Therefore, when considering the properties of pragmatic legitimacy and cognitive legitimacy, cognitive legitimacy is deemed more important than pragmatic legitimacy especially during a crisis because organizations are in jeopardy of losing trust and approval without cognitive legitimacy (Bitektine, 2011; Tost, 2011).

In sum, although both pragmatic legitimacy and cognitive legitimacy can help firms to achieve and pass the minimum legitimacy threshold for performance and survival, cognitive legitimacy may be more important because it can protect firms’ overall legitimacy and reputation during a crisis. This notion is consistent with Elsbach (1994) who found that cognitive legitimacy was more effective in legitimacy restoration after a crisis than pragmatic legitimacy although she also suggested that gaining legitimacy in both pragmatic and cognitive legitimacy is the most secure and effective pathway in maintaining legitimacy. Given the literature on pragmatic and cognitive legitimacies, one question that follows in the current study context is then, are foreign firms able to gain both types of legitimacy or are there barriers that are unique to them? Also, if there are barriers unique to foreign firms, why do such barriers exist in foreign firms’ quests for legitimation?

**Legitimacy of Foreign Firms**

Recognizing the unique challenges facing foreign firms in host countries, studies have speculated and theorized about how foreign firms gain acceptance in a host environment (Kostova & Zaheer, 1999; Zaheer & Mosakowski, 1997). A majority of these studies, relying on institutional theory, has emphasized the institutional pressure of *isomorphism* or *local conformity* that foreign firms strategically enact in gaining legitimacy (Meyer & Rowan, 1977; Staw & Epstein, 2000). According to institutional theory, organizations gain grounds for legitimacy by adopting and maintaining widely recognized and endorsed organizational characteristics in structures, procedures, and personnel because these acts signal to the constituents that these organizations are credible and trustworthy (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). For example, Salomon and Wu (2012) found that foreign firms choose a higher level of local isomorphism as the cultural, economic, and regulatory distances between the home country and
the host country increase. Kostova and Zaheer (1999) also argued that foreign firms are always in a tension of making a choice between gaining legitimacy through isomorphism or staying competitive by retaining superior capabilities connected to their home countries. Miller and Eden (2006) found that local isomorphism enhances firm performance under certain conditions.

However, viewing isomorphism as the only way for foreign firms to achieve legitimacy is problematic and does not adequately capture the intricacies of the legitimating process of foreign firms. There are two potential issues with the current status of the LOF literature that deals with foreign firms’ legitimizing process. First, as stated previously, foreign firms’ legitimacy gain may be a more complex process than the simple function of isomorphism claimed under institutional theory, and we may be missing important explanations of foreign firm legitimacy by only relying on institutional theory without considering theoretical alternatives. Kostova and colleagues (2008) express a similar concern when they pointed out that much of the multi-national corporation studies have been “dominated by a narrow subset of institutional ideas coming from neoinstitutionalism” (p. 994). Thus, it is timely for strategy and international scholars to think outside of the boundaries of their respective, traditionally-held institutional frameworks and seek different theories with the potential for new explanations to foreign firms’ legitimacy. Second, the current LOF literature has a tendency to treat legitimacy as a uni-dimensional construct without carefully considering the possibility that foreign firms’ legitimacies may be different from those of domestic firms’ across different dimensions of legitimacy. A number of studies have shown that organizations are legitimated on different grounds and dimensions depending on various organizational factors (Foreman & Whetten, 2002; Ruef & Scott, 1998). Their finding suggests that there may be multifaceted dimensions of foreign firms’ legitimizing grounds that are different from those of domestic firms.

Therefore, extending prior studies of LOF, this study employs social identity theory and theories of organizational legitimacy to argue that foreign firms’ legitimating is different from domestic firms’ simply because of the home country bias that foreign firms are fundamentally different from domestic firms. Yet, the perception of difference does not affect all types of legitimacy equally, but rather only affects cognitive legitimacy.

Constituents do not believe foreign firms are part of their community or truly embedded in their society although this tendency is influenced by the attributes of constituents such as education level, vocation, or age (Balabanis & Diamantopoulos, 2004). In general, constituents
may think foreign firms are only interested in making profits in their home country that will benefit the firm’s global operations elsewhere whereas domestic firms’ ultimate interests are contributing to the overall welfare of the society. This belief is most likely not fact-based, but rather it is a bias based on the social identity of foreignness. Studies have found that foreign firms bring many types of benefits to the home country. They contribute to increasing domestic firms’ productivity, technological competency; they also help with the home country’s economic growth by generating tax revenue, creating jobs, and purchasing resources from domestic suppliers (Borensztein, Gregorio, & Lee, 1998; Javorcik, 2004). Yet, the identity-based bias drives constituents of the home country to believe that foreign firms may offer superior products but they do not share a common fate.

Again, the basic granting ground of cognitive legitimacy is the sense of shared destiny and shared history, but being perceived as outside members, it will be very difficult for foreign firms to gain cognitive legitimacy. However, it does not mean that foreign firms are restricted in all types of legitimacy. Because pragmatic legitimacy is granted on the ground of instrumental value, foreign firms can gain pragmatic legitimacy as long as they can deliver those values. Therefore, foreign firms’ legitimacy is likely to have high reliance on pragmatic legitimacy compared to domestic firms. This high reliance on pragmatic legitimacy, but being short on cognitive legitimacy, may not yield disadvantages to foreign firms during normal times when the foreign firms’ instrumental values are highly regarded, but it will be difficult for foreign firms to avoid a downfall during a crisis due to their legitimacy properties.

**Organizational Crisis and Legitimacy Setback**

The premise of this study is that a foreign firm’s organizational crisis results in more legitimacy damage due to the *ex ante* legitimacy properties and increased salience of its foreign identity. Furthermore, this study argues that a crisis offers a situational context leading constituents to enact the process of categorization based on firms’ national identity to determine and attribute responsibility for the organizational crisis, which explains the negative spillover effect of legitimacy loss.

**Effect of Crisis**

Following prior studies, this study defines an organizational crisis as a violation of stakeholders’ expectations (Jonsson et al., 2009; Zavyaolova et al., 2012). An organizational crisis is threatening because it creates uncertainty and anxiety among the stakeholders as the
crisis violates the expectations that have been held about the crisis stricken organization (Jonsson et al., 2009). Yu et al. (2008) describes an organizational crisis as a situation in which stakeholders believe the “default social codes of the organization are violated” (p. 2). Thus, an organizational crisis creates a context of uncertainty and anxiety with which stakeholders must grapple. The uncertainty and anxiety denote a psychological state of not being able to determine the future attitudes and behavior toward the crisis stricken organization. An organizational crisis amplifies the said sense of uncertainty and ambiguity among the stakeholders as the crisis event quickly invalidates formerly held beliefs about the stricken organization (Weick, 1993; Yu et al., 2008). The amplified uncertainty and anxiety is likely to lead to sense-making in which individuals need to interpret the meaning of the crisis event (Weick, 1993).

During an organizational crisis, stakeholders are likely to revoke or suspend their formerly held beliefs and expectations about the crisis stricken organization thereby, withdrawing legitimacy they granted to the organization prior to the crisis (Ashforth & Gibbs, 1989; Suchman, 1995). This study argues that the influence of a crisis on legitimacy is different between pragmatic legitimacy and cognitive legitimacy (Bitektine, 2011). The legitimacy literature suggests that the negative impact from the crisis is much more pronounced for pragmatic legitimacy than cognitive legitimacy. Bitektine (2011) states, “cognitive legitimacy helps organizations to avoid evaluation and questioning by their audiences” (p. 157). Pragmatic legitimacy, conversely, often becomes subject to frequent evaluation and questioning. Therefore, a firm with high pragmatic legitimacy but low cognitive legitimacy may not be able to effectively fend off surveillance and scrutiny during a crisis. Such is frequently the case with foreign firms. Therefore, when a domestic firm is engaged in a crisis, the crisis may damage the domestic firm’s reputation, but the severity of it will be less than what foreign firms will suffer from their crises.

Unfortunately, no known prior empirical studies have directly examined the effect of an organizational crisis on pragmatic and cognitive legitimacy, but a number of studies established the relationship between organizational crisis and legitimacy loss. For example, Jonsson et al., (2009) analyzed scandalous events in the Swedish mutual funds market and found that an organizational crisis led to more newspaper coverage mentioning the crisis, which is an indicator of legitimacy loss in the study. Similarly, using the product recall data in the US toy industry between 1998 and 2007, Zavyalova et al. (2012) found that firms with a higher level of product
recalls experience less positive media coverage in newspapers and blogs. Lastly, in a qualitative analysis utilizing interviews, archival data, and observations of four computer firms, Sutton and Callahan (1987) found that filing for Chapter 11 bankruptcy led to illegitimation and stigmatization of the focal firm and its top managers. Specifically, they found that, after a firm filed for bankruptcy, its various stakeholders—such as suppliers, employees, and investors—disengaged from associating with the firm, bargained for more favorable transaction terms, and denigrated the firm and its top managers, all of which led to an increased probability of organizational death. Therefore, a review of the empirical studies supports the relationship between an organizational crisis and legitimacy loss.

The legitimacy loss of an organization from a crisis is going to manifest itself on firm performance. Some studies explicitly and implicitly examined the effect of an organizational crisis on firm performance. First, Rhee and Haunschild (2006) investigated the US automobile industry’s recalls. Using the data of recall announcement of all of the automakers from 1975 to 1999, their study found that product recalls are negatively related to market share, but this relationship is moderated by product substitutability and generalist/specialist strategy. Barber and Darrough (1996) also examined the negative effect of product recall on stock value. Their studies only included recalls by three US automakers (Chrysler, Ford, and General Motors) and three Japanese automakers (Honda, Nissan, and Toyota) in the US from 1973 to 1992. Analyzing a total of 573 recall incidents, the study found that product recall announcements by automakers resulted in the negative evaluation of stock value by investors. Lastly, Jarrell and Peltzman (1985) found that, in the US automobile industry, automobile recalls are associated with significantly negative abnormal stock returns.

On the contrary, Thirumalai and Sinha (2011), examining the recalls in the medical device industry between 2002 and 2005, found that the market penalties for medical device recalls are not significant. In the US automobile industry, Hoffer, Pruitt, & Reilly (1988) found no significant relationship between automobile recalls and abnormal return in stock value, and this result is in direct contrast to Jarrell and Peltzman’s (1985) findings. Therefore, although the empirical evidence generally points to a negative relationship between an organizational crisis and firm performance, the results have been somewhat inconsistent. As such, it is timely to reexamine this relationship for better understanding.
Negative Spillover Effect

The literature suggests that an organizational crisis that damages the legitimacy of the responsible organization may also have consequences for other organizations that are perceived to be similar to the responsible organization (Jonsson et al., 2009; Yu et al., 2008; Zavyalova et al., 2012). For clarification, this study calls it focal effect when an organization suffers legitimacy loss from its own crisis and spillover effect when an organization’s crisis results in other organizations’ legitimacy losses.

An organizational crisis invalidates previously held assumptions and beliefs about the crisis stricken organization, and brings constituents back to the stage of information search about the organization. That is, constituents may revoke the legitimacy they granted and reinitiate evaluation process of the crisis stricken organization. But this invalidation of legitimacy goes beyond the focal organization and spreads to other organizations. Seeing one organization engage in a wrongful act or negligence, stakeholders may assume that other similar organizations probably have the same issues as the crisis stricken organization (Cleeren, Heerde, & Dekimpe, 2013; Roehm & Tybout, 2006).

The extant literature on spillover effect suggests that other organizations with the same institutional form are at higher risk of suffering the negative spillover effect when the institutional form is defined as cultural or social blueprints (Jonsson et al., 2009; Yu et al., 2008). An organizational crisis causes sharp increases in uncertainty and ambiguity that are also viewed as fairly urgent (Desai, 2009; Yu et al., 2008). This sharp increase in uncertainty and sense of urgency among stakeholders lead evaluators to search for information to reconstruct their perceptions about not only crisis stricken organization but also other organizations within a certain boundary such as an industry (Jonsson et al., 2009), but the limited information search and processing capability and sense of urgency lead stakeholders to seek alternative uncertainty reduction mechanisms rather than engaging in full information search efforts to find out other organizations are also potentially culpable of the same crisis.

One of the alternative mechanisms is to rely on the similarities between the crisis stricken organizations and other organizations (Yu et al., 2008; Zavyalova et al., 2012). Tversky and Kahneman (1974) also argued that people engage in representative heuristics in which they rely on similarity of an individual event to known categories of events in making judgments of the focal event. This representative heuristic help individuals save time and effort, but also it is a
quick and easy way to recover peace of mind after witnessing unsettling events committed by organizations. A number of studies examined the relationship between an organizational crisis and negative spillover effects.

For example, using the product recall data in the US toy industry between 1998 and 2007, Zavyalova et al. (2012) found product recalls negatively affect media tenor of not only the crisis stricken organization but also other firms in the same industry. They further found that ceremonial actions, which emphasize an organization’s social approval as opposed to providing a technical excuse, lessened the negative spillover effect. Jonsson et al. (2009) found that, in the Swedish mutual funds industry, one firm’s scandal negatively affected the reputation of other firms with similar characteristics. Barnett and King (2008), from the sample of 735 firms in the U.S. chemical industry, also observed an accident at one firm caused abnormal stock returns on other firms operating in the same industry. They also found a major crisis in the industry increased the degree of the negative spillover effect from an organizational crisis. Using an experimental design, Roehm and Tybout (2006) found that competitors of the scandalized brand lost sales because of the perceived similarity and association. Lastly, Jarrell and Peltzman (1985) found that, in the Unites States, a drug recall of one pharmaceutical firm caused a portfolio of 50 rival firms’ stocks to drop by 1 percent. The same study also found spillover effects in the auto industry; when Ford of Chrysler initiated a recall, General Motors actually experienced a larger loss than Ford.

As such, empirical evidence strongly supports the existence of spillover effects. Most of these studies rely on intuitional theory to establish the relationship between the common industry membership or institutional form and the negative spillover effect. However, they have largely neglected the possibility of differences in the spillover effects between domestic and foreign firms ignited by social identification. Therefore, one of the primary purposes of this study is to examine how social identification and the resulting bias subject foreign firms to harsher spillover effects than domestic firms when they are all members of the same industry or institutional field. Social identity theory scholars predict that stakeholders are likely to classify or reclassify an organization into a socially constructed category in re-evaluation of legitimacy because they can quickly come to a conclusion when they base part of their evaluation on the known stereotypes of the crisis stricken organization (Hogg & Terry, 2000; Tajfel, 1982). Therefore, a foreign firm’s crisis will reinforce the socially recognized category of foreignness and lead stakeholders
to believe that all foreign firms potentially have the same issues as the crisis stricken foreign firm. This argument will be further elaborated in the next chapter.

**Chapter Summary**

In summarizing the literature review, gaining legitimacy is likely to be a more complex process than suggested in LOF studies based on institutional theory. While one dimension of legitimacy, namely pragmatic, is attainable through such tactics of isomorphism or conforming to hosts’ normative practices, the other dimension, namely cognitive legitimacy, is not as easily gained and maintained. The main problem with LOF studies based on institutional theory is that they lead to the belief that isomorphism in normative and regulative domains is the most valid or plausible explanation for foreign firms legitimacy challenge (Brannen, 2004; Mezias, 2002b; Miller & Eden, 2006). However, we have not fully explored how foreign firms’ legitimacy is affected by the sociological dimension, such as social identity, that have not received due attention under institutional theory and in LOF studies. Organizational legitimacy is an ‘outcome of interplay’ of various social, economic, and political forces (Dacin, 1997; Scott, 1987). These additional forces may hold an important key to understanding the complex anatomy of foreign firms’ legitimacy and thus should be examined from other angles so that a more holistic conception can be developed for LOF. In this study, I diverge from the traditional isomorphism framework of institutional theory, and employ social identity theory to argue that similarity or dissimilarity may be a socially constructed belief resulting from social identification (Tajfel, 1982). Furthermore, incorporating institutional theory in legitimacy, I theorize how foreign firms’ legitimacy is different from domestic firms along different legitimacy types (pragmatic and cognitive) and how the difference in legitimacy property manifests itself in legitimacy loss during an organizational crisis.

An empirically-based inquiry that combines social identification and LOF in legitimacy in the context of foreign firms is a timely exploration. In the next chapter (Chapter 3), I delineate the development of my hypotheses before debriefing the methods used to empirically test the hypotheses in Chapter 4.
CHAPTER 3
HYPOTHESIS DEVELOPMENT

Overview

The premise of this study is that the ingroup/outgroup sorting is an archetype of categorization in society. From the onset, a host country’s constituents apply social identification to categorize foreign firms as the outgroup. Ingroup and outgroup are valued differently; as a result, foreign firms are likely to have low cognitive legitimacy compared to domestic firms, nearly irrespective of practical value they offer in the host country. As such, this leads constituents to evaluate foreign firms not just differently but more harshly after an organizational crisis that strikes a foreign firm. Diverting and extending from the traditional view based on institutional theory that foreign firms are treated differently because they are normatively and culturally different from domestic firms, this study posits that the root cause of the legitimacy challenge stems from their social label as foreign (i.e., foreign identity). In the preceding chapters, I argued that an organizational crisis serves to prime the categorization and stereotyping in order to reduce uncertainty in assigning meanings to and interpreting the crisis.

Based on the above foundational premise, I suggest five sets of hypotheses, each with binary hypotheses (a, b); therefore, a total of ten (10) hypotheses will be tested in this study as shown in Figure 2. The hypotheses are organized this way to reflect the two independent
variables, *focal firm’s recall* and *other foreign firms’ recall*, the three dependent variables, *tenor of media, volume of recall-related articles*, and *market share*. Legitimacy loss of a focal firm is operationalized with two measures of media coverage following prior studies (Cleeren et al., 2013; Jonsson et al., 2009; Pollock & Rindova, 2003).

**News Media Coverage**

News media closely follow activities of organizations. In particular, activities of large and well-known organizations do not escape the watchful eye of the news media. Media coverage of an organization is considered as the appropriate measure of external legitimacy perception of the organization because of its intermediary role to the stakeholders (Deephouse, 2000; Jonsson et al., 2009; Pollock & Rindova, 2003; Zavyalova et al., 2012). In this intermediary role, news media reports of a firm not only shape the opinion of the audiences but also reflect how the public views the firm (Deephouse, 1996; Pfarrer, Pollock, & Rindova, 2010; Pollock & Rindova, 2003). When organizations fail to meet stakeholders’ expectations by engaging in a crisis event, it will lead to not only reporting of the focal crisis event but also increased news coverage of other negative aspects of the focal firm (Jonsson et al., 2009; Pollock & Rindova, 2002). Prior studies have developed two measures of news media to operationalize a firm’s legitimacy: *tenor of media* and *volume of media content*.

