Antecedents, Wide-Spread Consequences, and Strategic Implications of Organizational Corruption

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ii. Abstract

Organizational corruption is known to be a systemic issue in both developing countries and more developed countries, yet the theoretical knowledge of organizational corruption is insufficient in comparison to the severity of its consequences. Due to its keen focus on organizations, management has significant potential to develop insights on organizational corruption but has thus far been limited in doing so due to a) a lack of integration with other disciplines (e.g. economics, sociology, psychology) in the study of corruption and b) a lack of focus on the interactions of variables across levels of analysis that give rise organizational corruption. My dissertation contributes to the literature by offering three papers that each examine a different aspect of organizational corruption (antecedents, wide-spread consequences, and strategic implications), making a specific contribution to the literature each is positioned in. Paper 1 sheds light on the ability of organizational practices to maintain a law-abiding organizational climate in a firm when it is faced with institutional obstacles that create pressure to be unlawful, Paper 2 develops a new theoretical model that better explains how the spread of negative reputational evaluations to a population of firms occurs after a scandal is committed by a single firm, and Paper 3 explains how firms adapt their innovation approach when faced with the threat of corruption by reducing product innovation but increasing marketing innovation. Each paper is able to make a significant contribution by integrating management research with knowledge from other disciplines as well as focusing on the interactions of variables across levels of analysis to reveal the processes that underlie the causes and consequences of organizational corruption.

iii. Acknowledgements

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iv. Table of Contents

* papers cited in the introduction and discussion are listed in the reference section at the end of the dissertation. Papers cited in each paper are listed in the reference section at the end of each respective paper. Figures, tables, and appendices mentioned in each paper can be found at the end of each respective paper.

* Paper 1 was co-authored with Bryan Husted and Paper 2 was co-authored with Andrew Crane. Any use of the pronoun "I" in referring to the work done on this paper is to maintain a consistent voice where appropriate in the dissertation.

Introduction

In my dissertation, I examine organizational corruption in hopes of extending the current understanding of the issue in the management literature. Corruption is commonly defined as the misuse of a position of authority for private or personal benefit (Misangyi, Weaver and Elms, 2008), where misuse typically constitutes a breach of legal norms (Johnston, 1986; Kaufmann, 1997). The position of authority in question often refers to public power, but this definition also encompasses exchanges that occur strictly between private parties (Svensson, 2005). Since it is rooted in unethical behaviour of organizations or actors in their field, corruption is related to ancillary concepts in the management literature that explain how decision-makers decide to engage in unethical behaviour, such as ethical decision-making (e.g. Cohen, Pant, and Sharp, 2001) and moral reasoning (e.g Husted, McMahon, and Kattan,1996), as well as concepts that represent specific forms of unethical behaviour such as corporate social irresponsibility (e.g Surroca, Tribó, and Zahra, 2013) and scandals (e,g, Kang, 2008). However, corruption is distinguishable from the plethora of concepts with which it is related because of its focus on explaining unethical behaviour as a systemic issue. Corruption reflects the general tendency of unethical behaviour to exist and proliferate in a group, industry, or national context, such that a given corrupt act is symptomatic of a more deep-rooted issue and can be connected to a broader trend of behaviour.

The systemic nature of corruption is explained through a relational structure than creates opportunities for it to occur and an incentive structure that allows actors to benefit from it. Corruption can be expected to occur when (1) there is control over economic benefits and costs in an exchange between parties, and thus, the potential for economic rents to be generated, and (2) when an actor in a position of authority possesses discretionary power in the allocation of

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such costs and benefits (Misangyi et al., 2008). The actor in question uses their discretionary power to appropriate economic benefit for themselves or direct favorable allocations to other actors in return for payment (Rose-Ackerman, 1975). Corruption becomes pervasive in society when such relational and incentive structures are commonplace and come to define interactions between organizations and actors in their environment. This is indeed the case globally (Cuervo-Cazurra, 2016), such that corruption is a pervasive problem in both developing and developed countries.

Systemic corruption and its severe consequences have been well documented in the developing country context. Typically involving government actors that provide a firm with favorable regulation or the removal of bureaucratic obstacles that block economic activity, corruption in the developing country context is widely considered to be a key cause of underdevelopment, crippling economic progress by creating inefficiencies related to excessive bureaucracy and economic uncertainty for firms, reducing foreign direct investment, as well as misdirecting entrepreneurial talent and skilled labour (Doh, Rodriguez, Uhlenbruck, Collins, & Eden, 2003; Mauro, 1996). Beyond just its economic consequences, corruption contributes to societal problems such as poverty, inequality, inadequate social services and infrastructure, and political instability (Kauffman, 1997; Moran, 2001). While there is no shortage of examples to present to illustrate corruption in the developing country context, a recent example is the scandal involving former Pakistani President Nawaz Sharif and his daughter who were found guilty (and ordered to serve prison terms) for the channeling of illegitimate funds and purchase of foreign assets through offshore companies (BBC, 2018). Unfortunately, this is not a far cry for a country that has historically suffered from a corruption problem. Another former president, Asif Ali Zardari, earned the infamous nickname of "Mr 10 percent", alluding to his alleged personal

commissions on government contracts, which according to the Pakistan's state anti-corruption body, have allowed him to amass a global property empire worth nearly £1 billion (The Telegraph, 2010).

While it does not contribute to economic and social strife to nearly the same degree as it does in the developing country context, corruption in the developed country context is nonetheless commonplace and not just bound to the unethical behaviour of a specific organization or industry. Since the late 2000's, the financial collapse has become the poster child for corporate greed and corruption in both academic research and conventional wisdom. The discretionary power given to large U.S banks as a result of deregulation and a lack of monitoring and sanctions incentivized actions that profited organizations at the expense of society, leading to billions of dollars in corporate bailouts by government, record losses in the securities markets globally, and catastrophic consequences to the U.S housing market. With a similar corporate-regulatory dynamic enabling Volkswagen to deceive its consumers by falsely reporting automobile emissions level, a discovery made only a few years ago, corruption continues to be pervasive even in the developed world. This is the case in Canada as well, as demonstrated by the scandals involving SNC-Lavalin in which it was revealed that the Canadian company paid bribes to secure construction contracts both domestically and overseas (Globe and Mail, 2018).

The persistence of the corruption problem should come as no surprise as policies to combat the problem have been inadequate, failing to eliminate the opportunity and business case for corruption. The severity of the corruption problem has garnered it attention and effort from actors in the position to push for reforms. For example, the Organization for Economic Co-operation and Development (OECD), which consists primarily of developed countries, makes anti-corruption and bribery efforts on a continual basis, as does the United Nations through its

convention against corruption which focuses on the issue in developing countries. The increasing

frequency of organizational corruption observable on a daily basis, along with academic research

(Getz,2006), tells us that these efforts have not been effective at countering the problem.

In light of the pervasiveness of organizational corruption and the severity of its

consequences, it is an area of study deserving of considerable attention. Yet, the contributions

made by academia in understanding the causes and consequences of organizational corruption

have been inadequate relative to the scope and depth of the problem (Ashforth, Gioia, Robinson,

and Treviño, 2008). Much of the fault must be placed on management research due to its keen

focus on organizations and their interactions with the external environment that makes it best

suited amongst the social sciences for examining organizational corruption (Rodriguez, Siegel,

Hillman, and Eden , 2006). It is imperative that management research further examine corruption

from the perspective of the organization to compliment the knowledge generated by the relative

success of economic research in understanding the problem at the more aggregated, country level

of analysis. It is only then that a sufficient body of knowledge on organizational corruption can

be formed that can shed light on how organizations become corrupt and the span of its

consequences to both organizations and society at large.

A more robust body of knowledge of organizational corruption can better inform

practical solutions for addressing the problem. A better understanding of what causes

organizations to be corrupt can help inform managers on the organizational practices and

governance measures that can be adopted to disincentive corruption and eliminate situations that

allow organizational members to use their discretionary power for illegal purposes. A

consideration of salient differences between the developing and developed country context is

important, since differences in their institutional environments create different incentives and

opportunities for corruption which have implications for the effectiveness of potential anti-corruption measures. A more robust body of knowledge on organizational corruption can also help inform policy creation at the government level aimed at eliminating corruption between public actors and organizations. A greater appreciation of the situations that enable public-private corruption , including the circumstances that make organizations dependent on public actors and vice versa, can help guide the attention of policy makers on which types of exchanges require the most oversight. A better understanding of the incentives for government actors and organizations to engage in corruption can help clarify in which circumstances is corruption likely to be coerced on an actor or a collaborative exchange to better formulate solutions on how to prevent actors from participating in corruption.

Next, I explain some theoretical directions for the study of organizational corruption that can help to broaden the understanding of the issue as it exists in the extant literature, which I also took in writing my dissertation.

Theoretical directions for better understanding organizational corruption

Interdisciplinary approach

Organizational corruption necessarily involves multiple actors, can be initiated by multiple causes, and has consequences contingent on various factors for both actors involved and not involved in corrupt acts. In light of its complex and multi-faceted nature, a toolkit of theoretical frameworks that spans management research and outside disciplines can help tackle the study of organizational corruption. While management research and outside disciplines including, but not limited to, psychology, sociology, economics, and political science have made their own contributions to the study of corruption, scholars working from their respective

disciplines have done little to account for one another's efforts. This has resulted in a set of theories on organizational corruption that are partially overlapping but mostly sporadic and often times conflicting (Ashforth et al., 2008). Accordingly, interdisciplinary research that combines what we know about organizations from management research with insights from other disciplines has been called for by scholars in order to achieve a deeper understanding of organizational corruption (Getz, 2006; Galang, 2012). The importance of taking an interdisciplinary approach for the study of corruption echoes that of its ancillary area of business ethics, which suffers from the same issue where much of the knowledge outside of management research has not been integrated with the insights the discipline has produced on unethical organizational behaviour (Moore and Gino, 2015). I take an inter-disciplinary approach in my dissertation by using theoretical perspectives from management, sociology, and social psychology to better understand organizational corruption.

Interaction across levels of analysis

While the extant literature does examine variables that affect or are affected by organizational corruption across different levels of analysis, including the firm, industry, and national environment, the interaction and dynamics between levels of analysis have been neglected to a great extent (Ashforth et al., 2008). As a result, the processes that underlie both the causes and consequences of organizational corruption have been under examined. Given the systemic nature of corruption, it is vitally important to take into consideration the broader system of variables and actors across levels and how they interact to understand the processes that cause corruption to emerge and be sustained. Furthermore, such a perspective would better acknowledge the embeddedness of organizations within their wider environment, something that research on organizational corruption tends to ignore (Misangyi et al., 2008). Organizations face

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both formal and informal pressures due to dependency with their environment, stemming from relationships with environmental actors and the need for scarce resources, which influences whether an organization engages in corruption and the nature of its consequences. In my dissertation, I take into consideration the interaction between variables across different levels of analysis to better explain the processes underlying organizational corruption, as well as the implications that the embededness of organizations within the environment has on the causes and consequences of organizational corruption.

An example of research that made a significant contribution to the literature on organizational corruption by employing an interdisciplinary approach and taking into account interactions between levels of analysis is Misangyi et al. (2008). The authors are able to shed light on how corruption is engrained as a systemic problem by identifying interactions between individual, organizational, and institutional variables. Furthermore, by drawing from organizational behaviour that taken-for-granted roles and routines can facilitate organizational corruption, and taking into account from macro organization theory the challenge of breaking such roles and routines in light of the influence of the institutional environment, the authors are able to develop a novel theory for eliminating corruption that is based on adopting an anti-corruption institutional logic alongside practices that prevent corruption.

Taking inspiration from Misangyi et al. (2008), I follow these theoretical approaches in similar manner but also extend them in directions not taken by the authors. Firstly, I incorporate the meso level of analysis by examining the consequences of organizational corruption to a broader scope of firms, and furthermore, how these consequences relate to factors at other levels of analysis. Given that factors at varying levels of analysis and the dynamics between them cause corruption to emerge and persist, the consideration of group level consequences allows for

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providing a deeper understanding of corruption's systemic nature. Secondly, I integrate various

other theories from within and outside management literature relevant for understanding the

multiple dimensions of organizational corruption considered in this dissertation - its antecedents,

wide-spread consequences, and strategic implications. Such an approach is necessary for

capturing these distinct dimensions of organizational corruption in which differing actors,

variables, and situational contexts are relevant. My hope is that by similarly following these

theoretical directions, my dissertation is able to make significant contributions to the study of

organizational corruption.

Overview of dissertation papers

My dissertation consists of three papers that each explore a different aspect of

organizational corruption. Paper 1 examines the antecedents of corruption, Paper 2 explores the

wide-spread consequences that an act of corruption by a single organization has on the reputation

of a broader scope of organizations, and Paper 3 investigates the strategic implications of

corruption on an organization's innovation activities. The inadequacy of the amount of scholarly

work done by management researchers on organizational corruption can in part be attributed to a

lack of suitable data. The illegal nature of corruption which causes firms to be hesitant to report

on or answer questions regarding their involvement with corruption makes firm-level data

difficult to measure and thus rare (Cuervo-Cazurra, 2016). While country-level data on

corruption is more prevalent than firm-level data, it is unable to answer the strategic questions of

interest to management researchers (Rodriguez et al., 2006). In my dissertation work I overcame

this issue by collecting primary, firm-level data for Paper 1 and consolidating two distinct

datasets for Paper 3 to form a rich data set with information on firm-level corruption and a

plethora of other firm-level measures. Across the three papers, I incorporate variables and the

role of actors at different levels of analysis, as well as employ different theoretical frameworks to answer each paper's specific research question. Along with contributing to the specific body of literature that it is positioned in, each paper takes the theoretical directions outlined above to broaden the understanding of organizational corruption by questioning assumptions or adding depth to general, oversimplified ideas. Below is an overview of each paper.

Paper 1:Law-Abiding Organizational Climates in Developing Countries: The Role of Institutional Factors and Socially Responsible Organizational Practices

While considerable attention has been devoted to establishing the association between institutional environment of developing countries and corruption, little scholarly insight has been produced in regards to how some firms avoid corruption and conduct themselves within the confines of the law. Given that a firm's conduct is a product of the nature of the institutional context and its own characteristics (Martin, Cullen, Johnson, and Parboteeah, 2007), a keen focus on organizational characteristics can help shed light on the variability across firms to engage in corruption within an institutional context.

This paper examines some institutional factors typical of developing countries that drive firms to be unlawful, and the ability of socially responsible organizational practices to maintain a firm's adherence to the law when faced with these institutional factors. I use anomie, a theory from sociology, as the theoretical lens to explain the process by which both institutional factors and socially responsible organizational practices influence a firm's "law-abiding climate". A key obstacle in conducting firm-level research on organizational corruption is the sensitive nature of the topic which causes firms to be reluctant to answer honestly about their direct involvement in corruption. For this reason, law-abiding climate is examined as the outcome of interest. Law-abiding climate serves as an indirect measure of corruption because it is indicative of how

conducive a firm's norms regarding compliance are to engaging in corrupt acts. The use of law-abiding climate as the dependent variable as opposed to a direct measure of corruption has the benefit of reducing the risk of socially desirable response and ensuring an adequate response rate, but comes at the cost of sacrificing some external validity as it pertains to inferences that can be made in regards to corruption. Nonetheless, given the dearth of firm-level research attempting to investigate organizational corruption and the severity and importance of the issue, especially in the developing country context, this trade-off is justified and the examination of law-abiding climate is nonetheless worthwhile. I draw on the lens of anomie theory for its ability to conceptualize a context relevant to developing countries in which elements of the environmental context render legitimate and law-abiding means to achieve desired ends infeasible. The primary contribution of this paper is that it provides insight on the efficacy of socially responsible organizational practices in the developing country context for fulfilling their intended purpose of ensuring that firms adhere to the law. Primary data collected on 118 Mexican firms was used to empirically test the hypotheses of this study.

By situating developing country firms amidst their adverse institutional context, this paper questions the conventional wisdom in the literature that actions are considered obviously to be misconduct or not based on a set of consistently applied norms (Greve, Palmer, and Pozner, 2010). Rather, it acknowledges that the situation a firm perceives itself to be in determines the normative framework by which it evaluates potential actions (Tenbrunsel and Smith-Krowe, 2008). It does so by recognizing that institutional factors common in developing country environments can compromise the ability of firms to achieve performance goals while remaining lawful, which can cause norms and ethical decision criteria consistent with a normative legal framework to be perceived as impractical. By drawing insights from anomie theory and

connecting them with the study of ethical climate, my paper uncovers a decision process in which developing country firms perceive unlawful conduct to be justified as a means of doing business in light of the realities of their context.

Paper 2:Theorizing Reputational Spillover: Contingent Organizational Categorization and the Spread of Scandals

While the reputational consequences for firms that commit scandals have been thoroughly explored in the extant literature, relatively little attention has been devoted in exploring how and why the reputation of other firms not involved in the particular scandal are negatively affected. This widespread reputational consequence to firms underlies corruption's crippling effect of reducing foreign direct investment into a country, which can be thought of as an adverse selection problem in which the broader scope of firms in a country become grouped together with those that engage in corruption. Furthermore, it contributes to the systemic nature of corruption by incentivizing firms to engage in corruption and experience its benefits to the extent that they will be labelled as corrupt and suffer reputational consequences independent of their actual behaviour.

In this paper, I explore "reputational spillover", when a scandal by a firm affects the reputation of other firms that were not involved in the original incident. Categorization, a theory from social psychology which acknowledges the cognitive tendency of the public to simplify the world around them into categories, is used as a basis to advance theory on the phenomenon. Specifically, I build an overarching theoretical framework rooted in a contingency view of categorization that contributes in two main ways. Firstly, the framework explains spillover in terms of two distinct phases of spillover origin and spillover spread which provides new insight

on the antecedents of spillover. Secondly, it presents a more accurate perspective on how categorization operates in reputational spillover by explaining that the category used by the public is dependent on the scandal's level of moral intensity, on the basis that moral intensity determines the effort and attention that the public devotes to understanding the causes and consequences of a scandal. Given that a scandal can often times take the form of corruption, my paper is able to provide insight into the wide-spread reputational consequences that a single act of corruption can have on a population of firms.

Given the relatively little theoretical knowledge of reputational spillover in the extant literature, scandals more generally were examined as opposed to corruption, which can be thought of as particular type of scandal. While this results in a theoretical model that provides less insight on corruption's widespread reputational consequences than would one that focuses specifically on corruption, a more open-ended independent variable was appropriate so that the focus could be on the theoretical development of dependent variable of interest, the phenomenon of reputational spillover. Future research can follow a deductive approach in applying the theoretical insights on reputational spillover produced by this paper as a basis to better understand the wide-spread reputational consequences of corruption scandals more specifically, incorporating the relevant contingencies and variables that make corruption scandals unique.

Multiple levels of analysis are considered in this paper, specifically, the micro-level through the examination of members of the public and their cognitive tendencies, as well as the meso-level through consideration of the population of firms that are affected by reputational spillover. The interaction between these levels of analysis puts into question the commonsense assumptions in the literature that misconduct harms the reputation of the responsible organization without affecting the reputation of others (Greve et al., 2010). The role of the public in rendering

reputational evaluations after observing a scandal and their cognitive tendency to engage in

categorization as a sense-making shortcut reveals that the fate of firms are intertwined by a

reputational commons, which causes firms to be dependent on one another's actions.

Furthermore, by using categorization theory to explain the effect of scandals on reputation, I take

into account that the processes underlying ethical decisions are not strictly reason-based but can

be biased by the use of subconscious processes and intuition (Tenbrunsel and Smith-Krowe,

2008), a point acknowledged in the literature but not often incorporated in extant theorizing.

Paper 3: How Firms Adapt Their Innovation Approach When Faced With the Threat of Corruption: An Examination of the Effect of Corruption on Product and Marketing Innovation

While innovation has been considered to be synonymous with the economic development

of developing country firms, the consequences that corruption has on firm innovation has been

significantly understudied. A particular issue is that a broader conception of innovation that

consists of both technological and non-technological innovation has typically not been

considered, with the literature maintaining a focus on the former. As a result, potential insights

pertaining to the effect of corruption on a firm's broader innovation strategy have been

overlooked, limiting our understanding of how firms react to the threat of corruption.

Taking a broad perspective on innovation beyond its typical, technology-based conceptualization

in management research, this paper examines the effect of corruption on firm innovation in

developing countries. Through a cross-national, quantitative study of African and South-Asian

firms using data on over 6000 firms from the World Bank, I test the prediction that corruption

causes firms to shift their efforts away from product innovation towards marketing innovation. I

reason that corruption results in firms adopting a short-term and risk averse strategic orientation

that favors the proximal and assured returns of marketing innovation over the longer-term and
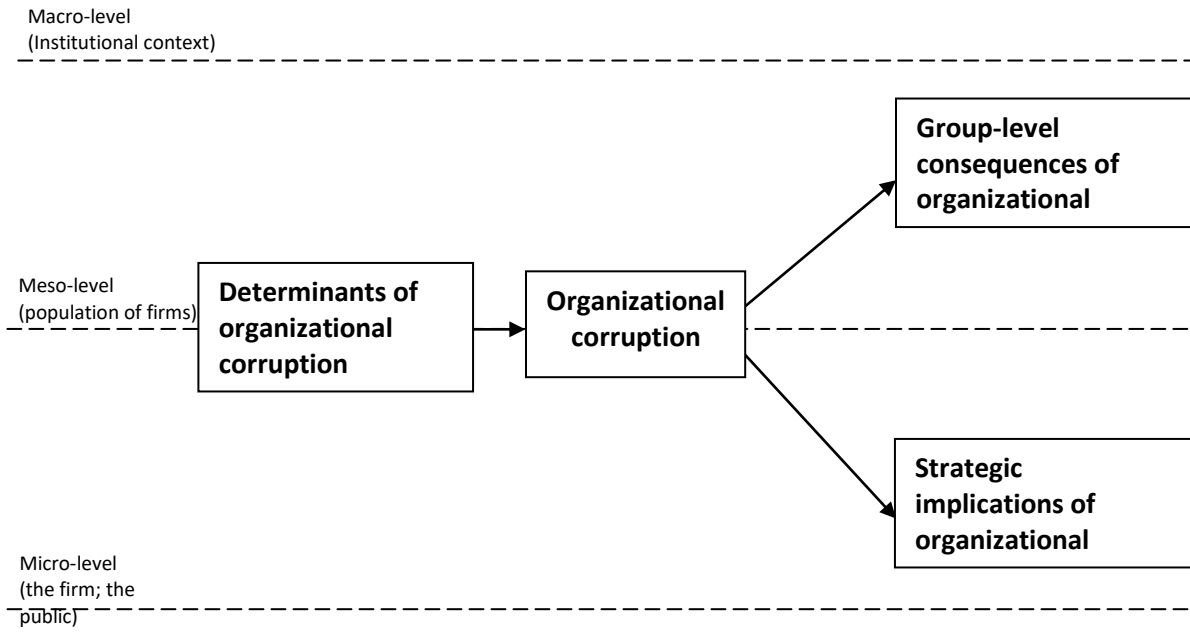
uncertain returns of product innovation. I also examine how the application for IP rights in the form of patents and trademarks influence the effect that corruption has on product and marketing innovation, respectively. Based on differences in the susceptibility of patenting and trademarking to corruption, I reason that patent applications mediate the negative relationship between corruption and product innovation while trademark applications strengthen the positive relationship between corruption and marketing innovation. This paper contributes to the literature by conceptualizing a wider scope of innovation in a manner that allows for understanding not only how firms are affected by corruption, but how they adapt to it by allocating their efforts across types of innovation to reduce their level of risk. In doing so, it sheds light on how firms manage when faced with government corruption, a question that has received surprisingly little consideration in the literature (Rodiguez et al., 2006; Galang, 2012).

I integrate multiple theoretical perspectives in this paper by using the exploration-exploitation framework to conceptualize product and marketing innovation, and using threat rigidity to understand how corruption, as an environmental threat, affects the balance of exploration and exploitation at a firm. Through this integration of theories I am able to develop an insight that adds depth to the common-sense understanding in the literature that corruption deters economic activities such as innovation by imposing additional costs on a firm. Specifically, I use threat rigidity theory to explain that rather than reducing a firm's innovation in general, corruption causes firms to adopt a risk-averse and short-term strategic focus that is conducive to engaging in certain types of innovation but not others.

My dissertation proceeds with the presentation of each paper. Following the three papers is a discussion of overall findings that focuses on how the insights from each paper inform and complement one another. Figure 1 below is a conceptual depiction of my dissertation.

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Figure 1

Conceptual depiction of dissertation

Macro-level
(Institutional context)

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                                                          ┌─────────────────────┐
                                                          │ Group-level         │
                                                          │ consequences of     │
                                                          │ organizational      │
                                                          └─────────────────────┘
                                                         ↗
Meso-level       ┌──────────────────┐    ┌──────────────────┐
(population of firms)│ Determinants of  │    │ Organizational   │
- - - - - - - - -│ organizational   │───▶│ corruption       │- - - - - - - - - - - - - - - -
                 │ corruption       │    │                  │
                 └──────────────────┘    └──────────────────┘
                                                         ↘
                                                          ┌─────────────────────┐
                                                          │ Strategic           │
                                                          │ implications of     │
                                                          │ organizational      │
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Micro-level
(the firm; the
public)

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Law-abiding organizational climates in developing countries: The role of institutional factors and socially responsible organizational practices

Abstract: Law-abiding organizational climates can help explain how the institutional context of developing countries results in unlawful conduct of firms. Using the theoretical lens of anomie theory, we investigate: a) the negative effect of two aspects of the institutional context – regulatory burden and lack of industry munificence – on a law-abiding climate, and b) the role of socially responsible organizational practices in combating these negative effects. Hypotheses were tested using survey data collected from Mexican firms. Our results indicate that a manager's perceptions of regulatory burden and lack of industry munificence are negatively related to the extent to which the firm has a law-abiding climate. Furthermore, our findings shed light on the ability of socially responsible practices to countervail this effect. While the negative effect of perceived regulatory burden on law-abiding climate weakens when codes of ethics are used more extensively by a firm, it strengthens when firms hold a CSR certification. The latter finding may be due to the lack of enforcement associated with the specific certification considered in our study. Implications of our findings for policy makers and firms are discussed.

Key words: developing countries, law-abiding climate, regulatory burden, CSR certification, code of ethics

INTRODUCTION

The institutional context in which firms operate has a decisive influence on the likelihood that firms will develop law-abiding behavior (Galang, 2012; Ashforth, Gioia, Robinson, & Trevino, 2008). The conventional wisdom holds that institutional contexts characterized by resource scarcity tend to foster unlawful conduct (Simpson, 1986; Staw & Szwajkowski, 1975), which refers to breaking the law. In addition, we argue that institutional contexts characterized by regulatory burden also foment unlawful conduct. Yet these basic propositions do not explain how firms sometimes behave in lawful ways despite such institutional conditions. The reaction of firms to their institutional context is not solely determined by institutional conditions. Rather, it is a product of the nature of the institutional context and the characteristics of firms that respond to it (Martin, Cullen, Johnson, & Parboteeah, 2007). Therefore, the variability in lawfulness of firms operating in such contexts can be better understood by taking into account the characteristics of firms and their interaction with the prevailing institutional conditions. In this article, we re-examine the basic relationship between institutional context and what we call "a law-abiding ethical climate". However, our main purpose in this article is to further explore the impacts of ethics codes and certifications as organizational practices that attenuate the impact of the institutional context on a law-abiding climate.

In this paper we appeal to anomie theory and ethical climate theory to explain the basic relationship between institutional context and law-abiding ethical climate as well as the moderating effects of organizational practice in attenuating this relationship. We use the term "law-abiding climate" to denote the "law and code" ethical climate postulated by ethical climate theory. These climates are characterized by the belief among managers that ethical decisions should be made on the basis of externally imposed societal rules, such as the law and

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professional codes of conduct (Martin & Cullen, 2006). Accordingly, a law-abiding climate in our study acts as the moral compass that inhibits transgressions of the law by firms, such that firms devoid of a law-abiding climate are more likely to engage in unlawful conduct. Law-abiding climates are thus telling of a firm's propensity to behave unlawfully, making Ethical Climate Theory, and in particular, it's concept of law-abiding climate, relevant for ascertaining the extent to which firms adhere to the law.

Unlawful conduct is widely prevalent in firms in developing countries and often justified as a normal business practice. For instance, 40% of Mexican entrepreneurs agree that the most effective way to gain a competitive advantage is through bribes and connections (Mexican Institute for Competitiveness, 2015). These conditions prevail widely, with recent decades witnessing an acceleration of unlawful firm conduct in emerging-market countries (Zheng & Chun, 2017). Abiding by the law is an often unmet prerequisite for the transition of a country to a modern, developed society (North, Wallis, & Weingast, 2013). Hence it is vitally important to determine whether organizational practices, such as ethics codes and certifications, can attenuate the relationship between negative aspects of the institutional context of developing countries, such as regulatory burden and industry munificence, and law-abiding climate.

The literature on ethical climates has thus far overlooked the role that organizational practices have in producing desired ethical climates (Newman, Round, Bhattacharya, & Roy, 2017), including their role in cultivating law-abiding ethical climates (Simha & Cullen, 2012). As a result, whether organizational practices can attenuate the negative effect of some institutional contexts on law-abiding climate has not been explored. This represents a significant gap in knowledge since organizational practices are implemented by firms and thus under their direct control. As such, amidst the pressures imposed on them by their institutional context,

which they cannot control, organizational practices are a potential means by which firms can promote adherence to the law. A particularly relevant omission is the examination of socially responsible organizational practices which are intended to foster an ethical orientation within firms, prompting a call to clarify the consequences of practices, such as codes of ethics, on ethical climates (Martin and Cullen, 2006). Managers employ such measures under the assumption that they will ensure their firms adherence to the law, making it important to test their effectiveness for fulfilling their intended purpose.

