The 'Ties that Bind' Board Interlocks Research: A Systematic Review

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Corporate governance is a phenomenon with far-reaching influence and a topic that has received sustained interest from scholars and practitioners (Shleifer and Vishny, 1997; Westphal and Zajac, 2013). Since the inception of corporate governance research, one of the most vibrant areas of study has been board interlocks (Gulati and Westphal, 1999). A board interlock is a tie created by two firms sharing a common director (Burt, 1980; Mizruchi, 1996). Research on board interlocks has spanned many disciplines, including work in finance (Core *et al.*, 1999), management (Gulati and Westphal, 1999; Shropshire, 2010; Zajac and Westphal, 1996), and sociology (Kono *et al.*, 1998; Mizruchi *et al.*, 2006; Sorenson and Stuart, 2001).

Board interlocks reflect complex inter-organizational relationships. Scholars suggest that interlock activities can help firms manage environmental uncertainty and dependence (Useem, 1984), provide access to diverse and unique information (Haunschild and Beckman, 1998), enable the spread of new corporate practices (Davis, 1991; Palmer *et al.*, 1993), and serve as a signal of a firm's quality (Certo, 2003; Higgins and Gulati, 2003; Kang, 2008). Moreover, they can facilitate key processes, such as diffusion (Davis, 1991; Strang and Soule, 1998) and learning (Beckman and Haunschild, 2002), which can in turn impact firm performance (Davis and Cobb, 2010; Hillman *et al.*, 2009; Pfeffer, 1983).

Mizruchi (1996) offered one of the first assessments of the accumulated research on board interlocks almost 20 years ago. As he explains, a central question of interlocks research has been and continues to be "What do interlocks do?" Yet, given the importance of board interlocks and the explosion of research on the topic since Mizruchi's review, it is surprising that there has not been an updated comprehensive review of the board interlocks literature in nearly two decades. Further, as described in detail below, the board interlocks literature is increasingly fragmented. Although it draws on several disciplines and makes use of a variety of theoretical perspectives, there is not a unified understanding of how the literature's findings fit together. For instance, foundational issues, such as identifying the key antecedents and outcomes of interlock activities, have not been systematically reviewed.

To address this need for a review, we offer an assessment and integration of the thriving, yet disparate, research on board interlocks. Specifically, to synthesize the state of the literature, we conducted a "systematic review" (cf. Tranfield *et al.*, 2003), a particular type of literature review methodology. Systematic reviews differ from more common, "narrative" reviews in their methodological rigor and transparency (Pittaway and Cope, 2007).

Our review uncovers a variety of theoretical perspectives which have been used to understand board interlocks. It also suggests that most board interlock studies can be classified as examining either the antecedents or the outcomes of interlock activities. Moreover, studies examining antecedents generally adopt either the perspective of the firm or the interlocking director. For each perspective, we identify and discuss the most commonly examined antecedents. Regarding the outcomes of board interlocks, we identify several commonly explored themes, including the impact of interlocks on reducing environmental uncertainty, gaining access to diverse and unique information, diffusing strategies and practices, shaping the perceptions of firm quality, and influencing firm performance.

We also identify several unexpected omissions in the literature. For instance, despite the shift towards a global business environment, very few studies have focused on the implications of engaging in interlock activities in a global context. Similarly, research also has not examined international interlocks (i.e. interlocks between firms located in different countries). We uncover a number of other interesting empirical questions that remain unaddressed.

This review proceeds as follows. First, we describe the methods of data collection and the techniques we used to analyze the literature. Next, we summarize the board interlocks literature. We include a table of selected empirical research in the Appendix (Table A-1). We then provide a critical assessment of the literature. Finally, based on our review, we discuss promising areas of theoretical integration for future research and make suggestions for how interlocks can continue to be a vibrant topic of study for organizational researchers.