The first measure, *tenor of media*, refers to an extent to which a set of news articles in a given period is interpreted as *positive* (Deephouse, 2000; Pfarrer, Pollock, & Rindova, 2010). Numerous studies have found that a negatively perceived event of a firm is likely to affect the tone of voice in the media coverage of the firm (Jonsson et al., 2009; Zavyalova et al., 2012). It measures how an organization is evaluated generally in the society during a certain time period by observing overall tone of voice found in mass news media communication about the organization. The second measure, *volume of media*, is the number of newspaper articles that specifically discuss a firm’s *negative* event. Jonsson et al. (2009) found that a scandalous event of a firm increases news media coverage discussing the firm’s scandal which in turn affects the market performance. Similarly, Cleeren et al. (2013) found that product recalls of consumer goods company led to increase of negative publicity. Finally, Sutton and Callahan (1987) found that a crisis to an organization leads to increasing volume of negative talk (e.g., rumors and denigration) about the organization or the top managers of the organization.
Using these two measures of media coverage as the dependent variables, the first four sets of hypotheses test the effect of a crisis and foreignness on a firm’s legitimacy. The first two hypotheses (H1a, H1b) deal with the effect of a focal firm’s recall on the firm’s legitimacy operationalized as *tenor of media* and *volume of recall-related article*. Specifically, these two hypotheses predict that a focal firm will suffer legitimacy loss from its own crisis. The second set of hypotheses (H2a, H2b) deals with the moderating effects of foreignness on the relationships between focal recalls and tenor of media to argue that foreign firms will suffer more legitimacy loss than domestic firms from their own recalls. The third set of hypotheses (H3a, H3b) is concerned with negative spillover effects. They predict that a foreign firm’s recall will negatively affect the legitimacy of other firms in the same industry, but in the fourth set of hypotheses (H4a, H4b), this study predicts that foreign firms face stronger spillover effects than domestic firms. In addition to these four sets of hypotheses with media coverage as the dependent variables, this study includes the fifth and last set of hypotheses (H5a, H5b) to examine whether the two measures of legitimacy have performance implication. Specifically, they predict that the legitimacy loss manifested in tenor of media and volume of recall-related articles will negatively affect market share of the focal firm.

In this chapter, I develop and present ten specific hypotheses in the context of product recalls in the US automobile industry. A number of studies have inferred organization crises from product recalls (Chen, Ganesan, & Liu, 2009; Zavyalova et al., 2012).

**Focal Effect: Organizational Crisis and Legitimacy Loss**

In the automobile industry, there is probably no organizational crisis more problematic than a vehicle recall. Stakes are higher for significant purchases such as a car. Vehicle recall violates the stakeholders’ confidence and expectations of the product and brand (Zavyalova et al., 2012). For example, consumers may become uncertain about quality and safety of the vehicles they purchased and even become doubtful about the integrity and trustworthy of the recalling automaker. Investors may develop pessimistic view about the recalling firm’s future performance and may believe that the firm may have some fundamental issues that are not fully revealed to the stakeholders or the public (Barber & Darrough, 1996; Zavyalova et al., 2012). Therefore, recall by an automaker is a grossly-threatening event to the automaker because an incident can have residual economic and affective outcomes of the recalling automaker. After the recall, the uncertainty and anxiety among the stakeholders will be soon reflected in the news
media as these media evaluate the recall event and deliver and in turn, influence public opinion about the company. As discussed in the literature review and above, an automobile recall has been seen as a crisis event that can hurt the legitimacy of an organization. Therefore, the first set of hypotheses is tested in this study:

**Hypothesis 1a (H1a):** Focal firm’s recall is *negatively* related to focal firm’s tenor of media.

**Hypothesis 1b (H1b):** Focal firm’s recall is *positively* related to focal firm’s volume of recall-related article.

**Focal Effect: Social Identification and Legitimacy**

Social identity theory informs understanding of the dynamic construction of foreignness of companies in this study. The literature on social identity suggests that there should be consensus and awareness of certain attributes among individuals in order for social identification to occur (Ashforth & Mael, 1989; Tajfel, 1982; Turner, 1975). It further suggests that the consensus and awareness do not have to involve an explicit recognition of the attributes (i.e., foreignness), but rather, mere awareness may be a sufficient condition. This condition of consensus and awareness of foreignness of firms as a social category seems to exist in many US industries, and in particular, in the US automobile industry (see Ashforth & Mael, 1989; Salazar, 1998; Sumner, 1906; Tajfel, 1982).

**Social Identity and the Automobile Industry**

In the US automobile industry, the distinction between foreign and domestic automakers is quite common as is often evidenced in separate sales reports for these two groups of firms in the public media such as *The Wall Street Journal* and *Automobile News*. It is also evidenced in the frequent use of the category identifiers ‘foreign automakers’ and ‘domestic automakers’ in the public media. Therefore, the language in public media corroborate that there is a social consensus and awareness among the constituents in the US automobile industry that foreignness is one categorization that can be legitimately applied to distinguish US automakers from foreign automakers. In addition, the existence of the socially recognized categorization between foreign and domestic automakers alludes to the possibility that the categorical distinction between domestic and foreign firms may lead to qualitatively different legitimation paths.
It is important to investigate how foreign automakers develop legitimacy properties that are different from domestic automakers. Social identity theory postulates that evaluation of a firm’s legitimacy starts with constituents finding a fit between the socially constructed identity and the target organization undergoing an evaluation (Tajfel, 1982). Therefore, the process of evaluating an automaker is likely to start with inquiring whether the automaker is a foreign or domestic firm. As discussed in the literature review, individuals and societies are naturally driven to make the distinction between domestic and foreign firms and to attribute preset qualities to them no matter how open-minded the societies are to other cultures and differences. This natural tendency of social categorization based on nationality is gained through many different types of formal or informal learnings (Salazar, 1998; Sumner, 1906).

After the initial fit evaluation to determine an automaker’s foreignness or domesticity, the rest of the evaluation process is quick and less systematic. If an automaker is identified as foreign through its national origin, constituents may take cognitive shortcuts and let the stereotypes steer the rest of the evaluation process (Ashforth & Mael, 1989). It is unlikely that US stakeholders, especially consumers, in the automobile industry interact with automakers frequently enough to gather information to make objective evaluations of them. Rather, with the limited information and constraints in information processing capability, stakeholders are driven to evaluate automakers based on categorical information and stereotypes of the category at hand. However, with the social recognition of foreignness, US stakeholders are likely to categorize domestic automakers as the ingroup and foreign automakers as the outgroup, the archetype of dual categories. This ingroup/outgroup classification typically results in the favoring of domestic automakers over foreign automakers and may even result in negative stereotyping or biases against the foreign automakers as suggested by the argument of ingroup favoritism and outgroup stereotyping in social identity theory (Hogg & Abrams, 1998). Given the premises of SIT, it is interesting then, to investigate how such ingroup/outgroup classification operates in the context of the automobile industry wherein domesticity and foreignness are evident features.

As a result of social identification, foreign automakers as the outgroup, are likely to receive different treatment and be favored less than domestic automakers. However, the current literature is not yet clear about how the foreign categorization and resulting favoritism will affect foreign firms in their economic activities. For the stakeholders, categorizing automakers into foreign and domestic firms, favoring the US automakers, serves socio-psychological and
functional needs. First, identifying with the US automakers and drawing boundaries around them help constituents clarify their social membership and reinforce ethical and moral values they grew up with (Balabanis & Diamantopoulos, 2004; Hogg & Terry, 2000; Sumner, 1906). Second, social identification and group biases help constituents quickly decide on their attitudes and behavior toward automakers, especially foreign automakers whose information such as founding histories, current leaderships, or corporate structures, is less known (Hogg & Terry, 2000). Moreover, the marketing studies on ethnocentrism suggest that consumers have the tendency to prefer domestic products over foreign products, but they found this ethnocentric consumer behavior to typically exist only in certain industries, nations, or special circumstances such as political conflicts or war (Salazar, 1998; Sumner, 1906; Wang & Chen, 2004). Particularly, in the US automobile industry, it appears that foreign automakers have been gaining market share over domestic automakers, and foreign automakers are operating as profitably as domestic automakers.

Then, does it mean that there is no apparent disadvantage for foreign automakers in the US market? In answering this question, this study argues that, in the US automobile industry, a firm’s foreign identity affects the legitimacy formation of the foreign firm, but the disadvantage of foreignness is a dormant status until a certain catalytic condition is met—a condition that this study calls an organizational crisis. The distinction between pragmatic legitimacy and cognitive legitimacy provides support to this argument. As discussed in the previous chapter, pragmatic legitimacy judgment involves evaluation of tangible rewards and benefits that can be relatively easily measured. It means that foreign automakers can gain pragmatic legitimacy by demonstrating that their cars are reliable and innovative and delivering excellent value for the price (Suchman, 1995; Suh & Kwon, 2002). Also, foreign automakers can gain pragmatic legitimacy by way of contributing to income generation for individuals and states by creating jobs and generating tax revenues. These bases for the granting ground of pragmatic legitimacy suggest that, today, foreign automakers in the US may have superior pragmatic legitimacy when compared to domestic firms. For examples, while the early years of Japanese and Korean automakers in the US are marked with frequent product failures and disappointing services, these foreign automakers were successful in building their pragmatic legitimacy over the years. With the superior pragmatic legitimacy, foreign automakers can effectively compete along US
domestic automakers under normal circumstances. In general, during non-cataclysmic times, pragmatic legitimacy is equally available for both foreign and domestic automakers.

In contrast, gaining cognitive legitimacy is a different story for foreign automakers than it is for domestic automakers. Cognitive legitimacy requires an organization to be perceived as a member of the community that shares the same history, cultural and moral values, and destiny. Being perceived as outgroup members, foreign automakers would be perceived as being fundamentally different from US stakeholders and domestic automakers in terms of cultural and social values and subjected to stereotypes or biases (see Hogg & Abrams, 1998). US stakeholders may even believe that foreign automakers are only concerned about profit generation in their country yet fail to share the social concerns that are related to the general welfare of the community.

Thus, in the US automobile industry where the national origins of automakers are relatively well known markers, stakeholders may view foreign automakers as an excellent economic value provider, but it is unlikely that they view these foreign firms as community members who can be relied on for the greater good of their community. It seems that the fundamental reason for foreign firms’ greatest challenge in gaining cognitive legitimacy is because of the identity-based bias rather than any actual institutional differences between foreign firms and domestic firms. Some institutional differences constituents notice about foreign automakers may be true, but the underlying premise of social identity theory is that the perceived identity, rather than actual institutional differences, matters more in evaluating a firm. Under SIT, similarity or dissimilarity of an outgroup member to the ingroup is often disregarded (Tajfel, 1982). Furthermore, if an outgroup member appears very similar to the ingroup members, it may activate an accentuation process, in which evaluators make every effort to set them apart to affirm and maintain the established construct from their initial evaluation of identity. Again, it is this innate proclivity that drives stakeholders to view foreign automakers to be fundamentally different on cognitive grounds from domestic automakers.

By contrast, the evaluation process is different for US automakers in a way that favors them and provides them with a home-ground advantage. Once constituents identify a firm as domestic, the socio-cognitive grounds—such as historical memory and asserted values and norms—become the legitimizing factors for domestic firms. And, unless the domestic firms are notably inconsistent with the expected cultural norms and values within the hosting environment,
constituents will not let the non-critical dissimilarities among the US automakers to dilute the favorable inclination toward the US firms (Bitektine, 2011; Kostova et al., 2008). Therefore, in evaluating cognitive legitimacy of a firm, the US automakers benefit tremendously over the foreign automakers as a result of constituents’ ingroup favoritism and as a byproduct of that identification process, the outgroup stereotyping.

This different treatment and evaluation by constituents toward the US and the foreign automakers results in the development of different legitimacy properties between the two groups. Given the same level of pragmatic legitimacy, a foreign automaker is likely to have a lower level of cognitive legitimacy compared to a US automaker. This legitimacy property of a foreign automaker may not be a disabling condition under normal circumstances, but this foreign automaker’s legitimacy property explains why foreign automakers suffer greater loss in legitimacy during an organizational crisis. Specifically, foreign automakers are at a much higher risk of suffering legitimacy loss during a crisis because they do not have significant levels of cognitive legitimacy (see Bitektine, 2011; Suchman, 1995).

**Legitimacy Loss of Foreign Firms from Recalls**

An organizational crisis offers a special context that renders foreign firms more vulnerable to legitimacy reassessment and legitimacy setback (Yu et al., 2008; Zavyalova et al., 2012). In previous chapters, I defined organizational crisis as a breach of stakeholders’ expectation or violation of social codes by an organization. A number of studies view product recalls as a form of breach of stakeholders’ expectations that cause uncertainty among the stakeholders about the crisis stricken firm and legitimacy reevaluation (Chen, Ganesan, & Liu, 2009; Zavyalova et al., 2012). Thus, a significant recall of an automaker will lead to the recalling firm’s legitimacy loss as stakeholders withdraw the previously granted legitimacy and initiate legitimacy reevaluation process (Jonsson et al, 2009; Zavyalova et al., 2012). This relationship between product recall and legitimacy loss has been well established by prior studies (Davidson & Worrell, 1992; Jarrell & Peltzman, 1985; Rhee & Haunschild, 2006; Yu et al., 2008, Zavyalova et al., 2012).

The primary interest of this study is whether this legitimacy loss is more severe for foreign firms than it is for domestic firms. This study argues that the negative effect of a crisis on organizational legitimacy will likely differ between foreign automakers and US automakers. As discussed in previous chapters, both pragmatic legitimacy and cognitive legitimacy contribute to
The overall (general) legitimacy of a firm but, these two types of legitimacy have different properties, which becomes critical during an organizational crisis. Since pragmatic legitimacy is based on concrete, substantive grounds such as quality of products, innovation, and other exchange values, it is subjected to frequent reevaluation. Once stakeholders find that other automakers are providing higher pragmatic values, the focal firm is at the verge of losing its pragmatic legitimacy. As such, pragmatic legitimacy is quite fragile and needs constant attention, and it has very little power to sustain an organization when its capabilities and integrities are challenged (Bitektine, 2011; Suchman, 1995, Tost, 2011).

On the contrary, since cognitive legitimacy is formed largely on perception as it involves subtle and tacit recognitions of a firm’s existence, shared value, and shared history, it is very resilient and does not change often once it is granted (Suchman, 1995). Cognitive legitimacy is powerful in that obtaining it helps organizations sustain themselves during a crisis by escaping evaluations and questionings by stakeholders (Scott, 1987; Suchman, 1995). Because of its protective qualities during a crisis, literature suggests that a cognitive legitimacy is critical for a crisis stricken organization when uncertainty and anxiety about the firm is high and its legitimacy is under scrutiny.

Holding a higher level of cognitive legitimacy means that a firm is likely to be given a greater degree of the benefit of doubt during a crisis and be given some leniency. Conversely, a lower level of cognitive legitimacy means that a firm is more likely to be subjected to severe criticism without a fair investigation into the problem. The outgroup stereotyping and resulting legitimacy property may drive US stakeholders to believe that the foreign automaker’s product failure is attributable to the automaker’s internal factors over external factors; that is, US stakeholders can believe that the product recall was avoidable if the foreign automaker had employed proper control procedures, if the managers had been capable, if foreign firms had made appropriate investments in product developments, and so forth. Conversely, if it is a US automaker announce product recalls, US consumers and other stakeholders may be more willing to direct the blame to external factors rather than the firm’s internal attributes; that is, US stakeholders may think that the automobile industry as a whole is an accident-prone or recall-prone industry or the product recall was an unforeseeable failure (see Coombs & Holladay, 2002). Therefore, this study posits that product recalls negatively affect recalling firms’
legitimacy but typically result in more legitimacy loss for foreign automakers than US automakers.

This bias stemming from outgroup stereotyping that results in criticism of foreign automakers and the favoritism toward US automakers will manifest in public opinion as shown in media coverage after recall incidents. When there is a recall announcement by a foreign automaker, the news media covering the recall event is likely to evaluate the event in the context of the crisis-causing company. In doing so, the foreign identity of the automaker will be discussed and perhaps contrasted with the US automakers. The tone of the media coverage may be especially critical of the overall reliability of the foreign car and the automaker. It may make negative speculations about its history in the US, quality of production, quality control measures and link it with the past recalls of the focal automaker or other foreign automakers’ recalls, thereby forming links that may not be relevant. News coverage may even speculate about the welfare of the US automobile industry and its competitiveness in the world market and its role in stimulating the overall US economy.

Therefore, based on the prior studies on organizational crisis (Jonsson et al., 2009; Zavyalova et al., 2012), this study posits that an automaker’s (both domestic and foreign firms) own recall will negatively affect the tone of voice found in the news media coverage of the recalling automaker, and also increases the volume of recall-related articles (discussion of the negative event) about the firm (see Figure 2).

However, as previously discussed, foreign automakers suffer more legitimacy loss from their own recalls than domestic firms because of their foreign identity and legitimacy properties, and this difference in legitimacy loss between foreign firms and domestic firms will be reflected in the media coverage of these firms. Organizations with low cognitive legitimacy are subjected to more negative talk than those with high cognitive legitimacy. Also, foreign automakers’ recall announcements are likely to draw more attention from the news media because constituents tend to be more attentive to negative actions and outcomes of foreign automakers. Therefore, following their own recalls, foreign firms will experience more negative changes in the tenor of media coverage and face more news media coverage about their recall events.
**Hypothesis 2a (H2a):** The *negative* relationship between focal firm’s recall and tenor of media will be stronger for a foreign automaker.

**Hypothesis 2b (H2b):** The *positive* relationship between focal firm’s recall and volume of recall articles will be stronger for a foreign automaker.

**Spillover Effect: Effect of Industry Membership**

Moving now away from investigation of focal effect, I turn to the investigation of spillover effect. A recall activates legitimacy reassessment of the recalling automaker (Bitektine, 2011; Desai, 2009; Elsbach, 1994; Yu et al., 2008). Such recall is also likely to lead stakeholders to doubt the legitimacy of other automakers because of their industry membership. This spillover effect based on the same industry membership has been established in prior studies (Cleeren et al., 2013; Jarrell & Peltzman, 1985; Jonsson et al., 2009). An organization crisis heightens the level of stakeholders’ uncertainty and ambiguity about the focal firm and inserts an urgent need for information to process the crisis and re-evaluate the firm. Usually information to the stakeholders is limited and incomplete. Given such a situation, stakeholders take cognitive shortcut to engage in the use of representative heuristics to connect an event (and its actors) to other similar events (and its actors) (Kahneman, 1974). Across industries, product recall in one firm causes negative spillover effect on other firms in the same industry due to perceived similarities and association (Barnett & King, 2008; Jarrell & Peltzman, 1985; Roehm & Tybout, 2006; Jonsson et al., 2009; Zavyalova et al., 2012). By association, one crisis can negatively affect all members in the same industry.