To investigate whether organizational practices can attenuate the effect of certain institutional contexts on law-abiding climate, we pose the following research question: *how can some organizational practices attenuate the effect of certain aspects of institutional contexts in developing countries that prevent companies from adhering to law-abiding climates?* It is important to first understand how the institutional context of developing countries leads to the unlawful conduct of firms before examining how organizational practices can combat this influence. Accordingly, we take explicit consideration of two factors that are characteristic of the institutional context of developing-countries and explain how they diminish a law-abiding climate and lead firms to engage in unlawful conduct. The first is regulatory burden, which refers to government regulation that is considered by firms to be inconsistent and lacking in transparency (Jalalian, Kirkpatrick, & Parker, 2007), and the second is industry munificence, which is the extent to which a firm's industry is unable to provide it opportunities for growth (Dess & Beard, 1984).

To explore whether socially responsible practices can cultivate lawful conduct in light of an adverse institutional context (regulatory burden and lack of industry munificence), we define such practices as organizational practices that are intended to foster ethical conduct within a

firm. We focus specifically on two socially responsible organizational practices: CSR (corporate social responsibility) certification and code-of-ethics use. Our approach allows us to examine CSR against the backdrop of the idiosyncrasies of the institutional context in which it occurs, which is required for ascertaining whether CSR initiatives are effective in achieving their desired consequences in developing countries (Jamali & Neville, 2011; Jamali & Carroll, 2017).

Our study contributes to the ethical climate literature by showing that firms that face regulatory burden and lack of industry munificence have weaker law-abiding climates, as well as shedding light on the ability of socially responsible organizational practices to combat this influence. Codes of ethics that are used more extensively are found to weaken the negative effect of regulatory burden on law-abiding climate, while CSR certification is found to strengthen it. The latter, surprising finding may be due to the lack of explicit sanctions of the certification system applicable to our study. Our work is important because it sheds light on the causes and potential firm-level deterrents of wide-spread corruption prevalent in developing countries which is a key cause of underdevelopment (Doh et al., 2003; Kaufmann, 1997).

Following the recommendation in the literature, we use anomie theory as the theoretical mechanism to explain the impact of contextual factors on prevailing ethical climates (Martin and Cullen, 2006). Anomie theory is well suited to help answer our research question due to its explicit consideration of external context, and moreover, its ability to conceptualize a context relevant to developing countries in which elements of the environmental context render legitimate and law-abiding means to achieve desired ends unfeasible (Merton, 1968). Appendix 1a depicts the theoretical model. We tested the theoretical model using primary, firm-level survey data collected on 118 Mexican firms across various industries using ordinary-least squares (OLS) moderated regression.

Our paper is structured as follows. First, we provide the theoretical basis for our arguments and then formally develop our hypotheses. Next, we explain our data collection methods and survey sample. We then present our findings. Lastly, we provide implications and limitations of our work, as well as future research directions.

THEORETICAL BACKGROUND AND DEVELOPMENT OF HYPOTHESES

In this section, we develop the theory and hypotheses for this paper. First, we examine the presence of a law-abiding climate at the firm level. We then explore how two aspects of institutional context – regulatory burden and industry munificence – influence law-abiding climate. We then develop the theory that relates two organizational practices, CSR certification and ethics-code use, to the base relationship between institutional context and law-abiding climate.

Law-abiding climate

Ethical climates are conceptualized as norms and ethical decision criteria that underlie the decision-making and subsequent behaviours of firms in response to ethical dilemmas (Victor & Cullen, 1988). They determine the issues that are considered ethically pertinent for a firm and the moral criteria organizational members use to understand, weigh and resolve such issues (Cullen, Victor, & Stephens, 1989). By exerting significant influence on the behaviour of organizational members (Schminke, Arnaud, & Kuenzi, 2007), ethical climates underlie the unlawful conduct of firms. For example, accountants that perceive pressures to act unethically, indicative of the ethical norms at the firm, tend to be more lenient in judging the ethics of earnings management (Tian & Peterson, 2016). Due to their influence on behaviour, scandals like insider trading and

fraud involving prominent organizations such as Enron and Lehman Brothers are traceable back to their ethical climates (Arnaud, 2010).

Ethical climate theory (ECT) was first conceptualized by Victor and Cullen (1987, 1988) as an analytical tool for understanding the different normative systems that can exist within organizations. While there are five possible ethical climates (Martin and Cullen, 2006), we narrow our focus to law-abiding climate for three reasons. First, a law-abiding climate for firms indicates how conducive a firm's norms regarding compliance are to engaging in illegal and corrupt acts, which may be especially true for firms in developing countries given the considerable pressure placed on their governments by inter-governmental organizations in the late 1990s through the mid-2000s to adopt anti-corruption policies (Davis, 2009). Second, law-abiding climates are considered amongst the most desirable ethical climates due to their positive consequences across a range of organizational outcomes, including a positive association with ethical behaviour (Fritzsche, 2000) and negative association with unethical behaviour (Wimbush, Shepard, & Markham, 1997). Third, law-abiding climates are also particularly likely to exist at firms despite the presence of other ethical climates (Victor & Cullen, 1987). The law-abiding climate is distinct in that it is exogenously motivated, based on external societal rules that are mandated on firms. Thus, even when a law-abiding climate is not the dominant ethical climate of a firm, it is likely to exist in a firm to a greater extent relative to the other climate types (Victor & Cullen, 1988).

Institutional Context

In uncovering the determinants of the prevailing ethical climates of firms, the literature has focused on internal organizational factors centered around organizational form (Liu, Fellow, & Ng, 2004; Malloy & Agarwal, 2010) and strategic and managerial orientations (Morris, 1997;

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Schminke, Ambrose, & Neubaum, 2005). The influence of institutional context on ethical climates, on the other hand, has been understudied (Simha & Cullen, 2012; O'Fallon & Butterfield, 2005). Accordingly, the influence of prevailing contextual factors on the ethical climates of organizations operating within specific environments has been suggested as a future research direction (Newman et al., 2017).

Given the distinct operating environment that responsible firms in developing countries face compared to those in developed countries (Jamali, Karam, Yin, & Soundararajan, 2017; Jamali & Mirshak, 2007), the next step is to examine more closely the influence of a developing country context on unlawful conduct. Institutional logics in developing countries are significantly different from those of developed countries. Among these differences are the role of the family and religion in CSR (Jamali et al., 2017). As a result of these differences, multinational CSR initiatives need to be translated and adapted to the local context, if they are to be implemented successfully (Jamali et al., 2017, Forcadell & Aracil, 2017).

In order to incorporate context into the analysis of ethical climates (Martin & Cullen, 2006), we employ anomie theory, which posits that structural conditions faced by an actor within its environment, coupled with the societal values that emphasize traditional, monetary notions of success create strain and contradiction in the social system (Merton, 1995, Durkheim, 1966). The result of this tension is anomie, a state in which actors accept the breaking of societal rules as a normalized practice in response to the environmental conditions they face (Bernard, 1987). The failure to abide by societal rules, is itself an institutional logic, in the language of Jamali, et al. (2017), and a characteristic found commonly in developing countries (North et al., 2013), which makes the translation and adaptation of CSR to the local context so vital.

The concern of anomie theory with the underlying determinants of moral decisions (Rosenfeld & Messner, 1997) allows it broad applicability across all societal domains in which decisions have ethical considerations, including business (Cullen, Parboteeah, & Hoegl, 2004). Anomie theory acknowledges the relativity underlying moral reasoning that exists across national contexts (Martin et al., 2007) by taking into account how a firm's perception of externally imposed rules, such as those defined by the law, are influenced by their environment. Specifically, we use anomie theory to explore the consequences for a law-abiding climate where members perceive legitimate access to goal achievement to be blocked by contextual forces in the environment (Martin & Cullen, 2006). Faced with contextual factors that compromise their ability to achieve performance goals, managers feel justified in taking any means to achieve desired ends regardless of their acceptability or legitimacy (Martin et al., 2007), which may entail breaking the law. As a result, firms stray away from the norms and ethical decision criteria characteristic of a law-abiding climate in making ethical decisions and guiding behaviour, negatively affecting the extent to which such an ethical climate exists at the firm.

We argue that regulatory burden and lack of industry munificence cause firms to perceive lawful and ethical means of goal achievement to be impractical. We focus specifically on these contextual factors for two reasons. Firstly, they are salient characteristics of the institutional context of developing countries, as we explain later in the paper. While previous studies using anomie have incorporated environmental factors that drive firms towards being unethical (Martin et al., 2007; Johnson, Martin, & Saini, 2011), the factors considered have not been relevant for a developing-country context. Secondly, both contextual factors are associated with unlawful firm behaviour, making them appropriate for use in our study in order test the efficacy of socially responsible organizational practices in maintaining a firm's adherence to a law-abiding climate.

Overregulation and unrestrained bureaucracy, factors that would cause regulation to be perceived as burdensome, have been shown to increase national corruption levels (Friedman, Johnson, Kaufmann & Zoido-Lobaton, 2000; Ali and Isse, 2003). Similarly, empirical evidence points to a negative relationship between industry munificence, in the form of product market (Simpson, 1986) and industry (Staw & Szwajkowski, 1975) profitability, and antitrust illegality. We consider managers' perceptions of institutional factors rather than conceptualize them as exogenous factors in order to capture the differences in the ability of firms within a given context to address the challenges they pose. Managers of firms for which institutional factors are especially burdensome are more likely to feel that lawful and ethical means of goal achievement are impractical, reflecting their experience of anomie, which will have negative consequences on the extent to which a law-abiding climate may prevail in firms. Characterizing a common experience across all firms in a given context can fail to capture this variability. For instance, cross-national studies have measured the existence of environmental conditions that are conducive to an unethical orientation but failed to consider whether managers' perceptions of these factors result in such a mindset being fostered in firms; a lack of consideration of manager-level perceptions may be the cause of surprising findings in which firm-level effects of some cultural and social-institutional factors ran contrary to hypotheses (Cullen et al., 2004).

Perceived regulatory burden. Compared to developed countries, governments in developing countries often intervene more extensively in business operations, establishing requirements for a greater range of decisions made by firms (Krueger, 1990). Extensive public regulation is justified to compensate for underdeveloped market-supporting institutions in developing countries which make market failure more likely (Stiglitz, 1998). While greater regulation is intended to increase economic activity, it often inhibits the economic activity of

firms in developing countries due to the discretionary power given to regulatory actors in applying rules, causing their actions to be unpredictable (Khanna & Palepu, 1997). Regulatory burden is experienced by firms when they face regulation that is inconsistent and lacking in transparency (Jalalian et al., 2007). The added uncertainty associated with economic activities for firms that face such regulatory requirements create disincentives for investment and expansion (Parker, 1999). Regulatory burden is related to excessive bureaucracy that delays or altogether blocks transactions, or can cause firms to incur added costs in the form of time and resources that can make economic activities prohibitively expensive. Firms for which these consequences are severe enough to prevent their accomplishment of goals will likely experience anomie because relevant regulation may be perceived as impractical. In response, firms that experience anomie find ways to work around regulatory rules. For instance, corrupt practices such as bribes may become part of working with the bureaucracy (Khanna & Palepu, 1997), with illegal payments being made to regulatory actors to ease or by-pass regulatory requirements (Leff, 1964; Lien, 1990). The ability of illegal payments to facilitate economic exchanges in developing countries is evidenced by empirical findings of its positive association with foreign investment (Egger & Winner, 2005) and productivity (Méon & Weill, 2010).

Firms can differ in the extent to which they are regulated as well as their effectiveness in managing regulations, both of which influence managers' perceptions of the burdensomeness of regulation. The extent of regulation can differ according to a firm's industry or its size and legal status, while the political connectedness of a firm determines its ability to receive inside information pertaining to regulation or receive favorable regulatory decisions. Given that norms and ethical decision criteria of law-abiding climates are contrary to undermining or breaking the

rules of the regulatory process, we hypothesize a negative relationship between perceived regulatory burden and the extent to which a firm has a law-abiding climate.

Hypothesis 1: Perceptions of regulatory burden by a firm's managers decrease the extent to which the firm has a law-abiding climate.

Perceived lack of industry munificence. In anomie theory, an unequal distribution of opportunities within a social system explains why some actors are more likely than others to undermine societal rules and behave in a deviant way. Those whose environment affords them fewer legitimate opportunities resort to means outside of what is considered appropriate to maintain their aspirations to cultural prescriptions of success. For instance, the overemphasis on monetary success prescribed by the American Dream, a broad cultural ethos that entails commitment by everyone in society to the goal of material success (Mesner & Rosenfeld, 2012), coupled with an unequal distribution of access to legitimate means for attaining success, is said to be responsible for high rates of crime and deviance characteristic of the United States (Merton, 1968).

A common cultural prescription for firm success is growth. Firms are awarded favorable valuations by investors based on their growth projections, while the notion of sustained competitive advantage that is widely considered the definition of success to which firms should aspire requires consistent growth to maintain superior profitability over competitors. Despite the pressure to grow, firms differ in the extent to which they perceive their environment to be munificent, or able to support sustained growth (Pfeffer & Salancik, 1978; Dess & Beard, 1984). A munificent environment is one in which a firm is able to identify adequate growth opportunities (Jambulingam, Kathuria, & Doucette, 2005), and thus, offers a firm the promise of growth.

Munificence is a particularly salient issue for firms in developing countries, where growth opportunities vary widely across firms. Despite developing countries often having high overall rates of economic growth, few firms are afforded opportunities for substantial growth. This is made apparent by the skewed distribution of firms in developing countries in which there are a large number of small firms and a small number of large firms, which mainly drive the economic growth in a country (Nichter & Goldmark, 1999; Sleuwaegen & Goedhuys, 2002). This size disparity is especially pronounced in developing countries due to the lack of an adequate supporting institutional system for smaller firms (Tybout, 2000), resulting in limited growth opportunities for firms that do not start off large.

Opportunities for growth depend largely on a firm's experience operating in its industry. Anomie theory would predict that if a firm's managers perceive their industry environment to be lacking in munificence, the firm will experience anomie. A lack of munificence reduces opportunities to invest and expand, limiting the ability of firms to achieve growth targets. As a result of anomie, firms feel a disconnect with the legal rules and guidelines that would normally govern behaviour and perceive that illegitimate means are acceptable to achieve desired growth.

Such a mindset requires firms to steer away from norms and ethical decision criteria centered on the rule of law since illegitimate means are likely to involve the breaking of legal rules. Accordingly, we hypothesize:

Hypothesis 2: The perception of firm managers of a lack of munificence in its industry environment decreases the extent to which the firm has a law-abiding climate.

The moderating role of socially responsible organizational practices

In this section, we examine the effectiveness of socially responsible organizational practices in maintaining a law-abiding climate in firms that experience anomie. Socially

responsible organizational practices are of particular relevance to our study because they require

firms to embody characteristics and exhibit behaviour consistent with a law-abiding climate. By

delineating permissible actions from those considered impermissible, according to the norms and

ethical decision criteria of a law-abiding climate, we reason that socially responsible

organizational practices place bounds on a firm and combat the negative effect that regulatory

burden and lack of industry munificence have on a law-abiding climate.

The socially responsible organizational practices we consider are 1) possession of a

corporate social responsibility (CSR) certification, and 2) code-of-ethics use, a measure of the

influence of ethics in guiding strategic decisions. We take these practices into consideration

because legal compliance is a key component for both CSR certifications and ethics codes.

Typically, CSR certifications require firms to adhere to legal standards such as maintaining

transparent corporate governance and providing safe working conditions. Adherence to the law

therefore underlies much of the mandate of CSR certifications. Similarly, codes of ethics to a

great extent are centered on legal compliance, explicitly stating a company's stance on unlawful

conduct and outlining the repercussions for organizational members that break the law. Given

that anomie causes legal rules to lose their legitimacy, and consequently, the strength of their

regulatory force (Mesner & Rosenfeld, 2012), CSR certification and codes of ethics should

therefore instill in a firm a stronger law-abiding climate that is more resistant to the adverse

effects of the institutional context. Neither of these practices has yet been explored in the context

of anomie theory (Martin and Cullen, 2006), which we now examine more closely.

CSR Certification. Certification to private management standards can be obtained by

firms to signal desired, unobservable characteristics to external stakeholders (King, Lenox, &

Terlaak, 2005). These standards require firms to adhere to specific requirements that are

typically verified by third-parties. Private certifications are especially valuable signals of unobservable firm characteristics in contexts where external stakeholders likely do not perceive formal compliance with government regulations as accurate signals of firm conduct (Montiel et al., 2012). Such is the case in developing countries where governments have often failed to effectively regulate domestic firms (Vogel,2008). The regulatory process is plagued by weak reporting standards, a lack of transparency, and corruption that allows firms to obtain permits and licenses without meeting mandatory requirements. Therefore, firms in developing contexts can use private certification as a stronger signal of their desirable characteristics (Montiel et al., 2012).

Since abiding by the law is fundamental to much of what is mandated by CSR certifications, adhering to the standards required of a CSR certification is at odds with not adhering to the norms and ethical decision criteria of a law-abiding climate. This tension would cause firms to weigh the disadvantages of following the law, induced by feelings of anomie that result from rules of a regulatory process that is perceived as inconsistent and lacking in transparency, against the signalling benefits associated with a CSR certification. As a result, CSR certification serves as a means of upholding a firm's alignment with a normative legal framework amid the pressure to break the law created by perceived regulatory burden, such that firms that possess a CSR certification reinforce a law-abiding climate. Therefore, CSR certification should attenuate the negative effect of perceived regulatory burden on a law abiding climate, making it less likely that firms act on the pressure to break the law.

Hypothesis 3a: The negative relationship between perceived regulatory burden and the extent to which a firm has a law-abiding climate is weakened for firms that are certified to a CSR standard.

CSR certification would similarly come into play when firms deliberate their actions upon facing limited prospects for growth and experiencing the resulting feeling of anomie. The decision of whether to reap the benefits from breaking the law, stemming from the opportunities that a firm is able to exploit by being unlawful, such as reducing costs related to environmental compliance, would be weighed against the benefits of certifying to a CSR standard, such as attracting customers concerned about the environment, that would be forgone since its requirements obligate a firm to conduct itself lawfully. When faced with pressure to break the law in light of an industry environment that lacks munificence, firms would be more likely to follow the norms and ethical decision criteria of a law-abiding climate to ensure adherence to the mandate of a CSR certification. Therefore, CSR certification should attenuate the negative effect of perceived lack of industry munificence on law abiding climate.

Hypothesis 3b: The negative relationship between perceived lack of industry munificence and the extent to which a firm has a law-abiding climate is weakened for firms that are certified to a CSR standard.

Code-of-ethics use. While it is known that the overwhelming majority of firms adopt a code of ethics since it is a *de facto* standard in governance (Stevens, Steensma, Harrison, & Cochran, 2005; Weaver, Trevino, & Cochran, 1999), not all codes of ethics serve the purpose of aligning the decisions of the firm to an ethical framework. The actual use of such codes by executives is highly variable (Carroll & Buchholtz, 2003), given the possibility that management adopts policies such as a code of ethics without applying them in practice (Westphal & Zajac, 1995). Rather than ensuring the adherence of a firm to ethical conduct, a firm's code of ethics may exist to serve the instrumental purpose of promoting a positive image of the firm to gain the

favor of stakeholders or assuring regulators of the firm's ability to police itself to reduce the legal and regulatory actions taken against it (Stevens et al., 2005).

While research in ECT has incorporated the presence of a code of ethics as a cause of differences in ethical climate (Agarwal & Malloy, 1999; Peterson, 2002), a distinction based on their actual use by firms has not been made in the ECT literature even though it speculates that differences in prevailing ethical climates may exist on this basis (Martin & Cullen, 2006). For firms in which a code of ethics is used extensively for strategic decision-making, the policies and procedures of which it is constituted will be more effective in promoting an ethical value system and deterring unethical behaviours in a firm, the common goal across ethics codes (Weaver et al., 1999). The ability of codes of ethics to provide guidance for dealing with the 'gray areas' of business decisions (Berman, Wicks, Kotha, & Jones, 1999; Quinn & Jones, 1995) becomes relevant when firms are faced with institutional factors that cause them to experience anomie. Anomie results in the decision to adhere to norms and ethical decision criteria of a law-abiding climate to be morally relative, where the benefits of doing so are weighed against its practicality. Codes of ethics provide rules and guidelines pertaining to legal matters such as fraud, bribery, and accuracy of company records to ensure that a firm's conduct is aligned to a normative legal framework (O'Dwyer and Madden, 2006). As a result, firms that use a code of ethics more extensively are more likely to defer to the norms and decision-making criteria that conform to the rule of law when making decisions in which adherence to the law is evaluated against its ability to allow firms to accomplishment their goals. The extensive use of a code of ethics would therefore counter the temptations of firms to break the law that is induced by the prospect of by-passing or easing regulatory requirements that are perceived as inconsistent and lacking in

transparency. Accordingly, we hypothesize that greater use of code of ethics attenuates the negative effect of perceived regulatory burden on law-abiding climate.

Hypothesis 4a: The negative relationship between perceived regulatory burden and the extent to which a firm has a law-abiding climate is weakened for firms that make greater use of their code of ethics for strategic decision-making.

The extensive use of a code of ethics would have a similar effect when firms are pressured to break the law as a result of experiencing anomie due to limited growth prospects. Firms would be less likely to conduct themselves unlawfully despite opportunities for investment and expansion that would be available to them by breaking the law when decisions in a firm are routinely made based on a code of ethics and the ethical value system it fosters. The rigorous use of legal norms and decision criteria in evaluating the appropriateness of decisions at a firm that extensively uses its code of ethics would cause the firm to be more likely to remain lawful despite the foregone benefits of these decisions. Therefore, we hypothesize that greater use of a code of ethics attenuates the negative effect of perceived lack of industry munificence on law-abiding climate.

Hypothesis 4b: The negative relationship between perceived lack of industry munificence and the extent to which a firm has a law-abiding climate is weakened for firms that make greater use of their code of ethics for strategic decision-making.

DATA

Research setting

Mexico is a relevant context for our study given the pervasive acceptance of unlawful conduct by firms. Corruption is estimated to cost the country five percent of its GDP and is

considered a key contributing factor to the lack of competitiveness of Mexican firms (Mexican Institute for Competitiveness, 2015).

Data collection

Our survey sample was obtained from a directory of firms in the *American Chamber of Commerce of Mexico* (Amcham), a non-profit organization whose aim is to represent the interests of its members by promoting policies that positively impact trade and investment between the United States and Mexico. The chamber's members typically consist of small to medium size firms that have a trade relationship with the United States or are the Mexican subsidiaries of U.S firms. Surveys were sent to firms primarily to Mexico's three major industrial centers: Monterrey, Guadalajara, and Mexico City. The survey was directed to a single executive, senior manager, or manager at each firm who was asked to answer Likert-scale questions regarding the experience of the firm. Priority was given to those with the highest-ranking position when selecting among multiple respondents. Potential respondents were offered a chance to win a monetary prize through inclusion in a draw to win one of three gift cards to a popular department store valued at 2500 Mexican pesos (about US$125.00). The fact that the majority of firms that belong to Amcham are small to medium size businesses justifies our single-respondent approach. While it can be preferable to have multiple survey responses to gauge the overall perception across a firm, a single respondent in a relatively small firm with an influential position within the organizational hierarchy is able to provide opinions and perceptions that are reflective of other key decision-makers (Li & Atuahene-Gima, 2002; Phillips, 1981). Although 220 responses were obtained by email and regular mail, out of a total of 1330 firms (a response rate of about 17%), we limited our sample to the 188 responses from managers who indicated their firm has a code of ethics. We did so because the measurement of

one of our variables, the use of code of ethics at a firm, presumes that a firm has a code of ethics to begin with. We feel this approach is justified since the mere presence of a code of ethics alone is not very indicative of whether it has been used extensively by a firm (Carroll & Buchholtz, 2003), which would be required for codes of ethics to be an effective influence on the law-abiding climate of firms. Out of these 188 responses, 118 were useable for the purpose of this study after taking into account missing information. Our response rate is comparable to other studies in the Latin American context (Carneiro, da Silva, & da Rocha, 2011; Ramos-Garza, 2009) and the relative number of useable responses compared to total responses is reflective of the tendency in Mexico for surveys to be returned incomplete (Merino & Vargas, 2013). The survey consists of items drawn from existing constructs that have been adapted to fit the Mexican context. The adaptation process consisted of translating items from English to Spanish, while maintaining their intended meaning. In a few cases, minor changes were made to increase their relevance for the Mexican context. An extensive pre-testing process ensured the survey's external validity through in-depth interviews with experts in the Mexican context, including two executives, four business professors, and four executive MBA students currently working as managers. Final face validity testing was conducted with a panel of Mexican PhD students. A back translation of the Spanish language survey instrument to English was conducted and differences were reconciled by the research team.

A number of steps were taken to reduce the risk of socially desirable responses, a risk associated with doing ethics related research (Randall & Fernandes, 1991). Online distribution allowed for the self-administration of the survey and the instrument contained a strongly worded guarantee of anonymity, both of which are recommended for surveys dealing with sensitive information (Reinikka & Svensson, 2006). Partnership with a Mexican business school and

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formal sponsorship by the American Chamber of Commerce provided the survey with credibility and helped to establish trust as the respondents are likely familiar with both organizations. Furthermore, social desirability is a severe problem when it is random in nature and biases the results in an unpredictable manner. To the extent that social desirability causes a shift in the distribution of responses that can be predicted, concerns regarding the validity of results can be reduced by interpreting them in light of the possible bias. Since firms would have the tendency to exaggerate the extent to which they base their decisions on the rule of law to give the best impression of themselves, the correlations presented in this study are likely to be underestimated, and as such, can be considered conservative estimates.

Measures

The measures used in this study are primarily perceptual and have been adapted from the existing literature. Since managers' perceptions and interpretations of their environment influences their decision-making (Boyd et al., 1993), perceptual measures are well suited for this study to understand how regulatory burden and lack of industry munificence affects a firm's adoption of a law-abiding climate.

Our measure of *law-abiding climate* was obtained from the original law and code scale from Victor & Cullen (1988), consisting of four items that capture the extent to which laws and professional standards are taken into consideration when making decisions. The *regulatory burden* measure consists of four items from a previous firm-level survey administered by a Mexican university that gathered data on business perceptions of corruption in Mexico, the "Governance and Business Development Survey" (EDGE, 2001), which has been used in prior management studies (Montiel et al., 2012). The items corresponding to the measure evaluate the

clarity and predictability of regulation facing firms; accordingly, items were reverse coded to gauge the burdensomeness of regulation facing a firm.

Industry munificence is a four-item measure adapted from Jambulingam et al. (2005) who originally used it to measure the perception of pharmacy managers with regard to the opportunities for growth that exist in their "business environment". To accommodate the use of the measure in our study, we adapted it to reflect the perception of managers more generally of their industry. Since the items inquire about the opportunities afforded to a firm for growth, items were reverse coded to gauge the perceived lack of industry munificence.

CSR certification is a binary variable measured according to whether a firm possesses *Empresa Socialmente Responsible (ESR)*, a prominent CSR certification in Mexico, awarded by Cemefi, the Mexican Centre for Philanthropy. Data corresponding to this variable were obtained from the listing of companies awarded ESR on the Cemefi website. ESR is a voluntary standard to which firms across industries can adhere and is based on a firm's commitment to environmental preservation, community involvement and development, quality of life of its employees, and ethics and corporate governance.

We measured *code-of-ethics use* using a scale from Stevens et al. (2005), consisting of five items which evaluates the extent that a code of ethics is used in guiding the firm's strategic decisions.

Control variables included organizational size, ownership type, and endowment of slack resources, which are thought to determine ethical climate perceptions (Martin & Cullen, 2006). To incorporate these factors, we included the number of employees, foreign ownership, and sales, respectively, as control variables. Data on sales and number of employees were both obtained from the AMCHAM directory. Firm age is also included as a control.

We also controlled for industry-specific effects using a set of dummy variables based on SCIAN (Sistema de Clasificación Industrial de América del Norte), the Mexican counter-part to NAICS (North American Industry Classification System). The dummy variables, derived from two digit SCIAN codes, consist of professional service, wholesale and retail, three sub-classifications of manufacturing and a category for all other industries. Our categorization approach is appropriate given that a substantial number of firms each fall within the industries represented by the first four mentioned categories while all other possible two-digit industry categories include either no firms from our sample or very few. The category corresponding to a firm was obtained from SIEM, a government operated database of Mexican businesses. Firms not listed in SIEM were categorized through manual inspection.

RESULTS

Construct validation

A confirmatory factor analysis (CFA) was used for construct validation. Distinct factors corresponding to each construct were produced with eigenvalues greater than 1.0, accounting for 72% of the total variance. All items loaded significantly on their respective constructs with factor loadings ranging from 0.63 to 0.89, and there were no significant cross loadings (all were less than 0.15 in magnitude). This indicates that the multi-item scales measure independent constructs, in support of their discriminant validity. Each construct is also shown to be internally consistent, with composite reliability values being greater than 0.80 (Nunnally & Bernstein, 1994). Furthermore, the recommended AVE (average variance extracted) benchmark of 0.50 was surpassed for each construct (Formell & Larcker, 1981). The measures, their individual item loadings, as well as the composite reliabilities and AVE statistics, are reported in Appendix 1e.