METHODS

To assess the state of the board interlocks literature, we used the “systematic review” approach. A systematic review is a methodology that was first developed in the medical sciences as a way to increase the comprehensiveness of the current state of knowledge of a topic (Tranfield *et al.*, 2003). It has been increasingly adopted by social science and management researchers (e.g. (Crossan and Apaydin, 2010; De Menezes and Kelliher, 2011; Xiao and Nicholson, 2013).

A systematic review consists of a multi-stage process that includes several steps. Specifically, following prior work, article inclusion criteria were determined in advance. Articles were searched according to these criteria and systematic selection and extraction procedures were used (e.g. Nijmeijer *et al.*, 2014; Turner *et al.*, 2013). The primary aim of the systematic approach is to reduce review subjectivity by increasing the transparency and replicability of the article identification and selection process (Crossan and Apaydin, 2010). That is, the study was conducted in such a manner that, if provided with our decision-criteria, other scholars would produce a very similar collection of articles.

Article Selection Approach

The guiding "review question" (Tranfield *et al.*, 2003) that drove our review was, *"*what is the state of empirical knowledge in the board interlocks literature*?"* In addressing this question, we did not limit our article search to any specific academic disciplines. The following search engines and databases were searched: Abi/Inform, Emerald, PsycINFO, PubMed/Medline, Web of Science, and Google Scholar. Based on our guiding review question, the primary search strings and terms used were *interlocking directorate(s), interlocking director(s),* and *board interlock(s)*. We identified all articles containing these words in their title, abstract, and main text. Abstracts were then used as the basis for selecting papers (e.g. De Menezes and Kelliher, 2011). More specifically, judgments were made about whether or not to include the article in the formal review based on if the focus of the study was board of director interlocks (as defined previously). Also, we determined if each study was conceptual or empirical. Finally, we checked each article's references for other relevant papers. In many cases, after identifying a focal article, we also searched the papers that had cited that article to find additional papers. To ensure a thorough review, multiple researchers and a research assistant were involved in the article identification and selection process (Nijmeijer *et al.*, 2014).

The publication cut-off date for an article to be included in the review was 2014; the earliest article identified was from 1969. In addition, as mentioned above, a snowball search technique was used whereby additional studies were identified based on the references in the initial papers. Finally, the search was limited to articles published in English; however, among journals published in English, there were no country restrictions.

Regarding the types of papers included, following prior research (e.g. Greenhalgh *et al.*, 2004), we limited our review to empirical studies that were published in peer-reviewed journals. We focused our review on empirical papers for several reasons. First, the aim of our review is to take stock of what has been empirically demonstrated about board interlocks. That is, our review focuses on the empirically-verified antecedents, outcomes, and theories of each paper. Our review also was concerned with the setting of each study (e.g., whether or not the authors used an international sample). With these criteria in mind, theory papers did not include the characteristics needed for our review. For instance, while a theory paper might make conjectures about the antecedents of board interlocks, it does not provide empirical validation of these propositions. However, the empirical papers included have been built on sound theoretical background and represent the insights of prior conceptual research.

Our search generated 81 papers (Table 1). We did not include non-peer-reviewed articles, working papers, or book chapters in order to limit our search to a number of studies that could be comprehensively analyzed.

--- Insert Table 1 here ---

Literature Analysis

We began by conducting a narrative synthesis of the review material (cf. Popay *et al.*, 2006). This involves, "adopt[ing] a textual approach to the process of synthesis to 'tell the story' of the findings from the included studies" (p. 5). A meta-analysis approach was not possible because of the broad focus of our review and the heterogeneous methods used in the literature (Nijmeijer *et al.*, 2014). Instead, to identify themes and trends, we focused on pattern-matching and explanation-building (Xiao and Nicholson, 2013; Huberman and Miles, 1994). In particular, we conducted both within and across article analysis. As we reviewed each articles, we documented emerging patterns. Similar to the manner in which themes are identified in multi-case studies, each subsequent article was used to either confirm or disconfirm the accuracy of the patterns identified in other articles (Strauss and Corbin, 1998). This process led to the identification of the themes and trends in the literature that we present below. Moreover, it aided in creating the framework we use to describe the antecedents and outcomes of the board interlocks literature.