The negative spillover effect is reflected and operated through the media. Media coverage of a firm’s recall is contextualized in the industry in which the focal firm is a member. By industry association, the negative news about the focal firm is connected to other firms in the same industry. Loss of trust and confidence in one automaker leads to similar perception of all automakers. Coverage and evaluation of a focal automaker leads to evaluation of other automakers thereby, increasing overall news coverage of not just the focal automaker but other automakers. Negative talk or denigration about one firm stimulates the conversation in the news media and places a proverbial magnifying glass on the whole industry. Therefore, based on the literature on spillover effect (Jonsson et al., 2009; Zavyalova et al., 2012), this study hypothesizes that a foreign automaker’s recall will negatively affect other automakers.
**Hypothesis 3a (H3a):** Other foreign firms’ recall is *negatively* related to focal firm’s tenor of media.

**Hypothesis 3b (H3b):** Other foreign firms’ recall is *positively* related to focal firm’s volume of recall articles.

**Spillover Effect: Effect of Foreignness**

This study extends the literature on negative spillover effect by arguing that foreign firms suffer more legitimacy loss than domestic firms when another foreign firm engages in a crisis because of the perceived social identity of foreignness that binds the foreign firms together. Through the lens of social identity theory, during a crisis, foreign firms will be grouped together as the outgroup and be subjected to harsh criticisms. Thus, a criticism about one focal firm will lead to criticism about another firm by association. Moreover, a crisis in one foreign firm will lead to increase in media coverage about the firm and others within the category.

When there is a product recall by a foreign firm, the re-evaluation process triggers the salience of foreign identity is increased in the perceptions of constituents, which results in two dynamic actions: *grouping together* of the foreign firms and *accentuation* of the distinction between foreign firms and domestic firms. Specifically, in the process of identification, if another firm in the same industry is deemed to belong to the outgroup (foreign firms), then the outgroup bias will subject the firm to the legitimacy reassessment. The outgroup bias will lead stakeholders to over-generalize and assume that other foreign firms are potentially liable of the same type or similar type of product recalls as the recalling foreign firm. This cognitive shortcut saves costs in information search and processing efforts for individuals with bounded rationality (Cyert & March, 1963; March & Simon, 1958). This prediction is consistent with “availability heuristics” suggested by Tversky and Kahneman (1974) that suggests individuals make an inferential judgment about a focal organization based on other similar organizations when they do not have enough information about the focal organization. Again, lacking in cognitive legitimacy, foreign automakers are more fully exposed to harsh criticism following a product recall. As such, through the lens of social identity theory this study proposes hypotheses on the negative spillover effects of a foreign firm’s recall manifested in the tenor or media and the volume of recalled-related articles:
**Hypothesis 4a (H4a):** The negative relationship between other foreign firms’ recall and tenor of media will be stronger for a foreign automaker.

**Hypothesis 4b (H4b):** The positive relationship between other foreign firms’ recall and volume of recall-related articles will be stronger for a foreign automaker.

### Market Share

The previous four sets of hypotheses address the effect of automobile recalls on organizational legitimacy. The next step examines implications of a firm’s external legitimacy on the firm’s performance? Specifically, does legitimacy of automakers indeed influence their market performances?

Prior studies suggest that the legitimacy of firms affects firm performance. For example, Deephouse (2000) found that legitimacy reflected in media coverage increases the performance of commercial banks. Similarly, Pfarrer et al. (2010) found that firms with high legitimacy in media coverage experience more positive reactions from investors. Thus, this study argues that an automaker’s legitimacy is directly related to the firm’s performance (Dowling & Pfeffer, 1975; Reuf & Scott, 1988). For automakers, customers’ confidence is a valuable foundation for continued business and ultimate success of the firm. Legitimacy loss from a recall, in general, can be a serious hitch that might result in customer defections and potential customers’ decisions to turn to other automaker brands, which can be translated into market share loss.

Accordingly, this study hypothesizes that the tenor of media is positively related to market share and volume of recall-related articles is negatively related to market share.

**Hypothesis 5a (H5a):** Tenor of media is positively related to market share.

**Hypothesis 5b (H5b):** Volume of recall articles is negatively related to market share.

### Chapter Summary

In order to empirically test the proposed relationships, this study selected the US automobile industry as the study context and developed hypotheses about the focal and spillover effects of recalls. These relationships under investigation are informed by the theories of institutional theory and social identity theory. There are five binary sets of hypotheses (a, b) in this study. A total of ten (10) hypotheses were presented in the current chapter. Next in Chapter
4, the methods I will employ to empirically test these ten (10) hypotheses are presented in detail. These hypotheses will be tested using data collected from the automobile industry. The sample will include 10 automakers operating in the US, and details about the sample, measures, and analyses techniques are outlined in Chapter 4.
CHAPTER 4

METHODS

Overview

This chapter provides an overview of the research methodology that was employed in this study. The first section discusses the general research design. The second section describes how the key variables were operationalized in the study. The third section gives an overview of the analytical techniques used in the study. Lastly, the fourth section presents the results.

Sample Descriptions

The sample for this study consists of 10 automobile manufacturers operating in the US automobile industry derived from an 8 year time period, January 2006 through December 2013. These sample years were selected to concentrate on the most recent years in the US automobile industry but also allow enough time lapse since the 9/11 terror attack in 2001, a catastrophic event which instantly amplified unfavorable attitudes and perceptions towards foreign entities (Barber & Darrough, 1996). After lagging some of the variables in the data, the final sample period is limited to 7 years, from January 2007 through December 2013.

Sample Selection

The level of analysis is the firm, (e.g., GM, Ford, and Toyota), instead of the brand (e.g., Chevrolet, Buick, or Lexus), for a number of compelling reasons. First, auto brands under the same corporate umbrella are not operating independently from each other. For example, Chevy and Buick share many resources with each other including manufacturing plants, supplier network, and marketing strategy, and both firms are governed by their corporate office decisions to a large extent (see, Dyer, 1996; Rao, 1994; Rupp & Taylor, 2002); second, a recall campaign by one auto brand is likely to involve another brand in the same corporation. For example, on August 18, 2010, GM recalled 250,000 vehicles due to seatbelt errors, and this recall involved Chevrolet, Buick, GMC, and Saturn models. This may be evidence that operation of one brand is not independent of another brand in the same corporation; third, Rhee and Haunschild (2006) argued that stakeholders and consumers tend to identify an auto brand as a single corporate entity, but this argument is questionable when you look at how news media covers stories about auto makers. Between 2006 and 2013, approximately 2,500 news articles from US major newspapers covered a story focused on GM at the corporate level whereas there were less than 350 news articles focused on the Chevy brand and less than 100 focused on the Buick brand.
Even when a specific incident is related to a single, particular brand within the corporation, the news media is likely to associate the event at the corporate level rather than the particular auto brand. For these two reasons above, it is deemed more suitable to analyze the effect of crisis at the firm level than auto brand level, and it is consistent with prior studies (Dyer, 1996; Rao, 1994; Rupp & Taylor, 2002).

Identifying firms to be included in the sample involved a few steps as follows. First, I began by identifying the entire auto makers listed in the *Automotive News*’ monthly sales reports of December 2013. This search yielded 19 automakers.¹ During the sample period, Chrysler and Daimler-Benz separated in 2007, 10 years after their international merger. Although Daimler-Benz and Chrysler changed their names to Daimler-Chrysler after the merger, for many US constituents, Chrysler was still perceived as a US company. For example, *Automotive News* was still reporting automobile sales by the “Big Three” represented by GM, Ford, and Chrysler as a separate item. Therefore, in this study, I categorized Chrysler as US firm. This way of classification is consistent with Rupp and Taylor (2002) who viewed the origin of a company to be more important than the nationality of the current ownership in determining nationality of a firm.

Then, I selected auto manufacturers that have market share of more than 2% during the sample period, but it was also to have sample firms originating from many global regions as much as possible. Due to the high concentration of the automobile industry, it is difficult to have sample firms representing many different nations or regions. Major foreign auto makers operating in the US largely originate from German and Japan with a few other companies originating from Italy, Korea, Sweden, and others. After applying the US market share and regional representation criteria, the total population was narrowed down to three Japanese automakers (Honda, Toyota, and Nissan), three European automakers (BMW, Daimler-Benz, and Volkswagen), and one Korean automaker (Hyundai). During the sample period, three US automakers, three Japanese automakers, and three European automakers account for 46.38%, 17.62%, and 7.44% of US sales, respectively. Hyundai, a Korean automaker, accounts for 4.17% of market share. Information of each firm’s market shares during the sample period is presented in Table 1.

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¹ High-end boutique automakers were excluded because they are very unlikely to receive general public attention (Rhee & Haunschild, 2006)
Table 1. Market Share, Recall, & News Articles of Sample Firms

<table>
<thead>
<tr>
<th>Automaker</th>
<th>Regional Origin</th>
<th>Avg. Market Share</th>
<th>Recall Campaign</th>
<th>Recalled Vehicle</th>
<th>News Articles</th>
<th>Recall Related News Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM</td>
<td>U.S.</td>
<td>20.55%</td>
<td>191</td>
<td>13,154,343</td>
<td>4,137</td>
<td>34</td>
</tr>
<tr>
<td>FORD</td>
<td>U.S.</td>
<td>15.75%</td>
<td>199</td>
<td>7,201,398</td>
<td>3,700</td>
<td>74</td>
</tr>
<tr>
<td>TOYOTA</td>
<td>Japan</td>
<td>15.24%</td>
<td>104</td>
<td>26,152,719</td>
<td>1,669</td>
<td>232</td>
</tr>
<tr>
<td>CHRYSLER</td>
<td>U.S.</td>
<td>11.02%</td>
<td>181</td>
<td>12,134,089</td>
<td>2,209</td>
<td>35</td>
</tr>
<tr>
<td>HONDA</td>
<td>Japan</td>
<td>9.92%</td>
<td>97</td>
<td>11,802,589</td>
<td>1,255</td>
<td>52</td>
</tr>
<tr>
<td>NISSAN</td>
<td>Japan</td>
<td>7.41%</td>
<td>96</td>
<td>5,803,833</td>
<td>537</td>
<td>14</td>
</tr>
<tr>
<td>HYUNDAI</td>
<td>Korea</td>
<td>3.99%</td>
<td>43</td>
<td>4,481,333</td>
<td>449</td>
<td>14</td>
</tr>
<tr>
<td>VOLKSWAGEN</td>
<td>Europe</td>
<td>2.99%</td>
<td>49</td>
<td>2,972,184</td>
<td>353</td>
<td>3</td>
</tr>
<tr>
<td>BMW</td>
<td>Europe</td>
<td>2.27%</td>
<td>103</td>
<td>2,428,632</td>
<td>463</td>
<td>10</td>
</tr>
<tr>
<td>MERCEDES</td>
<td>Europe</td>
<td>1.93%</td>
<td>33</td>
<td>261,107</td>
<td>247</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>91.07%</strong></td>
<td><strong>1,096</strong></td>
<td><strong>86,392,227</strong></td>
<td><strong>15,019</strong></td>
<td><strong>469</strong></td>
</tr>
</tbody>
</table>

Unit of Analysis

The unit of analysis in this study is the number of vehicle units recalled by an automaker in each month during the 7-year sample period (January 2007-December 2013). The data is pooled, cross-sectional and time series in nature. Consistent with prior studies that examined effects of automobile recall (Barber & Darrough, 1996; Reilly & Hoffer, 1983; Rhee & Haunschild, 2006), I used month as the unit of time. These studies believed that the effects of auto recalls are best observed in the following month of the focal recall. Therefore, within the framework of a month as the time unit of analysis, 7 years as the time period, involving the 10 firms, the final sample yielded 840 final observations in the sample.

Variables

There are primarily two sets of relationships to be tested in this study. The first relationship focuses on the effect of recalls on a firm’s legitimacy manifested in media coverage; the second relationship examines how perceived legitimacy affects a firm’s performance. Therefore, the measures of legitimacy are dependent variables in some of the analyses but also independent variables in others.

Dependent Variables

The testing of hypotheses requires three independent statistical analyses with three unique dependent variables: tenor of media, volume of recall articles, and market share. The first and second analyses regress tenor of media and volume of recall articles respectively on two
independent variables: firm’s recall and other foreign firms’ recall. Finally, the third analysis regresses market share on tenor of media and volume of recall articles.

**Tenor of media.** The tenor of media refers to the extent that overall content of media, as a form of mass communication, is interpreted as positive or negative (Deephouse, 2000; Pollock & Rindova, 2003; Zavyalova et al., 2012). Media as an instrument for mass communication, can take many different forms including television, radio, newspaper, and internet. However, this study focuses on newspapers and examines how a firm’s legitimacy manifests in news media, and how news media affects market performance of a firm.

To date, there are only a scant number of studies that have investigated the possibility and characteristics of the linkage between the content of mass communication and organizational legitimacy. Nevertheless, these studies provide the theoretical foundation and empirical evidence that media coverage of a firm is related to the firm’s perceived legitimacy in the society (Baum & Powell, 1995; Pollock & Rindova, 2003; Rao, Greve, & Davis, 2001). These studies suggest that news media plays a dual role in an organization’s legitimation process. That is, media not only influences the formation of organizational legitimacy but also records the legitimacy of an organization perceived in the society (Deephouse, 2000; Elsbach, 1994; Pfarrer et al., 2010; Pollock & Rindova, 2003). The media legitimates an organization by directing attention to it when it frames an organization’s story or event in a positive or negative way. The content of media has symbolic meaning that is utilized by audiences to interpret a story or event and evaluate an organization. But also, as asserted by Pollock and Rindova (2003), media coverage mirrors public evaluations and therefore provides a measure for legitimacy of an organization (see also Jonsson et al., 2009; Zavyalova et al., 2012). Therefore, consistent with prior studies, this study employs tenor of media as a proxy for the perceived legitimacy of an automaker (Deephouse, 2000; Pfarrer et al., 2010; Pollock & Rindova, 2003; Zavyalova et al., 2012).

Many organizational studies measuring tenor of media employed Janis-Fadner Coefficient of Imbalance (Bansal & Clelland, 2004; Carter, 2006; Deephouse, 2000; see also Janis & Fadner, 1943). Janis-Fadner Coefficient of Imbalance (J-F Coefficient) is a statistical measure used to operationalize the degree of imbalance between positive and negative voices in
a set of written articles. In other words, it can evaluate whether the overall tone of voice from a set of articles is positive or negative (Pfarrer et al., 2010).

Although the *J-F* Coefficient is widely used in media content analysis, it has some measurement issues. Studies that have used the *J-F* Coefficient recognized that this measure tends to create a maximum positive value when there are a very limited number of contents to be analyzed, and as a result, firms with a high level of media exposure tend to score lower than firms with a very low media exposure. This issue may also create problems with the sample distribution in the data as it leads to positive skewness (Zavyalova et al., 2012).

Recognizing this limitation with the *J-F* Coefficient, Zavyalova et al. (2012) modified the operationalization of tenor of media. Similar to previous studies, they first categorized each article as positive, negative, or neutral. However, instead of using the *J-F* Coefficient calculation formula, they simply subtracted the total number of negative articles from the total number of positive articles and then divided the product by the total number of articles. Although their method may reduce the frequency of an extremely high coefficient for firms with little media exposure, it does not fundamentally correct the issue.

In order to correct this measurement issue, this study takes an alternative approach in measuring tenor of media. That is, instead of coding an article on a positive or negative polarity, the ratio between positivity and negativity of each article is used to calculate the tenor of media coefficient in a set of articles. Content analysis software such as Linguistic Inquiry Word Count

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2 The calculation of the tenor of the news media using Janis-Fadner Coefficient is largely a three-step process. First, all the articles covering the subject, which is a firm, in this study are identified and gathered. Second, the researcher codes each article as positive, negative, or neutral after examining the content of the article. Third, the sum of positive articles and sum of negative articles are factored in Janis-Fadner’s Coefficient calculation as follows: Janis-Fadner Coefficient of Imbalance = \( \frac{(p^2 - pn)}{(total)^2} \) if \( p > n \); 0 if \( p = n \); and \( \frac{(pn - n^2)}{(total)^2} \) if \( p > n \). \( p \) indicates the number of positive news articles in a given period; \( n \) indicates the number of negative news articles in a given period; and total indicates the total number of news articles. The range of the variable is between -1 and 1 where 1 indicates all positive reports, -1 indicates all unfavorable reports (Bansal & Clelland, 2004; Carter, 2006; Deephouse, 2000; Janis & Fadner, 1943).

3 For example, company A may have 100 news articles covering the company. Out of these 100 articles, if 90 articles are positive and 10 are negative, then, the *J-F* coefficient for the company A is 0.72. Now, let’s assume that there is only one news article covering company B, and the article is categorized as positive. Then the obtained *J-F* coefficient for company B is 1 based on the single article. Besides, studies using *J-F* coefficient find that there are generally much higher number of positive news articles than negative articles, inflating the value of *J-F* coefficient for the firms with small number of news coverage (Deephouse, 2000; see also Zavyalova et al., 2012).

4 Using the same example as footnote 3 but calculating the coefficient the way it was done in Zavyalova et al. (2012), the company A will have the media tenor coefficient of 0.8 whereas the company B will have the coefficient of 1.
(LIWC) enables users to scale a written article along a favorable (i.e., *positive*) to unfavorable (i.e., *negative*) continuum by generating the overall positivity and negativity in a set of article. This study uses the ratio between positive emotion and negative emotion generated in LIWC. This adaptation effectively addresses two fundamental problems with the *J-F* Coefficient in all earlier studies. First, it significantly reduces the possibility that a subject with a small number of news articles is rated with a bias toward the maximum coefficient score. Second, it captures more information about the variance in firm legitimacy reflected in the media; categorizing an article as either positive, negative, or neutral results in a loss of significant information since doing so ignores the degree of positivity or negativity. Using the ratio between positivity and negativity allows a researcher to capture fine variances in legitimacy reflected in each article.\(^5\) As such, by incorporating the use of two new procedural elements, *J-F* Coefficient and LIWC, this study seeks to extend the work of prior studies by capturing the variances and degrees of firms’ legitimation in the language of the news articles.

The news articles for content analysis were obtained from Lexis-Nexis Academic Universe. For the *Tenor of Media*, I limited the sources of news media articles to the Major US Newspapers, a combined newspaper group available in Lexis-Nexis. This combination contains English language newspapers published in the United States that are listed in the top 50 in terms of circulation volume. Since the spaces in these major newspapers are very limited and news topics have to compete for these limited spaces, major newspapers are less likely to be the instrument of corporate promotion but more likely to be an infomediary of public interests (Deephouse, 2000; Zavyalova et al., 2012). This study also analyzes only those newspapers that are published in the US because the primary interest of this study is to investigate the US constituents’ reactions to crises related to corporate entities operating in the United States.