Discriminant validity can be further assessed by observing the correlation between constructs and comparing the square root of the AVEs to those correlations that are considered high (Formell & Larcker, 1981). As shown in Appendix 1b, correlations between all constructs, except control variables, are relatively low, with none being greater than 0.30. The largest of the correlations between key constructs is between law-abiding climate and use of code of ethics (r=0.293), which is less than the square root of the AVE for law-abiding climate ($\sqrt{0.72} = 0.85$) and less than the square root of the AVE for use of code of ethics ($\sqrt{0.63}=0.79$), providing evidence of discriminant validity. As a final test of discriminant validity, HTMT (Heterotrait-monotrait) ratio of correlations were calculated for each construct (Henseler, Ringle, and Sarstedt, 2015). HTMT correlations are based on Partial Least Squares (PLS) estimations, and thus a PLS model was estimated to compute HTMT correlations (results are not reported due to space limitations). The maximum HTMT value was found to be 0.34, well below the recommended threshold of 0.85, providing further evidence of discriminant validity (Kline, 2011).

Tests for sources of bias

We conducted multiple statistical tests to rule out common method bias (CMB). CMB represents the risk that results can be biased in an unpredictable manner when data on both the independent and dependent variable are collected from the same source, such as a survey. The first test was conducted through our initial confirmatory factory analysis (CFA) which demonstrated the validity of our constructs, as explained previously. The CFA produced distinct factors with eigenvalues greater than 1, with the first factor accounting for 31% of the variance, demonstrating that a common factor was not present in the data (Podsakoff & Organ, 1986).

Two iterations of Harman's single factor test were conducted to test for CMB. Firstly, we used another CFA to compare our model to a model constrained to a single factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A significantly worse fit for the single factor model provided evidence against CMB. Secondly, we used a procedure recommended by Podsakoff, MacKenzie, & Podsakoff (2012) based on adding another common methods factor to the original measurement model. The factor accounted for only 4.58% of the model variance. Furthermore, the factor loadings of all items were below 0.31 with the exception of a single item. The common methods factor also did not exhibit internal reliability or discriminate validity, producing a composite reliability of 0.58 and an AVE of 0.003, which provides further support that our results do not suffer from CMB.

Next, we conducted correlational marker technique as outlined by Lindell & Whitney (2001) in order to test for CMB. The technique uses a marker variable, which is a variable that is theoretically unrelated to the subject variables in the study and has a low level of correlation with those variables. The marker variable is used to estimate potential CMB and then attenuates the correlation between subject variables by adjusting them for the effect of the bias. While our survey did not include an intended marker variable, a specific item that asked whether managers of a firm are tolerant about the ambiguity of a firm's situation was identified post-hoc as meeting the criteria for a marker variable. Tolerance of ambiguity is theoretically unrelated to the subject variables since the "situation" in question is left open-ended and does not refer specifically to a firm's institutional context, use of code of ethics, or law-abiding climate. The correlation between the marker variable and the dependent variable (r= -0.13) lacks statistical significance, unlike the correlations between the independent variables contained in the survey (regulatory burden, lack of industry munificence, and use of code of ethics) and the dependent variable,

which are all significant at p=0.05. Furthermore, the correlations between the marker variable and the independent variables are all low, ranging from -0.048 to 0.060, in support of its discriminant validity. After performing the partial correlation adjustment of the independent variables with the dependent variable, all bivariate correlations remained statistically significant, suggesting that the results cannot be attributed to CMB.

Finally, it is worthwhile noting that our research design inherently alleviates some concern for common method bias (CMB) in light of our survey-based approach. As mentioned before, data for some variables, namely CSR certification, number of employees, and sales were obtained from sources external to the survey. Furthermore, since CMB has been shown to decrease when additional independent variables suffering from CMB are included in a regression equation (Siemsen, Roth, & Oliveira, 2010), our multivariate approach to hypothesis testing as outlined in the next section of this paper helps to alleviate concern. Finally, since interaction terms can be severely deflated due to CMB and thus more difficult to detect (Siemsen et al., 2010), significant interaction effects associated with our moderating hypotheses indicate that issues pertaining to CMB are not biasing results.

We also attempted to detect various response biases. Results of chi-square tests demonstrated no significant differences between respondents and non-respondents based on geographic location or firm size. A series of ANOVA tests were also conducted to test for differences between early respondents (those who answered the survey within the first three email mailings) and late respondents (those who answered the survey after the first three email mailings) to responses on all survey items, revealing no significant differences. Lastly, similar ANOVA tests were also conducted to test for differences between email respondents and the ten

responses received through physical mail, again, revealing no significant differences across all survey items.

Hypothesis testing

Hypotheses were tested using OLS regression with standard errors clustered at the city level, the results of which are featured in Appendix 1c

To alleviate concerns that the relatively small number of clusters in our data (15) is underestimating standard errors and thus biasing our results (Cameron, Gelbach, & Miller, 2008), we ran our regressions using the wild bootstrap method of clustering that is recommended for more accurate standard errors when a small number of clusters are used. Model 1 shows the results pertaining to the main effect hypothesis pertaining to institutional factors while Models 2 and 3 show the results pertaining to the moderation hypotheses of organizational practices.

From model 1, it can be seen that perceived regulatory burden had a significant negative effect on law-abiding climate (β = -0.30, p < 0.01), confirming hypothesis 1. Also from model 1, perceived lack of industry munificence had a negative effect on law-abiding climate as predicted (β = -0.21, p < 0.05). Furthermore, the main effect of perceived lack of industry munificence loses its significance in Models 2 and 3. Thus, hypothesis 2 is only partially supported.

Next, Model 2 investigated the moderating effects of the organizational practices on the relationship between perceived regulatory burden and law-abiding climate. To facilitate interpretation of these relationships, the significant interactions are plotted in figures contained in Appendix 1d. In these plots, the convention of +/- 1 standard deviation was used to characterize high and low levels of perceived regulatory burden for firms that differ on each organizational practice. Scores were standardized for the purpose of comparability across variables and relationships. In Hypothesis 3a, we predicted that perceived regulatory burden would affect the

presence of a law-abiding climate differently based on whether a firm was certified to a CSR standard. The main effect of CSR certification is significant at the 1% level and has a negative coefficient ($\beta = -0.35$, $p < 0.01$), providing support that adoption of such a standard alone has a negative impact on law-abiding climate. The associated interaction term is significant and negative ($\beta = -0.47$, $p < 0.01$), indicating that CSR certification amplifies the negative effect of perceived regulatory burden on law-abiding climate, contrary to our prediction. This can be seen in the figure in Appendix 1d by comparing the steeper slope for firms that hold a CSR certification to the flatter slope for firms that do not hold a CSR certification.

In Hypothesis 4a, we predicted that the extent to which a code of ethics is used at a firm moderates the relationship between perceived regulatory burden and the presence of law-abiding climate. First, the main effect of code-of-ethics use is both significant and positive ($\beta = 0.39$, $p < 0.01$), indicating that greater use of a code of ethics by a firm increases the extent to which it has a law-abiding climate. Since code-of-ethics use is a continuous variable, to facilitate the interpretation of its moderating influence, we present both the main interaction term as well as the conditional interaction terms. While the main interaction term evaluates the overall significance of code-of-ethics use, the conditional interaction terms examine the range of values at which it has a significant moderating influence. Although the main interaction term is not significant, the conditional interaction terms evaluated at the value of the mean of code-of-ethics use as well as one standard deviation below the mean and its maximum value are more telling of the exact nature of the moderating effect.[1] Whereas the interaction term at the maximum value of code of ethics use is not significant, the interaction terms at both one standard deviation below the mean and at the mean are both significant ($p<0.01$). Furthermore, the magnitude of the

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[1] The conditional interaction was evaluated at the maximum value of use of code of ethics rather than one standard deviation above the mean because the latter is outside the range of values for the variable.

coefficient of the conditional interaction terms rises going from one standard deviation below the mean (β = -0.34) to the mean (β = -0.25), indicating that an increase in the use of code of ethics has a positive moderating influence at this range of values. The plot in the figure in Appendix 1d shows that the effect of regulatory burden on law-abiding climate is weaker for firms with code of ethics use at the mean relative to one standard deviation below the mean. Taken together, the results provide support for Hypothesis 4a, and moreover, for the importance of extensively using codes-of-ethics within firms. The extent to which an ethics code is used weakens the negative effect of regulatory burden on law-abiding climate, with the added caveat that the moderation effect applies only when code-of-ethics use is increased from an initially low level.

Next, Model 3 investigates the moderating effects of the organizational practices on the relationship between perceived lack of industry munificence and law-abiding climate. Due to the overall lack of significance of the model, neither hypothesis 3b or 4b can be supported.

DISCUSSION

Theoretical implications

Our study investigated whether some socially responsible organization practices can attenuate the adverse impact that certain institutional factors have on a law-abiding climate. We identified and provided support for the effect two institutional factors, regulatory burden and lack of industry munificence. In doing so, we help fill the void in the literature on the influence of contextual factors on ethical climates (Simha & Cullen, 2012; Newman et al., 2017), focusing on those particularly salient to developing countries. Consistent with our prediction, a manager's perception of regulatory burden is found to reduce the extent to which the firm has a law-abiding climate. This result corroborates findings in the extant literature that harmful regulation, which

hinders economic activity, is associated with higher levels of national corruption (Friedman et al., 2000) and a larger share of the shadow economy as a percentage of GDP (Schnieder, 2005). Furthermore, it suggests that firms in developing countries, in which regulation is both common and considered unpredictable, adapt to their institutional context by placing less emphasis on norms and ethical decision criteria that promote adherence to the rules of the regulatory process. Partial support was found for the hypothesis that a manager's perception of the lack of industry munificence reduces the extent to which the firm has a law-abiding climate, which supports the conventional wisdom in the literature that a lack of munificence in a firm's environment is positively related to illegal behaviours (e.g. Vaughn, 1983; Clinard et al., 1979). This finding points to the inclination of firms to adapt to their institutional context by straying away from law-abiding climates when faced with bleak prospects for growth.

Our primary contribution comes from examining the moderating effects of socially responsible organizational practices designed to promote internal ethics on the relationships described above. Significant moderating effects were found pertaining to perceived regulatory burden, but not perceived lack of industry munificence. Our findings shed light on the ability of such practices to foster law-abiding climates in light of adverse contextual influences, helping to fill the void in the literature on how organizational practices can foster law-abiding climates (Martin & Cullen, 2006; Newman et al., 2017).

Surprisingly, we found that certification to a CSR standard enhances the negative relationship between perceived regulatory burden and the extent to which a firm has a law-abiding climate, contrary to our prediction. This finding may be due to the lack of enforcement associated with the ESR certification in Mexico. King & Lenox (2000), in a study of a self-regulatory program in the chemical industry without explicit sanctions, discovered that the

program was ineffective in reducing the emissions of participants. The authors reason that this may have occurred because participation in the program served as a signal of good intentions that was trusted by stakeholders without the program having the necessary sanctions to influence behaviour. As a result, stakeholders may have been paying less attention to the behaviour of firms with the certification, enabling those firms to maintain their level of emissions without any repercussions. While the certification process for ESR includes a self-report survey and supporting documentation subject to external review (Cemefi, 2016), it is similar to the program examined in King & Lenox (2000) in its lack of explicit sanctions against undesired behaviour.

This situation may be underlying the surprising effect in which certification exacerbates (rather than inhibits) tendencies of firms to stray away from law-abiding climates when faced with regulatory burden. Firms are provided the signalling benefits of certification that are independent of its actual implementation, effectively causing a disconnect between the positive image projected to stakeholders from the certification and a firm's actual internal practices (Boiral, Heras-Saizarbitoria, & Testa, 2017). This finding contributes to our understanding of anomie theory by suggesting that firms that experience anomie due to perceived obstacles in their institutional context may be induced to deceptively signal desired behaviour through initiatives that allow them to emit false signals.

False signalling through means such as CSR certifications can thus be considered a type of unethical behaviour that firms may exhibit as a result of feeling pressured to break the law due to experiencing anomie. The use of CSR certification in this manner indicates that anomie has a pernicious influence on a firm's ethical conduct that can manifest itself widely across a firms' behaviours beyond what may be observed as explicitly unlawful.

Our results also show that codes of ethics that are used more extensively to guide strategic decisions reduce the inclination of firms to stray away from law-abiding climates caused by perceived regulatory burden. This supports the fundamental idea in the literature that actual use of a code of ethics as opposed to its symbolic possession determines whether it significantly influences firm behaviour (Stevens et al., 2005; Erwin, 2011). But interestingly, this moderating relationship only holds when the use of codes of ethics increases from an initially low level. This finding may be due to the mutually enforcing relationship that exists between the use and content of a code of ethics that results in its use having a limited effect when it lacks the content required to influence a firm's conduct (Kaptein, 2011). The upper bound to the effectiveness of code-of-ethics use may be due to a systematic deficiency in code-of-ethics content of the firms in our sample that can be attributed to the cultural preference in Mexico for intuitive (as opposed to rational) reasoning, which results in organizational policies, such as those that would typically be included in a code of ethics, being less formalized (Hood and Logsdon, 2002). That being said, our conjecture cannot be made certain since the content of the codes of ethics was unobservable. Overall, we contribute to the understanding of anomie theory by demonstrating that code-of-ethics use is able to, at least to some extent, offset the effects of anomie in firms by ensuring they remain lawful when pressured to break the law in light of adverse institutional factors.

Practical implications

Our findings pertaining to the adverse effect of institutional factors on a law-abiding climate have implications for public policy. They re-enforce for policy makers of developing-country governments the importance of ensuring that the regulatory process is not perceived as burdensome, but rather predictable and fair, in order to encourage law-abiding climates.

Furthermore, these results also suggest that governments should maintain strong regulatory enforcement efforts that encourage firms to adopt law-abiding climates even in industries that may not be considered as vital to economic development due to their lack of growth, such as declining industries.

Our findings also have implications for managers. Managers thinking of adopting private CSR certifications without sanctions should be leery of their ability to prevent firms from straying from law-abiding climates. Furthermore, the ability of such certifications to signal desired behaviour may be tarnished if they are not only ineffective, but also exacerbate the type of conduct they are intended to deter, confirming stakeholders' suspicions that self-serving motivations drive CSR which raises doubts on whether the firm is ethical or socially responsible (Hur & Kim, 2017). Managers should therefore seek out more stringent certifications intended to foster ethical behaviour to ensure they fulfill their intended purpose and do not compromise the long-term reputation of the firm, since repeated violations of behavior across firms that possess a particular certification can diminish its ability to act as signal of positive behaviour.

On the other hand, our finding pertaining to the attenuating effect of a code of ethics bodes well for managers in developing countries who aim to foster law-abiding ethical climates given that the decision to use a code of ethics is under their direct control. As such, there is merit in spending time and effort to ensure its extensive use through initiatives such as training programs that educate employees on its value as a decision-making tool and on-going refinements that maintain its relevance as the ethical scenarios employees encounter change over time. However, the diminishing value of codes of ethics in nurturing such an ethical climate in light of perceived regulatory burden implies that firms cannot depend too heavily on them. Firms should be aware of the limitation of codes of ethics and use them with other socially responsible

organizational practices that can further foster their adherence to the law, if deemed necessary. One possibility is to ensure that a firm, alongside its code of ethics, has a formal system of sanctions against unlawful employees that is routinely enforced to ensure its code of ethics has the necessary "teeth" to align behaviour to a normative legal framework (Laczniak and Inderrieden, 1987). Given the unintended consequence of CSR certification and limited effectiveness of codes of ethics in moderating the relationship between perceived regulatory burden and law-abiding climate, which we uncovered in our study, managers of firms in developing countries wanting to combat the adverse effect of a difficult institutional context on law-abiding climate are faced with a dilemma.

Managers in developing countries looking to foster a law-abiding climate in light of an adverse institutional context may need to look for other solutions, such as configurations of corporate governance mechanisms suited for non-Anglo-Saxon countries, which developing countries tend to be. The literature comparing corporate governance in Anglo-Saxon and non-Anglo-Saxon countries has uncovered combinations of corporate governance mechanisms that are effective in the latter for improving the social performance of firms in light of the differences between firms in these contexts (e.g. Samara, Jamali, Sierra, & Parada, 2017; Garcia-Castro, Aguilera, & Ariño, 2013). Managers in developing countries may consider adopting configurations of corporate governance mechanisms thought to improve social performance such as the presence of outside directors when a company is 100% family owned (Samara et al., 2017) to foster a law-abiding climate amidst an adverse institutional context.

Limitations and future research directions

There are other institutional factors common to developing countries not considered in our study, such as limited access to financing or an inadequately trained workforce, which may

serve as obstacles for a firm, and in-turn, have an adverse effect on their law-abiding climate. Since there may well be different configurations of organizational practices and institutional contexts that will foster law-abiding conduct (e.g., Samara et al., 2017), it is worthwhile to study the effect of other adverse institutional factors common in developing countries on law-abiding climate and whether organizational practices can negate their influence.

While we speculate that our study's finding that CSR certification strengthens the negative relationship between perceived regulatory burden and law-abiding climate is due to the lack of enforcement associated with the ESR certification, our claim cannot be considered conclusive since we tested only one type of certification program. Providing evidence to conclusively support this claim would require varying CSR certification in terms of whether it has features that effectively govern behaviour, or its signalling accuracy (Darnall & Carmin, 2005). As such, a future research opportunity lies in investigating this finding further by incorporating CSR certifications that vary in the strength of their enforcement efforts to see whether they differ in how they moderate the relationship between institutional factors in developing countries and desirable ethical climates of firms.

Another possible avenue for research derives from our finding that socially responsible organizational practices do not have a moderating effect on the relationship between perceived lack of industry munificence and law-abiding climate. Possibly, specific unlawful behaviours that result from perceived lack of industry munificence differ from those that result from perceived regulatory burden in a manner that they cannot be inhibited by CSR certification and code-of-ethics use. This is a worthwhile direction for future research because it can potentially establish a boundary condition on the effectiveness of socially responsible organizational practices in maintaining a law-abiding climate amidst adverse contextual factors.

Socially desirable responses are an inherent challenge in ethics studies such as ours that involve self-reports from corporate managers. While significant measures were taken to limit the chance of socially desirable responses affecting our data, this risk cannot be ruled out entirely. Another limitation of our study is that data for most key variables came from the same survey, opening the possibility that our results suffer from CMB. Although several tests were conducted to alleviate concerns of CMB, our results would possess greater robustness if data from secondary sources on all our key variables was available.

The sample of 118 firms raises questions about the generalizability of the findings. By including firms across industries and the three cities in Mexico with the greatest amount of economic activity, the industrial and geographic variability incorporated in our study compensates for the small number of responses in assuring our results are representative of the experience of firms in Mexico. However, the fact that our sample consists of firms from one country limits its ability to be representative of developing countries more broadly. That being said, we feel that Mexico is an appropriate choice of context to study unlawful conduct given the prevalence of the issue in the country as discussed earlier in the paper.

Furthermore, obtaining data from firms in a single country provided the benefit of a homogenous sample in which unobservable, country-level factors are inherently controlled. This is an appropriate approach for our study since we focus our analysis on managerial perceptions of institutional factors, which are likely to vary across firms within a country as opposed to a more objective measure. The benefit of a cross-national sample is that it can incorporate socio-cultural variables since they are more likely to differ across countries than within countries (e.g. Martin et al., 2007, Cullen et al., 2004). Future studies can be enriched by incorporating socio-cultural variables, another key aspect of anomie theory, which likely influences the mindset of

actors to consider illegitimate means as acceptable. Accordingly, future ethical climate research examining the influence of contextual factors can use a cross-national sample of firms to conjointly examine the influence of not only contextual factors, but also cultural values.

Theorizing Reputational Spillover: Contingent Organizational Categorization and the Spread of Scandals

Abstract: A reputational spillover occurs when a scandal by a firm affects the reputation of other firms that were not involved in the original incident. To date, our theoretical understanding of such reputational spillovers in the context of scandals has been limited and potentially mis-specified. Drawing from the categorization literature, we provide an enriched theoretical understanding of reputational spillover that offers a contingent conceptualization of the spread of scandals. The model explains spillover in terms of two distinct phases of origin and spread which provides new insight into the antecedents of spillover. Contingency depends on the degree of moral intensity of the scandal which precipitates either motivated or automatic categorization, which we show lead to two different bases for comparing firms. This shift in the theoretical approach to categorization allows for a more complete conceptual understanding of spillover that better reflects empirical reality, including the analysis of cross-industry spillover.

Keywords: categorization, scandal, social evaluations, reputation, reputational spillover

INTRODUCTION

Corporate reputation acts as a normative control of business behaviour through which firms are rewarded and punished based on their ability to meet public expectations (Fomburn & Shanley, 1990). Therefore, when firms are viewed as causing a scandal, defined as an action or event that is considered morally wrong and elicits outrage amongst the public, they can suffer severe reputational repercussions. However, a scandal may at times also affect the reputation of other firms that were not involved in the original incident (King et al., 2002; Zavyalova et al., 2012). This is exemplified by the recent Volkswagen diesel-engine emission scandal whereby other car manufacturers including Renault, Peugeot, Nissan, and BMW experienced a drop in share price of between two to four percent in the months following the scandal, owing to widespread loss in confidence in the European auto industry (The Centre for Research on Globalization, 2016).

While the reputational implications for scandal-perpetrating firms have been thoroughly explored in the literature, both in terms of the consequent reputational effect and how firms can manage crises to restore their reputation (Coombs, 2007; Pearson & Clair, 1988; Pfarrer et al., 2008), less explored is the effect on the reputation of other firms (Yu et al., 2008). Such a 'reputational spillover' occurs when a scandal caused by the actions of a single firm, the 'perpetrator firm', affects the reputation of other 'by-stander firms' that are not involved (Barnett & Hoffman, 2008; King et al., 2002).

The existence of reputational spillovers has been well established empirically, for example, through layoff announcements in the oil and gas industry (Goins & Gruca, 2008), bankruptcies (Lang & Stulz, 1992), drug withdrawals (Ahmed et al., 2002), automobile recalls (Jarell & Peltzman, 1985) and accidents in the chemical industry (Barnett & King, 2008), all of which were found to result in broader reputational repercussions to firms in the industry of the

perpetrating firm.

On the other hand, our theoretical explanation of reputational spillover is still relatively underdeveloped. Important work has established that such spillovers can be explained in terms of the social categorization of firms by observers (Barnett & King, 2008; Jonsson et al., 2009; Yu et al., 2008). That is, individuals, in an attempt to reduce the cognitive complexity involved in inter-organizational comparison (Dutton & Jackson, 1987), group firms into categories subject to common social and cultural expectations (Hsu & Hannan, 2005). As a result, researchers have shown how firms that fall in the same category as the perpetrator firm are "tarred by the same brush" and suffer a similar negative reputational evaluation (Diestre & Rajagopalan, 2014; Parachuri & Misangyi, 2015).

To date though, the process of categorization in relation to reputational spillovers has remained something of a black box. Lacking from such accounts, for example, is a theoretical explanation of the conditions under which categorization is activated, as well as a thorough explanation of how exactly categorization will be applied by an audience. Likewise, researchers have tended to examine a single type of scandal such as financial misconduct (Kang, 2008; Parachuri & Misangyi, 2015) or chemical accidents (Diestre & Rajagopalan, 2015) but have not developed a theoretical account of categorization which recognizes that spillovers can result from different origin events and actors and the different manifestations of categorization they give rise to.

In this paper, we provide an enriched theoretical understanding of reputational spillover in the face of scandals. To do so, we build an overarching theoretical framework rooted in a contingency view of categorization. This framework brings new insight in two main ways. First, we theoretically explain spillover in terms of two distinct phases of spillover initiation and

spillover spread. Spillover is initiated when the public relies on the perceptual shortcut of categorization as a sense-making process in response to a scandal, putting by-stander firms at risk of experiencing reputational consequences. The severity to which by-stander firms absorb the effects of a spillover, on the other hand, is determined by spillover spread, namely the extent to which a particular by-stander firm is categorized with the perpetrator firm. By delineating the process of reputational spillover into these two distinct phases of the categorization process, we enable researchers to understand better *why* and *when* categorization will operate in the context of a scandal.

Answering recent calls to explicate the causal mechanisms that determine which attributes drive categorization (Durand & Paolella, 2013; Kennedy & Fiss, 2013), our second contribution to the literature is a more accurate account of *how* categorization operates in reputational spillover. Distinct categorization schemes have been discussed in the literature on reputational spillover without explanation of the conditions under which a particular category would be employed by an observer. Some scholars have assumed that observers categorize firms on the sole basis of industry similarity to determine which by-stander firms are capable of committing the scandal (Parachuri & Misangyi, 2015; Barnett & King, 2008; Desai, 2011), while others have conceptualized a category that incorporates more specific firm attributes as a basis for category membership (Jonsson et al., 2009; Diestre & Rajagopalan, 2014).

We argue that the relevant category actually used by the public is contingent on the scandal's level of moral intensity (Jones, 1991) and that this level of moral intensity determines whether a motivated or automatic form of categorization will be used. Moral intensity is a measure of the scandal's perceived significance that determines the public's level of concern towards the scandal. Audiences are faced with a plethora of stimuli that compete for limited

attention and interest (Smith & Zarate, 1992), so that not all scandals that occur in the public's social space will receive the same level of attention and sense-making effort. Low intensity scandals will prompt automatic categorization which is likely to result in the application of a simple industry-based category. Scandals of higher moral intensity however will provoke a motivated form of categorization because the public has greater concern to accurately identify other category members. This motivated process will result in the public utilizing a more sophisticated, scandal-specific category that is conceived at the point in which the scandal occurs. Such a "scandal-specific" category is comprised of attributes of the perpetrator firm that are considered salient specifically because they are viewed as causes of the scandal, as opposed to the industry category, which is comprised of attributes of a typical firm in the industry.

This novel theoretical perspective on categorization provides a more accurate understanding of which firm attributes will determine category membership, allowing for better prediction of which by-stander firms will be affected by spillover. Our theoretical approach also opens new conceptual space for understanding the scope of reputational spillover, including analysis of cross-industry spillover. Such possibilities have been acknowledged in the literature (Barnett & Hoffman, 2008; Parachuri & Misangyi, 2015; Yu et al., 2008) but have yet to be systematically embedded into an integrated theoretical model of reputational spillover.

The paper proceeds as follows. First, we review the literature on reputational spillover and the social categorization of firms to identify the limitations of the current theoretical approach in the literature. We then present our new model of the reputational spillover process to address these limitations. We then discuss the implications that our theorization has for the study of reputational spillover as well as for managerial practice. We conclude with recommendations for future research.

LITERATURE REVIEW

Reputational Spillover

Corporate reputation can be broadly understood as a type of social approval (Barnett &

King, 2008; Zavyalova et al., 2012). In the case of reputational spillover, the actions of a single

firm affect the perceived congruence to social norms and standards of a population of firms

(Deephouse & Suchman, 2008; Suchman, 1995). This broad judgement of firms is rendered by

the general public who share a common thought world in which firms can be valued in terms of

their broader societal impact (Haack et al., 2014). Such an aggregation of individuals to the level

of the 'general public' aligns with the dominant conceptualization of reputation in the literature

as an aggregation of individual perceptions (Barnett et al., 2006). The general public is, in

aggregate, concerned with social issues, and therefore acts as a key evaluator of firms in light of

actions that create social harm. In particular, a scandal committed by a particular firm, as a single

act of corporate deviance, is perceived by the public as the instantiation of a problem in which

other firms could act in a similar manner to cause social harm.

While the reputation construct has been conceptualized in multiple, different ways across

the management literature (Lange et al., 2011), including "being known" in general terms and

having a generally favorable perception, we conceptualize reputation as "being known for

something" since it is best suited to explain reputational spillover. From this perspective, firm

reputation consists of the subjective perception of a particular audience of the likelihood of a

firm exhibiting a particular behaviour (Deutsch & Ross, 2003). In the context of a spillover, the

reputation of by-stander firms is affected because the public perceives that they have potential to

cause the scandal committed by the perpetrator firm.

The consequences to the reputation of firms play out through the various avenues in

which the general public and firms exchange. The public as a transacting partner imposes costs

on both the perpetrator firm and by-stander firms that share some form of collective identity with

the perpetrator so that actions perceived as undesirable or illegitimate are not repeated

(Friedman, 1971; Fudenberg & Maskin, 1986). Most empirical studies on reputational spillover

have examined reductions in stock price of by-stander firms (e.g. Barnett & King, 2008; Diestre

& Rajagopalan, 2014; Kang, 2008; Parachuri & Misangyi, 2015). Other outcomes include

reduced customer exchanges with firms (Jonsson et al., 2009), and negative attitudes and beliefs

about firms (Roehm & Tybout, 2006), including adverse brand evaluations (Lei et al., 2008).

Such reactions by stakeholders help to form an overall public sentiment even across members of

the public without direct exchange relationships with firms since public condemnation

encourages others to maintain their distance and similarly condemn firms (Jonsson et al., 2009).

It is worthwhile to note that while positive spillovers from reputation enhancing events

are also a possibility, we choose to focus our analysis on negative spillovers produced by

scandals. There exists a negativity bias in affective responses to strong stimuli in contrast to a

positivity bias in affective responses to weak stimuli, such that it can be expected that negative

spillovers create comparatively stronger effects than positive spillovers (Haack et al., 2014). Past

research has also confirmed that negative spillovers have a stronger effect on reputation than

positive spillovers (Barnett & Hoffman, 2008; Kostova & Zaheer, 1999), suggesting that a focus

on negative spillovers is justified.