Finally, in conducting our general review of the literature, we gave added attention to global issues in board interlocks. Specifically, we classified each article based on three criteria. First, for each empirical study, we noted the primary country or region of the sampled firms. Second, we classified each article as containing an international sample (or not), which we defined as a sample of board interlocks that were from multiple countries. Third, and finally, we noted if the article studied "international interlocks," which we defined as interlocks between firms located in different countries (e.g. a U.S.-based firm interlocked with a firm in France). These classifications provided us with insights about the extent to which the interlocks literature has sufficiently explored issues of global governance (Figure 1).

--- Insert Figure 1 here ---

SUMMARY OF THE LITERATURE

Before we discuss our assessment of the board interlocks literature, we provide a summary of the current state of the literature. Specifically, we find that board interlock studies can be broadly classified as focusing on either the antecedents or the outcomes of interlock activities. As we describe, within each stream of research, a variety of theoretical lenses have been used. In summarizing this research, we organize the findings around common themes and variables.

The Antecedents of Interlock Activities

Board interlocks research has generally adopted one of two perspectives in examining the antecedents to interlock activities: the perspective of the firm or the perspective of the interlocking director. We structure our review according to these perspectives.

Board Interlocks from a Firm's Perspective

Resource-seeking. One of the primary reasons to form a board interlock is that some executives believe interlocks will help their firms create connections with other organizations, allowing them to secure the resources necessary to minimize environmental uncertainty (Martin *et al.*, 2015; Mizruchi and Stearns, 1988; Ong *et al.*, 2003; Shrader *et al.*, 1991; Stearns and Mizruchi, 1986). For instance, early studies find that as a response to resource dependence (e.g., when a firm is heavily indebted to a bank), firms invite representatives from financial institutions onto their boards in an attempt to co-opt the institutions (Bunting, 1976; Dooley, 1969). These are referred to as financial interlocks, which have been the focus of a large stream of research (e.g. Galaskiewicz *et al.*, 1985; Lang and Lockhart, 1990; Ornstein, 1984; Palmer *et al.*, 1986).

Beyond financial interlocks, a firm can also interlock with other types of organizations that control (or can provide) critical resources. Burt (1979), for example, finds that a focal firm is more likely to interlock with other firms from industries that influence the focal firm's profits. He demonstrates that firms prefer to interlock with other firms in industries in which they have dependency relationships and can obtain benefits from the interlocks (e.g. improving financial performance). In addition, Burt and colleagues (Burt *et al.*, 1980) further show that interlocks tend to exist in industries in which firms demonstrate resource dependence and tend not to occur in the absence of such dependence. Other studies have also confirmed that resource dependence is an important factor in facilitating board interlocks (Haija, 2014; Ong *et al.*, 2003; Shrader *et al.*, 1991; Simoni and Caiazza, 2012).

Monitoring. One of the primary functions of boards is monitoring (e.g. Hillman *et al.*, 2008). This suggests that firms can also engage in interlock activities in an attempt to improve their monitoring ability (Carpenter and Westphal, 2001; Gulati and Westphal, 1999). Financial institutions, for example, may attempt to add a representative to a firm's board in order to improve the institution's ability to monitor the firm's financials (Eisenhardt, 1989; Mizruchi, 1982). Moreover, Mizruchi and Stearns (1988) find that financial institutions are more likely to send representatives to sit on a firm's board if the firm is experiencing declining solvency and profits. They also demonstrate that when a firm increases the demand for capital from a financial institution, this increases the number of representatives sent from the financial institution to monitor the firm. In general, these studies find that firms are more likely to pursue interlock activities with firms that receive capital from them in part because interlocks can improve monitoring abilities.