Using Boolean commands in Lexi-Nexis, this study includes only those articles that contain the focal firm’s name in their title of the article. If the headline of an article contains multiple firm names, then the article was used for content analysis for all the automakers mentioned in the headline. For example, if the headline of a news article states, “GM, Ford to Jointly Develop 10-Speed Transmissions,” then, this article would be used for measuring media

\(^5\) Although the alternative approach seems to be superior to the traditional *J-F* coefficient or coefficient in Zavyalova et al. (2012), this study measures tenor of media in three different ways and compared the results for an assessment of the robustness of study.
tenor for both GM and Ford. Prior studies argued that stakeholder readers tend to generalize the overall tenor of media to all the firms mentioned in the same article (Carroll & McCombs, 2003; Zavyalova et al., 2012).

If the content of an article was related to the focal firm but not to the automobile industry, it was removed from the sample by limiting the Nexis-Lexis search to the automobile industry. In addition to the above selection criteria, I included only those articles with more than 200 words for two reasons: first, any article with less than 200 words may not be useful because they do not have enough content to be analyzed; second, limiting the sample to articles with 200 words or higher generate a manageable sample size. With the above criteria, the search in Lexis-Nexis from January 2006 and December 2013 yielded a total of 15,019 articles. The detailed breakdown of the total number of articles for each firm is presented in Table 1.

After gathering the newspaper articles that meet the set criteria, I measured tenor of media of each article using Linguistic Inquiry and Word Count (LIWC) software. The LIWC is designed to measure the extent to which a text uses language connected to positive or negative emotion (Pennebaker, Booth, & Francis, 2007; see http://www.liwc.net for additional information on the internal and external validity of LIWC’s dictionaries). The advantage of using LIWC is that it allows content analysis of a large volume of articles and captures the negative or positive tone in a text. Since the results of LIWC content analyses display the percentage of positive words and negative words used in the article, researchers can use the ratio between positive expressions and negative expressions in evaluating any written content (see Brett et al., 2007; Pfarrer et al., 2010; Zavyalova et al., 2012).6

As such, this study calculates tenor of media by dividing the positive expression usage with the sum of positive expression and negative expression usage (Zavyalova et al., 2006). The value ranges from 0 to 1 with 0 being no positive expression at all and 1 being perfectly positive.

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6 LIWC analyzes a text and calculates the degree to which the text uses certain categories of words in 32 dimensions of psychological constructs such as positive or negative emotion, cognition, or biological processes. This study uses only two categories in the psychological dimensions: positive and negative emotions (Zavyalova et al., 2006). The examples of positive emotion words are love, nice, sweet, and the examples of negative emotion words are hurt, worried, and kill. The output of LIWC includes variables displaying the frequency of the word appearances in these two dimensions.
Figure 3. Average Number of Recall Units and Tenor of Media

(a) Domestic Automakers

(b) Foreign Automakers
However, in order to establish the robustness of the findings reported, I also calculated *Tenor of Media* using the traditional *J-F* Coefficient and the modified calculation from Zavyalova et al. (2012). The binary correlation coefficients among the three variables were high with the smallest coefficient being $r = 0.87 \ (p < 0.001)$. Using different calculations for the tenor of media variable did not change the relationships in the statistical tests. Figure 3 presents the average number of recalled units (bar) and the tenor of media (line) for each period for domestic automakers and foreign automakers in separate charts, and Figure 4 presents the histogram of the variable.

![Histogram of Tenor of Media](image)

**Figure 4. Histogram of Tenor of Media**

**Volume of recall-related articles.** *Volume of recall-related article* refers to those news articles that are pertinent to a recall event of an automaker. The news media may react more sensitively to the foreign automakers’ product recalls than domestic automakers’ product recalls. As a result, there could be higher volumes of news media reports related to foreign automakers’ recalls compared to domestic automakers’ recalls. Prior studies suggested that actions and features of stigmatized firms are likely to generate more talks, rumors, and gossips, which in turn
Figure 5. Average Number of Recall Units and Volume of Recall Articles
results in accelerated de-legitimation (Sutton & Callahan, 1987). Therefore, this study hypothesizes that foreign firms’ crises are likely to generate higher volume of media coverage compared to domestic firms’ crises, leading to more severe legitimacy loss for the foreign firms.

Like Tenor of Media, the data for Volume of Media comes from Lexis-Nexis Academic Universe. However, I selected US Newspapers as a combined newspaper group instead of more restricted Major US Newspapers combination. US newspaper group in Lexis-Nexis include any full-text, English language newspapers published in the United States. This change in selection allows more sample articles related to recall events.

The procedure of identifying and gathering recall-related news articles is almost identical to the procedure for Tenor of Media except that articles not only have to contain a firm name in the title but also have to contain the word ‘recall’ in the headline. Therefore, all the articles selected for this variable are limited to the topic of automobile recalls. With the above criteria, the search in Lexis-Nexis from January 2006 and December 2013 yielded 469 recall-related newspaper articles in total. The detailed breakdown of the total number of articles per firm is presented in Table 1. In addition, Figure 5 presents the average number of recalled units (bar) and the volume of recall articles (line) for each period for domestic automaker group and foreign automaker group in separate charts, and Figure 6 presents the histogram of the variable.

![Figure 6. Histogram of Volume of Recall Articles](image)
Market share. The last dependent variable is market share. This study hypothesizes that foreign firms experience more severe market share loss after their product recall when compared to domestic firms because foreign firms lack cognitive legitimacy that help firms to restore their credentials after a crisis.

This study uses market share instead of sales volume as a variable because sales in the automobile industry is very seasonal, and the sales volume can fluctuate by seasonal demands as well as economic conditions (Rhee & Haunshchild, 2006). Market share, which indicates a sales volume relative to other firms, usefully parses out the seasonal fluctuation and economic conditions (Rhee & Haunshchild, 2006). The market share data were obtained from Automotive News, an established printed source in the industry. Automotive News publishes monthly sales data in the US by brands, companies, and world regions (US, European, Japan, and Korea). During the sample period, GM had the largest market share on average followed by Toyota. Mercedes-Benz had the smallest market share with 1.93% on average. Each firm’s average market share during the sample period is presented in Table 1. Figure 7 presents the histogram of the variable.
Independent Variables

There are three independent variables: recall, other foreign recall, and foreignness. This study does not make any main effect prediction for the foreignness variable, but since its moderating effect is the focus of this study, foreignness is included in the discussion of independent variables.

Recall. Automobile recall data were obtained from the National Highway Traffic Safety Administration (NHTSA) reports. In 1966, Congress passed the National Traffic Vehicle Safety Act, and mandated that manufacturers of motor vehicles, both domestic and foreign, notify the Department of Transportation, dealers, and vehicle owners about any safety-related issues involving their cars. Since the passage of the legislation, NHTSA has been in charge of enforcing the regulations. One of the main activities of NHTSA is the creation and maintenance of the data files relevant to automobile safety issues. In particular, the NHTSA website offers data that lists all recalls since 1975 with information including the date, the number of vehicles with the safety issue, the part manufacturers, and a safety issue description.

The search of recall announcements by the 10 automobile manufacturers during the observation period between January 2006 and December 2013 yielded 1,096 recall campaigns with 86 million vehicles being recalled (passenger cars and trucks together). Table 1 provides more detailed information about the number of recalled vehicle units and recall campaigns. Following Zavyalova et al. (2012), this study uses the number of recalled vehicles as the independent variable rather the number of recall campaigns because the number of recalled units is deemed to better represent the magnitude of crisis events.7

Other foreign recall. Other foreign recall is the number of vehicles that are recalled by all the other foreign automakers in the sample. In order to calculate this variable, I first calculated the sum of all the vehicle units recalled by all the foreign firms in the sample for each month. Then, if the focal firm in an observation is a domestic firm, the sum was used as the value for other foreign recall for the observation. However, if the focal firm in an observation is a

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7 It should be noted that some studies used number of recall incidents instead of the total number of recalled units (i.e., Rhee & Haunschild, 2006). For the robustness checks, I ran the same analysis using the number of campaigns, and the results were almost identical.
foreign firm, the sum was subtracted by the focal firm’s number of recalled units in the same month.  

**Foreignness.** A dummy variable was used to categorize automakers as either a domestic or a foreign firm. I used the location of the headquarter office to discern whether an automaker is a domestic or a foreign firm. If an automaker is headquartered in the US, it was deemed a domestic firm and I coded the automaker as ‘0’ (reference point); if an automaker is headquartered outside the US, then it was coded with ‘1’ to indicate that the automaker is a foreign firm.

**Control Variables**

There are primarily five control variables included in this study: *firm size, average price of vehicles, average rating, cumulative vehicle recalls, and other domestic recall*. Also, in each statistical analysis, the lagged value of the dependent variable was added as a control variable to correct the first-order auto correlation.

**Firm size.** Crises have different effects on large and small firms. Large automakers may recall their products more frequently and in higher volume than small automakers since they sell more vehicles. Studies also suggest that large firms may face more legitimacy loss than small firms after a crisis event (Jonsson et al., 2009). Therefore, this study controls for firm size with the variable, *Market Share*, from the previous time period (t-1). Including the market share from the previous month also serves to control for the first-order auto correlation in the models with market share as the dependent variable.

**Average price of vehicles.** Automakers that focus on high-end luxury automobiles may suffer more legitimacy loss during a crisis than those automakers with low-end automobiles because consumers have a heightened expectation with the high-end automobiles (Rhee & Haunschild, 2006). Therefore, I control for the *average price of vehicles* manufactured by an automaker (Kim & Tsai, 2012). The price data comes from the *Consumer Reports Annual Buying Guide* which has been published by Consumer Union since 1936. Consumer Union is widely known for its independent reviews and comparison of consumer products and services. *Consumer Reports Annual Buying Guide* reviews almost all vehicle models sold in the United

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8 For an illustration purpose, from the Table 1 (Market Share, Recall, & News Articles of Sample Firms), *focal recall* for Honda is 11.82 million units, and *other foreign recall* for Honda is sum of all foreign automakers’ recall units deducted by Honda’s recall units (53.90 million units - 11.80 million units ). Domestic recall is sum of all domestic automakers’ recall units (32.49 million units). Of course, the actual data contains recall units on monthly basis.
States. The automobile review categorizes vehicles by size, utilities, and class, and moreover, reports the price of a specific model tested and its review score.

First, I collected the price of all the vehicles by each automaker in the *Consumer Reports Annual Buying Guide*. Some of the models appear more than once in the reports if vehicles in these models have different engine capacity (e.g., Toyota RAV 4 4v and v6). I included all of the models that are in the reports for an average price calculation.

**Average rating.** Research suggests that product recalls are more consequential for firms that have high quality reputations (Rhee & Haunschild, 2006). Therefore, I control for product quality reputation. I used the *product ratings* in the *Consumer Reports Annual Buying Guide* as an indicator for quality reputation. *Consumer Reports Annual Buying Guide* provides automobile rating scores which range from 0 to 100. I averaged the rating scores of all of the vehicle models by an automaker. This variable also serves to control for pragmatic legitimacy of automakers. The average rating of each automaker may be indicative of constituents’ perception about the instrumental value provided by each automaker. Automakers with high quality or the best-value vehicles receive high rating scores on their vehicles and thus are granted with pragmatic legitimacy.

**Cumulative vehicle recalls.** The frequency and magnitude of recalls from an automaker’s recent history may have an influence on how consumers and other constituents perceive a current recall event of the automaker. Therefore, this study controls for the effect of the prior recalls by including a variable that is a *sum of the number of vehicles recalled* during 10 months prior to the current month (*t*-2 through *t*-12 where *t* represents the current month).

**Other domestic recall.** Other domestic recall is the number of vehicles that are recalled by all the other domestic automakers in the sample. In order to calculate this variable, I first calculated the sum of all the vehicle units recalled by all the domestic firms in the sample for each month. Then, if the focal firm in an observation is a foreign firm, the sum was used as the value for *other domestic recall* for that observation. However, if the focal firm in an observation is a domestic firm, the sum was subtracted by the focal firm’s number of recalled units in the same month.

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9 Prior to 2007, *Consumer Reports Annual Buying Guide* displayed ratings only in bar charts without explicit display of the score. For the year 2006 and 2007, estimation of the ratings had to be drawn from length of the bars in the bar charts.
Analysis

In order to test the hypotheses, I employed the Generalized Estimating Equations (GEE) procedure to fit the pooled, cross-sectional time-series models with lagged effects. GEE extends General Linear Modeling (GLM) to fit longitudinal data using quasi-likelihood estimation (Liang & Zeger, 1986; Zeger & Liang, 1986). GEE specifies the relationship between the mean and variance of the dependence variable without full specification of between subjects and within-subjects effects available in some other estimation procedures with random-effects or fixed-effects. In other words, GEE is focused on estimating the average response in the sample population rather than predicting the effect of changes in covariates for an individual subject (Liang & Zeger, 1986). GEE is known to provide consistent and asymptotically normal solutions even when the correlation structure is mis-specified. In addition, GEE is not concerned with error variance distribution of a dependent variable and can accommodate a wide range of variable types such as count, categorical, or binary variables (Liang & Zeger, 1986). Since one of the dependent variables in this study, volume of recall-related articles, is a count variable and yet the others are continuous variables, GEE was deemed to be the best estimating procedure for this study. I used the XTGEE command in Stata 11.1. For the models with tenor of media and market share as dependent variables, I chose the Gaussian distribution and the identity link because these two variables are continuous variables with a normal distribution, but for the models with volume of recall related articles, I chose Poisson distribution with a log link because the variable is a count variable with a distribution that is positively skewed with a long tail on the right side.10 Given the property of the dependent variable, these are the standard procedures for each type of dependent variables suggested by scholars (Ballinger, 2004; Chen, Katila, McDonald, & Eisenhardt, 2010; Katila & Ahuja, 2002; Liang & Zeger, 1986)

Since repeated observations are made for each automaker, first-order autocorrelation was expected. Consistent with prior studies (Carpenter, 2002), I conducted Durbin-Watson tests. The result failed to reject the null hypothesis, confirming that there is first-order autocorrelation. Therefore, in order to address the autocorrelation issue, each model includes the value of the dependent variable from the prior month as a control variable. For example, the models with

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10 The model with the volume of media as the dependent variable was also tested using GEE Negative Binomial Estimation. The results were almost identical to the results from GEE Possion distribution. More description of these results is found in the section of robustness checks in Chapter 5.
Market Share as the dependent variable include Market Share from the period \((t-1)\) as a control variable. This method is consistent with prior studies (Wade, Porac, Pollock, & Graffin, 2006; Zavyalova et al., 2012).

As stated previously, the purpose of this study is to observe the difference in regression coefficients between foreign automakers and US automakers. The regression coefficients indicate the relationship between the number of recalled vehicles and legitimacy loss reflected in two dependent variables: tenor of media and volume of recall-related articles. The basic regression equation model for hypotheses 1, 2, 3, and 4 is presented as follows:

\[
(1) \quad T_{i,t} = \alpha_0 + b_1 R_{it-1} + b_2 O_{lt-1} + b_3 F_{lt-1} + b_4 (R_{it-1} X F_{lt-1}) + b_5 (O_{lt-1} X F_{lt-1}) + b_6 C_{lt-1} + e_{l,t}
\]

Here, \(T_{i,t}\) denotes tenor of media or volume of recall-related articles for automaker \(i\) during the month of \(t\); \(R_{it-1}\) denotes recall by automaker \(i\) during the month of \(t-1\); \(O_{lt-1}\) denotes recall by foreign automakers except automaker \(i\) during the month of \(t-1\); \(F_{lt-1}\) is a dummy variable indicating whether the automaker \(i\) is a US automaker (0) or a foreign automaker (1); \(R_{it-1} X F_{lt-1}\) denotes the interaction term between recall and foreignness of automaker \(i\) during the month of \(t-1\); \(O_{lt-1} X F_{lt-1}\) denotes the interaction term between other foreign recall and foreignness; \(D_{lt-1} X F_{lt-1}\) denotes the interaction term between other domestic recall and foreignness; finally, \(C_{lt-1}\) refers to various control variables to be included in the study.

The model to test the effect of media on market share is presented below as follows:

\[
(2) \quad MS_{i,t} = \alpha_0 + b_1 M_{it-1} + b_2 V_{lt-1} + b_3 R_{lt-1} + b_4 O_{lt-1} + b_5 F_{lt-1} + b_6 (R_{lt-1} X F_{lt-1}) + b_7 (O_{lt-1} X F_{lt-1}) + b_8 C_{lt-1} + e_{l,t}
\]

Two variables are added in the previous model: \(M_{it-1}\) and \(V_{lt-1}\). Here \(M_{it-1}\) denotes tenor of media of automaker \(i\) during the month of \(t-1\), and \(V_{lt-1}\) denotes the volume of recall-related articles of automaker \(i\) during the month of \(t-1\). In this model, \(MS_{i,t}\) denotes market share for automaker \(i\) during the month of \(t\).
CHAPTER 5
RESULTS

In this chapter, results of the research study are presented. Table 2 presents descriptive statistics and a correlation matrix for the variables used in testing the ten hypotheses of this study. The means and standard deviations are presented in raw values instead of transformed values for easier interpretation. The high correlations among several variables raised a concern for multicollinearity. I examined Variation Inflation Factors (VIF) to determine if there are any multicollinearity issues. All of the VIF values were below 3.0, with an average of 1.38. Literature suggests that VIF values less than 3 are unlikely to cause multicollinearity issues (Chatterjee & Price, 1991; Nachum, 2003).

The bivariate correlation between the foreignness dummy variable and market share suggests that, on average, US domestic firms have higher market share than foreign firms \( (p < 0.001) \). Interestingly, the bivariate correlation between market share and two measures of media legitimacy (tenor of media and recall articles) suggest that media tenor is negatively related to market share \( (p < 0.001) \) and volume of recall articles is positively related to market share \( (p < 0.001) \). These significant bivariate relations are in the opposite directions of what this study hypothesize about the same relationships in the full regression models (H5a and H5b). However, as expected, the media tenor is significantly and negatively related to the volume of recall related articles.

Additionally, accumulated recall during past 11 months \( (t-1 \text{ through } t-12) \) is negatively related to media tenor \( (p < 0.05) \) and positively related to volume of recall articles \( (p = 0.06) \), suggesting that the accumulated recall of an automaker negatively affects the legitimacy of the firm. Also, accumulated recall of a firm is positively related to the average price of the firm’s vehicles \( (p < 0.001) \). Therefore, the higher the average price of a firm’s vehicle models, the more likely the firm would have recalled more vehicles in the past 11 months. Prior month’s recall \( (t-1) \) does not show any significant relationship with either media legitimacy variables.