Social Categorization of Firms

Reputational spillover is rooted in the cognitive limitations of individuals. Due to the

cognitive complexity involved in perfectly distinguishing objects and actors on the basis of all

their respective characteristics (Tirole, 1996), categories are used by individuals to make sense of

the world around them. Human limitations render observers unable to perfectly distinguish firms on the bases of their individual attributes, with some firm-specific information being unobservable and additional information search proving too costly (Tirole, 1996). For this reason, firms are assigned to categories associated with prototypical behaviours that define what is typical, legitimate, or normal for members of the category (Parachuri & Misangyi, 2015).

An organizational category, as a cognitive representation, sets expectations about the future behaviour of its members on the basis of observations of a single category member or a small sub-set of members (Kennedy, 2008; Wry et al., 2011). Accordingly, the categorization process is elicited as an uncertainty reduction mechanism among the general public after observing a scandal. Concerned by the observed violation, the public uses its knowledge of the organizational category of the perpetrator firm to resolve its uncertainty as to which other firms pose the risk of committing a similar scandal. Other firms can be expected to behave like the perpetrator firm to the extent that they fall within the same organizational category (Jonsson et al., 2009), which is assessed by the match between the attributes of by-stander firms and the perpetrator firm. By-stander firms therefore experience negative reputational consequences if they are categorized with the perpetrator firm.

The social categorization of firms has thus been the central theoretical lens used to conceptualize reputational spillover. This has led to important insights regarding the cognitive basis for how an isolated scandal by a firm can affect the reputation of other firms in its industry (Yu et al., 2008) and the commonalities between the perpetrator firm and by-stander firms that underlie the spread of spillover (Diestre & Rajagopalan, 2014; Jonsson et al., 2009; Kang, 2008). Research on the latter has revealed that differences exist in the extent to which by-stander firms are categorized with the perpetrator, and that heterogeneity in the strength to which spillover

effects are experienced across firms can be attributed to these differences (Diestre &

Rajagopalan, 2014; Parachuri & Misangyi, 2015).

However, the relatively shallow depth at which categorization has been employed in the

literature to date has resulted in an incomplete and arguably inaccurate set of assumptions

regarding the process and outcomes of reputational spillover. Our approach is premised on

addressing the current inability to distinguish the different types of scandals causing reputational

spillover, with one product recall being assumed in the extant literature to be much the same as

another, and product recalls as a whole being assumed to be conceptually equivalent to other

reputation-impacting scandals such as oil spills. By addressing two key omissions in the

literature, we explain how scandals can differ in their effect on the public's use of categorization,

and moreover, how acknowledgement of these differences enhance our ability to accurately

predict reputational spillover.

The first key omission is that the factors that determine whether a scandal induces

reputational spillover are largely ignored, with the starting assumption being that a scandal

results in spillover by spurring categorization on the part of the observer. This assumption

overlooks that scandals differ in their likelihood of prompting the public's use of categorization

and thus, initiating reputational spillover. Despite acknowledgement in the literature that

perceived uncertainty surrounding a scandal is required to elicit the audiences use of

categorization as a sense-making shortcut (Yu et al., 2008), this prerequisite factor underlying

reputational spillover tends to be overlooked, either being left out or assumed but not explicitly

theorized (c.f. Parachuri & Misangyi, 2015).

Categorization is a means of sense-making that is used when it supports the perceiver's

comprehension goal. For example, previous research on stereotyping, a type of categorization

process, suggests that a perceiver suppresses the use of stereotypes when individuating information about an actor is more diagnostic for the perceiver's comprehension goal than is an inference based on a stereotype (Zacks & Hasher, 1994; Kahneman & Tversky, 1973). Given that the public, after observing a scandal, seeks to ascertain whether other firms pose the risk of committing the scandal, we argue that the public relies on categorization as a sense-making mechanism only if the answer to this question is unclear. A firm-specific cause of a scandal, by precluding the possibility that the scandal could be committed by other firms (Yu et al., 2008, Parachuri & Misangyi, 2015), eliminates the necessary uncertainty that prompts categorization by making it clear that a scandal occurred to due idiosyncratic characteristics of a perpetrator firm.

The uncertainty surrounding a scandal that we refer to in this paper causes the public to be unable to identify firm-specific causes connected to the perpetrator. Based on the conditions that raise the uncertainty surrounding the causes of a scandal, a set of spillover initiation factors are posited to explain why some scandals are more likely than others to trigger the public's categorization process, and thereby result in spillover. This gives rise to a new, two-stage model of reputational spillover which theoretically distinguishes between spillover initiation and spillover spread. Since the use of categorization by the public is a prerequisite to reputational spillover, spillover initiation factors are effectively the antecedents of spillover, and thus, critical to our understanding of the phenomenon.

The second omission is that existing research has largely failed to account for how the spread of reputational spillover can differ across scandals. Typically, an audience's cognitive process in reaction to a particular type of scandal (e.g. financial misconduct (Parachuri & Misangi, 2015) or an industrial accident (Diestre & Rajagopalan, 2014)), or scandals more

generally (e.g. Jonsson et al., 2009, Yu et al., 2008) is the basis through which the categorization scheme underlying a spillover is understood. This rather simplified approach to understanding categorization is prevalent despite agreement by scholars that there is a need to account for how scandals differ since their characteristics influence the perception of an audience (Parachuri & Misangyi, 2015), and subsequently, the categorization process they use which determines the spread of reputational spillover (Haack et al., 2014, Yu et al., 2008).

Moral intensity is one such characteristic that varies across scandals which influences the perception of the public. Scandals can be thought of as moral issues because they involve volition on part of the perpetrating firm and have negative social and ethical ramifications. As moral issues, it is appropriate to measure scandals in terms of their moral imperative from the perspective of the public, or moral intensity (Jones, 1991). We reason that due to cognitive limitations, as well as the multitude of potential scandals that exist in the public sphere across firms, industries, and geographies, the public prioritizes their cognitive resources and focuses most attention and effort in thinking about scandals they perceive as most significant, as determined by their level of moral intensity.

Some scholars have tended to use the industry of the perpetrator firm that commits a scandal as the basis for category membership, either directly (Parachuri & Misangyi, 2015; Barnett & King, 2008) or by having product-market similarity as a key determinant of category membership (Desai, 2011). The implication of this approach is that by-stander firms are considered susceptible to receiving negative reputational evaluations merely by virtue of being in the same industry category of the perpetrator firm. Others have incorporated specific similarities to the perpetrator that are relevant to the context of a scandal as a basis for category membership (Jonsson et al., 2009, Diestre & Rajagopalan, 2014), where the cause-effect relationship of firm

attributes to the scandal are a key consideration. Despite these differences in what is considered to constitute category membership, the literature has had little to say thus far about the conditions that determine which firm attributes are central to the categorization process underlying reputational spillover.

The critical insight we introduce is that an actor selectively attends to dimensions in social judgement formation according to their current motivations. This is widely accepted in both social (McGuire et al., 1978; Tajfel, 1978; Wilder, 1981) and cognitive psychology (Barsalou, 1987; Roth & Shoben, 1983) but has yet to be meaningfully applied to theorizing about reputational spillover. We thus distinguish the categorization process in terms of the motivation underlying its use in order to more accurately identify the cognitive category employed in reaction to a scandal.

Automatic categorization involves the relatively spontaneous or unconscious assessment of an organization based on easily accessible information, such as schemas defining chronically employed categories whose frequent usage makes them easy to access and retrieve from memory (Elsbach & Breitsohl, 2016; Van Dyck et al., 2005). It is best suited for when information encountered does not instill a particular motive in the perceiver (Fiske & Neuberg, 1990). Without a strong motive underlying the use of categorization, easily accessible, pre-existing categories such as the industry of a firm can suffice in making sense of newly encountered information (despite the broad nature of such categories rendering them uninformative of specific behaviours). Furthermore, observers are naturally inclined to use cognitively accessible categories when categorizing firms owing to the fact that individuals tend to rely upon easily accessible information in social cognition processes (Hogg et al., 1995). As such, automatic categories are a first resort for the public after observing a scandal by the perpetrator firm in

order to ascertain which other firms pose the risk of committing a similar scandal.

Motivated categorization, on the other hand, involves classifying newly encountered information in ways consistent with the perceiver's current motives (Fiske et al., 1999), which includes an assessment of the relevance of pre-existing categories to support this motive (Fiske & Neuberg, 1990). Rather than automatically relying on a pre-existing category, the perceiver evaluates the automatic category's suitability for use in the current situation to decide whether an alternative category would better support its motive. Observers of a scandal committed by a perpetrator firm that have a specific motivation can be thought of as following a motivated categorization process. Thus, automatic categories such as preconceived industry blueprints may be deemed not suitable by the public if they are not attuned to their current motivation after observing a scandal. In these circumstances, the public's category choice can be informed by the goal-based approach of categorization (Durand & Paolella, 2013). From the goal-based perspective, the public who are motivated by a specific goal when employing mental categories would form them on an ad-hoc basis to support the aim of achieving their current goal, a process that requires greater cognitive effort than employing a pre-existing category.

We incorporate the moral intensity of scandals in the analysis of reputational spillover to explain when motivated categorization would be used over automatic categorization. This distinguishes situations when the public would overcome their inclination to search for a rapid, adequate solution in favor of a slow, accurate solution (Fiske & Taylor, 1984). The key way in which a scandal-specific category differs from the industry category of the perpetrator firm is that it is more diagnostically accurate for assessing the likelihood of a scandal being repeated. Scandals of higher moral intensity, by eliciting a greater level of concern in the public, motivate a more critical assessment by the public of which by-stander firms pose the risk of committing

the scandal observed of the perpetrator firm. Despite the cognitive ease at which a pre-existing category could be applied, this creates the possibility that the public would deem the industry category of the perpetrator firm insufficient to support its current motivation and employ a scandal-specific category instead. Therefore, we consider two distinct scenarios of categorization used by the public following a scandal: 1) an automatic categorization process in which the industry category of the perpetrator firm is applied, which is more likely when scandals are of lower moral intensity, and 2) a motivated categorization process in which a scandal-specific category is conceived at the point in which the scandal occurs, which is more likely when scandals are of higher moral intensity. These distinct categorization schemes provide insight into the differences in the firm attributes considered by the public when evaluating the similarity between the perpetrator and by-stander firms that underlie reputational assessments.

A cognitive category can be understood as the perceiver's summary concept of firms that belong to a category (Porac & Thomas, 1990). The perceiver conceives a prototype as a mental representation of category members, comprised of the most commonly observed attributes across members of a category (Mervis & Rosch, 1981). Thus, an organizational category, as a cognitive structure, takes the form of the perceiver's conception of a firm that is typical of the category (Kennedy, 2008; Rosa et al., 1999). It is the degree of similarity between this typical category firm and by-stander firms that is used as a cognitive shortcut for predicting whether a firm should be classified as a member of a category (Kostava & Zaheer, 1999; Duran & Paolella, 2013; Hsu & Hannan, 2005).

Under the industry categorization scheme, membership in the industry category of the perpetrator firm is therefore based on the public's perception of the extent to which by-stander firms are similar to a typical industry firm, based on the attributes possessed by by-stander firms

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that are common to a typical industry firm. Under the scandal-specific categorization scheme, because a category emerges around the scandal at the perpetrator firm rather than being fixed *a priori*, the perpetrator firm functions as the category's prototype (Diestre & Rajagopalan, 2014, Jonsson et al., 2009). Accordingly, we reason that membership in a scandal-specific category is based on the public's perception of the extent to which by-stander firms are similar to the perpetrator firm in ways salient to the scandal, based on attributes they have in common that are perceived as causes of the scandal.

While the literature in some instances has simultaneously theorized both general organizational attributes and organizational attributes with relevance to the scandal (Jonsson et al., 2009, Parachuri & Misangyi, 2015) as factors determining spillover, it has not provided insight on which dimension is most relevant for an audience in a given situation, a future area of research that has been called for by scholars (Jonsson et al., 2009). By explaining two possible paths of categorization contingent on the moral intensity of a scandal, we contribute to the literature by providing insight on when general, industry-based similarities or similarities that are specific to the context of a scandal would be the dominant consideration of the public in their judgement formation.

Moreover, this insight is important since the basis of similarity evaluated by the public has implications on the scope of reputational spillover, an aspect of the phenomenon that has received little consideration to date. This includes the potential for spillovers to cross industry boundaries, a phenomenon that has been well documented in practice but poorly explained in theory. For instance, the Union Carbide Bhopal incident had reputational affects on firms well beyond the chemical industry and the Indian context (Bowman & Kunreuther, 1988; Shrivastava, 1987). Likewise, the Enron scandal extended beyond energy trading to affect a broader scope of

publicly traded companies (Hamilton & Francis, 2003). Although the literature has acknowledged that spillovers can cross industry boundaries (Barnett & Hoffman, 2008; Yu et al., 2008), they have yet to be satisfactorily incorporated into theoretical and empirical work. To some extent, the sole focus on within-industry spillover has been justified because it provides a clearly defined social system boundary (Carroll & Hannan, 2000) that allows for a clearer articulation of propositions. Moreover, cross-industry spillovers have been dismissed as unproblematic within existing models because researchers have assumed that they are based on simplistic vertical resource linkages between firms (Yu et al., 2008). However, as the examples above illustrate, narrowly defining a system boundary to within an industry is limiting in light of the existence of spillovers that occur across industries, and spillovers across industries need not be based on clear and direct linkages between firms.

A new model is therefore required to conceptualize cross-industry spillover. Such a model needs to account for the possibility that categories fixed to industries do not suffice for the public's judgement formation and engage theoretically with the idea of emergent, scandal-specific categories, whereby common attributes between firms in different industries can be perceived as salient causes of a scandal. In the next section, we will set out such a new framework for theorizing reputational spillover that can address these omissions in the literature and that provides a more comprehensive and theoretically-integrated explanation for why spillover happens and which firms are most likely to be impacted.

RE-CONCEPTUALIZING THE REPUTATIONAL SPILLOVER PROCESS

We examine reputational spillover through a comprehensive analysis of the underlying process of categorization (see Appendix 2a). The process comprises two stages – spillover

initiation and spillover spread – which respectively capture the origin and diffusion of the phenomenon. Whether a spillover initiates is dependent on factors that affect whether a scandal prompts the categorization process of the public. The spread of spillover, including the scope of affected firms, is determined by the moral intensity of the scandal through its influence on whether the industry category of the perpetrator firm or a scandal-specific category is employed by the public.

Spillover Initiation

Not all scandals are equally likely to cause the public to rely on the categorization process, and thus, to induce reputational spillover. Since the purpose of the categorization process that underlies spillover is to ascertain which other firms could commit the scandal, the public first needs to perceive the possibility that the scandal could be repeated by other firms in order to trigger their intuitive response to use categorization as a sense-making shortcut. Under conditions of uncertainty, individuals are provided with limited criteria to make sense of the stimuli they encounter (Festinger, 1954). In the context of a scandal committed by a perpetrator firm, perceived uncertainty surrounding the scandal may cause the public to be unsure of whether by-stander firms also have the potential of committing the scandal.

We argue that beliefs that bystander firms have the potential to commit the same actions as those causing the scandal can happen due to either 1) the absence of an agentic attribution of the scandal, or 2) the lack of transparency of the perpetrator firm. These factors make it less likely that the public can connect a scandal to idiosyncratic attributes of the perpetrator firm, which would cause the scandal to be perceived as firm-specific in nature and preclude the possibility of spillover (Yu et al., 2008). Furthermore, the absence of a clear cause-effect linkage to the perpetrator's firm-specific attributes leaves open the possibility that attributes of the

perpetrator firm that it has in common with other firms had a role in the scandals occurrence, causing the public to perceive the possibility that it can be repeated by other firms.

Accordingly, the public would initiate a categorization process to compare by-stander firms to the perpetrator firm to evaluate this risk, and potentially subject them to common behavioural expectations. The centrality of the perpetrator firm as well as the information uncertainty inherent in the environment in which the scandal occurs moderate the likelihood of spillover inducement through their effect on the public's perception of an agentic attribution of the scandal and the transparency of the perpetrator firm, respectively.

Agentic attribution. Agentic attributions – by which we mean attributions that a particular individual or group of individuals within an organization caused the scandal – reduce the public's uncertainty as to the reasons for a scandal by ascribing the blame to specific actor(s) connected with the perpetrator firm (Parachuri & Misangyi, 2015). Such an attribution establishes a firm-specific attribute as the cause of the scandal. Agentic attributions can be put forth by the perpetrator firm itself through an admission of guilt or by external actors such as courts, NGOs, or the media. They include employee firings, investigations into specific business units or functions, trials against a firm in which a specific employee is questioned and becomes the "face" of the scandal, and investigative reports in which a thorough account of the actors involved in a scandal is provided to the public.

Individual actors within organizations are a significant source of variation that differentiate firms amidst conformity to such organizational prescriptions as product markets, organizational structure and governance systems. Differences in individuals' motivations and tendencies to act opportunistically help to individuate the firms to which they belong in light of prototypical attributes common across firms that cause them to be seen as more homogenous.

This provides a plausible account of why the occurrence of a scandal is specific to a firm. For example, the firing of four executives by Wells Fargo for improper sales practices (Fortune, 2017) can be thought of as an agentic attribution of a scandal. The firings signalled that the scandal occurred due to the behaviour of specific organizational actors, as opposed to an organizational attribute that is common to other firms in the banking industry or corporations more generally. Actions taken to alter the incentive programs that motivated the behaviour of these executives, on the other hand, would make focal a common firm-level attribute that could be perceived as a cause of the scandal. Furthermore, attributions to individual actors deflect the focus away from categories (Parachuri & Misangyi, 2015), enabling the public to act on their propensity to attribute firm actions and outcomes to individual rather than structural forces (Meindl et al., 1985). This ultimately prevents the inducement of reputational spillover. Accordingly, we propose:

> *Proposition 1a. The presence of an agentic attribution that links the scandal to individual actors in the perpetrator firm is negatively related to the likelihood of spillover to by-stander firms.*

Centrality of perpetrator firm. Although the centrality of a perpetrator firm within its network has been explored as a basis of spillover (Yu & Lester, 2008), it has not been carefully connected with the public's categorization process in explaining its effect. As a result, the centrality of the perpetrator firm has been mis-specified as affecting the severity at which by-stander firms experience spillover effects. A closer consideration of the categorization process reveals that the specific ties held by the perpetrator firm and by-stander firms (and not centrality) determine the severity of spillover effects, which we discuss in the spillover spread-section of our paper. Our approach to examining centrality, in line with explanations in the network literature (Bell, 2005; Rowley, 1997; Tsai, 2001), considers at an aggregate level the ties held by a

perpetrator firm to explain how centrality acts as a spillover inducement factor. We argue that if a perpetrator firm holds a central position in its network, the negative effect of an agentic attribution on the likelihood of spillover to by-stander firms is weakened. When a perpetrator firm possesses centrality, a scandal is more likely to be perceived as the instantiation of a broader, structural issue, causing the public to question whether the scandal could be repeated by other firms despite an agentic cause being traceable to the perpetrator firm.

The centrality of a firm is determined by the content of its network ties, which can be characterized through the network concepts of closeness and betweeness centrality (Phillips, 2010). Closeness centrality is a measure of the shortest path from the central firm to other firms in its network, while betweeness centrality is the extent to which the central firm is on the shortest path between other firms (Rowley, 1997). Closeness, with the ability it provides to bypass intermediate firms, and betweeness, by allowing it to broker exchanges within its network, provides a central firm the ability to avoid and impose control, respectively (Brass & Burkhardt, 1992). This results in greater influence over the economic relationships the firm has with other firms in its network. The central firm's powerful position allows it to dictate which norms are created, diffused, and enforced throughout the network (Phillips, 2010).

As its most influential actor, the central firm is seen as representative of its network, causing its behaviour to be generalized to the entire group (Paruchuri & Misangyi, 2015). A scandal committed by a centrally positioned perpetrator firm is therefore perceived as a more systematic problem since it is seen as exemplary of the conduct of its network. When the public holds this perception of a scandal, it negates the individuating effect of an agentic attribution to the perpetrator firm that makes it less likely that a firm initiates a categorization process.

Proposition 1b: The centrality of the perpetrator firm that commits a scandal moderates the relationship between the presence of an agentic attribution of the scandal and the likelihood

that reputational spillover will occur to by-stander firms; the negative effect of agentic attribution on the likelihood of spillover is weakened when the perpetrator firm holds a more central position within its network.

Transparency of perpetrator firm. The transparency of the perpetrator is another factor that contributes to the uncertainty surrounding a scandal that causes the public to rely on categorization as a sense-making process. A lack of transparency of a firm is caused by limited disclosure of information, and a lack of clarity and accuracy of the information that is disclosed (Schankenberg & Tomlinson, 2014). Inaccessible information limits an observer's ability to gain a complete understanding of the firm (Zhu, 2004). Without access to a broad set of relevant information of an entity, an observer's ability to affirm a cause to an effect produced by that entity is diminished since it does not have sufficient information to form a reasonable causal inference (Kelley, 1972). In the context of a scandal, inaccessible information about the perpetrator results in an inability to connect its idiosyncratic attributes to the scandal, since making such attributions requires the public to possess detailed information of a firm beyond broad features that tend to be easily perceptible. Transparency increases the awareness, coherence, and comprehensibility of information about a firm by external actors (Pagano & Roell, 1996). In being transparent, a firm discloses idiosyncratic information about itself in a clear and accurate manner, which allows the public to overcome its limits to comprehension when a scandal occurs and make plausible firm-specific cause and effect attributions.

Firms vary in their level of transparency, making it a relevant factor in predicting which scandals will induce categorization. For instance, publicly traded firms are legally obliged to disclose operating and financial information through annual reports that private firms are not. Firms also differ in pressure from stakeholders they face to be transparent (Cambell, 2006; Fernandez-Feijoo, Romero & Ruiz, 2014). For example, firms in industries that produce

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externalities that harm the environment, such as those in polluting industries, tend to face greater

stakeholder pressure to disclose information about their operations (Aerts & Cormier, 2009).

Apart from legal obligations and pressure from stakeholders, firms also have the capacity to

present information in ways that increase or decrease their transparency (Schnackenberg &

Tomlinson, 2014), often strategically withholding or releasing information as a tactic to achieve

competitive advantage (Ndofor & Levitas, 2004).

Transparency is an especially significant firm attribute in the context of scandals due to

the common practice of firms to manage stakeholder perceptions of their behaviour after

committing a transgression (Coombs, 2007; Dukerich & Carter, 2000). If the information

provided as part of a firm's explanation of its actions is perceived as clear and accurate, the

transparency of the firm is increased. When firms seek to manage impressions by disclosing

information that lacks clarity and accuracy, such actions may be viewed as suspicious and

transparency-reducing (Ashforth & Gibbs, 1990; Elsbach et al., 1998; Suchman, 1995).

> *Proposition 2a: The transparency of the perpetrator firm that commits a scandal is*
> *negatively related to the likelihood that reputational spillover will occur to by-stander*
> *firms.*

Information uncertainty. The transparency of a firm is diminished when information

uncertainty is characteristic of the environment in which it operates. In some environments,

information about firms that could increase their transparency is either withheld or inherently

uncertain, causing reported information to be perceived as unreliable. For example, the absence

of stringent reporting standards common in developing countries results in differing, often

subjective metrics and varying reporting standards being used across firms, causing information

to be both incomparable across time and between firms. The public as a result is skeptical of

whether reported information is a true reflection of firm behaviour due to the perceived lack of

transparency of firms under the jurisdiction of these regulations.

Another relevant source of information uncertainty in the environment is a lack of independence of the media, with the level of media independence known to vary across countries (Jensen et al., 2010). The media serves as a reliable source of objective information if its interests remain independent, since the capturing of its interests by third parties can result in it being used to manipulate public opinion in their favor (Corneo, 2006). In environments where the public finds the independence of the media questionable, they may believe that news pertaining to a firm can be biased in favor of or against a firm, which would cause reported information about firms to be perceived as unreliable. This can occur, for example, when it is common for firms to have ownership stakes in media outlets, or when media outlets fall on one side of a polarized issue, such as climate change, that causes them to naturally favor some firms over others.

Such information uncertainty in the environment diminishes the effect of transparency on the public's ability to determine firm-specific cause and effect relationships regarding the scandal. Therefore, we propose that information uncertainty in the environment negatively moderates the relationship between the transparency of a perpetrator firm and the likelihood that reputational spillover will occur to by-stander firms.

Proposition 2b: Information uncertainty in the environment in which a scandal occurs moderates the relationship between the transparency of a perpetrator firm and the likelihood that reputational spillover will occur to by-stander firms; the negative effect of perpetrator firm transparency on the likelihood of spillover is weakened in environments with greater information uncertainty.

Spillover spread

Once a scandal induces spillover by initiating the public's categorization process, by-stander firms are susceptible to the risk of receiving spillover effects that negatively affect their

reputation. We propose that the category used by the public to support its goal of ascertaining which other firms could act akin to the perpetrator firm and commit similar acts to those prompting the scandal is determined by the scandal's level of moral intensity. The public's category choice, either the industry of the perpetrator firm or a scandal-specific category, determines the basis of similarity that is used to evaluate category membership, which subsequently affects the scope of firms that receive spillover effects emanating from a scandal.

Moral intensity. Decision-making in regards to moral issues requires time and energy associated with gathering information and applying moral principles (Velasquez, 1982), occupying the scarce cognitive resources available to the public. While the literature commonly bases the reasoning process associated with moral issues on the level of moral development an actor exhibits when forming their judgement in regards to a specific issue (Jones, 1991; Rest, 1986), it is an underlying assumption that advanced moral reasoning is underpinned by advanced logical reasoning (Kohlberg, 1976). Indeed, evidence of a rational decision process has been found for judgements pertaining to moral infractions that require deliberation to resolve (Tenbrunsel & Smith-Krowe, 2008). It is from this core assumption that we derive our paper's central premise regarding the perception of scandals as moral issues; the public engages in a more thoughtful and critical reasoning process after observing scandals of higher moral intensity, acting on the inclination of individuals to devote greater effort to social understanding when they perceive more to be at stake (Fiske & Taylor, 1984).
Due to the need to ascertain which other firms pose the risk of committing the scandal, the categorization process in cases of reputation spillover response functions as a means of deliberation for a specific problem the public wishes to resolve.

While the concept of moral intensity is constituted of several dimensions (see Jones,

1991), empirical evidence points to the magnitude of consequences and social consensus dimensions being the most influential in both the recognition and evaluation of moral issues (May & Pauly, 2002). The magnitude of consequences of a scandal is the full scope of its harm to victims. Prominent firms with considerable size and resources have the potential to commit scandals of greater magnitude because their actions tend to have larger consequences and affect a wider range of stakeholders. Scandals with a high level of social consensus are unambiguously considered socially unacceptable (Jones, 1991). For instance, scandals with negative consequences on health, safety, or security elicit strong, uniform reactions across members of the public since human welfare is considered a universal right. On the other hand, there is greater variability in the interpretation of the consequences of an event across members of the public when consensus of its moral nature is weaker or altogether absent, due to political, religious, or other societal divides. This can result in a scandal that the public as a whole considers less severe.

The moral intensity of a scandal, by affecting the public's motivation underlying their use of categorization, has implications for the categorization scheme employed after a scandal is observed. Automatic categorization is more likely to be used when an actor's decision-making is impersonal (Elsbach & Breitsohl, 2016), much like it is when the public reacts to a scandal that possesses low moral intensity since it instills in them relatively little concern. Categories that are chronically applied by perceivers to make sense of new information, and thus, central to their sense-making efforts, are automatically accessible within seconds due to their frequent usage (Fiske & Neuberg, 1990). For the public, industries serve as automatic categories that facilitate the instantaneous processing of new information encountered of firms. The convention to understand firms through industry classifications makes industry categories frequently used and

thus easily accessible in memory.

On the contrary, scandals with a high level of moral intensity, by instilling a greater level of concern in the public, motivate a more thoughtful assessment of which other firms could act akin to the perpetrator firm and commit similar acts to those prompting the scandal. The level of moral intensity of a scandal determines whether members of the public act on their inclination to automatically accept a categorization process that uses membership in the industry of the perpetrator firm as a means to categorize by-stander firms, or whether it is rejected in favor of a motivated categorization process (Fiske & Neuberg, 1990; Fiske et al., 1999).

The public is more likely to assess the suitability of the use of the industry categorization scheme if a scandal possesses greater moral intensity, questioning its diagnostic accuracy that is compromised at the expense of the cognitive ease at which the pre-existing category can be applied to make sense of the scandal. Thinking more critically regarding the causes of a scandal, the public may deem the industry category of the perpetrator firm insufficient for predicting the likelihood of the scandal being committed by other firms. In these cases, the public would instead favor the use of a scandal-specific category that is conceived at the point when the scandal occurs, based on attributes of the perpetrator firm that are considered salient specifically because they are viewed as causes of the scandal.

It may be that the scandal-specific category is effectively an amendment to the industry category of the perpetrator firm if some firm attributes typical of an industry firm are perceived as causes of a scandal, along with few other considerations. In other cases, it may represent a substantially different category if attributes of a typical industry firm are largely irrelevant to causing the scandal. In either case, the use of this ad-hoc category represents a more deliberate, reasoned cognitive process that members of the public willingly engage in when their concern

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about the scandal issue renders the more intuitive, unconscious, and unquestioned use of an industry category insufficient to match their level of motivation to understand the cause(s) of a scandal.

Proposition 3a: Scandals of lower moral intensity are more likely to cause the public to categorize by-stander firms using the industry category of the perpetrator firm.

Proposition 3b: Scandals of higher moral intensity are more likely to cause the public to categorize by-stander firms using a scandal-specific category.