Signaling. A firm's board of directors can also be used to send a signal to current and potential investors (Certo, 2003; Connelly *et al.*, 2011a; Higgins and Gulati, 2003). When a firm appoints a director from a corporation with a high reputation, this can signal the quality of the firm and serve to legitimize the venture. More specifically, by being interlocked with a firm with a high reputation, the focal firm is sending a signal of high quality to stakeholders evaluating the firm's quality, such as current and potential investors. Indeed, by associating with other firms that already possess the image they desire, an interlocked firm can gain a "spill-over" effect on its image as well. For instance, scholars have repeatedly found that boards are more likely to invite high-status executives, such as CEOs, to server as members and to form interlocks (Galaskiewicz *et al.*, 1985).

Accessing Human Capital. A director can also be appointed to an interlocking position because of his or her particular human capital. These skills may be considered desirable independent of the firm with which the director is associated. For example, studies have shown that new directors are usually drawn from a relatively small pool of candidates (Stokman *et al.*, 1988), which suggests that they can be chosen for their individual characteristics, rather than the boards on which they are currently serving. In recent work, researchers find that complex firms (i.e. firms with greater operational complexity in terms of their scale and scope) are more likely to select new directors with high status; similarly, firms with high-status board members are more likely to select new directors who also have high status (Johnson *et al.*, 2011). This suggests that one motivation for engaging in interlock activities is to access individual skills, experience, and expertise.

From an Interlocking Director's Perspective

A second set of studies has also explored the antecedents of interlock activities, but has focused on the perspective of the interlocking director rather than the firms creating the interlock (e.g. the primary unit of analysis is the individual director instead of the firm). In particular, this work has focused on two director-level antecedents: career advancement and increased social ties.

Career Advancement. Executives can join multiple boards in order to advance their career and extend their connections (Westphal and Stern, 2006). Zajac (1988), for instance, finds that individuals join boards for various reasons, including receiving higher financial compensation, gaining more prestige, and acquiring more contacts. Moreover, directors in large corporations are well-compensated and are more likely to secure another board appointment when their current appointment ends (Stuart, 2012). In addition, the more board appointments executives have (thus forming more interlocks), the more connections they have. As social capital theory suggests, these connections can become an interlocking director's social capital and may be used to further advance his or her career (Hillman *et al.*, 2009; Johnson *et al.*, 2011).

Gaining Social Ties. A second explanation for the formation of board interlocks is based on the social ties among high-level executives (e.g., the upper echelon). Several theories have been applied to understand this aspect of interlocks, including hegemony theory (Koenig and Gogel, 1981), class perspectives (Ornstein, 1984), contact theory (Yue, 2012), and social networks theory (Bohman, 2012). Researchers suggest that interlocks are an important way to reinforce cohesion among the elite (Domhoff, 1975; Zeitlin, 1974). Indeed, Useem (1984) refers to this phenomenon as an "inner circle" in which the members are executives who sit on each other's boards and socialize in the same elite clubs (e.g. country clubs).

Finally, it is important to note that the antecedents discussed above are not mutually exclusive. For instance, it is possible for directors to be recruited due to both their expertise and their affiliation with another firm. Further, this can also occur when the interlocking director is in the same social groups with the focal firm's CEO. Also, while the above factors have received the most attention as antecedents of board interlocks, there are other factors that have not been actively studied but that can also motivate interlock activities. These factors include a firm's history (Marquis, 2003; Mizruchi *et al.*, 2006) and spatial considerations (Kono *et al.*, 1998). Table A-1 contains a summary of the literature examining the antecedents of board interlocks.

The Outcomes of Interlock Activities

The most common focus of board interlock studies is the *outcomes* of interlock activities. As Mizruchi (1996: 280) argues, “If interlocks are to be worth studying, it is essential that they be shown to have consequences for the behavior of firms.” The outcomes that have received the most attention in the literature can be categorized as follows.

Reducing Environmental Uncertainty. Interlocking directors can be particularly valuable to firms facing uncertain environments. For instance, Boyd (1990) finds that when firms operate in conditions of high environmental uncertainty, they often perform better if they have more board interlocks. Hillman *et al.* (1999) demonstrate this effect by showing that interlock activities reduce uncertainty because they improve access to superior information channels and communication exchanges.