Finally, according the results of the bivariate correlation, foreignness is negatively related to foreign recall \( (p < 0.05) \) but positively related to domestic recall \( (p < 0.001) \). These relationships are expected because of the way these variables—foreign recall and domestic recall—were constructed. For example, foreign recall was calculated by subtracting the focal
Table 2. Descriptive Statistics and Correlations

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>Min.</th>
<th>Max.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Tenor of Media</td>
<td>0.70</td>
<td>0.10</td>
<td>0.19</td>
<td>1.00</td>
<td>-.14***</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Recall Articles</td>
<td>0.52</td>
<td>2.78</td>
<td>0.00</td>
<td>66.00</td>
<td>.14***</td>
<td>-.18***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Recall (t-2)-(t-12)</td>
<td>960.54a</td>
<td>1,382.15a</td>
<td>0.00</td>
<td>10,329.08a</td>
<td>-.03</td>
<td>-.07*</td>
<td>.06†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Average Price</td>
<td>37.53a</td>
<td>10.40a</td>
<td>20.26a</td>
<td>69.16a</td>
<td>-.01</td>
<td>-.03</td>
<td>.06</td>
<td>.18***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Passenger Car Ratio</td>
<td>-.03</td>
<td>0.97</td>
<td>0.15</td>
<td>0.98</td>
<td>.08*</td>
<td>-.07†</td>
<td>-.01</td>
<td>-.04</td>
<td>.22***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Average Rating</td>
<td>71.22</td>
<td>8.76</td>
<td>48.55</td>
<td>85.67</td>
<td>-.05</td>
<td>-.03</td>
<td>.06†</td>
<td>.02</td>
<td>.42***</td>
<td>.16***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Foreign Dummy</td>
<td>0.70</td>
<td>0.46</td>
<td>0.00</td>
<td>1.00</td>
<td>-.68***</td>
<td>-.01</td>
<td>.00</td>
<td>-.03</td>
<td>-.04</td>
<td>.03</td>
<td>-.04</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. Recall (t-1)</td>
<td>92.84a</td>
<td>316.66a</td>
<td>0.00</td>
<td>4,445.06a</td>
<td>-.01</td>
<td>-.04</td>
<td>.05</td>
<td>.01</td>
<td>.06†</td>
<td>-.05</td>
<td>.06†</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Foreign Recall (t-1)</td>
<td>182.48a</td>
<td>411.83a</td>
<td>0.00</td>
<td>4,751.94a</td>
<td>.01</td>
<td>.02</td>
<td>.00</td>
<td>-.05</td>
<td>-.06†</td>
<td>-.11**</td>
<td>.00</td>
<td>-.07*</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>11. Domestic Recall (t-1)</td>
<td>306.60a</td>
<td>639.84a</td>
<td>0.00</td>
<td>2,690.80a</td>
<td>-.17***</td>
<td>.04</td>
<td>.02</td>
<td>.01</td>
<td>-.04</td>
<td>-.04</td>
<td>-.02</td>
<td>.22***</td>
<td>.01</td>
<td>.00</td>
</tr>
</tbody>
</table>

Note. Superscript a denotes that values are in (1,000); N = 840; Pearson Correlation Coefficients shown.
† p < 0.10, * p < 0.05, ** p < 0.01. (two-tail tests)
Table 3. GEE Gaussian Estimation with Tenor of Media Regressed on Recall and Foreign Recall

<table>
<thead>
<tr>
<th></th>
<th>Tenor of Media</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1a</td>
</tr>
<tr>
<td>Tenor of Media (t-1)</td>
<td>0.1017(0.0344)**</td>
</tr>
<tr>
<td>Market Share (t-1)</td>
<td>-0.2261(0.0796)**</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>-0.0895(0.0398)*</td>
</tr>
<tr>
<td>Average Price</td>
<td>0.0074(0.0397)</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>-0.0409(0.0354)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>-0.0192(0.0382)</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>0.0299(0.0339)</td>
</tr>
<tr>
<td>Foreign</td>
<td>-0.3674(0.1818)*</td>
</tr>
<tr>
<td>Recall</td>
<td></td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>-0.1117(0.0333)</td>
</tr>
<tr>
<td>Foreign X Recall</td>
<td></td>
</tr>
<tr>
<td>Foreign X Recall X Foreign</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.6023(0.2323)*</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>28.39***</td>
</tr>
</tbody>
</table>

Note. \( N = 840 \). Standard errors are in parentheses; \( t \) denotes the current month.
\( \dagger p < 0.10, \ast p < 0.05, \ast\ast p < 0.01, \ast\ast\ast p < 0.001 \). (one-tail test)
automaker’s recall units from the sum of all the vehicle units recalled by all the foreign
automakers if the focal automaker is a foreign firm. If the focal automaker is a domestic firm, the
The first interaction effect, the interaction between foreignness and focal recall, is hypothesized
in hypothesis 2a; it predicts that the negative relationship between a firm’s own recall and tenor
of media (focal effect) will be stronger for foreign automakers. The results from model 1e
indicate that the interaction between foreign identity and firm’s own recall is significant ($p < 0.05$). Further analysis using a two-way interaction plot suggests that media tenor of a foreign
automaker decreases after its recall whereas domestic auto manufacturers’ media tenor tends to
increase slightly after the recall (Figure 8). In order to confirm the above findings, a separate
GEE analysis was conducted for each group of automakers (domestic and foreign). Table 4
presents these separate analyses. As shown in the table, there is a positive relationship between
recall and tenor of media for domestic automakers ($p < 0.1$), but the same relationship is
negative for foreign automakers ($p < 0.1$). The results suggest that, for a hypothetical domestic
automaker, 100% increase in the number of recalled vehicles is associated with approximately
0.0039 increase in the tenor of media, whereas, for a hypothetical foreign firm, 100% increase in
the number of recalled vehicles will results in approximately 0.0049 decrease in the tenor of
media. Therefore, hypothesis 2a is supported.

The second interaction effect, the interaction between foreignness and other foreign
firms’ recall, is hypothesized in hypothesis 4a; it predicts that the negative relationship between
other foreign firms’ recall and tenor of media (spillover effect) will be stronger for foreign
automakers. The results from model 1e in Table 3 indicate that the interaction effect is
significant ($p < 0.05$). The interaction plot (see Figure 9) and separate GEE analyses for
domestic and foreign automakers (see Table 4) suggest that the recall by foreign firms makes
domestic automakers perceived more positively by the news media—that is, for a hypothetical
domestic automaker, 100% in the recall by foreign firms is associated with approximately 0.0044
increase in the tenor of media. On the other hand, there is no statistical evidence that foreign
firms’ recall negatively affects other foreign firms’ legitimacy. Hypothesis 4a is, in essence,
about relative disadvantage of foreign automakers. Since the results show that domestic
automaker benefit from a foreign firm’s recall while other foreign firms do not receive such a
benefit, there is evidence of relative disadvantage of foreign automakers (see Mezias, 2002a).
Therefore, hypothesis 4a is supported by the results.
Next, Table 5 presents the results of the GEE Poisson Estimation of volume of recall articles regressed on focal recall and other foreign firms’ recall. Model 2a presents the base model. Like the models with Tenor of Media in Table 3, the first-order autocorrelation is addressed by including the volume of recall articles from the previous month ($t-1$) as a control variable. In addition, since larger firms are likely to generate more news articles about their crisis than smaller firms, the firm size effect is controlled by including market share from the previous
month \((t-1)\). Similar to the results in table 3, market share \((t-1)\) is related to the volume of recall articles \((p < 0.001)\). That is, automakers with higher market share tend to generate more news articles about their recalls.

### Table 4. Separate GEE Gaussian Estimation with Tenor of Media for Domestic and Foreign Automakers

<table>
<thead>
<tr>
<th>Tenor of Media ((t-1))</th>
<th>Domestic Automakers Only</th>
<th>Foreign Automakers Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenor of Media</td>
<td>0.2981(0.0624)***</td>
<td>0.0563(0.0415)</td>
</tr>
<tr>
<td>Market Share ((t-1))</td>
<td>0.0071(0.0751)</td>
<td>-0.3469(0.0944)**</td>
</tr>
<tr>
<td>Recall ((t-2)-(t-12))</td>
<td>-0.0772(0.0513)</td>
<td>-0.0923(0.0511)†</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.0479(0.0592)</td>
<td>-0.0171(0.0519)</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>-0.0357(0.0368)</td>
<td>0.0016(0.0512)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>0.1377(0.0539)*</td>
<td>-0.1105(0.0514)*</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>0.0529(0.0286)†</td>
<td>0.0233(0.0534)</td>
</tr>
<tr>
<td>Recall</td>
<td>0.0561(0.0364)†</td>
<td>-0.0714(0.0444)†</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>0.0637(0.0404)†</td>
<td>-0.0446(0.0429)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0105(0.1998)</td>
<td>0.3629(0.1218)**</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>29.86***</td>
<td>33.39***</td>
</tr>
<tr>
<td>Observations</td>
<td>(N=252)</td>
<td>(N=588)</td>
</tr>
</tbody>
</table>

Note. Standard errors are in parentheses; \(t\) denotes the current month.

\(\dagger p < 0.10, \ast p < 0.05, \ast\ast p < 0.01, \ast\ast\ast p < 0.001\). (one-tail test)

The results also indicate that average price is significantly and negatively related to the number of recall articles \((p < 0.05)\). Therefore, there are generally fewer recall-related news-articles covering luxury-brand automakers. In fact, during the sample period between 2006 and 2013, there were only a few recall-related news articles covering European auto makers, in particular, Mercedes and Volkswagen (1 and 3 respectively). Average rating of vehicle fleet is positively related to the number of recall articles \((p < 0.001)\), suggesting that recall announcements by automakers with a high average rating are more likely to generate news articles about their recalls than automakers with a low average rating. Since this study assumes that recall related articles have delegitimizing effects, this result is consistent with Rhee and
Table 5. GEE Poisson Estimation with Volume of Recall Articles Regressed on Focal Recalls and Other Foreign Recalls

<table>
<thead>
<tr>
<th>Volume of Recall-Related Articles</th>
<th>Model 2a</th>
<th>Model 2b</th>
<th>Model 2c</th>
<th>Model 2d</th>
<th>Model 2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Articles (t-1)</td>
<td>-0.4799(0.1055)***</td>
<td>-0.4844(0.1075)***</td>
<td>-0.4755(0.1043)***</td>
<td>-0.4895(0.1084)***</td>
<td>-0.4804(0.1049)***</td>
</tr>
<tr>
<td>Market Share (t-1)</td>
<td>0.2163(0.0145)***</td>
<td>0.2154(0.0150)***</td>
<td>0.2182(0.015)***</td>
<td>0.2115(0.0151)***</td>
<td>0.2141(0.0151)***</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>0.1669(0.0629)**</td>
<td>0.1716(0.0632)**</td>
<td>0.1673(0.0632)**</td>
<td>0.1562(0.0634)*</td>
<td>0.1519(0.0633)*</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.1626(0.0778)*</td>
<td>-0.1781(0.0767)*</td>
<td>-0.1933(0.0774)*</td>
<td>-0.1624(0.0764)*</td>
<td>-0.1771(0.0770)*</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>-0.0928(0.0506)†</td>
<td>-0.0485(0.0517)</td>
<td>-0.0401(0.0520)</td>
<td>-0.0597(0.0522)</td>
<td>-0.0518(0.0525)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>0.4215(0.0706)***</td>
<td>0.4015(0.0711)***</td>
<td>0.4136(0.0718)***</td>
<td>0.4142(0.0716)***</td>
<td>0.4296(0.0724)***</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.0777(0.0437)†</td>
<td>-0.0840(0.0435)†</td>
<td>-0.0882(0.0431)*</td>
<td>-0.0932(0.0436)*</td>
<td>-0.0980(0.0432)*</td>
</tr>
<tr>
<td>Foreign</td>
<td>1.6863(0.1756)***</td>
<td>1.7829(0.1888)***</td>
<td>1.6662(0.1905)***</td>
<td>1.7703(0.1925)***</td>
<td>1.6441(0.1924)***</td>
</tr>
</tbody>
</table>

Recall Articles (t-1) | 0.2751(0.0515)*** | 0.0521(0.0885) | 0.2612(0.0518)*** | 0.0353(0.0891) |
Foreign Recall         | 0.0506(0.0515)   | 0.0432(0.0515) | -0.1903(0.0925)*  | -0.1977(0.0917)* |
Foreign X Recall       | 0.3153(0.108)**  | 0.3175(0.1083)** | 0.347(0.1131)**  | 0.3469(0.1128)** |
Foreign Recall X Foreign|                          | 0.347(0.1131)**  | 0.3469(0.1128)** |
Constant               | -4.3236(0.3006)*** | -4.4096(0.3174)*** | -4.3696(0.3164)*** | -4.3513(0.3201)*** | -4.2987(0.317)*** |
Wald Chi-square        | 261.47***        | 271.92***       | 285.65***        | 266.02***       | 280.61***       |

Note. N= 840. Standard errors are in parentheses; \( t \) denotes the current month.
†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. (one-tail test)
Haunschild (2006) who found firms with a higher reputation face more severe negative results from their recall announcements. Finally, foreignness is positively related to volume of recall articles, indicating that foreign firms, in general, generate more news articles about their recalls than domestic automakers.

Model 2b in Table 5 adds independent variables to the model. Hypotheses 1b and 3b deal with the main relationships between two types of recalls and tenor of media. Specifically, hypothesis 1b predicts that a focal firm’s recall is positively related to a focal firm’s volume of recall-related articles. The results from Model 2b indicates that Hypothesis 1b is supported ($p < 0.001$). Hypothesis 3b predicts that other foreign firms’ recall is positively related to the volume of recall articles of a firm due to negative spillover effects. The results from Model 2b suggests that other foreign firms’ recall does not have a significant relationship with a focal firm’s recall related news coverage, and therefore Hypothesis 3b is not supported.

Models 2c and 2d in table 5 are individual test results for the two interaction effects: interaction between foreignness and focal recall and interaction between foreignness and other foreign firms’ recall. Model 2e is a full model with both interaction effects. The results of the interaction effect tests are consistent between the individual test models and the full model.

![Figure 10. Media Volume on Recall X Foreignness](image)
Hypothesis 2b predicts that the positive relationship between a focal firm’s recall and volume of recall articles is stronger for a foreign automaker, and the results in Model 2e shows that the interaction between Foreign and Recall is significant ($p < 0.01$). A further analysis using an interaction plot (see Figure 10) and separate GEE analysis between domestic and foreign automakers (see Table 6) suggests that it is only foreign automakers that face heightened media coverage about their recall events after vehicle recalls. The results in Table 6 suggest that, for a hypothetical foreign firm, 10% increase in the number of recalled vehicles is associated with approximately 4.04% increase in the volume of recall related articles. The effect of recall on volume of recall-related article is insignificant for domestic automakers. Therefore, the results support hypothesis 2b.

Table 6. Separate GEE Poisson Estimation with Volume of Recall Articles for Domestic and Foreign Automakers

<table>
<thead>
<tr>
<th></th>
<th>Domestic Automakers Only</th>
<th>Foreign Automakers Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Articles (t-1)</td>
<td>-0.4053(0.1826)*</td>
<td>-0.1317(0.1104)</td>
</tr>
<tr>
<td>Market Share (t-1)</td>
<td>0.0047(0.036)</td>
<td>0.3105(0.0108)***</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>-0.341(0.1285)**</td>
<td>0.51(0.0853)***</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.1139(0.1618)</td>
<td>-0.3468(0.0993)***</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>0.0904(0.0954)</td>
<td>0.0395(0.0688)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>0.6135(0.131)***</td>
<td>0.3182(0.0856)***</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.0945(0.0608)</td>
<td>-0.2081(0.0596)***</td>
</tr>
<tr>
<td>Recall</td>
<td>-0.0387(0.0908)</td>
<td>0.4158(0.0628)***</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>-0.2614(0.0871)**</td>
<td>0.1513(0.068)*</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.7909(0.588)</td>
<td>-3.9183(0.1565)***</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>50.01***</td>
<td>1000.37***</td>
</tr>
</tbody>
</table>

Observations: $N=252$ for Domestic, $N=588$ for Foreign

Note. Standard errors are in parentheses; $t$ denotes the current month.
†$p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. (one-tail test)

Hypothesis 4b predicts that the positive relationship between other foreign firms’ recall and volume of recall-related articles is stronger for a foreign automaker. The results in Model 2e indicate that the interaction effect is statistically significant ($p < 0.001$). Further analysis using an
interaction plot (see Figure 11) and results from separate GEE analyses between two groups of automakers (see Table 6) suggest that a foreign firm’s recall has an effect of increasing media attention to other foreign firms’ recalls, but it reduces the media attention toward domestic firms’ recall. Specifically, the results in Table 6 suggest that, 100% increase in other foreign firms’ recall is associated with approximately 1.45% increase in the volume of recall related articles, whereas, for a hypothetical domestic automaker, 10% increase in other foreign firms’ recall is associated with 2.46% decrease in the volume of recall related articles. Therefore, hypothesis 4b is supported.