Similarity. The likelihood that firms will be infected with the stigma associated with a category varies in accordance with the strength of their membership to a category (Vergne, 2012; Yu et al., 2008). Similarity between the perpetrator firm and by-stander firms has been considered the key influence on the spread of spillover following scandals (Jonsson et al., 2009; Desai, 2011), with greater perceived similarity making it more likely that a by-stander firm becomes categorized with the perpetrator firm, and consequently, receives a negative reputational evaluation. There are two complimentary approaches used in the literature to describe the shared attributes that determine how similar by-stander firms are perceived to be with the perpetrator firm– common organizational features and common associations. Across these approaches, the specific attributes evaluated by the public is determined by whether the industry category of the perpetrator firm or a scandal-specific category is employed as part of their categorization process. The attributes considered under the industry category scheme are those perceived as typical of a firm in the industry, while those considered under the scandal-specific category scheme are those considered salient because they contribute to the occurrence of the scandal.

The attributes considered under each categorization scheme, as we will describe, has consequences for the scope of firms affected by spillover. The use of the industry categorization

scheme is more likely to result in a wider scope of firms within the perpetrator firm's industry being affected by spillover, while the use of a scandal-specific category is more likely to result in comparatively fewer firms within the industry of the perpetrator firm being affected. Prototypical firm attributes that define category membership in an industry category, because they represent the central tendency of firms in an industry (Mervis & Rosch, 1981), are likely to be more prevalent across industry firms than are firm attributes perceived as causes of a scandal, since such attributes may not necessarily be typical of firms in the industry. Furthermore, the use of a scandal-specific category makes it possible that spillover can cross over and affect firms in other industries. Given the many attributes that by-stander firms have in common to the perpetrator, the public is selectively attentive only to those with greater causal power in explaining the scandal when determining category membership using a scandal-specific category. Taking into consideration firm attributes based on their salience to the scandal is conducive for understanding how firms in other industries, although seemingly less similar to the perpetrator compared to other firms in its industry, become targets of spillover when the minimal common attributes they share are central to category membership in a scandal-specific category.

 Common organizational features. Similarity of organizational features has been recognized as a primary basis by which firms are categorized in the process of reputational spillover. In accordance with the tendency of authors to conceptualize the industry of the perpetrator firm as the category guiding the spillover process, most prior studies have used product similarity, as defined by membership in the same industry, as the basis for category membership (Diestre & Rajagopalan, 2013). In conceptualizing reputational spillover, products have therefore been considered synonymous to specific industries and thus central to determining membership into industry categories. While products, as core and enduring attributes of firms,

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may indeed be highly salient for how the public categorizes firms (Barnett & King, 2008; Desai, 2011), similarities in other organizational features, which may be salient to the scandal and form the basis of membership in a scandal-specific category, have been overlooked.

The population ecology literature, for example, conceptualizes categories based on organizational forms, namely, externally imposed social identities based on a set of attributes that prescribe common behavioral expectations to firms (Hannan et al., 2007). Organizational features outside of a firm's core products have featured prominently in descriptions of such organizational forms. For instance, Hannan & Freeman (1986: 51) argue that four dimensions – organizational mission, forms of authority, core technology, and marketing strategy – are useful bases for classifying organizations because an organization's initial configuration on these dimensions "commits it to a set of environmental dependencies and thus to a long-term strategy". Institutional dimensions of organizational design have also been classified as part of a firm's core features, including vertical and horizontal structures of roles and responsibilities, policy and resource allocation mechanisms, and human resource practices (Greenwood & Hinings, 1993).

Widening the scope of similarities taken into consideration by the public in their categorization process to encompass both product and non-product features provides a basis for explaining categorization that is more conducive for conceptualizing cross-industry spillover. Unlike products, which tend to be ubiquitous to firms in an industry, non-product organizational features represent general organizational practices such as production methodologies, structural arrangements, and labour policies that are more likely to be common to firms across industries. The greater level of ubiquity of a product to firms in a given industry, compared to non-product features, makes it more likely that a broader scope of firms in the industry of the perpetrator is affected by spillover if the industry category is employed by the public compared to a scandal-

specific category. On the other hand, cross-industry spillover is more likely when the public

employs a scandal-specific category, since non-product similarities between by-stander firms and

the perpetrator firm that are salient to a scandal may be evaluated if they are perceived as a

causes of a scandal. This is illustrated by Diestre & Rajagopalan's (2014) finding that a

commonality in the core technology of by-stander firms and the perpetrator firm, in the use of a

toxic chemical involved in an industrial accident, resulted in a decline in the market value of by-

stander firms across manufacturing industries in-line with their relative usage of the input.

Common associations. We previously postulated that the centrality of the perpetrator

firm, by causing its actions to be perceived as representative of its broader network, affects the

likelihood that a spillover will be induced. A separate issue is how severely by-stander firms

within that network are actually affected by a spillover. This is dependent on the extent to which

they will be cognitively associated with the perpetrator firm by the public within the same

category. As a basis through which firms are categorized together, it has been theorized that

indirect ties between by-stander firms and the perpetrator firm through common associations to

third parties can result in repercussions of a scandal to spread to by-stander firms (Yu & Lester,

2008; Haack et al., 2014). Such categorization can be described using the concept of structural

equivalence (Burt, 1992; DiMaggio, 1986), where structurally equivalent firms are classified as

those that hold similar patterns of ties to and from actors (Burt, 1980). Firms with equivalent

structural positions in a network can be perceived by the public as sharing similar core attributes

(Holland et al., 1986) and adopting similar attitudes and behaviours (Brass & Burkhardt, 1992).

Common associations of firms to third parties – which include regulatory ties to government

actors, membership in trade associations or self-regulatory bodies, and relationships with other

firms – create structural equivalence by establishing patterns of common ties across firms. A

common association is central to defining category membership in an industry category, when on average, an industry firm is perceived to have a relationship with the third party. On the other hand, a common association is central to defining category membership in a scandal-specific category when the relationship between the perpetrator firm and the third party is perceived as a cause of the scandal, and an equivalent relationship between by-stander firms and the same third party exists, thereby creating a perception that the bystander could also commit the scandal in question.

The categorization scheme employed by the public influences whether third parties that operate within the industry of the perpetrator firm or those with a wider span across industries determine category membership. The Enron scandal is an example of when a common association that spanned across industries resulted in the categorization of by-stander firms. After Enron's auditor, Arthur Anderson, was found complicit in the firm's corporate fraud, the auditor's other clients, including those outside of the energy industry, experienced adverse effects to their stock market returns (Krishnamurthy et al., 2006). The common association with Arthur Anderson was salient in categorizing by-stander firms with Enron since the auditor's perceived lack of independence was considered a key cause of the scandal that could enable corporate fraud of its other clients, irrespective of their industry. Had an industry self-regulatory body been a basis for categorization (in the context of industry categorization), firm spillover effects could have been expected to be concentrated to a wider scope of firms within the energy industry since the typical industry firm would have an established relationship to the regulator.

The moral intensity of a scandal, by influencing whether the public reacts to a scandal by categorizing by-stander firms based on the industry category of the perpetrator firm or a scandal-specific category, determines the firm attributes that are taken into consideration to determine

category membership. Scandals of lower moral intensity are more likely to cause the public to employ an industry categorization scheme that is bounded to the consideration of firm attributes typical of an industry firm, while scandals of higher moral intensity cause the public to employ a scandal-specific category that can potentially encompass a broader array of firm attributes if they are salient as causes of the scandal, including those that are common to firms across industries. Moral intensity therefore affects the scope of firms affected by a spillover through its influence on the firm attributes that are evaluated as part of the categorization process.

Proposition 4a: Scandals of lower moral intensity are more likely to affect a wider span of firms in the industry of the perpetrator firm relative to scandals of higher moral intensity.

Proposition 4b: Scandals of higher moral intensity are more likely to affect firms outside of the industry of the perpetrator firm relative to scandals of lower moral intensity.

DISCUSSION AND CONCLUSION

In light of the general dearth of literature on negative social evaluations and the risk of reputation loss they create for firms (George et al., 2016), this paper contributes to knowledge of a specific and understudied type of social evaluation, reputational spillover, which occurs when an isolated scandal committed by a perpetrator firm causes reputational damage to a wider scope of by-stander firms.

Our main contribution is two-fold. First, we offer a new, two-stage model of reputational spillover. By theoretically delineating spillover based on the core dimensions of initiation and spread, the model organizes and extends the literature in important ways. The elaboration on spillover initiation factors, which are effectively antecedents of the public's use of categorization, focuses attention on an understudied yet critical aspect of the phenomenon. Our examination of spillover spread, in which the category employed by the public is contingent on the moral intensity of a scandal, provides a theoretical rationale for the firm attributes that

determine which by-stander firms are categorized with the perpetrator firm.

Second, we offer a theory of reputational spillover that broadens its conceptual scope beyond industry spillovers. Drawing from the recent literature on category formation (Durand & Paolella, 2013; Kennedy & Fiss, 2013) that aims to reinvigorate what it criticizes as a stale treatment of categories in organizational theory (Durand & Paolella, 2013), we argue that rather than there being a single possible categorization scheme used by the public after observing a scandal to serve their goal of determining which other firms are likely to commit it, the public chooses a category contingent on its level of motivation to understand the scandal, as determined by the scandal's moral intensity. Our contingent view of the categorization process provides a stronger basis to understand the scope of reputational spillover by: 1) refuting the prevailing but limiting assumption that spillover effects are contained within an industry (e.g. Barnett & King, 2008; Jonsson et al., 2009; Parachuri & Misangyi, 2015; Yu et al., 2008); and 2) theorizing that attributes that define category membership can be common to firms across different industries. As a result, our model provides a more complete conceptual understanding of spillover by providing sound theoretical explanation for spillovers that cross industry boundaries.

Our research better incorporates the range of cognitive processes involved in reputational spillover. Existing research has presented opposing views of the cognitive processes underlying social judgement formation. One perspective paints these processes as deliberate, effortful, and conscious, relying on analytical reasoning (Bazerman, 2006; Stanovich & West, 2000), while the other paints them as automatic, effortless, and non-conscious, relying on intuition and heuristics (Kahneman, 2011; Kahneman & Frederick, 2002). Where the cognitive processes underlying the phenomenon have been explicated, research on reputational spillover has favored the latter perspective, reasoning that the audience's categorization process after witnessing a scandal is

driven by intuition (Haack et al., 2014; Jonsson et al., 2009; Yu et al., 2008). The possible role of analytical reasoning has either not been acknowledged or even dismissed outright (Haack et al., 2014). As a result, theoretical accounts of reputational spillover are unable to capture the true complexity of social judgement formation in which analytical and more intuitive cognitive processes are both available means of sense-making for perceivers and that certain evaluations emphasize one form of processing over the other (Bundy & Pfarrer, 2015).

In recognizing that the public's categorization process in the face of a scandal is determined by its level of moral intensity, through its effect on the public's motivation to understand the causes and consequences of the scandal, our model captures the possibility that either type of cognitive process can be at play. Future research can use our theory as a starting point to consider the range of possible cognitive processes underlying reputational spillovers in order to further our understanding of the phenomenon.

Our new theoretical framework also has implications for the self-regulation of firms. Industry self-regulation is a common context through which reputational spillover is examined (e.g. Barnett & King, 2008, King et al., 2002, Yu et al., 2008). The threat of reputational spillover is reasoned to incentivize firms to collectively manage what can be considered a common reputational good (or 'reputational commons') that affects the fate of all industry firms (Barnett & King, 2008). Our research reshapes the theoretical understanding of what constitutes a reputational commons. By revealing that spillover can spread past industry boundaries, we widen the scope of firms that can be considered part of a reputational commons. Furthermore, by acknowledging that the public may create categories in response to specific scandals rather than relying on fixed industry structures to categorize firms, we offer a more dynamic depiction of reputational commons, one in which the shared reputations that intertwine the fate of firms

emerge might be defined at the point in which scandals occur.

Implications for the design of self-regulatory initiatives follow from this broadened theoretical understanding of reputational commons. That is, the possibility of cross-industry spillover reveals the importance, in certain contexts, of forming self-regulatory initiatives that span across industries. Our findings indicate that it is in the best interest of firms across industries that are connected through attributes salient to a particular scandal to organize self-regulatory initiatives that aim to strategically disassociate from these attributes. This is particularly important if a scandal has potential to be of high moral intensity. For instance, in developing countries, geographic location is a common organizational feature that connects firms across industries due to the institutional deficiencies in these contexts that enable corruption. Accordingly, to protect the reputation of its members, the Extractive Industries Transparency Initiative (EITI), a regulatory initiative across oil, gas, and mining industries in developing countries, attempts to dissociate member firms from their institutional environment by promoting transparency and accountability around the governance of revenues.

Our insights can also be used to inform the tactics that self-regulatory associations use to protect their members from spillover effects. Efforts of regulatory associations to create a collective reputation that is distinguished from non-members, and thus, protected from spillovers caused by their actions, have been well established (King et al., 2002). However, our analysis of spillover inducement factors reveals that altogether different types of tactics can also be used to protect against spillover - those which pre-empt the public from forming and applying categories. Since an antecedent of categorization is insufficient information to attribute a firm specific cause to a scandal, initiatives to better inform the public about the risks associated with an industry or collective of firms could prevent the inducement of categorization in response to a scandal. This

would enable the public to follow a more reasoned decision-making approach, making them less likely to a) falsely perceive that the risk of a scandal exists widely across firms, and b) have the subsequent motivation to ascertain this risk, which would cause them to initiate a categorization process. For instance, Diestre & Rajagopalan (2014) empirically demonstrated that reductions in the market value of by-stander firms caused by their use of an input connected with a scandal by a perpetrator firm were lower when an association of users of that input existed. This negative moderating effect was attributed to the efforts of dedicated 'input associations' that educated consumers and investors on the actual risks of the input, so that an incident was more likely to be perceived as firm specific rather than due to the use of the input itself.

Our theoretical model also has implications for reputation management of firms. Given that reputation can be an important source of competitive advantage (Barney, 1991), managers should be wary of how reputational spillovers can spread to their firms. This is especially true of firms for which spillover is more likely, such as those in industries and competitive environments in which institutional pressures towards isomorphism exist. The strength of institutional forces in these contexts orient firms towards common strategic responses (Oliver, 1991), rendering similarity a condition for success. In such circumstances, it is important for managers to weigh the need for their firms to resemble organizational archetypes that are positioned effectively within their context against the risk that their resemblance to other firms can result in greater susceptibility to absorbing spillover. Accepting the resemblance to 'safe' firms with predictable behaviour but crafting an opposing identity against likely perpetrator firms through differentiating attributes can allow firms to simultaneously conform to requirements for success in the environment and protect them from spillover. This may entail more than just disassociating from firms within the same industry given cross-industry spillovers are possible,

adding an additional layer of complexity to how managers should position their firms. Since reputational spillover can only occur to firms that are in the public's purview, managers may consider keeping a low profile when the risk of reputational spillover is high. While this is likely not a sustainable long-term strategy, it may be effective as a temporary strategy in times of crisis when industries, or the broader environment in which a firm operates, is under public scrutiny.

Our insights present a number of opportunities for future areas of research. Researchers have recognized the importance of considering the audience when conceptualizing the categorization process, reasoning that audiences differ in the criteria they use to categorize firms based on the various purposes they have (Durand & Paolella, 2013; Hsu & Hannan, 2005). By locating the motivation of the actor that engages in categorization as a focal point of our model, we more explicitly incorporate this consideration into research on reputational spillover. Although the audience considered in our paper is the general public, and the key influence of their motivation is a scandal's moral intensity, our theoretical framework can be extended to contextualize that categorization process of various audiences by taking into account factors that influence their motivations after observing a scandal and how these motivations affect their categorization process. Furthermore, our research is an important step towards empirically testing reputational spillover using laboratory experiments. Experiments are commonly used in research on social evaluations (e.g. Elsbach, 1994; Zucker, 1977) because of their suitability for examining social judgement formation (Suddaby et al., 2017), but have been thus far absent in studies of spillover. By better explicating the theoretical basis for the initiation and spread of reputational spillover using the socio-cognitive theory of categorization, our model can aid researchers in designing experiments to test theoretical predictions, including the propositions advanced in this paper.

Finally, the extant literature has paid limited attention to the possibility of positive spillovers that stem from reputation-enhancing actions of firms that are viewed favorably by the public. These have been acknowledged (e.g. Haack et al., 2014; Parachuri & Misangyi, 2015) without yet being subjected to explicit theorizing. Although our framework is also designed to explain negative spillovers in the form of scandals, future research should explore its applicability to positive spillovers. Our model reflects that categorization emerges in response to a specific need – which, in the case of a positive spillover, would be the need to determine which other firms should be evaluated positively as a result of an origin firm receiving public acclaim. We envisage that a similar initiation and spread phase would come into play but the assumptions underlying our theory need further theoretical and empirical refinement given that the motivation to reward firms is likely to differ in important ways from the motivation to punish (Haack et al., 2014; Mishina et al., 2012). For instance, human nature dictates that negative stimuli have a more pervasive impact on judgements than positive stimuli of equal intensity (Kahneman & Tversky, 2000; Peeters & Czapinski, 1990), and that negative information is processed more thoroughly and has a stronger impact on perceptions than positive information (Baumeister et al., 2001). Accordingly, events that are morally intense because they are considered righteous may not instill in the public the same level of thoughtfulness in understanding their causes as would morally intense scandals. As a result, it may be that positive spillovers result from a different categorization process than the one described in this paper. Nonetheless, our hope is that the theoretical framework we provide can at the very least be used as a new, theoretically robust conceptualization of the process of categorization that underlies their origin and spread.

How Firms Adapt Their Innovation Approach When Faced with the Threat of Corruption: An Examination of the Effect of Corruption on Product and Marketing Innovation

Abstract: This study explores how firms adapt their innovation approach when faced with the threat of corruption, a problem characteristic of developing countries thought to undermine economic growth. I examine how perceived corruption affects both a firm's product and marketing innovation. Furthermore, the role of IP protection in influencing the relationship between perceived corruption and each respective form of innovation in also taken into consideration. Data from the World Bank on firms from ten South Asian and African countries was used to test the study's hypotheses. Results from bivariate probit estimation with country and industry fixed effects support my key argument that perceived corruption causes firms to shift their focus away from product innovation towards marketing innovation, as well as the role of patenting in mediating the relationship between perceived corruption and product innovation.

1. Introduction

Corruption is a systemic issue facing developing countries that has long been considered a key contributor to underdevelopment due to its negative impact on economic growth (Shleifer and Vishny, 1993; Mauro, 1995). Defined as the abuse of power by those in public office for private benefit (Rodriquez, Siegel, Hillman, and Eden, 2006), where abuse constitutes a breach of legal norms (Johnston, 1986), the corruption examined in this paper takes place between firms and government officials or representatives. It includes practices such as kickbacks in public procurement, bribery, and embezzlement of property by government officials (Jensen, Li, and Rahman, 2010). By acting as an additional tax on firms, corruption disincentives firms from pursuing economic activities that would otherwise be profitable (Bardhan, 1997; Rose-Ackerman, 1999).

Innovation is considered widely to be a pivotal driver of economic growth (Aghion and Howitt, 1990; Grossman and Helpman, 1991), having the ability to raise the productivity of firms (Schumpeter, 1934) in both developed and developing countries (Chudnovsky, López, and Pupato, 2006; Crespi and Zuniga, 2011). As such, innovation has been recognized as a key channel through which corruption can undermine economic growth (Habiyaremye and Raymond, 2017), yet little attention has been paid to the relationship between corruption and firm innovation (Xu and Yano, 2017; Ayyagari, Demirgüç-Kunt, and Maksimovic, 2010).

Of the research that has examined this relationship, the dominant view in the literature is that corruption deters innovation by creating the risk that rents generated from economic activities will be expropriated by corrupt actors (Murphy, Shleifer, and Vishny, 1993), raising the uncertainty as to the economic viability of an innovation project (Anokhin and Schulze,

2008). This view is based on a narrow conceptualization of innovation that has been adopted in the literature in which the outcomes examined pertain to technological innovation. Accordingly, empirical evidence has shown that corruption has a negative effect on the capacity to produce technological innovation (Chadee and Roxas, 2013), investments in capital equipment necessary for innovation (Paunov, 2016), R&D (Xu and Yano, 2017), and patenting (Anokhin and Schulze, 2009; Xu and Yano, 2017). Based on its broader definition as the adoption of an idea or behaviour new to an organization (Hage, 1999), innovation can be thought of as a typology that is more widely encompassing of the variety of innovation activities a firm can pursue - product, process, organizational, and marketing innovation (Schumpeter, 1934, 2010). By not taking into account the diversity of types of firm innovation, the literature fails to examine the effect that corruption has on a firm's broader innovation strategy, and as a result, overlooks potential insights that can be uncovered by using a broader conceptualization of innovation.

In this paper, I take into account a wider scope of firm innovation, examining how the perceived severity of corruption by a firm's managers affects both product and marketing innovation. Production innovation, a technological form of innovation, is defined as the introduction or significant improvement of a product or service in terms of its characteristics or intended use (OECD, 2005; Barasa, Knoben, Vermeulen et al., 2017). Marketing innovation, which is non-technological in nature, is defined as the implementation of new marketing techniques that entail significant changes in product design, placement, pricing, or promotion (OECD, 2005; Tavasolli and Karlsson, 2015). Through my examination, I develop the novel theoretical insight that firms respond to corruption by shifting their resources and efforts away from product innovation towards marketing innovation in order to reduce their level of risk, favoring the latter's more immediate and assured returns relative to the former's more distant and

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uncertain returns. In doing so, I extend the literature's understanding of the consequences of corruption which has little to say regarding how firms minimize the impact of corruption on their operations (Galang, 2012). I make two central points to develop this insight. Firstly, I conceptualize product and marketing innovation using the exploration-exploitation framework (March, 1991), as forms of exploration and exploitation, respectively, to explicate their key differences and explain that they are interdependent activities which firms attempt to strike an optimal balance between. Second, using threat rigidity theory (Staw, Sandelands, and Dutton, 1981), I argue that perceived corruption causes firms to adopt a risk averse and short-term strategic focus that is conducive to marketing innovation but not product innovation.

The role of intellectual property (IP) protection is also incorporated into this study in order to delve deeper into the process of innovation, which is necessary to better understand the forces that drive it (Gallouj and Weinstien, 1997). IP protection is often an integral component of a firm's innovation efforts, being sought after to protect its innovation outputs from infringement to ensure they generate the most value for a firm (Barney, 1991). Both patenting and trademarking are examined since they are used in conjunction by firms to offer more complete protection of their innovation outputs (Thomä and Bizer, 2013), being employed respectively as means of protection for product and marketing innovations. A firm is considered to engage in patenting and trademarking, respectively, when it applies for a patent or trademark. By accounting for the susceptibility of patenting and trademarking to corruption, I dive deeper into a firm's innovation process to better understand how perceived corruption impacts its balance of product and marketing innovation.

The dearth of research on the relationship between corruption and firm innovation can be attributed in part to a lack of innovation data on firms in developing countries (Ayyagari,

Demirgüç-Kunt, and Maksimovic, 2011; Goedhuys and Veugelers, 2012), since explicit corruption is most prevalent and salient in the developing context. To overcome this challenge, I consolidate two data sources from the World Bank to form a rich dataset consisting of over 6000 firms from ten African and South Asian countries that is used to test the hypotheses put forth in this study.

My paper makes two key contributions. Firstly, it provides a more nuanced understanding of corruption's impact on innovation that better captures how developing country firms adapt their innovation strategy to the institutional context. The extant literature's near exclusive focus on the determinants of innovation in developed countries (Intarakumnerd, Chairatana, and Tangchitpiboon, 2002) has resulted in little insight on the unique challenges facing innovating firms in the developing context (Bradley, McMullen, Artz, and Simiyu, 2012; Barasa et al., 2017). Included in this void of knowledge is how innovating firms in developing countries adapt to their institutional environment. This represents a significant omission considering that such knowledge is imperative for providing strategic recommendations to managers on how to effectively respond to the institutional pressures that affect their firms (Oliver, 1991). By explaining that firms respond to corruption by shifting their effort and resources across types of innovation activities in order to reduce their level of risk, as well as accounting for the role that IP protection plays in this shift, my paper sheds light on how innovating firms in developing countries adapt their innovation strategy to their institutional environment.

Secondly, my paper contributes to the literature on exploration and exploitation by deepening the understanding of how a firm's environment affects their tendency to engage in one activity over the other, a key area of inquiry in the exploration-exploitation literature (e.g. Gibson and Birkinshaw, 2004; Posen and Levinthal, 2012). While it has been asserted that

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environments with weak appropriability conditions that reduce the benefit accruable from exploratory activities cause firms to shift their investments towards exploitive activities (Lavie, Stettner, and Tushman, 2010), the argument has not received sufficient theoretical development or empirical validation. The scope of a firm's innovation activities is commonly understood through the exploration-exploitation framework (e.g. Andriopoulos and Lewis, 2009; Guan and Liu, 2016). Through the context of how corruption affects a firm's balance of product and marketing innovation, I develop a theoretical explanation for the appropriation argument, using threat-rigidity as the theoretical mechanism to explain why a firm shifts its emphasis from exploration to exploitation. Furthermore, the findings of this paper provide empirical validation for the argument.

The paper proceeds with a review of the relevant literature, followed by the development of testable hypotheses on the relationship between corruption and firm innovation. The section that follows describes the data and empirical approach, which is then followed by a summary and discussion of results. The final section discusses implications of my research and concludes.

2. Theoretical background

2.1. Conceptualizing product and marketing innovation using the exploration-exploitation framework

Exploration consists of activities undertaken by firms for the purpose of discovering something new, with returns from these activities being uncertain, distant, and often negative (March, 1991; Rothaermel and Deeds, 2004). Exploitation, on the other hand, consists of activities that build on an existing set of resources, assets, or capabilities, with returns that are predictable and proximate (March, 1991, Rothaermel and Deeds, 2004). While the exploration-

exploitation framework is commonly applied to differentiate activities of firms that fall within the same operational domain, it can be used to conceptualize activities on separate operational domains when they differ in the certainty and proximity of their outcomes relative to one another (He and Wong, 2004; Lavie and Rosenkopf, 2006). Activities that fall in the domains of product development and product marketing have previously received such treatment in the literature. For example, relative to product innovation, which has been considered a form of exploration, the continued marketing and commercialization of existing products (Voss, Sirdeshmukh, and Voss, 2008; Rotharemel and Deeds, 2004) has been considered a form of exploitation. By explaining the differences in the underlying characteristics of product and marketing innovation, I follow a similar approach in conceptualizing the respective activities as forms of exploration and exploitation.

Product innovations entail a shift in the technology employed by a firm for the purpose of producing new or significantly improved products. This technological shift is achieved through expenditures in new R&D resources and/or production processes (Garcia and Calantone, 2002), which include the establishment and support of R&D facilities, training of specialized staff, and implementation of operating information systems for organizing and reporting on the innovation process (Manez, Rochina-Barrachina, Sanchis, and Sanchis, 2009).

The complexity involved in product innovation creates uncertainty as to whether it will reap sufficient returns to justify its cost of investment. Product innovation requires technology and production techniques never-before used in the industry when a firm attempts to release a product new to the market. In instances when the product being developed is new to the firm but an imitation, which is more likely the case for developing country firms (Grossman and Helpman, 1991; Acemoglu, Aghion, and Zilibotti, 2006), product innovation remains an

inherently complex activity. It is unlikely that firms will be able to observe all required factors of production and their marginal contribution to the innovation output (Rumelt, 1984). Furthermore, the idiosyncratic features of a firm's context will have implications for how technologies and processes are adapted (Tyre and von Hippel, 1995). Even if the infrastructure required for a product innovation can be observed from competitors, uncertainty regarding how it should be used to produce desired outputs causes the product innovation process to be causally ambiguous (Szulanksi, 1996). As a result of its complexity, product innovation is experimental in nature, characterized by failed attempts and multiple iterations where development activities are repeated until innovation outputs achieve a suitable level of quality or cost.

Product innovation can also be a long term initiative that requires firms to make irreversible commitments. The R&D expenditures required in product innovation are "sunk costs" (Ganter and Hecker, 2013), investments that are unrecoverable by a firm once incurred. They are recouped only upon the completion of successful product innovation initiatives, which can span a considerable length of time because of a) the multiple iterations required to complete a successful product innovation and b) heavy fixed costs of investment may precipitate that successive product innovations be developed in order for these costs to be recouped (Tavassoli and Karlsson, 2015).

Marketing innovation consists of the adoption of new marketing techniques used by a firm to alter its "marketing mix" (Tavassoli and Karlsson, 2015; OECD, 2005). Also known by the "four p's" (Kotler, Armstrong, Saunders, and Wong, 1999), the marketing mix is a set of tools that a firm uses to increase demand for its product, conceptualized across four dimensions:

product[2], pricing, promotion, and placement (ie. distribution methods and sales channels). Accordingly, marketing innovations have been equated to low risk modifications to product design (Bennett and Cooper, 1981), price-setting strategies, advertising promotions, and the opening of sales channels (Lin, Chen, and Chiu, 2010). Unlike product innovation, marketing innovation is not driven by R&D and thus does not necessitate fixed investment costs to the same degree (Tavassoli and Karlsson, 2015).

The returns of marketing innovation are both more certain and immediate relative to those of product innovation. While marketing initiatives taken on by a firm are new to the firm itself, they are based on well-established marketing practices, such that their novelty lies in how they are adapted to a firm's particular context (O'Dwyer, Gilmore, and Carson, 2009). This makes the relationship between the means and ends of marketing innovations explicit, allowing firms to execute them with relative ease and assurance of success. Comprised of initiatives aimed to increase the sale of a firm's products, marketing innovation is integral to overall product development efforts (Sood and Tellis, 2009; Adams, Bessant, and Phelps, 2006) since it allows a firm to engage in continual commercialization required to make its products a commercial success (Crossan and Apaydin, 2010). Marketing innovation can therefore be thought of as means for firms to generate predictable returns by leveraging their existing product base. Compared to product innovation, marketing innovation also has a shorter-term orientation. The relative simplicity of marketing innovation allows it to be executed both quickly (Naidoo, 2010) and spontaneously (Levitt, 1960), such that it generates immediate, short-term returns for a firm (Rust, Ambler, Carpenter, Kumar et al., 2004).