Gaining Access to Diverse and Unique Information. Because interlocking directors sit on two or more boards, they have access to private information from other firms that is not otherwise available to the public (Beckman and Haunschild, 2002; Haunschild and Beckman, 1998; Zahra and Pearce, 1989). One implication of accessing this information is that new corporate practices or policies can be transferred by board interlocks (Davis, 1991). The information transferred through interlocks can, in turn, lead to the diffusion of strategic actions and practices (Palmer *et al.*, 1993).

Diffusing Strategies and Practices. In terms of the quantity of studies, diffusion has been the predominant outcome of interest in interlocks research. Scholars have mainly studied diffusion through the lenses of institutional theory (e.g., Galaskiewicz and Wasserman, 1989; Okhmatovskiy and David, 2012), social networks theory (e.g., Clawson and Neustadtl, 1989; Connelly *et al.*, 2011b; Davis and Greve, 1997), and resource dependence theory (e.g., Haunschild, 1993). Most studies show that when two firms are interlocked with one another, it is more likely that a strategic action will diffuse from the interlocked firm to the focal firm. However, some studies find that not just any tie diffuses strategic actions, but only ties to certain firms (e.g., Connelly *et al.*, 2011b). Similarly, Davis and Greve (1997) find that not all strategic actions diffuse through board interlocks. For instance, poison pills diffuse through interlock activities, while golden parachutes are more likely to diffuse through geographic proximity.

Shaping Perceptions of the Firm's Quality. If an interlocking director is affiliated with another firm that has a good reputation, it can positively impact the perceived quality of the focal firm (Certo, 2003; Higgins and Gulati, 2003). In contrast, studies have also shown that poor reputations can spill over onto interlock partners as easily as good reputations. For instance, drawing on signaling and attribution theories, Kang (2008) finds that firms interlocked with firms that are accused of financial reporting fraud are more likely to also suffer reputational penalties.

Influencing Firm Performance. One of the most intensely researched outcomes of board interlocks is their potential impact on the performance of interlocking firms. A number of theories have been applied to understand the relationship between interlocks and performance, including inter-organizational theories (e.g., Keister, 1998), upper echelons theory (e.g., Yeo *et al.*, 2003), agency theory (e.g., Haniffa and Hudaib, 2006), social networks theory (e.g., Cai and Sevilir, 2012), and social capital theory (e.g., Horton *et al.*, 2012). Resource dependence theory has been the primary theory associated with the finding that board interlocks have a positive impact on financial performance. The core thesis is that interlocks help organizations obtain much-needed resources and information as a foundation for improving their performance (Davis and Cobb, 2010; Pfeffer, 1983). In this vein, a board interlock is a measure of a firm's ability to secure critical resources. For instance, Carpenter and Westphal (2001) show that outside directors can provide decision-making expertise (a type of resource) to the boards of other firms in similar product markets and with similar corporate strategies. Board interlocks can also help facilitate a firm's borrowing (Mizruchi, 1996), alliance formation (Gulati and Westphal, 1999), and capital acquisition (Stearns and Mizruchi, 1993), all of which can provide resources that improve firm performance.

Social network perspectives have also been applied in studies examining the performance implications of interlocks. Some researchers suggest that firms that are embedded in the director's network can leverage social relations, and in return facilitate economic exchanges, which results in better current and future firm performance (Granovetter, 1985; Horton *et al.*, 2012). In this view, interlocks serve as a mechanism for firms to connect with one another. Firms that are embedded in a director network can reap the benefits of social capital that are not available to firms outside the network.