Table 7 presents the results from the GEE Gaussian Estimation of market share regressed on tenor of media and volume of recall articles. Hypothesis 5a predicts that tenor of media is positively related to market share, and hypothesis 5b predicts that the volume of recall articles is negatively related to market share. The results are mixed. Supporting the hypothesis about the effect of media volume, the results in Model 3b show that the volume of recall articles is significantly and negatively related to market share in the same time period ($p = 0.01$). However, the tenor of media does not have a significant relationship with market share. I conducted
### Table 7. GEE Gaussian Estimation of Market Share Regressed on Tenor of Media and Volume of Recall-Related Articles

<table>
<thead>
<tr>
<th></th>
<th>Model3a</th>
<th>Model3b</th>
<th>Model3c</th>
<th>Model3d</th>
<th>Model3e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Share (t-1)</td>
<td>0.6325(0.0259)*****</td>
<td>0.6339(0.0258)*****</td>
<td>0.4784(0.03)***</td>
<td>0.4304(0.0308)***</td>
<td>0.5045(0.0231)*****</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>-0.0163(0.0061)**</td>
<td>-0.0158(0.0061)*</td>
<td>-0.023(0.0071)**</td>
<td>-0.0248(0.0072)**</td>
<td>-0.0222(0.0054)*****</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.0216(0.0062)*****</td>
<td>-0.0218(0.0062)*****</td>
<td>-0.0291(0.0071)*****</td>
<td>-0.0274(0.0073)*****</td>
<td>-0.0268(0.0054)*****</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>0.03(0.0056)***</td>
<td>0.0299(0.0055)***</td>
<td>0.0341(0.0064)***</td>
<td>0.0361(0.0066)***</td>
<td>0.0345(0.0049)***</td>
</tr>
<tr>
<td>Average Rating</td>
<td>-0.0113(0.0059)†</td>
<td>-0.0104(0.0059)†</td>
<td>-0.02(0.0068)**</td>
<td>-0.0219(0.007)**</td>
<td>-0.018(0.0052)**</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.0021(0.0051)</td>
<td>-0.0025(0.0051)</td>
<td>0.0055(0.0059)</td>
<td>0.0025(0.006)</td>
<td>0.0018(0.0045)</td>
</tr>
<tr>
<td>Foreign</td>
<td>-0.549(0.183)**</td>
<td>-0.5467(0.1845)**</td>
<td>-0.7768(0.2578)**</td>
<td>-0.8437(0.2817)**</td>
<td>-0.7425(0.2465)**</td>
</tr>
<tr>
<td>Recall</td>
<td>0.0039(0.0093)</td>
<td>0.004(0.0092)</td>
<td>-0.005(0.0106)</td>
<td>-0.016(0.0109)</td>
<td>-0.0064(0.0081)</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>-0.0074(0.0103)</td>
<td>-0.0083(0.0102)</td>
<td>0.0204(0.0117)†</td>
<td>0.0079(0.012)</td>
<td>0.0066(0.009)</td>
</tr>
<tr>
<td>Foreign X Recall</td>
<td>-0.0015(0.011)</td>
<td>-0.0006(0.011)</td>
<td>0.0102(0.0127)</td>
<td>0.0133(0.013)</td>
<td>0.0077(0.0097)</td>
</tr>
<tr>
<td>Foreign X Foreign Recall</td>
<td>0.0126(0.0119)</td>
<td>0.014(0.0118)</td>
<td>-0.0277(0.0136)*</td>
<td>-0.0092(0.0139)</td>
<td>-0.0079(0.0104)</td>
</tr>
<tr>
<td>Tenor of Media</td>
<td>0.002(0.0053)</td>
<td>0.0095(0.0062)†</td>
<td>0.0111(0.0063)*</td>
<td>0.0076(0.0047)†</td>
<td>0.0003(0.0046)</td>
</tr>
<tr>
<td>Volume of recall articles</td>
<td>-0.0137(0.0052)**</td>
<td>0.0072(0.006)</td>
<td>0.0079(0.0061)</td>
<td>0.0003(0.0046)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.3917(0.1522)*</td>
<td>0.3901(0.1534)*</td>
<td>0.5517(0.2147)*</td>
<td>0.5986(0.2348)*</td>
<td>0.5272(0.2057)*</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>1029.89***</td>
<td>1037.21***</td>
<td>545.36***</td>
<td>465.58***</td>
<td>967.33***</td>
</tr>
</tbody>
</table>

Note. Standard errors are in parentheses; t denotes the current month
†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. (one-tail test)
further analysis with market share from future time periods: \((t+1)\) and \((t+2)\). The results are quite intriguing. Tenor of media is positively related to market share in the \((t+1)\) time period \((p < 0.1)\), and this positive relationship becomes even stronger with market share in the \((t+2)\) period. On the contrary, the significant negative effect of media volume seem to wear off immediately after the current month as the study finds no relationship with market share from \((t+1)\) and \((t+2)\). It appears that it takes a little longer for tenor of media to start influencing market share of a firm, but its effects last longer than volume of recall-related article. Despite this interesting finding, since this study hypothesized that both tenor of media and volume of recall articles will have an impact on the market share in the same period, hypothesis 5b \((tenor\ of\ media)\) is not supported by the results.

**Robustness Checks and Post-Hoc Analyses**

In order to enhance robustness of hypotheses tests, this study conducted additional analyses to supplement interpretation of the results. First, in order to address a potential concern that one or two major recall incidents or one or two foreign companies such as Toyota, I conducted the same GEE analyses with restricted samples. For example, in regards to the GEE analysis regressing \(tenor\ of\ media\) on focal recall and other foreign firms’ recall (see Table 3), I removed an automaker from the sample and conducted the same analysis with 9 remaining automakers. This process was repeated for all 10 automakers. In addition to removing one automaker at a time, I also grouped sample automakers into four regional sets: US, Japan, Europe, and Korea. Then, I removed automakers from a region from the sample and conducted the same GEE analyses for the four regions. These processes were employed to effectively test all the hypothesized relationships in the study.

The results from the all the above tests for individual automaker and the four regions were quite identical to the test results using the full sample. On occasion, the significance level changes indicated that removing some samples weakens the predicted power of the test results, but in general the directions of the relationships remained the same.\(^{11}\) Case in point, in GEE Poisson analysis regressing \(volume\ of\ recall\ articles\) on focal recall, the interaction effect was much stronger, suggesting that the European automakers’ recalls lead to very steep increase in

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\(^{11}\) In an additional analysis without the European automakers that examined the effects of recalls on media volume, the significance level changed from \(P < 0.01\) level to \(P < 0.1\) level for the interaction between other foreign firms’ recall and foreignness, but the direction of the relationships remained the same.
media volume while conversely, the US automakers’ recall lead to decrease in the media volume. As such, the additional analysis using restricted samples suggests that the results from the full same are reliable.

Second, the measure of *media tenor* in this study is different from the traditional *J-F* Coefficient used in previous studies. Although the measure adopted in this study is superior because it can capture fine variances in positivity in each article, it does not allow inter-rater validity check as typically done in prior studies with media tenor. I took three additional steps to address the issue:

- (a) First, as stated in the methods chapter, I calculated media tenor in all three ways and analyzed correlations among the three variables. The binary correlation coefficients among the three variables were high with the smallest coefficient being \( r = 0.87 \) \((p < 0.001)\).

- (b) Second, I randomly selected 100 news articles from the sample and rated articles into negative, neutral, or positive, and compared the results to the ratings based on LIWC output. The results matched for 93 articles out of 100.

- (c) Third, I conducted GEE analysis using all three measures of *tenor of media*. The results from the tests were similar although the analyses using media tenor calculated based on the work of Zavyalova et al. (2012) showed non-significant results for some of the relationships that were found to be significant with other two measures.

Third, this study employed GEE Poisson estimation in models with *volume of recall articles* as the dependent variable. Although adopting this statistical estimation is frequently used when dependent variables are count variables, Poisson regression makes an assumption that the mean and variance of the outcome variables are similar or not very different from each other (Cameron & Trivedi, 2009). However, examining the data for this study revealed that the variance of the volume of media variable is much larger than the mean. Therefore, statistical analyses were replicated using GEE Negative Binomial estimation to determine whether the results still hold the same result with the different statistical estimation. Similar to GEE Poisson, GEE Negative Binomial can be used when the dependent variable is a count variable, but it can be used for over-dispersed count data when the variance is much larger than the mean (Cameron & Trivedi, 2009; Long & Freese, 2006). The results from GEE Negative Binomial are presented in Table 8 and Table 9.
Table 8. GEE Negative Binomial with Volume of Recall Articles Regressed on Focal Recalls and Other Foreign Recalls

<table>
<thead>
<tr>
<th>Volume of Recall-Related Articles</th>
<th>Model 2a</th>
<th>Model 2b</th>
<th>Model 2c</th>
<th>Model 2d</th>
<th>Model 2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Articles (t-1)</td>
<td>-0.4636(0.1212)***</td>
<td>-0.4547(0.1219)***</td>
<td>-0.4554(0.1199)***</td>
<td>-0.441(0.1217)***</td>
<td>-0.443(0.1193)***</td>
</tr>
<tr>
<td>Market Share (t-1)</td>
<td>1.2906(0.1253)***</td>
<td>1.3017(0.1311)***</td>
<td>1.3336(0.1347)***</td>
<td>1.3008(0.1337)***</td>
<td>1.3338(0.1373)***</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>0.0719(0.0858)</td>
<td>0.1024(0.0869)</td>
<td>0.1036(0.0875)</td>
<td>0.1112(0.087)</td>
<td>0.1129(0.0875)</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.1609(0.0963) †</td>
<td>-0.1630(0.0961) †</td>
<td>-0.1797(0.0972) †</td>
<td>-0.1271(0.0962) †</td>
<td>-0.1431(0.0972) †</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>-0.1048(0.0701)</td>
<td>-0.0661(0.0712)</td>
<td>-0.0621(0.0717)</td>
<td>-0.0755(0.0717)</td>
<td>-0.0711(0.0721)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>0.4394(0.0886)***</td>
<td>0.4106(0.0893)***</td>
<td>0.4316(0.0907)***</td>
<td>0.4051(0.0899)***</td>
<td>0.4281(0.0914)***</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.0834(0.0612)</td>
<td>-0.0926(0.0612)</td>
<td>-0.0932(0.0613)</td>
<td>-0.1075(0.0613) †</td>
<td>-0.1091(0.0613) †</td>
</tr>
<tr>
<td>Foreign</td>
<td>1.2595(0.2521)***</td>
<td>1.2824(0.2664)***</td>
<td>1.2267(0.2736)***</td>
<td>1.312(0.2727)***</td>
<td>1.2449(0.2801)***</td>
</tr>
<tr>
<td>Recall</td>
<td>0.2713(0.0700)***</td>
<td>0.0876(0.1099)</td>
<td>0.2509(0.0702)***</td>
<td>0.0392(0.1101)</td>
<td></td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>0.0335(0.0708)</td>
<td>0.0173(0.0709)</td>
<td>-0.2165(0.1174)*</td>
<td>-0.2526(0.1161)*</td>
<td></td>
</tr>
<tr>
<td>Foreign X Recall</td>
<td>0.2831(0.1416)*</td>
<td></td>
<td></td>
<td>0.3215(0.1416)*</td>
<td></td>
</tr>
<tr>
<td>Foreign Recall X Foreign</td>
<td>0.4438(0.1522)**</td>
<td>0.478(0.1523)**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-2.0448(0.2366)***</td>
<td>-2.1069(0.2503)***</td>
<td>-2.0997(0.2557)***</td>
<td>-2.1331(0.2561)***</td>
<td>-2.117(0.2616)***</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>132.80***</td>
<td>135.07***</td>
<td>134.10***</td>
<td>134.76***</td>
<td>135.84***</td>
</tr>
</tbody>
</table>

Note. N= 840. Standard errors are in parentheses; t denotes the current month
†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. (one-tail test)
Table 9. Separate GEE Negative Bionomial with Volume of Recall Articles for Domestic and Foreign Automakers

<table>
<thead>
<tr>
<th></th>
<th>Domestic Automakers Only</th>
<th>Foreign Automakers Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Articles (t-1)</td>
<td>-0.4346(0.1995)*</td>
<td>-0.1173(0.1341)</td>
</tr>
<tr>
<td>Market Share (t-1)</td>
<td>0.2161(0.2688)</td>
<td>1.9257(0.1140)**</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>-0.2827(0.1608) †</td>
<td>0.5048(0.1248)**</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.0649(0.2015)</td>
<td>-0.3599(0.1272)**</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>0.0602(0.1168)</td>
<td>0.0367(0.1051)</td>
</tr>
<tr>
<td>Average Rating</td>
<td>0.5543(0.1680)**</td>
<td>0.1919(0.1137) †</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.1434(0.0784) †</td>
<td>-0.1854(0.1004) †</td>
</tr>
<tr>
<td>Recall</td>
<td>-0.0443(0.1122)</td>
<td>0.4640(0.0965)**</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>-0.1388(0.1238)</td>
<td>0.2491(0.1058)**</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.9222(0.3611)*</td>
<td>-1.095(0.1056)**</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>28.15***</td>
<td>306.40***</td>
</tr>
</tbody>
</table>

Observations N=252 N=588

Note. Standard errors are in parentheses; t denotes the current month
†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. (one-tail test)

As shown in the Tables 8 and 9, the results from the GEE Negative Binomial are quite similar to the results from the GEE Poisson estimation (see Tables 5 and 6) with one exception. In separate analyses between domestic and foreign automakers, unlike previous results from the GEE Poisson, the results from GEE binomial estimation no longer suggest that foreign automakers’ recalls lead to reduction of recall-related articles for domestic automakers. However, as predicted in the hypothesis (H4b), foreign automakers’ recalls lead to increase in recall-related articles for other foreign automakers.

Fourth, the findings in this study suggest that, in the US automobile industry, the negative effect of a foreign firm’s crisis does not spillover to other automakers in the same way for domestic firms and foreign firms. Overall, domestic automakers seem to gain legitimacy when a foreign firm engages in a recall, whereas other foreign firms suffer from the negative spillover effect from the same recall. In Chapter 3 (Hypotheses Development), I argued that the reason only foreign automakers suffer from spillover effects is because a foreign firm’s failure to meet stakeholders’ expectations triggers debilitating social categorization based on foreign identity and consequently leads to legitimacy damage for firms in the foreign automaker group.
If the above reasoning for differing legitimacy trajectories is true, a *domestic* automaker’s recall perhaps will not lead to more severe penalty for foreign automakers since a domestic automaker’s failure would not trigger foreign identity-based social categorization. But, at the same time, it also would not necessarily lead to more severe penalty for domestic automakers either because their cognitive legitimacy helps them escape suspicion and other potential negative views. Therefore, unlike foreign firms, the cushion of domestic firms’ cognitive legitimacy protects them from crises caused by any firm. Although, this prediction was not developed into my hypotheses, I conducted additional tests to determine whether a domestic automaker’s recall harms foreign automakers’ legitimacy more than other domestic automakers’ legitimacy. An interaction variable between *Other Domestic Firms’ Recall* and *Foreignness* was included in the full models in Table 3 and Table 5. As expected, this study did not find any significant interaction effects. The results suggest that a domestic automaker’s recall *does not* trigger social categorization based on the foreignness, and there is neither clear disadvantage nor advantage for either group of automakers.

Lastly, since findings from prior studies (Chen, Ganesan, & Liu, 2009; Davidson & Worrell, 1992; Deephouse, 2000; Jarrell & Peltzman, 1985) suggest that there may be mediation relationships among three constructs: *recall*, *legitimacy*, and *market share*. That is, an organizational crisis may affect financial performance of a firm through the mediating effect of legitimacy. I conducted an analysis to examine the direct relationship between recall and market share. According to Baron and Kenny (1986) and Preacher and Hayes (2008), in order to establish a moderated mediating relationship, the relationship between recall and market share needs to meet the following two conditions:

a) Focal firm’s recall and other foreign firms’ recall are *negatively* related to focal firm’s market share, controlling for tenor and volume of media.

b) The negative relationships from focal recall and other foreign firms’ recall needs to be *stronger* for foreign firms, controlling for tenor and volume of media.

GEE was conducted to see if the above two conditions exist in current study’s data. Table 10 presents the results related to the relationship between recalls and market share. Model A is the

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12 The results in Table 3 suggest that domestic automakers’ recalls do have a spillover effect (main effect) on tenor of media, but the results in Table 5 show that domestic automakers’ recalls affect other firms’ volume of media, regardless of whether they are domestic or foreign.
base model with control variables only, Model B adds independent variables, and Model C presents a full-model with all three interaction variables. The results indicate that neither the focal recall nor other foreign firms’ recall is significantly related to market share. The results from Model C also suggest that there are no interaction effects between foreignness and the recall variables.

Since there is no significant main effect or interaction effect in direct relationships, this study concludes that there is no mediation effect in accordance with Baron and Kenny’s (1986) or Preacher and Hayes’ (2008) definition of mediation. However, Zhao, Lynch, and Chen (2010) argued that finding no relationship in direct relationships should not deter scholars from looking for other kinds of mediation effects. They further argued that, when there are significant relationships between the independent variable and mediation variable and between the mediation variable and dependent variable, there is a mediation effect which they called an ‘indirect-only’ mediation effect.

As presented in Tables 3 and 5, this study found that the interaction effects between recall and foreignness and between foreign recall and foreign to have significant relationships with media legitimacy as predicted. Furthermore, this study found partial support that the tenor of media and volume of recall articles are partially related to market share. Therefore, the results of this study suggest that there are indirect-effect only relationships between two independent variables (recall and foreign recall) and market share. Stated differently, these two predictors have effects on market share, but their effects are conditioned upon a focal firm’s national origin. It is only foreign firms that suffer market penalties from their own recalls (direct effect) and other foreign firms’ recalls (spillover effect) through the indirect effect of media.

Overall, the results from the additional tests above enhance the robustness and reliability of the results in this study. There are still other tests that can further enhance the robustness of the results, which include replicating tests in other industries or analyzing data from other time periods. However, they are beyond the scope of this study. These other additional tests are discussed in more detail in the limitation and discussion section later in Chapter 6.
Table 10. GEE Gaussian Estimation of Market Share Regressed on Recalls

<table>
<thead>
<tr>
<th>Market Share</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Share (t-1)</td>
<td>0.6343(0.0259)***</td>
<td>0.6345(0.0259)***</td>
<td>0.6325(0.0259)***</td>
</tr>
<tr>
<td>Recall (t-2)-(t-12)</td>
<td>-0.0162(0.0061)**</td>
<td>-0.0160(0.0061)**</td>
<td>-0.0163(0.0061)**</td>
</tr>
<tr>
<td>Average Price</td>
<td>-0.0222(0.0062)***</td>
<td>-0.0222(0.0062)***</td>
<td>-0.0216(0.0062)***</td>
</tr>
<tr>
<td>Passenger Car Ratio</td>
<td>0.0298(0.0055)***</td>
<td>0.0301(0.0056)***</td>
<td>0.03000.0056)***</td>
</tr>
<tr>
<td>Average Rating</td>
<td>-0.0115(0.0059)†</td>
<td>-0.0117(0.0059)*</td>
<td>-0.0113(0.0059)†</td>
</tr>
<tr>
<td>Domestic Recall</td>
<td>-0.0020(0.0052)</td>
<td>-0.0020(0.0051)</td>
<td>-0.0021(0.0051)</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>-0.5458(0.1819)**</td>
<td>-0.5452(0.1819)**</td>
<td>-0.549(0.183)**</td>
</tr>
<tr>
<td>Foreign Recall</td>
<td>0.0031(0.0051)</td>
<td>0.0039(0.0093)</td>
<td></td>
</tr>
<tr>
<td>Foreign X Recall</td>
<td>0.0021(0.0051)</td>
<td>-0.0074(0.0103)</td>
<td></td>
</tr>
<tr>
<td>Foreign X Foreign Recall</td>
<td>0.00150(0.011)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.3891(0.1513)*</td>
<td>0.3887(0.1513)*</td>
<td>0.3917(0.1522)*</td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>1027.83***</td>
<td>1028.99***</td>
<td>1029.89***</td>
</tr>
</tbody>
</table>

Note. N=840. Standard errors are in parentheses; \( t \) denotes the current month

†p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. (one-tail test)

Chapter Summary

The current chapter debriefed the statistical results of this dissertation. As expected, foreign firms suffer more legitimacy loss from their crises. Inconsistent with prior studies (Jonsson et al., 2009; Zavyalova et al., 2012), this study did not find evidence of spillover effects simply based on industry membership, but as expected, the negative spillover effects seem to be conditioned upon the foreignness of a firm in a way only foreign firms suffer from the spillover effects. The results for all the hypotheses are highlighted in Table 9.