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[2] Product changes that fall under the category of marketing innovation typically entail changes to the branding or appearance of existing products, and thus, are distinct from new or significantly improved products that would be classified under product innovations.

2.2. Interdependency and balance between exploration and exploitation

The literature suggests that a firm must strike a balance between explorative and exploitive activities to ensure long-term success (March, 1991; Rivkin and Siggelkow, 2003). A mix of both activities is required as they enable and reinforce one another, with exploration being pivotal for achieving long-term performance outcomes and exploitation for short-term outcomes (Lin, Yang, and Demirkan, 2007). Exploitation provides a low-risk stream of capital that can be used to fund future exploratory activities and mitigate against the risk of the latter's distant and uncertain returns (Garcia, Calantone, and Levine, 2003). An over-abundance of exploration causes firms to suffer the costs of experimentation without reaping the rewards from exploiting the opportunities that it generates. Exploitation in the absence of exploration, on the other hand, compromises the long-term profitability of a firm by failing to produce a steady stream of new opportunities that can be exploited (March, 1991).

Faced with resource constraints, firms must make resource allocation decisions to achieve an optimal mix of exploration and exploitation (Lavie et al., 2010). Based on their expected outcomes, the trade-off between the two activities is akin to deciding whether to prioritize immediate, short-term outcomes that are assured or farther off or long-term outcomes that are unpredictable (March, 1991). A threatening environment is one factor that affects the optimal balance of exploration and exploitation in a firm (Lavie et al., 2010, Voss et al., 2008). In the next section, I employ threat rigidity theory to explain how perceived corruption affects a firm's balance of exploration and exploitation, in the form of their product and marketing innovation efforts, respectively. I argue that a firm adopts a short term and risk adverse strategic focus that favors exploitation when it's managers perceive corruption to be a severe obstacle.

This shift in focus causes the firm to reduce their product innovation and increase their efforts on activities with assured and proximal returns, such as marketing innovation.

3. Hypotheses

3.1. The effect of corruption on innovation

Corruption creates a threatening environment due to the harmful consequences it has for firms. Under corrupt regimes, the self-interested actions of public actors are manifested as official, authoritative decisions in order to shroud their illegality and opportunistic motives, which can make corruption arbitrary (Hoffman, 2002; Rodriguez, Uhlenbruck, and Eden, 2005). As a result, corruption becomes difficult and costly to strategize against (Anokhin and Schulze, 2009), raising the uncertainty of economic exchanges due to the risk of unanticipated additional costs that can occur without notice or reason. By reducing the value from economic activities a firm is able to capture, corruption makes it possible that otherwise promising opportunities will cause a firm to suffer losses. Innovating firms are especially susceptible to expropriation by public actors due to their need for irreplaceable government services such as licenses and permits (Murphy, Shleifer, and Vishny, 1993).

Threat rigidity theory posits that a firm's behaviour becomes more rigid and inflexible when it faces probable losses due to an environmental threat (Staw et al., 1981). This occurs for two reasons. Firstly, a threatening environment causes firms to consult fewer sources of information and instead rely on familiar knowledge, experiences, and ways of understanding to guide decision making (Smart and Vertinsky, 1977). Such restriction in information occurs due to information overload resulting from the effort and attention devoted to managing the looming threat, which reduces the information processing capacity available to a firm's decision makers.

Corruption has this effect on a firm, causing senior management's time and attention that could otherwise be devoted to value-adding activities such as innovation (Barasa et al., 2017) to be occupied with managing unpredictable regulation and government relationships (Tybout, 2000). Secondly, a threat causes a firm to increase their centralization of authority, formalize more extensively, and rely more heavily on standardized procedures (Staw et al., 1981, Yasai-Ardekani, 1989). In light the possibility of substantial error or loss being magnified by a threat, this rigid form of organizing is chosen by a firm in order to enhance organizational coordination and control (Katz and Kahn, 1978). Due to the risk of unanticipated additional costs that could result in innovation projects suffering losses, firms facing corruption could be expected to exercise caution through a more rigid organizational structure. As a result of these consequences, an environmental threat causes firms to adopt a short term and risk-averse strategic focus which restricts genuinely novel opportunities with uncertain returns and favors familiar courses of action with predictable returns (Voss et al., 2008).

Corruption thus results in a strategic focus that is not conducive to product innovation. It makes it less likely that firms engage in the experimentation required of product innovation, which requires an openness to new and varied sources of information and operational flexibility that can accommodate the trial of never-before tried means-ends combinations. On the other hand, the short-term and risk averse strategic focus of a firm whose managers perceive corruption to be severe is compatible with marketing innovation. Consisting of the adaptation of marketing techniques that are new to the firm but are well-established practices, marketing innovation requires little search effort by a firm. Similarly, firms would be able execute marketing innovations despite rigid operating structures and reliance on standard procedures due to their ease of adoption which entails little experimentation.

Exploration and exploitation represent opposing priorities of a firm, with the former being pursued to achieve longer-term returns that may be uncertain and the latter for shorter-term and predictable returns. As such, there is an opposite reciprocal causality between exploration and exploitation in which a decrease in one corresponds to an increase in the other (Voss et al., 2008). When the perceived threat of corruption causes a firm to shift its strategic focus, the firm reduces their product innovation efforts in pursuit of activities with more assured returns. Marketing innovation is one such activity that a firm can shift their efforts towards since it is compatible with a risk averse and short-term strategic focus. Accordingly, I hypothesize that perceived corruption results in a reduction to product innovation and an increase in marketing innovation, causing a firm to effectively trade off the more uncertain and distant returns of exploration for the assured and near-term returns of exploitation.

> *H1: Perceptions of the severity of corruption by a firm's managers decreases the firm's product innovation.*

> *H2: Perceptions of the severity of corruption by a firm's managers increases the firm's marketing innovation.*

3.2. The influence of IP protection on the effect of corruption on innovation

In this section, I examine the role that IP protection plays in determining how perceived corruption affects a firm's product and marketing innovation. By protecting a firm against infringement of its innovation output by other firms, IP protection incentivizes innovation by allowing firms to appropriate greater economic returns from its innovation efforts. Patents and trademarks are forms of IP protection applied to product and marketing innovations, respectively, that provide firms the exclusive right to utilize their innovation outputs (Greenhalgh and Rogers, 2010). Patents are granted for inventions such as newly developed products while

trademarks are granted for a firm's marketing assets (e.g. Srinivasan, Lilien, and Rangaswamy, 2008; Jensen, Webster, and Buddelmeyer, 2008). Namely, the marketing assets protected by trademarks are identifiable markers such as symbols and names that distinguish a firm's products from those of its competitors (Block, Fisch, Hahn, and Sander, 2015), which can be an integral part of new marketing initiatives that are undertaken as a means of strengthening a firm's brand. I explain how perceptions of corruption by a firm's managers deter it from patenting but not trademarking by comparing the two forms of IP protection in terms of their susceptibility to corruption. Following from this line of reasoning, I hypothesize that patenting and trademarking have a different influence on the relationship between corruption and the type of innovation they are intended to protect. Specifically, I argue that patenting mediates the effect of perceived corruption on product innovation while trademarking strengthens the effect of perceived corruption on marketing innovation.

3.3. The mediating role of patenting

Patents incentivize firms to engage in the complex and experimental process of product innovation. Without a patent to protect their product innovation, competitors could imitate a firm's product and release their own version to the market without bearing the same costs associated with exploration, allowing them to even under price the firm. Patent protection thus assures a firm greater economic return for their innovation efforts, increasing their willingness to accept the inherent risks associated with product innovation attributable to its sunk costs and unpredictable, long-term outcomes. Accordingly, patenting is positively associated with product innovation.

Firms wanting to obtain patent protection for their product innovations must obtain approval from public actors since the patenting process is governed by national institutions. Patent offices are responsible for evaluating whether a product innovation should be granted a patent based on whether it meets the necessary criteria of being sufficiently novel and non-obvious (Reitzig and Puranam, 2009). Corruption results from situations that present opportunities for gain by public actors that are appropriated by their use of discretionary power (Kaufman, 1997). Given the subjective nature of the criteria on which patent proposals are assessed, public actors hold considerable discretionary power in determining whether a firm is granted a patent, leaving firms susceptible to corruption in which additional costs are imposed on firms. Public actors may demand bribes for dealing favorably with patent proposals, raising the overall cost of a product innovation (Paunov, 2016). Even if a firm is able to bear the additional costs, the time-lag involved in being granted a patent after negotiating with a public actor can delay a product's introduction to the market, reducing the attractiveness of a patent. As a result, a firm whose managers perceive corruption to be a severe obstacle will be deterred from engaging in the patenting process.

Based on my hypothesis that perceived corruption reduces a firm's product innovation (Hypothesis 1) and that patenting is positively associated with product innovation, I posit that patenting is a mechanism through which perceived corruption negatively affects product innovation. Given that the propensity to patent is contingent on factors including industry(Hall, 2007; Mairesse and Mohnen, 2010) and firm size (Siegel and Wright, 2007), and because a firm can only be granted a patent for a product innovation that is sufficiently novel, a patent would not be sought after in all instances of product innovation. Therefore, I hypothesize that patenting partially mediates the relationship between perceived corruption and product innovation.

Hypothesis 3: The negative relationship between perceptions of the severity of corruption by a firm's managers and the firm's product innovation is partially mediated by patenting.

3.4.. The moderating role of trademarking

Trademarks provide a firm the legal basis for the exclusive right to use their brand (Block et al., 2015). By protecting a firm's recognizable designations against infringement, trademarks prevent competitors from free-riding on the use of the brand, ensuring it greater economic returns from its products (Mendonça, Pereira, and Godinho, 2004). Although trademarks are similar to patents in that they require approval from public actors on account of the trademarking process being governed by national institutions, I reason that a firm will not be deterred from trademarking when its managers perceive corruption to be a severe obstacle. Firstly, the criteria on which trademark proposals are assessed, distinctiveness, is easier for firms to demonstrate than the criteria on which patent proposals are assessed, novelty and non-obviousness (Jensen et al., 2008). As a result, the approval process for trademarks is less subjective. This causes public actors to hold little discretionary power in the granting process, reducing the chances of corruption. Secondly, trademarks require less prior investment than patents. A substantial investment in time and capital must be made before a patent can be granted (Sander and Block, 2011), with the product innovation process needing to be at least partly underway in order to have a tangible output on which a patent can be granted. This is less true for trademarks. The majority of the investment associated with a trademark, the costs pertaining to leveraging the trademark to promote a brand, is incurred after a trademark is registered (Block et al., 2015). Any perceived threat of corruption that may exist is unlikely to deter a firm trademarking since the limited investment required to obtain a trademark means that a firm is able to absorb additional incremental costs that result from corruption.

Trademarks are imperative for a firm not only due to their protection function but their ability to establish a firm's brand, since strong brands are associated with benefits such as reduced consumer search costs and increased consumer loyalty (Hoeffler and Keller, 2003). Trademarks contribute to a firms brand-building efforts (Krasnikov, Mishra, and Orozco, 2009) by attracting the public's scarce attention (Mendonça et al., 2004) and differentiating a firm's products by serving as explicit signals of quality (Ramello and Silva, 2006; Sander and Block, 2011). Accordingly, trademarks can be a key component of new marketing initiatives that fall under the product category of a firm's marketing mix, accompanying branding and design changes aimed at strengthening a firm's brand. Since perceived corruption does not have a significant direct influence on trademarking, I argue that firms are able to utilize trademarks as part of their increased marketing innovation efforts that occurs as a response to perceived corruption. Accordingly, I hypothesize that trademarking strengthens the positive relationship between perceived corruption and marketing innovation.

Hypothesis 4: The positive relationship between perceptions of the severity of corruption by a firm's managers and the firm's marketing innovation is strengthened by trademarking.

The conceptual model of this paper which depicts the hypotheses is presented in Appendix 3a.

4. Methods

4.1. Data and sample

To test the hypotheses in this paper, I obtained firm-level data from two World Bank sources, the World Bank Enterprise Survey (WBES), and the innovation follow-up survey (IFS) (www.enterprisesurveys.org). The WBES consists of multiple sections covering various

elements of a firm's business environment, including corruption and other issues that are

prominent in developing countries. The IFS focuses specifically on innovation, inquiring on a

range of activities including product and marketing innovation. Both of the surveys were issued

to owners or top managers of firms across countries and industries within the manufacturing,

service, and retail sectors in either 2013 or 2014. The surveys stratify respondents based on their

2-digit ISIC industry classification, sub-national geographic region, and firm size. Standardized

instruments are also used, ensuring that data is comparable across countries. The respondents of

the IFS are a subset of respondents of the WBES (75% of WBES respondents are selected to

complete the IFS), such that both sources consist of the same firms. This allowed me to merge

the two data sources into a single data set that offers a rich set of firm-level measures. My final

dataset encompasses firms from 10 African and South Asian countries (Bangladesh, India,

Nepal, Pakistan, Kenya, Ghana, Tanzania, Uganda, Zambia, and Democratic Republic of

Congo); the number of observations used in the empirical models tested in this study range from

6206 to 6537 after accounting for dropped observations.

4.2. Dependent variables

Data on the two dependent variables examined in this study, product and marketing

innovation, was collected from the IFS. To measure product innovation, a dummy variable was

used that takes the value of 1 if a firm has introduced any new or significantly improved products

or services in the last three years, and 0 otherwise. This measure has been used in previous

studies (Barasa et al., 2017; Krammer, 2017; Chadee and Roxas, 2013). Marketing innovation is

also measured using a dummy variable, which takes the value of 1 if a firm introduced or

significantly changed packaging, branding, logo, name, trademark, or product appearance in the

last three years, and 0 otherwise. The measure of marketing innovation relates to product related

marketing activities as opposed to activities that would fall under the other p's of a firms marketing mix - promotion, pricing, and placement. A similar measure of marketing innovation has been used in prior literature (Tavassoli and Karlson, 2015). Both the product and marketing innovation measures align with conventions set by the OECD for collecting and interpreting innovation data, including definitions of product and marketing innovation (OECD, 2005).

4.3. Independent variable

To measure perceived corruption, I used a survey item from the ES data that asked respondents how severe an obstacle they perceive corruption to be for the current operations of their firm, referring to government corruption specifically. It was measured on a 4 point scale (0= no obstacle, 4= very severe obstacle), and has been used in prior literature (Jensen et al., 2010). A perception-based measure of corruption is appropriate since managers' perceptions and interpretations of their environment influence their decision-making and thus are reflective of their behaviour (Boyd, Dess, and Rasheed, 1993). Furthermore, the respondents influential position within the organizational hierarchy as either the owner or top manager allows them to provide opinions and perceptions that are reflective of other key decision-makers when answering about the experience of the firm as a whole (Li and Atuahene- Gima, 2002; Phillips, 1981).

A challenge of conducting firm-level corruption research is that responses can be subject to social desirability bias. Since illegal activities tend to underlie corruption, firms may underreport corruption if they feel that responding honestly would cause them to be perceived as complicit in such acts. This is especially true for cross-national firm-level surveys such as the WBES since they are often administered with the help of governments, which could cause firms

to fear government reprisal for responding in a certain way despite assurances of anonymity (Jensen et al., 2010). Some concern of social desirability bias is alleviated in this study due to how the question measuring perceived corruption is framed in the ES survey. Since corruption is framed as an obstacle facing firms rather than an activity they partake in, firms should be less influenced to answer in a socially desirable manner than they would be when answering questions regarding their participation in specific acts, such as bribery or making informal payments. Relatedly, my measure also provides an advantage over those based on survey questions that are indirectly phrased in order to address the risk of social desirability, in which respondents answer regarding their perception of the experience that a typical firm has with corruption rather than that of their own firm (e.g. Krammer, 2017). While perceptual measures are criticized for their inherent subjectivity, the measure of perceived corruption from WBES has been shown to have a high correlation with the more objective measure of bribes paid as a proportion of sales available in other iterations of the survey (Fries, Lysenko, and Polanec, 2003). More generally, perceptual data on governance-related measures have been shown to be consistent with more objective measures based on formal rules (Kaufmann, Kraay, and Mastruzzi, 2007).

4.4. Mediator and moderator

Data on patenting and trademarking, the mediator and moderator, respectively, was obtained from the IFS. To measure patenting, a dummy variable was used that takes the value of 1 if a firm has applied for a patent concerning a product innovation in the last three years, and 0 otherwise. To measure trademarking, a dummy variable was used that takes the value of 1 if a firm has applied for a trademark in the last three years, and 0 otherwise. While applications for patents and trademarks alone are not necessarily telling of innovation outcomes, they can be used

to reach reliable conclusions when combined with complimentary data (Mendonça et al., 2004). Since patent and trademark applications are examined in conjunction with the measures of product and marketing innovation, they are indicative of a firm's attempt to obtain protection as part of their innovation process, and thus, appropriate for use in this study.

4.5.Control variables

Industry and country fixed effects were used to control for idiosyncratic differences that may exist in the corruption facing firms, as well as product and marketing innovation, across both industries and countries. A set of firm-specific variables were also included as controls.

R&D has been well documented in the literature as a key input required for innovation, encompassing a firm's investment and effort in the broad range of technology and knowledge accumulation activities required to produce novel outputs. To measure R&D, a dummy variable was used that takes the value of 1 if a firm answered yes to conducting internal R&D in the last three years, and 0 if they answered no. This measure has been used in prior literature (Krammer, 2017; Barasa et al., 2017).

Governments provide support for innovation in order to circumvent institutional voids common to developing countries (e.g. lack of access to financial capital, lack of educated workforce) that would prevent a firm from innovating. This support can consist of formal initiatives intended to foster firm innovation such as the provision of technical services and R&D support (Szczygielski, Grabowski, and Pamukcu, 2017). Accordingly, I control for whether a firm received government support for innovation using a binary variable that takes the value of 1 if a firm received non-financial support for its innovation activities in the last three years from government, and 0 otherwise (support includes training in the use of innovation equipment,

assistance in research and product development, and assistance and training for marketing innovations).

Prior literature has reasoned that ownership structure plays a role in firm innovation, with firms that are organized as shareholding companies thought to engage in a greater amount of innovation activity (Ayyagari et al., 2011, Barasa et al., 2017). In line with previous research (Barasa et al., 2017), I control for whether a firm is organized as a shareholding company using a binary variable that takes the value of 1 if a firm is either publicly traded company or a privately held, limited liability company, and 0 if it is another type of legal entity (sole proprietorship, partnership, limited partnership, or another form).

A complimentary relationship between exporting activities of firms and innovation has been uncovered and empirically demonstrated in prior research (Krammer, 2017; Golovko and Valentini, 2011). For this reason, international orientation was measured as a binary variable that takes the value of 1 if the respondent answered that the primary market for the sale of a firm's main product line or main line of services was international, as opposed to local or national, which take the value of 0.

Relevant differences are thought to exist in the ability and propensity of foreign owned firms to innovate as compared to domestic owned firms (Ayyagari et al., 2011; Girma, Gong, and Görg, 2000). Accordingly, foreign ownership was included as a control through the use of a dummy that takes the value of 1 if a firm is majority foreign owned (ie. greater than 50% foreign ownership), and 0 otherwise.

Firms with a stronger base of human capital are more innovative. A highly educated and skilled workforce better allows a firm to innovate because they have a greater ability to

assimilate and exploit knowledge from their environment (Cohen and Levinthal, 1989) and are more effective in leveraging the existing technology and resources available to a firm (Cuervo-Cazurra and Un, 2010). An inadequately educated workforce is thus an impediment to innovation, and is a particular challenge in developing countries which tend to be characterized by a low-level of human capital. The percentage of a firm's employees who have completed secondary school was used as a measure of workforce education, as has been done in prior literature (Cuervo-Cazurra and Un, 2010; Barasa et al., 2017).

Experience allows a manager to obtain tacit skills that allow for more extensively and thoughtfully engaging in the exploration of innovation projects (Custódio, Ferreira, and Matos, 2017). Furthermore, experience is a key asset in low institutional quality environments because it gives managers a breadth of knowledge on how to navigate the obstacles of their environment (Austin, 2002), including corruption. In line with prior studies, managerial experience is measured using a dummy variable that takes the value of 1 if a manager has more than 10 years of experience working in the sector of their firm, and 0 otherwise (Barasa et al., 2017; Ayyagari et al., 2011).

Firm size is widely considered to be a predictor of innovation, albeit the exact nature of the relationship is ambiguous. While one perspective reasons that larger firms are more innovative due to having greater resources and more opportunities to innovate, the opposing perspective says that they are less innovative as a result of greater bureaucracy and diminished agility (Ahuja, Lampert, and Tandon, 2008). Size is measured using the natural logarithm of the number of full time employees a firm employed at the end of the previous year.

Similarly, age is also considered a relevant determinant of firm innovation but it is debated whether older firms are more innovative on account of their experience and accumulated knowledge or less likely to innovate due to being more resistant to change (Coad, Segarra, and Teruel, 2016). Age was measured by taking the natural logarithm of the difference between the year the survey was answered and the year a firm was registered. Appendix 3b shows the correlations between the variables used in this study as well as their means and standard deviations.

4.6. Estimation method

The two dependent variables of interest in this study, product and marketing innovation, are both binary outcomes. Underlying the key hypotheses in this study is that the decisions to engage in product and marketing innovation are interdependent, with the firm taking into account the relative differences between product and marketing innovation when balancing its efforts across the two activities in response to corruption. Given the binary nature of the dependent variables and their interdependence, a bivariate probit model was chosen to test the relationships in this study. A bivariate probit model allows for the possibility that two binary outcomes are jointly determined rather than the result of independent processes (Greene, 2007). It does so by assuming that their error terms may be correlated across equations, allowing for the correction of overestimated standard errors. Both of the outcomes in this study are explained by the same set of variables, with the exception that patenting is used only to explain the likelihood of product innovation while trademarking is used only to explain the likelihood of marketing innovation. Accordingly, the empirical model is specified as follows:

$$y^*_{PROD,f} = \beta_{PROD} + \beta'_{COR,PROD} \cdot COR_f + \beta'_{PAT,PROD} \cdot PAT_f + \beta'_{X,PROD} \cdot X_f + \lambda_i + \eta_c + \epsilon_{PROD,f}$$

$$y^*_{MKT,f} = \beta_{MKT} + \beta'_{COR,MKT} \bullet COR_f + \beta'_{PAT,MKT} \bullet PAT_f + \beta'_{COR,MKT} \bullet COR_f \times \beta'_{PAT,MKT} \bullet PAT_f + \beta'_{X,MKT} \bullet X_f + \lambda_i + \eta_c + \epsilon_{MKT,f}$$

$$\rho = Cov\,(\epsilon_{PROD,f},\, \epsilon_{MKT,f}),$$

where f, i, and c, index firms, industries, and countries, respectively ; y^*_{PROD} and y^*_{MKT} are

dummies that equal to 1 if a firm has released a new or significantly improved product or service

or has performed a marketing innovation in the last three years, respectively; COR denotes a

firm's perception of corruption; $PROD$ and PAT denote whether a firm has applied for a patent or

trademark in the last three years, respectively; X denotes the set of control variables previously

described; λ_i and η_c denote industry and country fixed effects; and ϵ_{PROD} and ϵ_{MKT} are the

respective error terms for the equations estimating product and marketing innovation.

5. Results

A series of models with robust standard errors were used to test the hypotheses in this

study (Table 2). Model 1 presents the baseline model with only controls. Models 1-4 each have

product and marketing innovation as the outcome variable in their equations in order to test the

main effect hypotheses of the effect of corruption on product (H1) and marketing innovation

(H2), as well as the moderating role of trademarking (H4). Model 5, on the other hand, uses

product innovation and patenting as the dependent variables in its equations in order to test the

mediating role of patenting (H3). As can be seen in the last row of the table in Appendix 3c, the

Wald test of the interdependence between equations is consistent across models. This result

indicates that the error terms of the equations in each model are significantly correlated,

supporting the use of bivariate probit as the appropriate estimation technique.

The results of Model 1 affirm the predicted effects of many of the controls, with R&D, government support, and size each having a positive effect on both product and marketing innovation. International orientation only had a significant effect on marketing innovation, which was surprisingly negative. Majority foreign owned firms were found to be more likely to engage in marketing innovation.

Model 2 differs from Model 1 by including corruption as a predictor, which allows for evaluating Hypotheses 1 and 2. Hypothesis 1 predicted that perceived corruption has a negative effect on product innovation while Hypothesis 2 predicted it has a positive effect on marketing innovation. In Model 2, the coefficient of perceived corruption is negative and significant ($\beta = -0.0327$, $p<0.05$) for the equation predicting product innovation while it is positive and significant ($\beta = 0.0456$, $p<0.001$) for the equation predicting marketing innovation. This result, along with consistent findings of the coefficients of perceived corruption in Models 3 and 4, provide support for Hypothesis 1 and 2.

Model 3 adds patenting and trademarking to the equations predicting product and marketing innovation, respectively. Both the coefficients of patenting ($\beta = 0.602$, $p<0.001$) and trademarking ($\beta = 0.849$, $p<0.001$) were found to be significant and positive in their respective equations, confirming the prediction that patenting positively affects product innovation while trademarking positively affects marketing innovation. In order to test Hypothesis 4, which predicted that trademarking strengthens the positive effect of perceived corruption on marketing innovation, the interaction between trademarking and perceived corruption was included as a variable in the equation predicting marketing innovation in Model 4. While the coefficient of the interaction term is positive as predicted ($\beta = 0.602$), it is only marginally significant ($P<0.1$). Thus, this result provides only minimal support for Hypothesis 4.

In order to test Hypothesis 3, a bootstrapping procedure was used to assess whether patenting partially mediates the relationship between perceived corruption and product innovation. The bootstrapping procedure reduces the likelihood of type 1 error and has a higher level of statistical power than the traditional Baron and Kenney procedure for testing mediation (Preacher and Hayes, 2008; Hayes, 2013: 116), making it the appropriate choice. The results of the bootstrapping procedure (conducted on Model 5,with 5000 iterations) produced a standardized indirect effect of -0.093 ($p < 0.01$). Additionally, I conducted a Sobel test (Sobel, 1982) with bootstrapped standard errors to further confirm mediation. After 5000 iterations, the results of the Sobel test show an indirect effect of perceived corruption on product innovation (Sobel z-statistic $= -3.922$, $p < 0.001$). After computing the ratio of the indirect to total effect, the proportion of the total effect of perceived corruption on product innovation mediated by patenting was found to be 14%. Thus, these results provide support for Hypothesis 3.

5.1. Robustness tests

5.1.1. Instrumental variable (IV) estimation

I conducted IV estimation to address the possible endogeniety between the perceived corruption measure and both product and marketing innovation. Prior literature has acknowledged reverse causality between corruption and measures of innovation (Krammer, 2017,Vial and Hanoteau, 2010). Corrupt public actors impose additional costs on firms commensurate with their ability to pay them (Svensson, 2003). Accordingly, innovating firms face a more severe threat of corruption to the extent that their innovation outputs, such as new products or branding initiatives, are perceived as signals of financial success by corrupt actors (Ayyagari, Demirgüç-Kunt, and Maksimovic, 2014). Furthermore, as alluded to in this paper,

innovation activities can also leave firms more susceptible to corruption if they require forms of government permission, such as patent protection for product innovations. Corruption and innovation are thought to be jointly influenced by a variety country (e.g. GDP) and industry (e.g. growth) level factors, which also raises endogeniety concerns.

I instrumented firm-level perceived corruption with the average perception of corruption at the country-region-industry level, following the approach of previous scholars that have corrected for endogeniety when using firm-level corruption measures from the WBES (Fisman and Svensson, 2007; Krammer, 2017). Regions are sub-national geographic areas in a country which can encompass single or multiple cities, provinces, and states. I conducted both two-staged least squares (2SLS) and instrumental variable probit (IV probit) estimations with robust standard errors. Despite the dependent variables being binary, I present only the results of the linear, 2SLS estimations due to space limitations and because the discrete nature of the endogenous variable violates the IV probit assumption that the endogenous variable should be continuous. Nonetheless, the results from both 2SLS and IV probit were consistent in terms of the sign and significance of the coefficients of interest. A second set of IV probit regressions were also conducted using the log of perceived corruption in order to transform the endogenous variable into one that is continuous, which also produced consistent results.

The assumptions underlying the use of the instrument are confirmed by the data, with country-region-industry perceived corruption being highly correlated with perceived corruption at the firm-level (correlation= 0.3930) but having a low correlation with product innovation (correlation = 0.0192) and comparatively lower correlation with marketing innovation (correlation =0.1024). The instrument is also found to be a valid determinant of both measures of innovation, having joint F statistics that surpass the suggested threshold of 10 (Stock, Wring, and

Yogo, 2002) in the regressions explaining product innovation (785.93, p<0.001) and marketing

innovation (774.55, p<0.001). As a test of instrument strength, I report the Kleibergen-Paap

Walk rk F-statistic since the Cragg-Donald statistic that is commonly reported is not valid when

robust standard errors are computed. The F statistic is greater than 20 and significant (p<0.001)

for both the regressions predicting product and marketing innovation, indicating that the

instrument is strong and relevant. The Woolridge endogeniety statistics (Woolridge, 1995)

reported in the last row of Table 4 indicate that the null hypothesis that firm-level perceived

corruption is exogenous is rejected across models at adequate levels of statistical significance

(5% or less), except for those predicting product innovation and trademarking, in which there is a

lack of significance, and model 10 (which tests the moderating effect of trademarking), in which

there is significance at only the 10% level. While instrumenting in cases where endogeniety may

not be an issue can result in overestimated standard errors, I choose to present the 2SLS

estimations for these models because (1) endogeniety issues that are uncorrected pose the risk of

producing biased estimates, and (2) the 2SLS results can be compared with the main bivariate

probit results to ascertain whether standard errors might be overestimated. Consistency between

the bivariate probit and 2SLS results indicates that overestimation of standard errors is not an

issue.