Although many additional studies have found that engaging in board interlocks activities is positively related to firm performance (e.g., Cai and Sevilir, 2012; Haniffa and Hudaib, 2006; Harris and Shimizu, 2004), it should be noted that not all studies have replicated this positive effect (e.g., Fich and White, 2005). For instance, Fligstein and Brantley (1992) find that firms with *fewer* interlocks actually perform better than those with more interlocks. However, this finding may be attributable to difficulties teasing apart the causal order of the number of interlocks and firm performance (Mizruchi, 1996). For instance, it may be the case that when firms are performing very well, or are in highly beneficent environments, they are less dependent on other firms for resources, which in turn reduces the necessity of board interlocks. This would support the finding that resource dependence is an important antecedent to interlock activity. It may also be the case that studies are not including important boundary conditions on the relationship between interlock activities and firm performance. For example, Sarkar and Sarkar (2009) identify a director's status as an important moderator of the impact of interlocks on performance. Specifically, they find that interlocks formed by outside directors enhance the focal firm's performance, whereas interlocks formed by inside directors do not. The complex (and sometimes contradictory) nature of these findings suggest that more research is needed to understand the nuances of the relationship between interlocks and firm performance. Figure 2 summarizes these findings.

--- Insert Figure 2 here ---

CRITICAL ANALYSIS OF THE LITERATURE

Beyond providing a review of the literature, building on prior work (e.g. Mizruchi, 1996) we have identified a number of themes and trends that are deserving of a more critical discussion. As our review illustrates, board interlocks have been one of the most commonly used measures of inter-firm networks. Moreover, research suggests that interlocks can influence a firm's strategies, structures, and performance. Despite the growing prominence of such research, studies have provided mixed support for interlocks' influence, which has made the topic a source of criticism.

Criticisms of board interlocks research have focused on three issues. The first is that interlocks fail to predict corporate behavior (Mizruchi, 1996; Stinchcombe, 1990; Zajac, 1988), 1988). Early studies, such as Fligstein and Brantley (1992), find that financial interlocks do not predict corporate performance and claim that researchers should not use interlocks to represent an inter-organizational network unless their relevance can be theoretically specified. However, more recent studies have been able to tease apart the linkage between interlocks and corporate behavior such as the diffusion of strategic actions (cf. Table A-1).

Allison and Potts (1999) provide one argument for why some interlocks research does not find a relationship between interlock activity and firm behavior. They propose that interlocks are actually comprised of two primary sub-processes: contact and choice. The diffusion of strategic actions involves *contact* between firms, the transfer of information from the interlocked firm to the focal firm, and then the *choice* of implementing the strategic action (or not) by the focal firm. Thus they suggest that the reason why many studies have failed to find a stronger linkage between interlock activities and firm behavior is because they do not differentiate the sub-processes, treating contact and choice as a unitary process. That is, while it is reasonable to assume that information will be transferred via interlocks, we cannot always assume that the focal firm will decide to implement strategic actions associated with that information. Furthermore, Shropshire (2010) proposes that another reason board interlocks sometimes fail to predict the diffusion of strategic actions is that scholars have treated interlock ties as homogeneous. She theorizes that the interlocking director's characteristics and the receiving board's receptivity can both determine the likelihood of diffusion. However, to date, there are no empirical studies that test these claims.

A second criticism is that interlocks do not capture the complexity and richness of inter-firm networks (Davis and Powell, 1992; Hirsch, 1982). Researchers often include board interlocks as the sole measure of inter-firm networks, overlooking other types of networks such as strategic alliances, CEO friendships, and common memberships in social groups and clubs. Because there are many ways that a firm (and its top executives) can connect with other firms, researchers should be aware that other ties exist. For instance, Westphal and his colleagues (Westphal *et al.*, 2006) explore how top executives use informal ties (friendship ties) with executives in other firms to manage uncertainty and resource dependency. They find that broken ties (i.e., ties that are disrupted because of reasons such as resignations) are more likely to be reconstituted again especially in cases where there is high resource dependence. These findings suggest that interlocks are not an all-encompassing measure of a firm's networks.

Finally, as described in the previous section, board interlock studies do not always find a significant relationship between engaging in interlock activities and subsequent firm financial performance. Indeed, although many researchers propose that interlocks help firms secure resources and access information otherwise not available, both of which should improve financial performance (Casciaro and Piskorski, 2005; Westphal *et al.*, 2006), the results are inconsistent.