In the following discussion section, these results from the statistical analyses are further discussed in more depth. In addition, the limitations of this study and the future research directions are discussed.
# Table 11. Hypotheses Testing Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Supported (Y, N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: Focal firm’s recall is negatively related to focal firm’s tenor of media.</td>
<td>N</td>
</tr>
<tr>
<td>H1b: Focal firm’s recall is positively related to focal firm’s volume of recall-related article.</td>
<td>Y</td>
</tr>
<tr>
<td>H2a: The negative relationship between focal firm’s recall and tenor of media will be stronger for a foreign automaker.</td>
<td>Y</td>
</tr>
<tr>
<td>H2b: The positive relationship between focal firm’s recall and volume of recall articles will be stronger for a foreign automaker.</td>
<td>Y</td>
</tr>
<tr>
<td>H3a: Other foreign firms’ recall is negatively related to focal firm’s tenor of media.</td>
<td>N</td>
</tr>
<tr>
<td>H3b: Other foreign firms’ recall is positively related to focal firm’s volume of recall articles.</td>
<td>N</td>
</tr>
<tr>
<td>H4a: The negative relationship between other foreign firms’ recall and tenor of media will be stronger for a foreign automaker.</td>
<td>Y</td>
</tr>
<tr>
<td>H4b: The positive relationship between other foreign firms’ recall and volume of recall-related articles will be stronger for a foreign automaker</td>
<td>Y</td>
</tr>
<tr>
<td>H5a: Tenor of media is positively related to market share.</td>
<td>N, partial</td>
</tr>
<tr>
<td>H5b: Volume of recall articles is negatively related to market share.</td>
<td>Y</td>
</tr>
</tbody>
</table>
CHAPTER 6
DISCUSSIONS AND CONCLUSION

Overview

International management scholars suggested that foreign firms face additional challenges that domestic firms do not. Following prior studies, this study called these additional challenges facing foreign firms the ‘liability of foreignness’ (LOF), and further made an explicit distinction between capability-based LOF and identity-based LOF. Capability-based LOF arises due to foreign firms’ lack of knowledge of culture and experiences in host countries. Due to such limitations, foreign firms may frequently make incorrect decisions about consumer preferences or in negotiating with suppliers (Cuervo et al., 2007; Hymer, 1976; Kostova & Zaheer, 1999). Limited networking and limited access to resources in the host country may also hinder foreign firms from competing effectively against domestic firms (Li, Poppo, & Zhou, 2008). Furthermore, complex regulatory systems of the host countries may render foreign firms at a disadvantage as it takes more efforts for foreign firms to figure out the requirements for compliance (Mezias, 2002b). Therefore, it can be surmised that these additional challenges for foreign firms are due to the differences in knowledge between domestic firms and foreign firms about host country environments (Cuervo et al., 2007; Kostova & Zaheer, 1999).

On the other hand, the other type of LOF is identity-based. Foreign firms face additional challenges because the host country treats foreign and domestic firms differently (Hymer, 1976). Consumers, suppliers, and government agencies may apply unfavorable conditions and standards to foreign firms, but embrace domestic firms with less stringent expectations. Even in most institutionalized parts of the world, the different attitudes and treatment towards foreign firms are still believed to operate and manifest more strongly under certain circumstances that leads to reassessments of these firms’ legitimacy (Balabanis & Diamantopoulos, 2004; Salazar, 1998).

Since Hymer (1976) identified sources of additional challenges facing foreign firms, many studies have provided empirical evidence of the LOF: foreign firms have lower chances of survival compared to domestic firms (Miller & Parkhe, 2002); foreign firms are typically less profitable than domestic firms (Zaheer, 1995); or foreign firms face more lawsuit judgments (Mezias, 2002b). Although these studies significantly advanced our understanding of the liability of foreignness by providing empirical evidence, questions still remain as to how and to what extent the identity-based LOF is an issue for foreign firms vis-à-vis capability-based LOF. It is
because the empirical evidence from the previous studies do not provide sufficient explanation regarding how these two sources of LOF independently operate; rather, previous studies tend to lump together these two sources of liability in empirical testing and assume that these two types of LOF are always operating (e.g., Miller & Parkhe, 2002; Zaheer, 1995).

Furthermore, the empirical results about capability-based LOF are inconsistent. Some scholars argue that foreign firms do not necessarily suffer a liability of foreignness on a capability basis because foreign firms’ intangible assets from its multi-national enterprise offset the home-based advantage of domestic firms, or because foreign firms accumulate the necessary capabilities over time while continuing to operate in host countries (Nachum, 2003; Zaheer & Mosakowski, 1998). Inconsistent results regarding the effect of capability-LOF combined with the lack of understanding about identity-based LOF makes it timely and necessary to parse out legitimacy-based foreign liability and examine its implications on foreign firms’ legitimacy and performance. As such, the primary purpose of the study is to theoretically delineate the social cognitive dynamics leading to identity-based LOF, and to empirically investigate how it unfolds during an organizational crisis. This was accomplished by observing changes in externally perceived legitimacy of foreign firms following a crisis.

In essence, this study argues that firms are likely to experience legitimacy loss from their own organizational crisis, but this legitimacy loss will be more severe for foreign firms. Furthermore, foreign firms will suffer more legitimacy loss than domestic firms not only from their own crisis but also from crises of other foreign firms in the same industry.

For ease of conceptualization, this study used the expression ‘focal effect’ when a focal firm suffers legitimacy loss from its own crisis and called it a ‘spillover effect’ when a legitimacy loss of a focal firm rose due to a crisis experienced or caused by another firm in the same industry. This study argued that negative spillover effects work differently between domestic and foreign firms. Empirically finding the difference in spillover effects between foreign firms and domestic firms provides support to these two arguments: (a) that foreign firms are at a disadvantage of maintaining legitimacy and (b) more importantly, that social categorization and legitimacy discount based on foreignness of a firm are indeed in place.

In order to develop the theoretical argument, this study employed social identity theory and institutional theory. Social identity theory explains the cognitive dynamics involved in identifying foreign firms and categorizing them as a group with fundamentally different
attributes, whereas institutional theory explains the property of legitimacy as an outcome of the social identification process.

Social identity theory postulates that individuals are inclined to identify themselves and others with a group, and an outcome of the identification is the cognitive formation of an ingroup and outgroup (Tajfel & Turner, 1979). According to studies by Sumner (1906), and Salazar (1998), one of the salient attributes used in social categorization is nationality of an individual or group. Typically, individuals identify themselves with other individuals or groups with the same national origin to form an ingroup and categorize all the others as members belonging to the outgroup. This social identification and categorization leads to different legitimating between foreign firms and domestic firms. However, this should not lead to the conclusion that it is only domestic firms that are granted legitimacy by the stakeholders such as consumers, suppliers, or government agencies because, if then, it is unexplainable why foreign firms are often as profitable as domestic firms or even more profitable. Theories on legitimacy help us to understand why well performing foreign firms still face higher risks of legitimacy loss during a crisis.

Following recent developments in organizational legitimacy, this study adopted the view that organizational legitimacy is a multidimensional construct and further made a distinction between pragmatic legitimacy and cognitive legitimacy. Organizations gain pragmatic legitimacy on the basis of instrumental and substantive values they offer to stakeholders. Creating innovative products or offering product at lower costs are good examples of the instrumental values. The fundamental question that stakeholders ask in granting pragmatic legitimacy is whether the organization is beneficial or hazardous to oneself, one’s group, or one’s community. On the contrary, cognitive legitimacy is granted based upon the shared values or shared culture perceived by stakeholders. However, since it is not easy to tell if an organization shares the same value or history, cognitive legitimacy is granted if the evaluated organization appears to belong to the same group that one is a member of or with which one is familiar.

The properties of pragmatic legitimacy and cognitive legitimacy are very different. Scholars argue that pragmatic legitimacy is unstable and fragile, and it is subject to frequent reevaluation whereas cognitive legitimacy is stable and resilient to legitimacy challenges. Because of this resilience, scholars view cognitive legitimacy as the subtle yet more powerful form of legitimacy (Suchman, 1995). Therefore, the real power of cognitive legitimacy manifests
itself during an organizational crisis when stakeholders, being faced with uncertainty regarding a firm’s capability, integrity, and other qualities, challenges the firm’s pre-established reputation and reevaluates the firm’s legitimacy.

Therefore, institutional theory may explain why, ceteris paribus, some organizations avoid being a target of harsh criticism and legitimacy setbacks while others easily become the target. However, institutional theory alone cannot explain why foreign firms become the target of harsh criticism and suffer more market penalties. Therefore, this study aims to bridge social identity theory and institutional theory to fill the gaps in knowledge identified in the previous liability of foreignness literature, and theoretically delineate why foreign firms are at higher risk of losing legitimacy and of suffering more severe market penalties. In particular, the following two research questions were presented in the introduction of this study.

c) Are foreign firms perceived differently from domestic firms because of their foreignness?
d) If then, how does the different perception affect foreign firms?

These theoretical questions above are investigated using the data from the US automobile industry. The following section is mainly composed of three sections. In the first part, the empirical results are briefly discussed. The second part discusses the limitations of the study and suggests directions for future study. The third part ends the study with conclusions.

**Discussions of Research Findings**

This study employed a pooled cross-sectional time-series research design that utilized data in the automobile industry and newspaper articles about automakers from the year of 2006 to 2013. An organizational crisis was operationalized using the number of recalled vehicles by automakers. For the outcome variables (also mediating variables)—tenor of media and the volume of recall-related articles—this study collected a total of 15,488 US newspaper articles from Lexis-Nexis Academic Universe. These two variables represent the externally perceived legitimacy of the firms and is consistent with prior studies (Pfarrer et al., 2010; Pollock & Rindova, 2003). This study first observed how the effect of a firm’s own recall and other foreign firms’ recall manifest differently on the firm’s external legitimacy between a domestic firm and a foreign firm, and then examined the performance effects of these changes in legitimacy.

**The Negative Effects of Crisis on Firms’ Overall Legitimacy**

Past studies found that organizational crises damage firm reputation and legitimacy (Davidson & Worrell, 1992; Jarrell & Peltzman, 1985; Yu et al., 2008, Zavyalova et al., 2012).
When an organization violates stakeholders’ expectations by engaging in wrongful acts, it may pose threats to stakeholders and render stakeholders uncertain about the quality and reputation of the violating organization. As such, a crisis changes the firm’s externally perceived legitimacy, and mostly likely in a negative direction.

Management scholars have operationalized organizational legitimacy in a number of ways (see Brannen, 2004; Elsbach, 1994; Reuf & Soctt; 1988). More recently, some scholars suggested that legitimacy change during a crisis can be directly observed through mass media communications since the mass media serves as the infomediary that serves dual roles—delivering public opinions and shaping them. Their studies use media coverage as a measure of externally perceived legitimacy and observe how a crisis diminishes the legitimacy. Most notably, two measures of legitimacy using media coverage have been developed to operationalize external legitimacy of an organization: tenor of media and volume of media (Cleeren et al., 2013; Jonsson et al., 2009; Zavyalova et al., 2012).

The first measure of legitimacy, tenor of media, refers to the extent to which a set of news articles in a given period is interpreted as positive (Deephouse, 2000; Pfarrer et al., 2010). Numerous studies have found that a negatively perceived event of a firm is likely to affect the tone of voice in the media coverage of the firm (Jonsson et al., 2009; Zavyalova et al., 2012). The second measure of legitimacy, volume of recall related article, is the number of newspaper articles that specifically discuss a firm’s negative event. Jonsson et al. (2009) found that a scandalous event of a firm increases news media coverage discussing the firm’s scandal, which in turn, affects the market performance. Similarly, Cleeren et al. (2013) found that product recalls of consumer goods companies led to an increase in negative publicity.

Using these two variables representing externally perceived legitimacy, Hypothesis 1a and 1b made predictions for the focal firm effect of automobile recalls. Specifically, this study predicted that the recall of an automaker will negatively affect the firm’s legitimacy by decreasing the tenor of media (H1a) and increasing the volume of recall related news articles (H1b).

The empirical results partially support these hypotheses; the study did not find a statistically significant relationship between an automaker’s recall and tenor of media (H1a), but the results shows that an automaker’s recall lead to an increase in volume of recall-related articles (H1b). Therefore, consistent with prior studies, this study found that an organizational
Finding a non-significant relationship between a crisis and tenor of media was somewhat surprising at first and is a contrasting result to the findings of some other studies (Jonsson et al., 2009; Zavyalova et al., 2012). However, as further discussed in the next section, this study found that the effect of recall operates very differently between domestic automakers and foreign automakers.

**The Spillover Effects of a Crisis**

Based on prior studies, this study argued that a firm suffers legitimacy setback not only from its own crisis but also the crisis of another firm in the same industry, which has been called a negative spillover (Yu et al., 2008; Zavyalova et al., 2012). This occurs because stakeholders tend to view that other firms in the same industry probably have the same problems as the crisis-stricken firm even though their problems have not been found. With the limited information and knowledge about other firms in the industry, stakeholders evaluate these other firms based on what they know about the crisis of the firm they witnessed recently.

Based on the findings of the spillover effect into the US automobile industry, this study predicted that a foreign automaker’s recall will negatively affect another firm’s legitimacy in the same industry. However, instead of examining the spillover effects of any firms’ recall, this study focused on the recall by foreign firms only and hypothesized that a foreign automaker’s recall negatively affects other firms’ legitimacy, both domestic and foreign firms. More specifically, the study predicted that a foreign automaker’s recall will decrease tenor of media of other firms in the industry (H3a) and increase the volume of recall-related articles relevant to other automakers in the US (H3b).

If foreign automakers’ identities are so salient that stakeholders identify and categorize foreign automakers separately in an industry, a foreign automaker’s recall will likely affect only other foreign firms in the industry. However, if industry association is still the most important evaluation criterion for stakeholders in evaluating firms as suggested in extant spillover literature, both domestic and foreign firms will experience legitimacy loss during a crisis.

The results are very interesting because, inconsistent with many prior studies on spillover effects, no significant relationship was found between other foreign firms’ recall and a firm’s external legitimacy. In other words, there was no evidence of a negative spillover effect of legitimacy loss based on industry membership only. Then, the next question is whether there is
an additional condition that activates the negative spillover effect of a foreign firm’s crisis. This study argued that foreignness of a firm is a moderating factor for the negative spillover effect.

**The Role of Foreignness on the Effect of Crisis**

Once again, the main purpose of this study is to provide theoretical reasoning and empirical evidence that foreign firms are at higher risk of losing legitimacy following a crisis event. An organizational crisis is an ideal testing ground to observe how pre-existing legitimacy properties of organizations manifest differently during the crisis. The level of setbacks during a crisis is a function of cognitive legitimacy, and foreign firms, lacking cognitive legitimacy, will not effectively fend off public criticism targeting them.

As such, Hypotheses 2a and 2b predicted that the foreignness of a firm moderates the relationship between an organizational crisis and the focal firm’s legitimacy loss in such a way that foreign firms are likely to suffer more of a legitimacy setback than domestic firms from their own crisis. More specifically, these hypotheses predicted that ‘the negative relationship between an automaker’s recall and tenor of media’ (H2a) and ‘the positive relationship between focal firm’s recall and volume of recall-related articles’ (H2b) will be stronger for foreign automakers.

The results from statistical analyses support these two hypotheses. The interaction effects for both hypotheses were statistically significant. Further analyses of the results revealed that foreign firms’ tenor of media is likely to decrease after the recall, but interestingly, the tenor of media of domestic firms may increase after recall. There are two possible explanations why a domestic firm’s recall increases the tenor of media of the firm. First, some studies suggest that consumers expect that firms will make their product safer after a product recall (Haunschild & Rhee, 2004; Hoffer, Pruitt, & Reilly, 1988), and this expectation leads to higher sales or an increase in stock value. This positive perspective about a firm’s product recall campaign may be the reason why domestic automakers’ recalls do not negatively affect their tenor of media. When a domestic automaker recalls its vehicles, the stakeholders in the host country interpret this as a learning opportunity for the automaker to make safer vehicles or as proactive effort to make its products safer; on the contrary, if it is a foreign automaker engaging in a recall campaign, stakeholders in the host country may simply perceive the recall as a threatening event and may also believe that the problem will likely to persist. Therefore, it might be inferred that
stakeholders trust domestic firms more than they do foreign firms in effectively handling a problem.

The second possible explanation is that domestic firms’ recalls may trigger not only criticism but also concerns about these domestic firms as well. Social ties that stakeholders feel about domestic automakers typically go beyond the pragmatic exchange values they receive from these domestic firms. For many US consumers, domestic automakers are reminiscent of the family history from their childhood or reminiscent of the days US brands were exceeding foreign brands in quality and sales. Reviving the US auto industry has been discussed at the national level by presidents. As such, when there is a heated discussion about domestic automakers’ quality control, it seems that there is an increase in media coverage that expresses concern about domestic automakers’ competitiveness against foreign automakers and threats to domestic brands’ market share. Why domestic firms do not suffer legitimacy loss from their own recalls requires more systematic analysis in the future.

Similar to the results with tenor of media, recalls seem to increase the volume of media coverage regarding recalls for foreign automakers only. Recalls did not lead to any statistically significant changes in the volume of recall-related articles for domestic automakers. As such, only foreign firms suffer from the negative consequence of their recalls.

**The Role of Foreignness on the Negative Spillover Effects**

The previous sections discussed whether foreign firms suffer more legitimacy setbacks than domestic firms from their crisis (*focal effect*). Now the following discussion addresses the question of whether a foreign firm becomes a focused target of a legitimacy setback when other foreign firms in the industry engage in product recalls (*spillover effect*). Spillover literature suggests that, in US automobile industry, recall by an automaker will likely lead consumers, investors, and government agencies to believe that other automakers operating in US probably have the same technical issues that caused the recall although these other automakers’ problems have not been found. As a result, other automakers may suffer legitimacy setback and penalties in market transaction from the recall of a firm. This phenomenon is commonly known as ‘guilt by association,’ and there has been a number of studies providing evidence of the spillover effect based on industry membership (Yu et al., 2008).

However, this study aimed to advance the spillover literature by asking if foreign identity of firms is a determining factor for the assumption of guilty by association. Social identity theory
predicts that if a recalling automaker is a foreign automaker, this recall by a foreign automaker will render the foreign identity of other foreign automakers salient since all foreign automakers can be seen as belonging in the *outgroup* vis-à-vis *ingroup* consisted of domestic automakers. Salience of foreignness in the industry leads stakeholders to believe that other foreign firms have the same technical issues but have not disclosed the problem yet while effectively separating domestic firms from the incident.

This theoretical reasoning led to Hypotheses 4a and 4b about spillover effects which predicted that the foreignness of an automaker moderates the relationship between a foreign automaker’s crisis and other automaker’s legitimacy loss in such a way that foreign automakers are likely to suffer more legitimacy loss than US automakers from other foreign automakers’ crises. Based on this theoretical reasoning this study hypothesized that ‘the negative relationship between other foreign firms’ recall and tenor of media’ (H4a) and ‘the positive relationship between other foreign firms’ recall and volume of recall articles’ (H4b) will be stronger for a foreign automaker.

The results support both hypotheses. Again this study did not find spillover effects of crises simply based on industry membership (H3a and H3b), but the interaction effect between the foreignness of a focal firm and other foreign firms’ crises was significant on both measures of legitimacy: tenor of media and volume of recall-related articles. For foreign automakers, the volume of recall-related articles increased after a foreign automaker’ recall, whereas domestic automakers saw increase in tenor of media and decrease in the volume of recall-related articles.