The results of the 2SLS estimations are presented in the table in Appendix 3d. In Model

9, which predicts product innovation, the coefficient of perceived corruption is negative and

significant (β = -0.0270, p<0.05), providing support for Hypothesis 1. In Models 13-15, which

predict marketing innovation, the coefficients of perceived corruption are positive and significant

(β = 0.0408-0.0471, p<0.01), providing support for Hypothesis 2. Model 7 confirms that

perceived corruption does not have a significant direct effect on trademarking, which is a key

distinction made from its effect on patenting that is the basis for my argument of its moderating effect. Model 14 confirms that trademarking is positively related to marketing innovation since the coefficient of trademarking is positive and significant (β = 0.241, p<0.001), but Hypothesis 4 cannot be supported by the results since the inclusion of the trademarking and perceived corruption interaction in Model 15 is not statistically significant.

Estimation using 2SLS provides an advantage over bivariate probit in testing for mediation, allowing for the Baron and Kenney (1986) procedure to be implemented since equations are not estimated simultaneously. While its limitations compared to the bootstrapping method have been previously highlighted, I decided to present the results of this procedure in order to provide an alternative test of mediation than those in the main results. The conditions required for the Baron and Kenney procedure to establish the partial mediation suggested by Hypothesis 3 are met. Firstly, corruption (the independent variable) is negatively associated with patenting (the mediator), as established in Model 6 (β = -0.0576, p<0.001). Secondly, perceived corruption is negatively associated with product innovation (the dependent variable), as established in Model 9 and previously discussed. Thirdly, patenting has a positive association with product innovation, as established in Model 10 (β = 0.209, p<0.001). Lastly, when comparing Model 9 to Model 11, the coefficient of perceived corruption loses its significance and reduces in magnitude when patenting is included in the regression (β = -0.0135, p>0.1).

5.1.2. Alternative measures of marketing innovation

While I conceptualized marketing innovation broadly to encompass new initiatives taken on by a firm across the marketing mix, the measure of marketing innovation used in the primary specification was specific to the product dimension of the four p's, pertaining to initiatives that

entail branding and design changes. To test whether corruption has a positive effect on a broader set of marketing innovation initiatives, binary measures pertaining to promotion, pricing, and placement[3] were incorporated alongside the main product innovation measure in a series of bivariate probit models. The moderating role of trademarking was not tested since trademarks would not be expected to be sought after for these forms of marketing innovation. As can be seen from Models 16-18 on the table in Appendix 3e, perceived corruption has a significant and negative effect on product innovation and a significant and positive effect on the promotion (β = 0.0271, p<0.05), pricing (β = 0.0608, p<0.001), and placement (β = 0.0368, p<0.01) types of marketing innovations.

Insert Table 4 about here

5.1.3. Removal of responses perceived as untruthful

To alleviate concerns that the perceived corruption measure is being biased by socially desirable responding, the primary estimation was re-ran after dropping respondents that were perceived as being untruthful when answering questions regarding opinions and perceptions. The results, which are not reported here due to space limitations, remained consistent.

6. Discussion

In this paper, I examined how perceived corruption affects both product and marketing innovation. The influence that IP protection has on the relationship between perceived corruption

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[3] The promotion variable takes the value of 1 if a firm has introduced or significantly changed advertising methods or promotion of the product or service in the last three years, and 0 otherwise. The pricing variable takes the value of 1 if a firm has introduced or significantly changed pricing strategies, discount schemes, payment schemes, or customer loyalty rewards in the last three years, and 0 otherwise. The placement variable takes the value of 1 if a firm has introduced or significantly changed sales channels or sales points in the last three years, and 0 otherwise.

and innovation was also taken into consideration, with patenting and trademarking being incorporated into the analysis for their role in protecting product and marketing innovations, respectively. Product and marketing innovation were conceptualized, respectively, as forms of exploration and exploitation in order to explain that they are interdependent activities that a firm strives to achieve an optimal balance between. Threat rigidity theory was used to explain how perceived corruption causes a firm to adopt a risk-averse and short term strategic focus that results in a shift of emphasis from exploration to exploitation, and thus, from product to marketing innovation.

I find that perceived corruption causes a reduction in product innovation and an increase in marketing innovation, consistent with my key argument that firms respond to perceived corruption by shifting their efforts away from the latter, due to its uncertain and distant returns, towards the former, for its assured and near-term returns. As for the influence of IP protection on these relationships, my results vary. I find strong evidence to support the hypothesis that patenting partially mediates the relationship between perceived corruption and product innovation, indicating that the negative effect of perceived corruption on patenting is a possible pathway to its detrimental consequence to product innovation. On the other hand, I find weak evidence (significance at the 10% level in the main results and a lack of significance in the 2SLS estimation) to support the hypothesis that trademarking strengthens the relationship between perceived corruption and marketing innovation. This indicates that firms are not likely to use trademarks as a part of their increased emphasis on marketing innovation that results from perceived corruption, as I argued. A possible explanation for this finding may be that the creation and use of trademarks is contingent on product innovation. The development or significant modification of products may be necessary to create the opportunity for a firm to introduce novel

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branding elements such as logos and brand names that require trademark protection.

6.1. Theoretical contribution

This research makes a number of contributions. Firstly, it contributes to the literature on innovation in developing countries with the novel theoretical insight that firms respond to perceived corruption by adapting their broader innovation strategy to reduce their level of risk, shifting their emphasis to a form of innovation that is attuned with a risk averse and short-term strategic focus. By conceptualizing a broad scope of innovation and focusing on how firms adapt to corruption, my research adds a layer of depth to the dominant understanding in the literature that corruption deters innovation by reducing the rents appropriable by a firm, in which a narrow, technological based conceptualization of innovation is considered. This insight provides a deeper understanding of the consequences that the institutional context of developing countries has on firm innovation that can inform future research on the topic. For example, the national innovation systems literature can benefit from the more nuanced view on the relationship between corruption and innovation in light of its focus on how the institutional environment of developing countries impacts the types of innovations that firms produce (Nelson, 1993; Porter, 1990). The prevalence of the kinds of innovation that are more typical in developing countries compared to developed countries, such as those that rely on existing knowledge and technologies rather than technological breakthroughs (Govindarajan and Ramamurti, 2011) or utilize new processes and business models that alter the way products are sold and distributed (Khanna and Palepu, 2005), can be better explained with the knowledge of how corruption, a part of the constellation salient institutional factors of the developing context, causes firms to favor innovations with more assured and near-term returns.

My study also contributes to the literature on exploration and exploitation, answering

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calls for further research on how organizations respond to their environmental context by shifting their balance of exploration and exploitation (Lavie et al., 2010). I provide validation for the argument that weak appropriability conditions that reduce the benefits accruable from exploration cause firms to shift their focus from exploration to exploitation. To do so, I elucidate a theoretical mechanism that explains this shift and provide supporting empirical evidence, both of which have been absent from the literature. Future research can use the knowledge that an environmental threat reduces a firm's ability to engage in the experimentation that underlies exploratory activities, by reducing a firm's information search and causing them to adopt a rigid operating structure, to explore how other environmental factors that create weak appropriability conditions affect a firms balance of exploration and exploitation. This line of reasoning has extensive applicability to studies on innovation since the exploration-exploitation framework in general is able to distinguish the activities of firms that differ in the certainty and proximity of their returns. As such, this line of reasoning can be applied to studies that employ other distinctions of innovation that are common in literature, such as radical vs. incremental innovation and innovation that is new to the market vs. innovation that is new to the firm.

6.2. Practical implications

My research is insightful for managers of firms in developing countries that need to cope with the challenges that corruption poses for innovation. When severe corruption causes the exploratory effort required to produce successful product innovations to be infeasible, my findings indicate that marketing innovation is a possible activity that managers can shift their focus towards. Marketing innovation allows firms to exploit previous exploratory efforts devoted to the development of new products through new ways of commercializing its existing base of products to generate predictable returns. While likely not an ideal long-term strategy for firms

dependent on new products to drive performance, a focus on marketing innovation can provide relief in the form of immediate returns while a firm learns to better execute innovation amidst the threat of corruption, which can entail building competencies to manage government relationships and expertise in securing and enforcing patent rights in light of a deficient IP system.

The insights from this paper can inform policy creation that better supports innovation in the institutional context of developing countries. Firstly, my findings reinforce the importance of improving governance through efforts aimed at fighting corruption. While firms are likely to conduct marketing innovation when faced with corruption, they are less likely to engage in product innovation, a form of the technologically-oriented type of innovation that is of primary concern to policy-makers due to its association with economic prosperity. Secondly, policy-makers will benefit from understanding the theoretical mechanism that causes a firm to reduce its product innovation. With the knowledge that organizational processes such as experimentation and information search that foster product innovation are being inhibited by corruption, policies aimed specifically at aiding and bolstering these organizational functions, such as subsidized R&D assistance programs, may be effective in promoting product innovation.

6.3. Limitations and future research directions

This study is not without limitations. Firstly, a perceptual measure of corruption was used in this study. While having the key advantage over other commonly used measures of corruption of being framed in a manner that lowers the risk of socially desirable response, it's inherent subjectivity as a perceptual measure compromises it's comparability across firms. Although the use of country and industry fixed effects partially addresses this issue in the empirical analysis, more ideal would be the use of a firm-level measure of corruption that is both free from socially desirability bias and more objective in nature to ensure greater comparability across the

experience of firms with corruption. That being said, finding or creating such a measure is no easy task given that objective measures are likely to more explicitly tie firms to illicit or illegal activities.

Secondly, corruption in this study is reasoned as being disadvantageous to firms by acting as an obstacle to innovation. While this perspective aligns with the dominant view in the literature that corruption "sands" the wheels of economic progress by imposing additional costs on firms, it does not take the opposing perspective into account that corruption can "grease" the wheels of economic progress, which has also received empirical support (Egger and Winner, 2005; Méon & Weill, 2010). From the perspective of the greasing hypothesis, corruption increases economic activity by facilitating transactions, allowing firms to overcome government ineffectiveness and excessive bureaucracy (Lien, 1990). This advantage is likely only experienced by a minority of firms given that corruption provides advantages to particular firms while blocking access to others, and because benefiting from corruption requires the capability and motivation on the part of a firm to make political deficiencies work in their favor (Galang, 2012). Nonetheless, a fruitful direction for future research is to take into consideration both the sanding and greasing perspectives in examining how corruption affects a firm's broader innovation strategy. For example, it would be interesting to explore if corruption has the opposite effect when it acts as a grease, causing firms to shift their innovation efforts towards more risky and long-term innovation activities.

I hope that by providing a more nuanced perspective on how corruption impacts firm innovation, my study can help inform the research of scholars that study this topic of upmost importance for developing countries.

Discussion

Having provided a discussion of each paper's specific contributions, directions for future research, and practical implications, I focus this section on how the papers fit together in the broader study of organizational corruption. Specifically, I contrast the findings of the respective papers to reveal novel insights and discuss future research questions that can be explored to delve further into these insights. I begin first with a brief overview of the findings of each paper.

Summary of findings

My dissertation consists of three papers that each provide insights on a different aspect of organizational corruption. Paper 1, which explores antecedents of corruption, examines how some institutional factors typical of a developing country context drive firms to be unlawful, as measured by their law-abiding climate, and the ability of socially responsible organizational practices to ensure firms remain lawful in spite of these factors. Anomie theory was used as the theoretical lens to explain the process by which institutional factors and organizational practices influence law-abiding climate. To test the hypotheses of this study, primary survey data was collected on 118 Mexican firms. The results of this study re-affirm that perceptions of regulatory burden and a lack of industry munificence drive firms to be unlawful. Furthermore, they produce the novel insight that codes-of-ethics that are used more extensively to guide strategic decisions reduce the inclination of firms to engage in illegal and corrupt acts caused by perceived regulatory burden, although their ability to do so diminishes after a moderate level of use. Surprisingly, CSR certification was found to exacerbate the effect that perceived regulatory burden has on a firms unlawfulness, contrary to the paper's prediction.

Paper 2 explores the wide-spread consequences of corruption by examining reputational

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spillover, when a scandal committed by one firm negatively affects the reputation of other firms not involved. The paper advances the theoretical understanding of the phenomenon by better capturing the use of categorization by the public after observing a scandal. In doing so, it provides a new model of reputational spillover that delineates spillover based on the core dimensions of origin and spread, which organizes and extends the literature in important ways. Specifically, it uncovers the antecedents of spillover and provides a rationale for the firm attributes that determine which by-stander firms are categorized with the perpetrator firm, based on the understanding that the category employed by the public is contingent on the scandals level of moral intensity. Furthermore, the model provides a stronger basis to understand the scope of reputational spillover by theorizing that the attributes that define category membership can be common to firms across different industries. This new way of understanding categorization refutes the dominant assumption in the literature that spillover effects are contained within an industry, providing a theoretical basis by which spillover can cross industry boundaries.

Paper 3 explores the strategic implications that corruption has on firm innovation in developing countries. Looking specifically at the corruption that takes place in exchanges between firms and government officials that is common in the developing country context, and conceptualizing corruption as an obstacle facing firms, the effect of corruption on both product and marketing innovation was examined. The two types of innovation were conceptualized as forms of exploration and exploitation respectively to account for their interdependency and the need for a firm to achieve an optimal balance between the two. Using threat-rigidity theory, the argument is made that perceived corruption causes a firm to adopt a risk-averse and short term strategic focus that results in a shift of emphasis from exploration to exploitation, and thus, from product to marketing innovation. Furthermore, the role that IP protection has on the relationship

between perceived corruption and each type of innovation was also examined, with patenting and trademarking being incorporated into the analysis for their role in protecting product and marketing innovations, respectively. Empirical tests were conducted on data from the World Bank on over 6000 firms from ten South Asian and African countries. The tests confirm the prediction that corruption reduces product innovation while increasing marketing innovation, and that patenting mediates the relationship between corruption and product innovation.

Next, I provide some commentary on some insights and future directions for research that the insights from the respective papers bring to light when considered in conjunction with one another.

Linkages between papers

Paper 1 and Paper 2

Paper 1 sheds light on the influence that the institutional environment of developing countries has on the unlawful conduct of firms. A key theoretical tenet of Paper 2 is that the public categorizes firms they deem similar on some set of attributes, which results in the spread of reputation spillover to by-stander firms after a perpetrator firm commits a scandal. Given the overwhelming influence of the institutional environment of developing countries on the conduct of firms, it may be possible that the institutional environment can serve as a basis of similarity by which developing country firms become categorized after a scandal committed by the perpetrator firm.

The strength of institutional forces in the context that firms are embedded in dictates a common structure in the relationship between firms and their environment that results in similar responses across firms (Borgatti & Everett, 1992). It becomes "taken for granted" for firms the

modus operandi to survive and prosper in these institutional environments (Starbuck, 1976), and as a result the public associates the conduct of firms with the institutional environment they reside in. Consider the example of Bangladesh where numerous scandals relating to poor working conditions have occurred in the last decade in its garment manufacturing industry. A scandal could be reflective of well-established institutional forces that have existed for decades in the country, such as public sector corruption in which bribes can allow for deficient working conditions to be overlooked, a caste system that enforces the acceptance of low pay and living standards, and increasing pressure from western firms to lower prices that can induce firms to sacrifice safety for cost savings. These institutional conditions could serve as a basis for categorizing the perpetrator firm to by-stander firms both within and outside of the garment industry as the underlying cause of a country-wide systemic issue that could enable other firms to exploit their labour. Extant literature largely fails to consider the effect of institutional conditions on spillover, limiting its analysis to a specific institutional context (Jonsson, Greve, and Fujiwara-Greve, 2009) when considering them at all. A future direction for research on reputational spillover is to consider whether the institutional context can serve as basis for categorization when it is closely linked with the identity of firms in the context and salient to a scandal.

Paper 1 also brought to light the difference in how corruption can be perceived across countries (Cuervo-Cazurra, 2016). Using anomie as a theoretical lens, the paper explained that unlawful conduct becomes perceived as an accepted business practice in developing countries because institutional conditions render legitimate means of doing business impractical. To the extent that the public in developing countries shares a similar view on unlawful conduct, there may be significant differences between developed and developing countries in how reputational

spillover spreads. If the domestic public in developing countries perceives unlawful conduct to be justified, then scandals that involve breaking the law should possess lower moral intensity than they would in the developed country context where the domestic public would view them as more illicit. Such a difference could mean that scandals that involve breaking the law would either not result in spillover in developing countries or would result in the public putting forth little cognitive effort in categorizing firms on account of their lack of concern regarding the scandal, employing a prototypical industry category as opposed to a scandal-specific category. Future research could take into account differences in how the domestic public of developing and developed countries perceive scandals and whether this has consequences for the nature of reputational spillover.

In Paper 1, it was found that firms in the sample that hold a particular CSR certification in Mexico conduct themselves more unlawfully when faced with regulatory burden. In line with King & Lenox's (2000) rationale pertaining to the ineffectiveness of a self-regulatory program in the chemical industry without sanctions, it was conjectured that the absence of explicit sanctions is causing the certification to not only be ineffective, but counter-productive for its purpose of producing desired behaviour. If the public comes to associate undesired behaviour with such a certification, it may be possible that it is used as a basis of similarity by which by-stander firms become categorized with the perpetrator firm that commits a scandal. In this case, a certification without sanctions may be a liability even for those firms that actually uphold its standards of behaviour. Insights from future research that examines this possibility would be beneficial for firms contemplating certifying to a standard in order to achieve signalling benefits by explaining the potential, counter-intuitive risk to reputation they create. The governing body of certifications would also benefit from this research direction because it could explore how perceived similarity

due to possession of certification could cause an adverse selection problem where "good" firms opt out of a certification due to the reputational risk it creates, leaving only "bad" firms, which would degrade the legitimacy of the standard.

Paper 1 and Paper 3

In Paper 1, unlawful conduct is framed as a means of adaption for developing country firms that face regulatory burden, which limits their ability to achieve performance goals while adhering to the law. Regulatory burden can often amount to corruption when excessive bureaucracy and regulative uncertainty is used to veil the discretionary power of public officials used for self-serving purposes. In this sense, the finding may reflect that firms are responding to public corruption by conducting themselves unlawfully, which most typically takes the form of making bribe payments. In Paper 3, firms were observed to adapt to corruption that is perceived to be an obstacle by shifting their resources and efforts away from product innovation towards marketing innovation. What is unobserved in Paper 3 is whether firms, as they may have been in Paper 1, were responding to corruption by acting unlawfully. An interesting avenue for future research would be to take into consideration differences in how firms that are faced with corruption adapt their innovation approach when they act unlawfully compared to when they adhere to the law. In particular, it would be interesting to examine whether unlawful conduct is a superior means of adaptation for innovating firms faced with corruption.

Government support fosters firm innovation (Bronzini and Piselli, 2016), and is especially important determinant of innovation in developing countries due to deficiencies in institutional systems such as capital markets that support innovation in the developed country context (Mellahi, Frynas, Sun, and Siegel, 2016). It may be the case that corruption serves as a

means of securing government support, allowing firms privileged access to opportunities and resources required to innovate, such as contracts, permits, or IP rights, whereas firms that adhere to the law are unable to do so. This may translate into differences in how firms allocate their resources and efforts across innovation activities. Unlawful firms may not be affected by corruption to the same extent as those that adhere to the law, or they may even benefit from the exclusive access that it grants them. If this is true, it may be possible that corruption does not have a significant effect on product and marketing innovation for unlawful firms, or that it may actually cause firms to increase their product innovation efforts by making them better able to pursue product innovation. To shed further light on this possibility, the political connectedness of firms can be taken into consideration to determine whether corruption is an obstacle to innovation or proactive strategic tacgic that allows for obtaining government support that fosters innovation. By virtue of the influence of government actors that they allow firms to have (Peng and Luo, 2000), political connections may enable a proactive non-market strategy in which corruption in the institutional environment can be exploited as advantage by firms.

Paper 2 and Paper 3

An implication drawn from Paper 2 is that a firm can protect itself from the threat of reputational spillover by distinguishing itself from firms likely to commit a scandal with which it may be perceived as similar. In Paper 3, a key finding was that firms in developing countries that perceive corruption to be a severe obstacle reduce their product innovation and increase their marketing innovation. The reasoning underlying this finding which is presented in the paper is that corruption causes firms to adopt a risk-averse and short-term strategic focus that favors the shorter-term and more assured returns of the latter. The implication drawn from Paper 2 sheds light on a possible alternative explanation for this finding from Paper 3.

Marketing innovation allows a firm to distinguish itself from competitors through efforts aimed at bolstering its brand, which can include changes to the presentation of its products using logos, names, or trademarks or advertising campaigns that highlight the attributes that make a firm's products superior to those if its competitors. A secondary effect of marketing innovation by virtue of its ability to distinguish a firm is that it can protect a firm from reputational spillover. Accordingly, an alternative reason for why perceived corruption is found to increase the likelihood of marketing innovation is that it is an attempt by a firm to distinguish itself from other firms in their environment so it can be protected from corruption scandals that would taint the reputation of a broad scope of firms. In this case, perceived corruption could be thought of as indicator of a manager's concern that corruption in its firm's broader environment could indirectly affect the reputation of the firm.

The use of marketing initiatives to protect a firm from reputational spillover also helps explain the incentive of firms to join self-regulatory associations. Through collective action and representation, self-regulatory associations allow for "privatizing" a reputational commons so that members have an autonomous reputation that is protected from spillover by the actions of non-member firms (King, Lenox, and Barnett, 2002). Firms that are accepted as members of self-regulatory associations are granted a certification, which acts as a reputational signal, if they adhere to a set of requirements outlined by the governing body. An example is the coffee industry's fair trade certification, which is intended to protect the reputation of coffee producers that hold the certification from possible scandals committed by coffee producers that do not hold it. Firms that are certified to a standard are able to signify their membership using tangible markers such as labels placed on the packaging of products or by highlighting it as a distinguishing feature in their advertising campaigns. Membership in self-regulatory associations

can therefore be thought of as a form of marketing innovation that can be used by firms to both bolster their brand and protect their reputation from possible spillovers.

Concluding statement

The three papers of my dissertation, as a set, further the understanding of organizational corruption in respects that are understudied in the extant literature. By taking an interdisciplinary approach both within and across papers, I was able to account for the roles of the various actors and variables involved or affected by organizational corruption and its multitude of causes and consequences. Furthermore, by considering the dynamics between actors and variables at and across different levels of analysis, I uncovered processes that underlie the manifestation of organizational corruption and its consequences that cause it to be a systemic issue. By following these theoretical directions, my dissertation advanced knowledge on three dimensions of organizational corruption I intended to explore - its antecedents, widespread consequences, and strategic implications. This dissertation is my initial foray into the study of organizational corruption, a topic that I am passionate about and believe is of upmost importance to study for its potential to contribute to the betterment of society. I would like to re-iterate my thanks to my dissertation committee who have been an immense help in guiding my thinking throughout this process which enabled me uncover the interesting insights and findings that I presented before you.

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Appendix 1a

Conceptual Model

Socially responsible organizational practices

| H3a,b: CSR certification | H4a,b: Code-of-ethics use |

Institutional factors

H1: Perceived regulatory burden

H2: Perceived lack of industry munificence

Law-abiding climate

Control Variables
- Firm size
- Firm sales
- Firm age
- Foreign ownership
- Industry
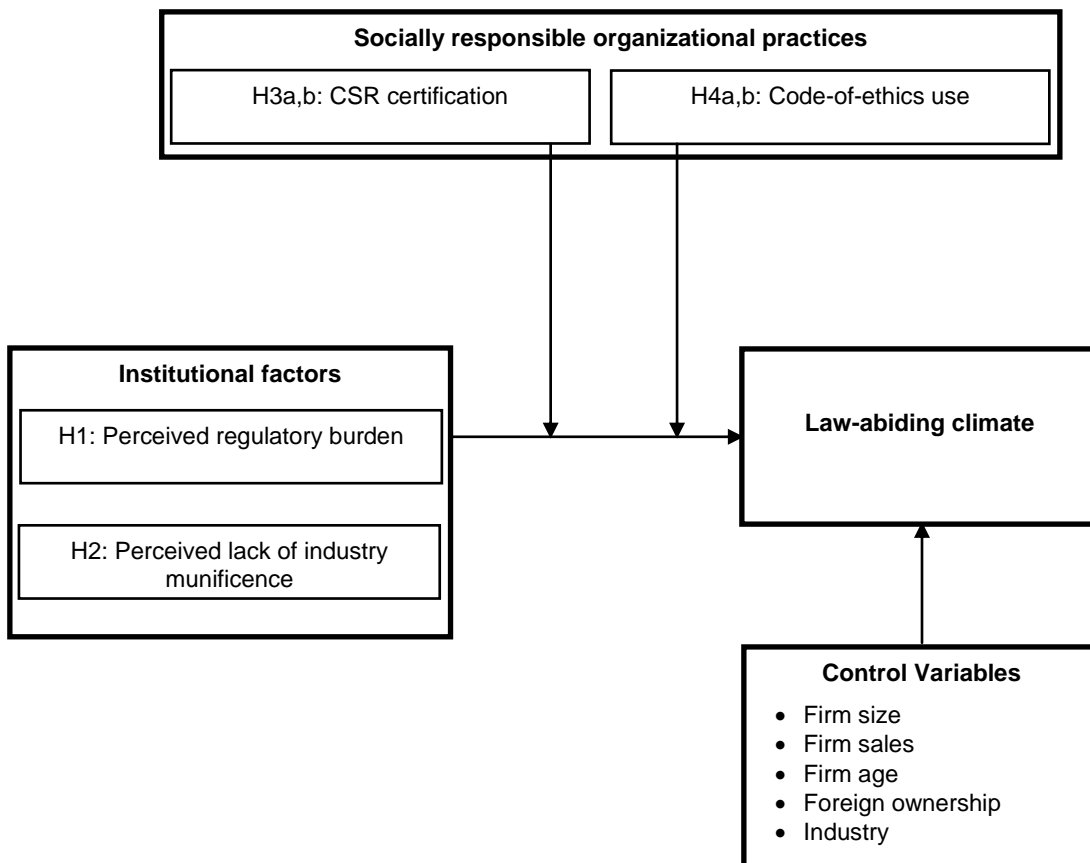
Construct correlations, means, and standard deviations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Law-abiding climate															
2. Regulatory Burden	-0.26														
3. Lack of industry munificence	-0.15	0.13													
4. Code-of-ethics use	0.29	-0.14	-0.23												
5. CSR certification	-0.04	-0.09	0.12	-0.02											
6. Size (# of employees)	-0.04	-0.02	0.11	0.13	0.21										
7. Sales	0.20	-0.08	-0.01	0.09	-0.03	0.25									
8. Foreign Ownership	0.13	-.05	0.13	0.09	0.14	0.50	0.36								
9. Age	0.06	-0.04	0.24	0.01	-0.06	0.22	0.30	0.01							
10. Professional Service	0.05	-0.08	-0.07	-0.01	0.09	-0.18	-0.32	-0.33	-0.04						
11. Wholesale and Retail	0.10	0.06	-0.01	-0.07	-0.06	-0.01	0.27	0.13	0.19	-0.30					
12. Manufacturing 1	-0.07	0.18	0.15	-0.11	-0.01	0.12	0.07	-0.09	0.03	-0.15	-0.11				
13. Manufacturing 2	-0.01	0.04	0.03	0.01	-0.08	0.16	0.12	0.13	0.08	-0.16	-0.12	-0.06			
14. Manufacturing 3	-0.05	0.10	0.03	0.01	0.02	0.25	0.22	0.18	-0.04	-0.25	-0.18	-0.09	-0.10		
15. Other industries	0.001	-0.15	-0.04	0.04	-0.02	-0.14	-0.18	0.08	-0.11	-0.40	-0.29	-0.15	-0.16	-0.25	
Mean	6.34	3.81	2.56	6.27	0.09	1.44	0.38	1.60	26.17	0.29	0.18	0.05	0.06	0.13	0.28
Standard deviation	0.63	1.52	1.09	1.01	0.29	0.59	0.49	0.84	21.71	0.46	0.38	0.23	0.24	0.34	0.45

[a] Correlations at 0.15 and above are significant at $p < 0.05$; Correlations at 0.20 and above are significant at $p < 0.01$, with the exception of the correlation between age and size, which is significant at $p<0.05$

Appendix C

Results of OLS analysis of law-abiding climate, with standard errors clustered at the city level, using wild bootstrap clustering (n=118)

Dependent variable: law-abiding climate		Parameter Estimates							
		Model 1			Model 2			Model 3		
Explanatory variables	hypothesis	β	95% C.I		β	95% C.I		β	95% C.I	
Institutional factors										
Regulatory burden	H1	-0.30***	-0.43	-0.18	-0.25***	-0.36	-0.14	-0.28***	-0.38	-0.19
Lack of industry munificence	H2	-0.21**	-0.35	-0.05	-0.07	-0.18	0.03	-0.07	-0.18	0.03
Organizational practices										
CSR certification					-0.35***	-0.60	-0.12	-0.13	-0.36	0.08
COE use					0.39***	0.27	0.51	0.35***	0.27	0.42
Regulatory burden x CSR	H3a				-0.47***	-0.64	-0.29			
Regulatory burden x COE use					0.09	-0.12	0.30			
Regulatory burden (COE use = mean -1 s.d)					-0.34***	-0.58	-0.12			
Regulatory burden (COE use = mean)	H4a				-0.25***	-0.36	-0.15			
Regulatory burden (COE use = max value)					-0.17	-0.40	0.07			
Lack of industry munificence x CSR	H3b							-0.22**	-0.39	-0.07
Lack of industry munificence x COE use								0.10	-0.03	0.23
Lack of industry munificence (COE use = mean -1 s.d)								-0.17	-0.38	0.03
Lack of industry munificence (COE use = mean)	H4b							-0.08	-0.18	0.03
Lack of industry munificence (COE use = max value)								0.01	-0.09	0.11
Controls										
Industry dummies included										
Size (# of employees)		0.20	-0.51	-0.12	-0.15	-0.45	0.15	-0.20	-0.47	0.07
Foreign ownership		0.43	0.07	0.76	0.37	0.06	0.68	0.36	0.06	0.65
Sales		0.20	-0.02	0.45	0.12	-0.10	0.35	0.17	0.01*	0.36
Age		0.004	-0.002	0.008	0.002	-0.004	0.008	0.001	-0.005	0.007
r^2			0.16			0.30			0.28	
P value			<0.05			<0.01			<0.01	

* P<0.1, ** P<0.05, ***P<0.01

Law-abiding climate by perceived regulatory burden for firms with and without CSR certification.
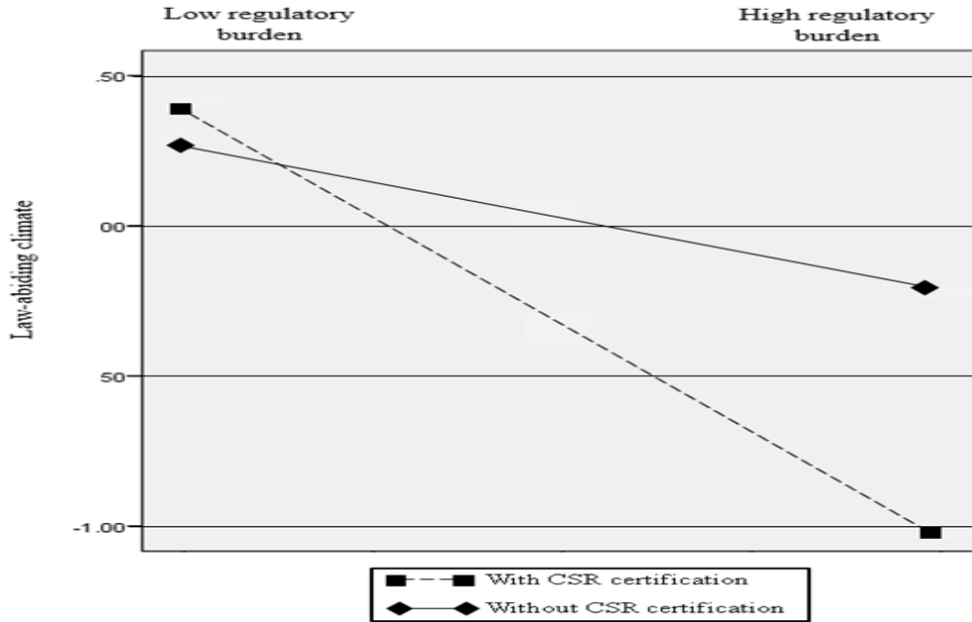
Law-abiding climate by perceived regulatory burden for firms with code-of-ethics use at the mean and one standard deviation below the mean.