Some studies have shown interlocks to be associated with *reduced* financial performance (Fligstein and Brantley, 1992; Meeusen and Cuyvers, 1985). One explanation for this finding is that there are costs associated with directors serving on multiple boards and with being a "busy director" (Core *et al.*, 1999). Busy directors have limited time and attention for the boards they serve, which can negatively impact their firms' performance (Li and Ang, 2000). Moreover, scholars suggest that busy directors are also associated with weaker governance (Fich and Shivdasani, 2006), which in turn can have a negative effect on firm performance.

Another argument used to explain the negative relationship between interlock activities and performance is that interlocking directors might become more committed to their elite networks than to their corporate boards (Burris, 1992). In this view, directors connected to different boards are influenced by the norms and values of their informal network (Koenig and Gogel, 1981; Windolf and Beyer, 1996), which leads them to be more concerned with social cohesion than with their director duties.

As these criticisms indicate, the board interlocks literature remains a contested domain of study. Many important questions related to interlock activity are not settled. Below we provide a more expansive discussion of the areas that represent opportunities for extension and clarification.

DISCUSSION AND CONCLUSION

Our review of the board interlocks literature suggests that it is ripe for both theoretical and methodological extensions. Indeed, there are a number of topics and disciplines that, if incorporated into work on board interlocks, could enrich the literature and open promising avenues for future research. We divide these potential extensions of the literature into three categories: proximal extensions (e.g., research directions within existing streams of research on board interlocks), extensions to corporate governance, and broader extensions (e.g., creating linkages to other literatures).

Opportunities for proximal extensions

Sample diversity. Our literature review revealed that most published studies have focused on board interlock activities in the United States. Indeed, out of the articles we identified that provided the geographic location of their sample, 60 (75%) used strictly U.S.-based companies. There have been some exceptions, with scholars examining board interlocks in countries such as Australia (Kiel and Nicholson, 2006), China (Huang *et al.*, 2013; Keister, 1998), Columbia (Pombo and Gutierrez, 2011), and Denmark (Johansen and Pettersson, 2013). However, no country other than the U.S., has received the attention of more than two studies (refer back to Figure 1).

International interlocks. Beyond increasing the diversity of countries examined, an even larger gap in the board interlocks literature involves the examination of international interlocks –

that is, interlocks between firms located in different countries. International interlocks are created when a firm appoints a "non-national" director – a director from a country that is outside the firm's home country – to its board. These types of interlocks have received almost no academic attention despite the fact that there is evidence they are increasingly widespread (Staples, 2007). For instance, Staples found that, in 2005, 75% of the 80 largest transnational corporations had non-national board members. Presumably this number has increased in the past decade. There may exist important cross-national (and cross-cultural) implications of forming international interlocks. Future research would be well-served to pay greater attention to this prevalent, but not well-understood, phenomenon.

Methodological diversity. In addition to expanding the types of firms and interlocks examined, opportunities also exist for interlock researchers to use a more diverse set of methodologies. For instance, most studies employ a deductive, and primarily quantitative, approach to analyzing interlock activities. However, inductive methods utilizing data from qualitative methodologies (e.g. narrative techniques; Riessman, 1994) may allow interlock researchers to harness the power of these methods. For instance, qualitative methods would be well-suited to capture directors' life experiences and interpretations, to better understand complex process issues associated with the formation and operation of interlocks, and to examine the narratives and discourse used in interlock activities (Graebner *et al.*, 2012).

Opportunities for extensions to corporate governance

Some scholars have proposed that interlocking directors may also spread unethical behaviors (Shipilov *et al.*, 2010). However, it is not clear what behaviors might be spread through such relationships. For instance, governance scholars are increasingly interested in the factors that facilitate collusive behaviors (Hao and Qi, 2011; Wang *et al.*, 2011). Yet the role of interlocks in promoting and diffusing collusion has not been explored. It is not known, for example, if a firm experiencing performance improvements as a result of collusive behaviors will promote these behaviors to other firms through their interlocking directors. Or, is it the case that collusive behaviors will be *restrained* when a firm is interlocked with other firms that are not engaged in such behaviors? Factors such as sanctioning and social norms within the interlocking network could limit collusion (Wasserman and Faust, 1994). More broadly, it is not clear if firms engaged in unethical behaviors will eventually adjust their practices to be more – or less – ethical as a result of the firms to which they are interlocked. The equivocality of these arguments suggests that future governance studies are needed to explore these dynamics.