As predicted, during a crisis caused a foreign firm, foreign and domestic automakers experience very different spillover effects. Foreign firms’ recalls accentuate the foreign identity of firms and hold them all liable for the crisis. As a result of a foreign firm’s recall, domestic firms are likely to be perceived more positively than before, whereas other foreign firms are to be viewed with skeptical eyes. The results confirm the social identity theory’s prediction and Hymer’s (1976) prediction that foreign firms are treated differently due to their identity.

**The Role of Firm Legitimacy on Firm Performance**

As discussed above, the foreignness of a firm moderates the effect of a crisis on a firm’s legitimacy as manifested in tenor of media and volume of recall-related articles. Now, what are the bottom-line implications of an organizational crisis for foreign firms? Will foreign firms suffer more severe market penalties as a result of their own recall (*focal effect*) and other foreign
firms’ recall (*spillover effect*) similar to the results with the externally perceived legitimacy? Studies suggested that legitimacy is directly related to firm performance (Dowling & Pfeffer, 1975; Reuf & Scott, 1988). In particular, a number of scholars empirically established the relationship between external legitimacy manifested in media and firms’ market performance (Deephouse, 2000; Pfarrer et al., 2010; Pollock & Rindova, 2003). Accordingly, this study hypothesized that the tenor of media is positively related to market share (H5a) and the volume of recall-related articles (H5b) is negatively related to market share. These two hypotheses establish linkages between legitimacy and market performance.

The results partially support the hypotheses. The tenor of media did not have a significant relationship with the market share of a firm in the same time period (H5a). However, the relationship between volume of recall-related articles and market share was significantly negative, confirming the prediction that volume of negative publicity will lead to erosion of market share. Further analysis regressing on future market share revealed interesting findings. When the tenor of media and volume of recall-related articles were regressed on market share from one month later (t+1) and two months later (t+2), the tenor of media showed positive effect in those months, in the direction that was predicted in the hypothesis. On the other hand, the effect of recall-related article was significant on the market share from the same month, but the effect immediately wore off in the following month. The results suggest that it may take a little time for tenor of media to have its effect on market performance and also the tenor of media may have longer lasting effects on market performance than the volume of recall-related articles.

**Contributions for Theory, Methods, and Practice**

This dissertation provides several contributions to theory, empirical evidences, and practice. This research advances our understanding of the concept ‘liability of foreignness’ by creatively bridging social identity theory and institutional theory on legitimacy. In addition, this study makes an empirical contribution by bringing data to bear on the liability of foreignness argument as it relates to foreign identity. Finally, the results of this study inform managers of multinational corporations about the limitations and risks they may face while operating in foreign countries, which are simply identity-based.
Theoretical Contribution
This study theoretically delineates and empirically tests how and why liability of foreignness affects foreign firms’ legitimacy and performance. In doing so, this study contributes to the Liability of Foreignness literature, spillover literature, and institutional theory.

Liability of foreignness. Perhaps the most important contribution of this research is that it advances our understanding of the Liability of Foreignness (LOF) by parsing out identity-based LOF and measuring its effect more directly than in any previous studies. Since Hymer’s (1976) seminal study brought the idea of LOF to scholarly attention, many strategy and international scholars have identified the sources of LOF. Scholars tend to agree that there are largely two sources of LOF: capability-based and identity-based (Eden & Miller, 2001; Zaheer, 1995).

Despite this acknowledgment, studies on LOF have heavily relied on the capability-based LOF to explain foreign firms’ disadvantage against domestics firms (Cuervo et al., 2007). However, some studies have found that foreign firms may not be necessarily at a disadvantage in terms of firm capability. Nachum (2003) argued that foreign firms do not necessarily suffer from LOF because foreign subsidiaries have the advantage of intangible assets such as international market experiences and knowhow. Zaheer and Mosakowski (1997) also indicated that the disadvantage in capability for foreign firms should diminish or disappear as the foreign firms continue to operate in the host countries because they can quickly build host-country suitable capabilities over the years.

These inconsistent findings suggest that it is timely to shift our scholar attention to the identity-based LOF. Unlike the capability-based LOF, the identity-based LOF seems to be a lingering problem for foreign firms as the stakeholders’ tendency to view foreign firms fundamentally differently does not change easily (Kostova et al., 2008). Therefore, the liability-based LOF is in need of more systematic investigation. This study aimed to serve these needs and provide foundations for building additional knowledge by future studies. In particular, two attributes in the design of the study made a significant contribution in understanding how the identity-based LOF operate to the disadvantage of foreign firms. First, examining the legitimacy setback after a crisis allowed more direct observation of the identity-based LOF. In the US automobile industry where most foreign automakers have a long history of operation in the host country, the capability gap between domestic automakers and foreign automakers seems to have
leveled off. As data in market share and ratings suggested, foreign automakers are as competitive as domestic firms. This may indicate that foreign firms in the US automobile industry do not suffer from a capability-LOF. However, interestingly, when a crisis strikes a firm, the foreign automakers experienced more severe legitimacy setbacks than domestic firms, providing strong evidence that the identity of foreignness is playing a role during a critical event.

Second, most studies on the liability of foreignness used financial performance or stock market reaction to measure the effect of LOF. Instead of relying on the common measure, this study employed media legitimacy measures developed in previous studies: tenor of media and volume of recall articles (Pfarrer et al., 2010). These measures are more effective in measuring the effects of recalls because financial indicators such as market share or sales can be easily influenced by promotional activities such as consumer incentives or dealer incentives. Tenor of media and volume of recall articles are less likely to be affected by firms’ promotional efforts. In addition, media measures are believed to be more effective in parsing out the identity-based LOF than market performance measures.

**Legitimacy spillover effect.** This study extends understandings of the legitimacy spillover effect by focusing on the foreign identity of firms as an important variable in judging other firms’ potential liability following an organizational crisis.

The previous studies on legitimacy spillover argued that firms that are similar in institutional logics and forms are equally susceptible to the negative spillover of legitimacy loss (Jonsson et al., 2009; Yu et al., 2008), and industry membership of a firm provides a cue to stakeholders in evaluating whether the firm is potentially liable for a crisis that was committed by another firm in the same industry. However, the strategy and organizational theory scholars have neglected how foreignness of a firm can be a moderating factor in the negative spillover effect of an organizational crisis. This study found that, in the US automobile industry where there is a strong presence of mature and capable foreign firms, the negative spillover of a crisis striking a foreign firm spilled over to other foreign firms only. Moreover, it appeared that domestic firms were unaffected and even benefitted from the crisis that fell upon a foreign firm.

This conditional spillover by foreignness was proposed using the theoretical tenets of social identity theory. Social identity theory postulates that a crisis that strikes a foreign firm is likely to increase the salience of the foreign identity of firms among stakeholders and drive stakeholders to believe that all other foreign firms in the same industry potentially have the same
or similar issues. As a result, foreign firms are likely to suffer more legitimacy loss compared to domestic firms from a crisis caused by a foreign firm in the same industry. This moderating effect of foreignness may even be manifested stronger as the stakeholders’ perceived level of threat is higher. This is so because, the greater the felt threats, the greater the desire to solve uncertain and find psychological equilibrium. As such, this study theoretically delineated and empirically found that foreignness of a firm can be a determining factor of a negative spillover effect, maybe even more than industry membership.

**Legitimacy dimensions.** This study extends institutional theory on legitimation by theoretically delineating the differences in the property of legitimacy between foreign firms and domestic firms and also by delineating how the differences in property manifest themselves in the process of legitimacy loss during a crisis. Institutional theory scholars continue to move our understanding of legitimacy constructs by introducing various dimensions, antecedents, and consequences of legitimacy in the past two decades (e.g., Ashforth & Gibbs, 1990; Reuf & Scott, 1998; Suchman, 1995). Meanwhile, international business scholars have often employed the legitimacy concept to discuss the additional cost and challenges facing foreign firms. Despite advancement and contribution in their own realms of research, these two research paths have not yet merged to share their theoretical understandings of organizational legitimacy to delve more deeply. This is a development I believe to be important in advancing our understanding of the complexity of the phenomenon of organizational legitimacy. Considering the gap between the two research paths, it was timely and necessary to analyze the differences in legitimacy between foreign firms and domestic firms along the dimensions established in the institutional theory literature.

**Empirical Contribution**

Another important contribution of this study is that it brings empirical data to bear on the theoretical extension of liability of foreignness. Because of the difficulty in measuring the effect of LOF, research on LOF has lacked empirical results to support the theoretical arguments. Furthermore, empirically examining the effects of identity-based LOF is a challenging and elusive task due to its complexity of the construct. By using the automobile recall as a crisis and media coverage as external perceptions of legitimacy, this study came one step closer to measuring the role of identity-based LOF on firm’s legitimacy and ultimately on performance.
Practical Contributions

This study makes a few practical contributions. First, the findings in this study inform managers of a foreign firm that their firm is likely to experience more severe market penalties from their company’s crisis including any misconducts, scandals, or product recalls simply because their firm is recognized as a foreign firm by the stakeholders in the host country. Furthermore, managers of foreign firms need to be aware that when another foreign firm in the industry is criticized for its wrongful act, the negative effect of public criticism of the liable firm may spiral out to their firms because of their perceived association from being a foreign firm. Therefore, when a foreign firm faces a crisis, the managers of other foreign firms will have to act quickly to neutralize the spillover effect perhaps by offering incentives, promoting good will, delaying their own recalls, or launching new products or features to generate positive press.

Second, this study may inform business practitioners about their external communication strategy during or following a crisis. For foreign firms, their communication to stakeholders may focus on being a valid member of the community or society and avoid using message reminding them of their foreign country origin. For example, VW’s marketing slogan ‘German engineering’ may have harming effects when they are involved in a crisis because the slogan increase the salience of the firm’s foreign identity to stakeholders including consumers and investors. On the contrary, the crisis of a foreign firm in the same industry may present an opportunity for domestic firms to reinforce their social ties with stakeholders by bringing stakeholders’ attention to their domestic identity. For example, Chevy’s marketing slogan ‘American revolution’ or Chrysler’s ‘Imported from Detroit’ may be an effective message to retain and win back US consumers’ positive perceptions during a crisis facing a foreign firm.

Limitations and Directions for Future Research

This study is not without limitations. First, the major limitation with this study is the number of sample firms. There are 3 US firms, 3 Japanese firms, 3 German firms, and 1 Korean firm included in the study. As such, the sample represents only three regions and four home countries. With the limited number of countries in the sample, it is difficult to eliminate the possibility that the empirical results in the study are only applicable to firms from those countries. If the sample was composed of foreign firms with other country origins, such as England or Canada, which share more in common in terms of language and culture with the US, will the results described in the study still be the same? Also, having only 10 sample firms may
limit the generalizability of this study. Although, the longitudinal structure of the data yielded 84 observations of each firm and 840 observations for the total sample, still this study can greatly benefit from having an even higher number of sample firms. Unfortunately, the auto industry is a very concentrated market with a small number of dominant players. Those 10 firms in the sample accounted for approximately 91% of the market share during the sample period, 2006-2013.

Second, the hypotheses of this study were tested only in the automobile industry in which the nationality of a firm is salient. For example, news media often make a reference to the national origin a firm when it discusses foreign automakers (e.g., Japanese automaker, Toyota). Some marketing studies suggest that consumers become more aware of the national origin of products if the purchasing products require major investment decisions, and buying a car is a major purchase decisions for most consumers. As such, it is uncertain if the results will hold if hypotheses in this study are tested in other industries where the nationality information of a firm is less salient.

Third, the sample period of this study is between January of 2006 and December of 2013. Studies suggest that ecological context, such as domestic economic conditions, war between countries, diplomatic conflict between countries, or trade deficit may influence how stakeholders perceive foreign products and foreign businesses. Therefore, there is a possibility that the results in this study are just a temporal phenomenon created by special social, economic, or political circumstances during and surrounding the selected time span. In particular, the terrorist attack on September 11, 2001 and the ongoing war in Afghanistan may be stimulating and amplifying US stakeholders’ inclination to view foreign firms as outsiders who may potentially harm their economic welfare and pose threats to domestic firms. Including data from a wider time period and obtaining the same results will add robustness to this study by showing that the social categorization of foreign firms is not just a temporal phenomenon driven by external economic, social, or political conditions.

Limitations in current study lead to discussions of future studies. First, future studies should replicate this study in different industries, especially including commodity industries where foreign identity of firms is presumed to be less salient. Conducting studies that includes multiple industries will allow researchers to observe if there are any differences in the degree of foreign categorization among industries and further ponder upon industry attributes responsible for the differences. Recall data is readily available for some industries. Some widely used data
sources for product recalls other than automobile recalls include the Food and Drug Administration (FDA), the US Department of Agriculture, and the Consumer Product Safety Commission (CPSC). Using the data from these sources, researchers will be able to test the effect of foreignness in the pharmaceutical industry, medical device industry, food retail industries, and many others.

Second, this study has empirically found that foreign firms suffer more severe penalties not only from their own crisis but also from other foreign firms’ crises. In theorizing this discriminating effect, this study relied on the concept of pragmatic legitimacy and cognitive legitimacy from the legitimacy literature and argued that foreign firms’ lack of cognitive legitimacy render foreign firms more vulnerable to legitimacy setbacks during a crisis. Although theoretically solid, the difference in cognitive legitimacy between foreign firms and domestic firms has not been directly tested in the current study, and therefore, the question on how the legitimacy builds and diminishes differently for foreign and domestic firms remains unanswered and awaiting empirical analysis.

One way to test it is through an experimental design with participants. In such a study, the researcher may take a two-phase approach with two sets of vignettes designed for two separate groups of participants. The first set of vignettes is a story of a foreign firm, and the second set of vignettes is for the domestic firm. The first vignette in each set contain detailed information about a company, product rating, history of the company, market value, corporate social activities, and so on. All the information except the nationality of the firm needs to be identical between the foreign firm description and the domestic firm description. In the first phase, the researcher distributes the first vignette to the participants in each group and asks them to rate the firm along the dimensions developed to measure pragmatic and cognitive legitimacy. Foreman and Whetten (2002) and Elsbach (1994) provide measures for these two legitimacy dimensions that can be modified. Then in the second phase, the researcher distributes the second vignette that depicts a major crisis event of a company, and again asks the participants to rate the firm along the same dimensions to observe how ratings change after the crisis. This experimental design will allow the researcher to observe differences in legitimacy property and how legitimacy changes after crisis.

Third, future studies might examine what are the best strategies for foreign firms to restore legitimacy after crises. Based on prior studies (Elsbach, 1994; Zavyalova et al., 2012),
this study made a distinction between pragmatic legitimacy and cognitive legitimacy and argued that firms with cognitive legitimacy can weather legitimacy challenging events more effectively. However, being considered as an outgroup member, a foreign firm faces restrictions in gaining cognitive legitimacy. Facing this restriction, choosing the right way to restore legitimacy after a crisis is a critical issue for foreign firms. Some studies (Elsbach, 1994; Ruef & Scott, 1998; Zavyalova et al., 2012) suggested that firms typically choose one of two strategies: a) signaling to stakeholders that their technologies and operations are in conformity with the industry standard and/or even superior to other firms, or b) signaling to stakeholders that they are legitimate community members that share the same concern and responsibilities for the society.

German automakers often try to signal their technical superiority by associating with stereotypical image of German engineering (Roth & Romeo, 1992). Volkswagen’s recent marketing campaign revealed during 2013 Super Bowl, “the power of German engineering,” is one example the approach. On the other hand, since the scandalous oil spill event in the Gulf of Mexico on April 20, 2010, the BP company has engaged in many vigilant campaigns to signal that they are committed to environmental protection and a leader in alternative energy development through media communications and investments (Du & Vieira Jr., 2012). This can be considered as an effort to restore legitimacy through claiming that BP is still a legitimate member of a society. It deserves scholarly attention to find out which of the two strategies work best for foreign firms during a crisis, and there are ample research opportunities in this topic area.

Fourth and lastly, future studies also need to investigate the relationship between the foreign firm population and the identity-based LOF. Population ecologists suggest that legitimization of a group of organizations increases as the number of organizations increases in the group (Hannan & Freeman, 1984). It is questionable if the same prediction is applicable for the foreign firms because an increasing foreign firm population in an industry may be perceived as threats not only by domestic competitors but also by consumers and governments of the host country as they may be concerned about a national economy’s competitiveness. At the same, it is not clear whether operating as one of the few foreign firms in an industry is necessarily better for

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13 Muralidharan, Dillistone, and Shin (2011) reports that BP’s efforts to restore reputation by signaling their commitment to the community failed to change the negative image held by the public. Specifically, the study observed BP’s use of social media channels including Facebook, Twitter, YouTube, and Flickr changed the negative emotion of the public found in social media sites.
a foreign firm in avoiding any focused attention or possible hostility by constituents in the host country. Therefore, a future study can collect data on multiple industries with varying degrees of foreign firm population size and observe the effect of foreign firm effect of population of the identity-based LOF.

**Conclusion**

This study advances our theoretical understanding of the liability of foreignness by clarifying the *social cognitive dynamics* underlying foreign firms’ legitimacy developments. Although the literature has identified two sources of the liability of foreignness: capability-based and identity-based, most extant studies on this topic predominantly focus on the capability-based identity, ignoring the implications of identity-based liability on firms’ legitimacy and performance. Recognizing this limit, this study set out to open the elusive black box surrounding the social cognitive process involved in the evaluation of foreign firms as compared to domestic firms.

In developing the theoretical arguments, this study employed social identity theory and institutional theory on legitimacy. Social identity theory and theories on organizational legitimacy together predict that stakeholders, such as consumers, investors, and government agencies, are inclined to categorize firms in an industry into domestic or foreign firms; and as a result, foreign firms are likely to have restricted access to cognitive legitimacy, the most important source of firms’ resilience during an organizational crisis. The findings in this study suggest that foreign firms are likely to face harsher penalties in legitimacy loss following an organizational crisis as manifested in media coverage. As such, this study confirms that foreign firms are at a higher risk of losing legitimacy and market performance following a crisis compared to domestic firms.

While this study contributes to the understanding of the liability of foreignness, it also yields new questions to be explored. For example, what role does the status of country of origin play in simple domestic and foreign categorization suggested by social identity theory? Is our tendency to activate social categorization lessened or muted when the act of crisis caused by a foreign firm is from a highly regarded country as opposed to a poorly regarded country? Relatedly, how does the social and political ecology of the host country affect the legitimation process? Also, how does the population of foreign firms in an industry affect the stakeholders’
perception about foreign firms? Will the constituents be more receptive about the presence of foreign firms when their population is high or become defensive?

In conclusion, I hope that the theoretical arguments and findings in this study spur additional research that uncovers the complex social dynamics surrounding the foreign firms’ challenges in gaining and maintaining legitimacy.
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