Study measures

Law and code ethical climate (Victor and Cullen, 1988)
Construct reliability = 0.809; AVE = 0.63; range of loadings: 0.717- 0.843
(scale items anchored by 1= "strongly disagree" and 7= "strongly agree")
   Please rate your level of agreement with the following statements.
      1. In our company, people are expected to comply with the law and professional standards over and above other considerations.
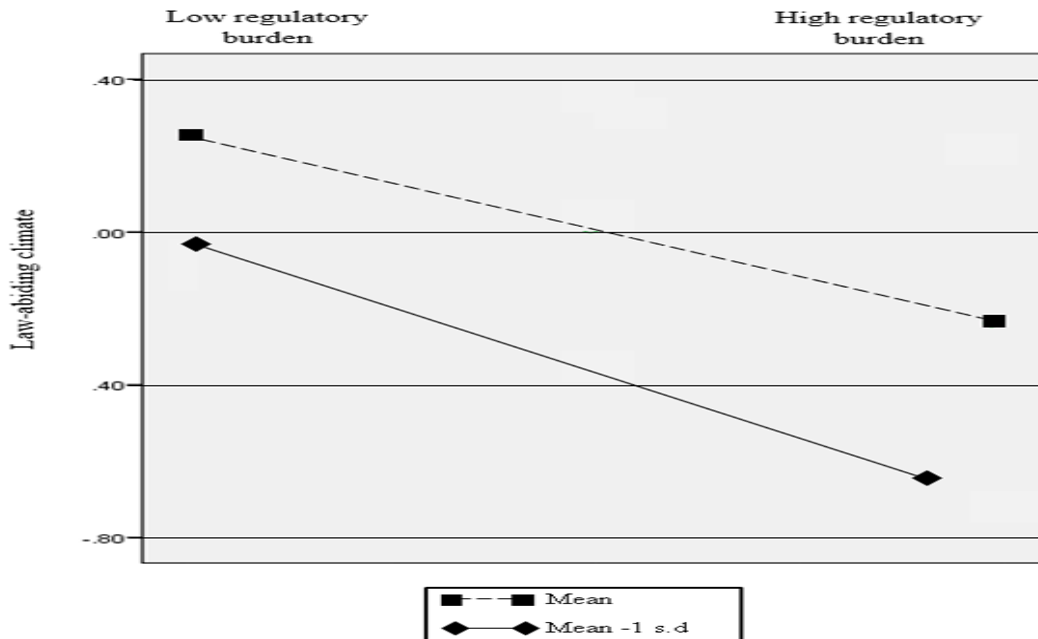   2. In our company, the law or ethical code of their profession is the major consideration.
      3. In our company, people are expected to strictly follow legal or professional standards.
      4. In our company, the first consideration is whether a decision violates any law.

Regulatory burden (EDGE, 2001, reverse coded)
Construct reliability = 0.852; AVE = 0.67; range of loadings: 0.631- 0.898
(scale items anchored by 1= "strongly disagree" and 7= "strongly agree")
   Please rate your level of agreement with the following statements.
      1. Our company usually has clear and accurate information about the requirements and obligations that government authorities have established to participate in business.
      2. During the process of defining new laws, policies or regulations affecting our company, the government generally keeps our company informed.
      3. In the event of significant changes in laws, policies or regulations affecting our company, the government generally considers our firm's opinions or that of our business association
      4. In general, the interpretation of federal laws, policies or regulations affecting our company's operations are consistent and predictable.

Industry munificence (Jambulingam et. al, 2005, reverse coded)
Construct reliability = 0.871; AVE = 0.72; range of loadings: 0.813-0.877
(scale items anchored by 1= "strongly disagree" and 7= "strongly agree")
   Please rate your level of agreement with the following statements.
      1. There are ample opportunities for growth in our company's industry.
      2. Our company's industry will support continued growth of our company.
      3. Prospects for growth in our current industry environment are good.
      4. Our industry is rich with opportunities for growth.

Code-of-ethics use (Stevens et. al, 2005)
Construct reliability = 0.902; AVE = 0.72; range of loadings: 0.804-0.891
(scale items anchored by 1= "strongly disagree" and 7= "strongly agree"
 How helpful do you feel is your company's code of ethics in each of the following matters?
      1. Making financial decisions.
      2. Making personnel decisions.
      3. Making decisions about information disclosure.
      4. Responding to questions about company actions.
      5. Aiding your company's planning processes.

CSR certification (Cemefi, 2016)

Measured according to whether a firm is certified to ESR for the year 2015 (1= yes, 0 = no)

Controls

Firm size (Amcham database)**:** number of employees in the firm's headquarters (1= 1-100, 2= 101- 1000, 3 = 1000 or more)

Foreign ownership (survey question)**:** whether the firm is majority owned by a foreign party (1=yes, 0=no)

Sales (Amcham database): firm sales (1=0- 94.9 million pesos, 2= 95-249.9 million pesos, 3=250 million pesos or greater)

Firm age (survey question)

Industry (SIEM database or manual inspection): dummy variables representing professional service, wholesale and retail, three sub-classifications of manufacturing, and other industries

Appendix 2a

The Reputational Spillover Process
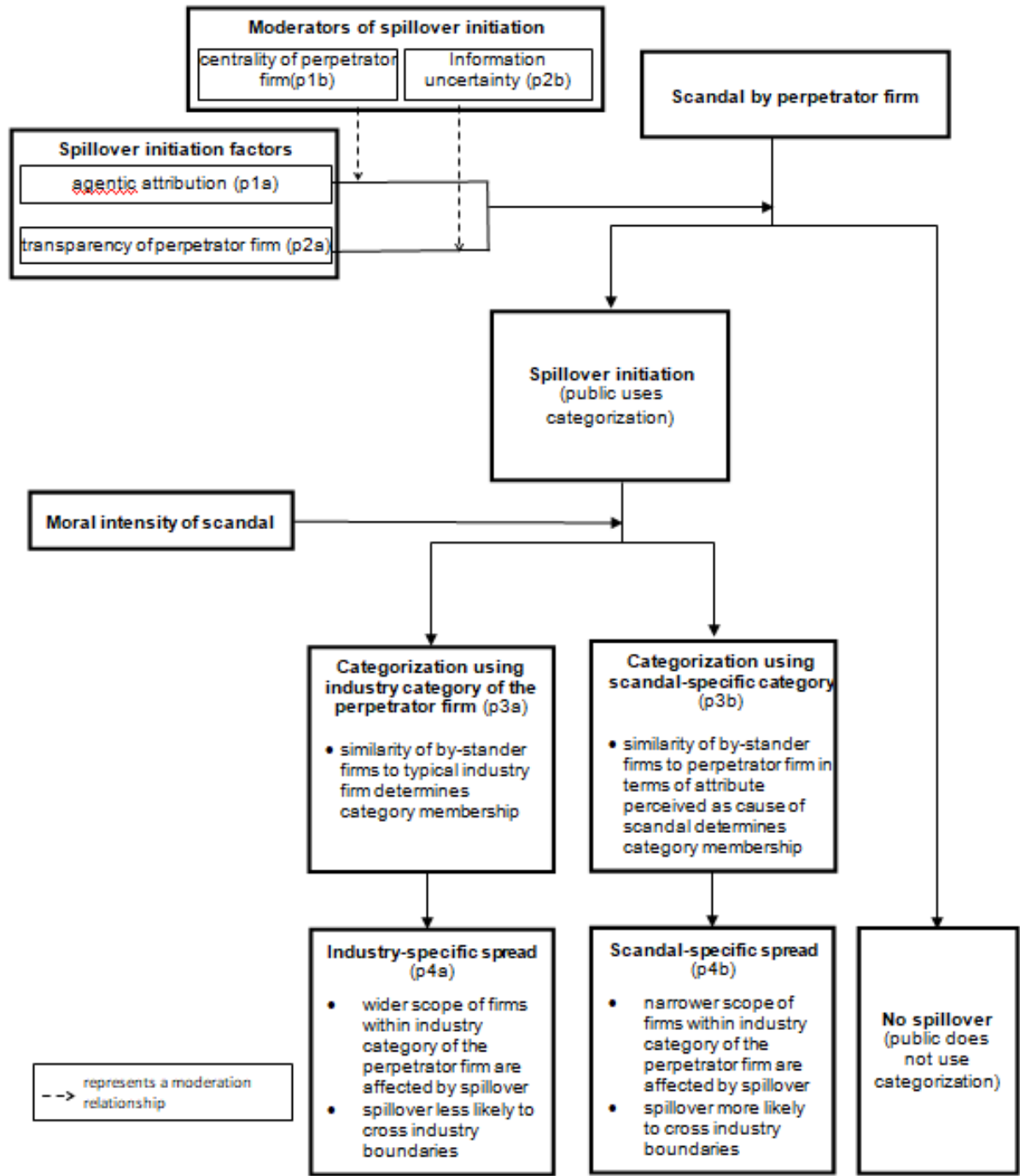
Appendix 3a

Conceptual Diagram
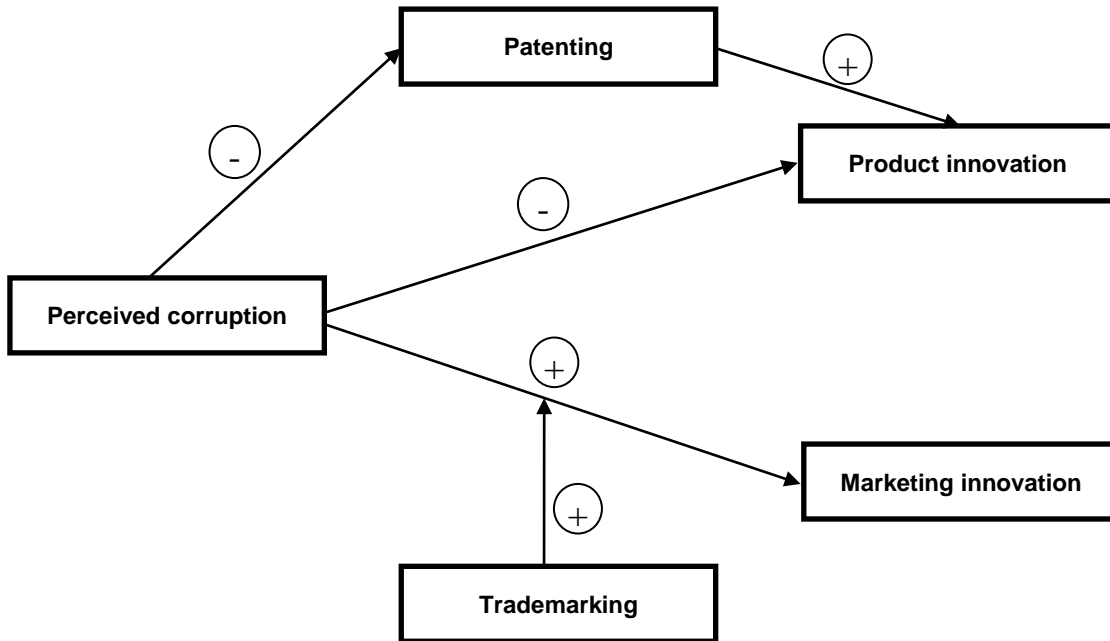
Correlation matrix and summary statistics

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Product innovation														
2	Marketing innovation	0.24													
3	Corruption	-0.02	0.07												
4	Patenting	0.20	0.21	-0.03											
5	Trademarking	0.12	0.24	0.03	0.32										
6	R & D	0.24	0.20	0.08	0.10	0.17									
7	Government support	0.14	0.16	0.06	0.22	0.05	0.11								
8	Publicly traded	-0.02	0.00	-0.03	-0.01	0.02	0.07	0.01							
9	Managerial experience	0.01	0.00	0.03	-0.01	-0.02	0.01	0.00	0.08						
10	International	0.04	0.04	0.04	0.00	-0.01	0.08	0.05	0.10	0.06					
11	Size(log)	0.17	0.22	0.07	0.16	0.17	0.31	0.12	0.20	0.07	0.26				
12	Age(log)	0.05	0.06	0.02	0.04	0.02	0.09	0.01	0.07	0.36	0.09	0.24			
13	Foreign	-0.03	-0.01	-0.06	-0.01	-0.01	-0.03	-0.04	0.06	0.01	-0.02	-0.01	-0.06		
14	Workforce education	0.02	0.00	-0.01	0.00	-0.02	0.08	0.02	0.03	0.00	0.00	0.13	-0.07	0.09	
	Mean	0.51	0.55	2.07	0.10	0.13	0.30	0.14	0.13	0.59	0.07	3.35	2.66	0.04	50.51
	St. Dev.	0.50	0.50	1.36	0.30	0.33	0.46	0.34	0.34	0.49	0.25	1.41	0.78	0.20	34.63
	Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Max	1	1	4	1	1	1	1	1	1	1	9.62	5.01	1	100

Appendix 3c

Bivariate probit with robust standard errors

Dependent variable	Model 1 Controls only		Model 2 H1 and H2		Model 3 Inclusion of patent and trademark application	
	Product Innovation	Marketing Innovation	Product Innovation	Marketing Innovation	Product Innovation	Marketing Innovation
Constant	-0.202+	0.111	-0.140	0.0242	-0.145	-0.0506
	(0.121)	(0.121)	(0.124)	(0.123)	(0.125)	(0.127)
R & D	0.393***	0.290***	0.399***	0.281***	0.378***	0.229***
	(0.0398)	(0.0403)	(0.0399)	(0.0404)	(0.0405)	(0.0415)
Government support	0.227***	0.386***	0.234***	0.381***	0.148**	0.380***
	(0.0519)	(0.0539)	(0.0519)	(0.0539)	(0.0532)	(0.0553)
Shareholding company	-0.0789	-0.100+	-0.0833	-0.0929+	-0.0796	-0.117*
	(0.0542)	(0.0545)	(0.0543)	(0.0546)	(0.0546)	(0.0558)
International orientation	-0.0804	-0.257**	-0.0791	-0.261**	-0.0613	-0.227**
	(0.0768)	(0.0798)	(0.0769)	(0.0798)	(0.0767)	(0.0801)
Foreign owned	-0.0285	0.181*	-0.0346	0.187*	-0.0451	0.160+
	(0.0884)	(0.0882)	(0.0886)	(0.0883)	(0.0895)	(0.0906)
Workforce education	0.000472	0.000508	0.000519	0.000411	0.000749	0.000718
	(0.000562)	(0.000561)	(0.000562)	(0.000561)	(0.000567)	(0.000569)
Managerial experience	0.0796*	0.0336	0.0822*	0.0305	0.0830*	0.0248
	(0.0375)	(0.0375)	(0.0375)	(0.0375)	(0.0380)	(0.0383)
Size(log)	0.0421**	0.121***	0.0428**	0.120***	0.0299+	0.103***
	(0.0153)	(0.0157)	(0.0153)	(0.0157)	(0.0156)	(0.0160)
Age(log)	-0.0136	-0.0643**	-0.0140	-0.0637*	-0.0119	-0.0468+
	(0.0248)	(0.0249)	(0.0249)	(0.0249)	(0.0251)	(0.0254)
Corruption			-0.0327*	0.0456***	-0.0287*	0.0432**
			(0.0129)	(0.0129)	(0.0130)	(0.0131)
Patenting					0.602***	
					(0.0633)	
Trademarking						0.849***
						(0.0627)
Trademarking x Corruption						
Observations	6,277		6,277		6,206	
Country FE	YES		YES		YES	
Industry FE	YES		YES		YES	
Log-pseudolikelihood	-7414.9148		-7404.1239		-7166.8649	
Wald chi-square test of overall fit	9172.96***		8288.65***		6963.67***	
Wald chi-square test of interdependence ($\rho= 0$)	100.643***		102.959***		71.0764***	

Robust standard errors in parentheses; *** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Bivariate probit with robust standard errors (continued)

Dependent variable	Model 4 H4		Model 5 H3	
	Product Innovation	Marketing Innovation	Patenting	Product Innovation
Constant	-0.145	-0.0347	-1.801***	-0.262*
	(0.125)	(0.127)	(0.156)	(0.121)
R & D	0.378***	0.229***	0.116*	0.378***
	(0.0405)	(0.0415)	(0.0524)	(0.0413)
Government support	0.148**	0.383***	0.617***	0.00694
	(0.0532)	(0.0551)	(0.0550)	(0.0669)
Shareholding company	-0.0795	-0.117*	-0.159*	-0.0357
	(0.0546)	(0.0558)	(0.0715)	(0.0537)
International orientation	-0.0613	-0.230**	-0.243*	-0.0389
	(0.0767)	(0.0801)	(0.107)	(0.0766)
Foreign owned	-0.0451	0.160+	0.145	-0.0414
	(0.0895)	(0.0903)	(0.128)	(0.0860)
Workforce education	0.000749	0.000749	-0.000731	0.000686
	(0.000567)	(0.000569)	(0.000729)	(0.000545)
Managerial experience	0.0830*	0.0245	0.0121	0.0836*
	(0.0380)	(0.0383)	(0.0478)	(0.0368)
Size(log)	0.0300+	0.104***	0.142***	0.0199
	(0.0156)	(0.0160)	(0.0190)	(0.0171)
Age(log)	-0.0119	-0.0478+	-0.00141	0.000648
	(0.0251)	(0.0255)	(0.0301)	(0.0240)
Corruption	-0.0287*	0.0368**	-0.0755***	-0.0239+
	(0.0130)	(0.0136)	(0.0178)	(0.0131)
Patenting	0.602***			1.226***
	(0.0633)			(0.266)
Trademarking		0.689***		
		(0.116)		
Trademarking x Corruption		0.0778+		
		(0.0472)		
Observations	6,206		6,537	
Country FE	YES		YES	
Industry FE	YES		YES	
Log-pseudolikelihood	-7165.4186		-5780.8153	
Wald chi-square test of overall fit	6976.05***		4852.29***	
Wald chi-square test of interdependence ($\rho= 0$)	71.1992***		3.8828*	

Robust standard errors in parentheses; *** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Appendix 3d

2SLS estimation with robust standard errors

Dependent Variable	Patenting	Trademarking	Product Innovation			
	Model 6 2SLS	Model 7 2SLS	Model 8[a] OLS	Model 9 2SLS	Model 10[a] OLS	Model 11 2SLS
Constant	0.110***	0.112***	0.404***	0.456***	0.407***	0.433***
	(0.0289)	(0.0339)	(0.0419)	(0.0485)	(0.0419)	(0.0488)
R & D	0.0308**	0.0792***	0.148***	0.152***	0.138***	0.140***
	(0.0101)	(0.0109)	(0.0137)	(0.0138)	(0.0136)	(0.0138)
Government support	0.155***	0.00384	0.0596***	0.0642***	0.0273	0.0302+
	(0.0153)	(0.0141)	(0.0169)	(0.0169)	(0.0168)	(0.0169)
Shareholding company	-0.0380**	0.00580	-0.0191	-0.0234	-0.0159	-0.0182
	(0.0118)	(0.0136)	(0.0180)	(0.0181)	(0.0180)	(0.0181)
International orientation	-0.0447*	-0.0596**	-0.0291	-0.0265	-0.0225	-0.0214
	(0.0182)	(0.0199)	(0.0251)	(0.0253)	(0.0250)	(0.0250)
Foreign owned	0.00420	0.0158	-0.00529	-0.00903	-0.00800	-0.00980
	(0.0179)	(0.0204)	(0.0306)	(0.0305)	(0.0305)	(0.0304)
Workforce education	-0.00005	-0.000389**	0.0000793	0.000132	0.000173	0.000201
	(0.000119)	(0.000127)	(0.000187)	(0.000189)	(0.000186)	(0.000187)
Managerial experience	0.00620	-0.00235	0.0294*	0.0317*	0.0288*	0.0299*
	(0.00812)	(0.00884)	(0.0124)	(0.0125)	(0.0124)	(0.0124)
Size(log)	0.0259***	0.0287***	0.0164**	0.0169***	0.0110*	0.0113*
	(0.00362)	(0.00401)	(0.00510)	(0.00510)	(0.00511)	(0.00510)
Age(log)	-0.00144	-0.0154**	-0.00159	-0.00229	-0.000401	-0.000728
	(0.00502)	(0.00580)	(0.00837)	(0.00837)	(0.00838)	(0.00836)
Corruption	-0.0576***	-0.00986		-0.0270*		-0.0135
	(0.00892)	(0.00951)		(0.0129)		(0.0130)
Patenting					0.209***	0.205***
					(0.0174)	(0.0178)
Trademarking						
Trademarking x Corruption						
Observations	6,550	6,547	6,606	6,606	6,537	6,537
Country FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
F statistic			40.95***		47.25***	
Root MSE	0.30022	.32228	0.45572	0.45417	0.45135	0.44948
Wald chi-square test of overall fit	469.50***	635.31***		1903.29***		2279.16***
Wooldridge test of endogeniety	31.1356***	1.85284		1.45514		0.077113

Robust standrd standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.

[a] Models without the endogenous variable (corruption) were estimated using OLS

2SLS with robust standard errors (continued)

Dependent Variable	Marketing Innovation			
	Model 12[a] 2SLS	Model 13 2SLS	Model 14 2SLS	Model 15
Constant	0.545***	0.468***	0.437***	0.428***
	(0.0428)	(0.0496)	(0.0499)	(0.0520)
R & D	0.0999***	0.0929***	0.0715***	0.0714***
	(0.0137)	(0.0139)	(0.0138)	(0.0138)
Government support	0.123***	0.117***	0.114***	0.113***
	(0.0162)	(0.0163)	(0.0162)	(0.0163)
Shareholding company	-0.0301+	-0.0239	-0.0288	-0.0284
	(0.0183)	(0.0184)	(0.0182)	(0.0183)
International orientation	-0.0829**	-0.0870***	-0.0709**	-0.0702**
	(0.0266)	(0.0264)	(0.0258)	(0.0259)
Foreign owned	0.0600+	0.0664*	0.0567+	0.0571+
	(0.0312)	(0.0311)	(0.0310)	(0.0311)
Workforce education	0.000175	0.000104	0.000198	0.000182
	(0.000192)	(0.000192)	(0.000190)	(0.000191)
Managerial experience	0.0127	0.00916	0.00809	0.00824
	(0.0127)	(0.0128)	(0.0126)	(0.0126)
Size(log)	0.0404***	0.0396***	0.0332***	0.0329***
	(0.00514)	(0.00513)	(0.00507)	(0.00510)
Age(log)	-0.0215*	-0.0205*	-0.0150+	-0.0147+
	(0.00841)	(0.00840)	(0.00837)	(0.00838)
Corruption		0.0408**	0.0431***	0.0471**
		(0.0132)	(0.0130)	(0.0148)
Patenting				
Trademarking			0.241***	0.290***
			(0.0148)	(0.0525)
Trademarking x Corruption				-0.0228
				(0.0221)
Observations	6,286	6,286	6,232	6,232
Country FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
F statistic	48.99***			
Root MSE	0.45379	0.45281	0.4462	0.44651
Wald chi-square test of overall fit		2163.72***	2514.85***	2609.30***
Wooldridge test of endogeniety		4.156*	5.27173*	5.58348+

standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1
[a] Models without the endogenous variable (corruption) were estimated using OLS

Appendix 3e

sts of alternative measures of marketing innovation (bivariate probit with robust standard errors)

Dependent variable	Model 16 Promotion		Model 17 Pricing		Model 18 Placement	
	Product Innovation	Promotion	Product Innovation	Pricing	Patent	Placement
Constant	-0.208+	-0.315**	-0.218+	0.0389	-0.244*	-0.596***
	(0.121)	(0.120)	(0.120)	(0.123)	(0.120)	(0.119)
R & D	0.408***	0.339***	0.418***	0.398***	0.421***	0.301***
	(0.0393)	(0.0395)	(0.0392)	(0.0401)	(0.0389)	(0.0380)
Government support	0.184***	0.259***	0.185***	0.449***	0.182***	0.384***
	(0.0500)	(0.0513)	(0.0503)	(0.0532)	(0.0498)	(0.0476)
Shareholding company	-0.0653	0.0362	-0.0623	-0.116*	-0.0626	-0.0620
	(0.0537)	(0.0527)	(0.0537)	(0.0530)	(0.0533)	(0.0506)
International orientation	-0.0771	-0.288***	-0.0733	-0.250**	-0.0830	-0.267***
	(0.0772)	(0.0777)	(0.0771)	(0.0772)	(0.0760)	(0.0758)
Foreign owned	-0.0208	0.0799	-0.0278	-0.0924	-0.0249	-0.143
	(0.0868)	(0.0870)	(0.0866)	(0.0873)	(0.0860)	(0.0877)
Workforce education	0.000359	0.00195***	0.000339	0.00190***	0.000307	0.00165**
	(0.000550)	(0.000545)	(0.000550)	(0.000555)	(0.000544)	(0.000532)
Managerial experience	0.0990**	-0.0408	0.0948*	0.0658+	0.0887*	0.0572
	(0.0368)	(0.0366)	(0.0369)	(0.0371)	(0.0365)	(0.0355)
Size(log)	0.0466**	0.0984***	0.0472**	0.0757***	0.0495***	0.0753***
	(0.0151)	(0.0151)	(0.0151)	(0.0154)	(0.0150)	(0.0146)
Age(log)	-0.0108	-0.0858***	-0.00472	-0.0559*	-0.00350	-0.0589*
	(0.0243)	(0.0242)	(0.0242)	(0.0246)	(0.0240)	(0.0234)
Corruption	-0.0333**	0.0271*	-0.0338**	0.0608***	-0.0365**	0.0368**
	(0.0127)	(0.0126)	(0.0127)	(0.0128)	(0.0125)	(0.0122)
Observations	6,470		6,468		6,606	
Country FE	YES		YES		YES	
Industry FE	YES		YES		YES	
Log-pseudolikelihood	-7801.0626		-7693.201		-8153.3168	
Wald chi-square test of overall fit	5717.92***		4471.66***		6820.88***	
Wald chi-square test of interdependence ($\rho=0$)	51.6093***		48.3011***		19.7074***	

standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1