Most interlock studies have focused on the diffusion of a specific strategic action (e.g., expansion into China). Thus, an additional extension to corporate governance research would be to examine whether board interlocks also facilitate the *withdrawal* of strategic actions. Divestments are an example of such as action. They require firms to make decisions to eliminate existing investments (e.g. closing a subsidiary in a foreign country; (Chung *et al.*, 2013). It is not clear if board interlocks can also play a role in facilitating this type of strategic action. For instance, scholars might ask, “if a firm in an interlocking network engages in divestment, is another firm more likely to follow suit?”

Opportunities for broader extensions

Although the board interlock literature has used a variety of theoretical lenses, opportunities remain for scholars to create connections between theoretically “nearby” areas of inquiry and, in particular, between related topics in strategic management. For instance, work in strategic decision-making has primarily focused on the strategy processes of firms’ CEOs and other top executives (Hutzschenreuter and Kleindienst, 2006). This research has focused on when the top leaders of organizations make decisions that can "critically affect organizational health and survival" (Eisenhardt and Zbaracki, 1992, p.17), such as engaging in mergers or acquisitions, market entry or exit, and major organizational restructuring. Even though board of directors also weigh in on strategic decisions (e.g. Carpenter and Westphal, 2001; Pendleton *et al.*, 1993), research has not devoted attention to understanding specifically how interlock activities influence strategic decision processes (e.g. through the diffusion of information or practices between interlocked firms).

Another area that is ripe for future research involves the micro-processes and interactions (Regner, 2003) involved in board interlock research. One such process, which is yet to be examined, is the specific discursive interactions that occur between interlocking directors and other members of the board. This research could examine important questions such as, "how precisely is the information and knowledge that comprises board discourse shaped by the communication of interlocking directors?" and "what discourse is involved in the creation of an interlock?" Following other work on the impact of discourse on organizational phenomena (e.g. Vaara *et al.*, 2010), future research would be well-served by using qualitative techniques, such as ethnographic observation of board meetings, to explore these questions.

A final topic that seems promising for future research lies at the intersection between board interlocks and entrepreneurship. Both mature and young firms can engage in interlock activities (George *et al.*, 2001). However, prior research has not devoted attention to understanding how interlock activities might differ with a firm's age. Thus important questions have yet to be explored, such as: "are the performance implications or diffusion of practices associated with interlock activity amplified in early-stage ventures – and, if so, why?"

Concluding Remarks

As our review of the literature suggests, board interlocks represent not only a longstanding phenomenon but an area of research that has been active for many decades. This research has produced a wealth of insights that increase our understanding about why firms create linkages with other firms and what the implications are of such activities. However, as this review also reveals, many important questions await the attention of scholars. These questions represent exciting, and potentially fruitful, areas for future research.

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TABLE 1

JOURNAL SOURCES OF REFERENCED PAPERS

Journal Name[1]	Number of Articles
AER	1
AJES	1
AJS	7
AMJ	3
ASQ	17
ASR	5
BSTE	1
CG	1
CGIR	3
DB	1
EBOLR	1
FM	1
JABE	1
JAMS	1
JBFA	2
JCF	1
JEB	1
JFE	1
JMG	1
JMI	2
JMS	3
JOM	2
JOSBM	1
MDE	1
MSSJ	1
OS	4
PBFJ	1
ROAS	1
SF	2
SF2	1
SMJ	8
SN	2
SSR	1
ST	1

APPENDIX

TABLE A-1

A SUMMARY OF EMPIRICAL RESEARCH ON BOARD INTERLOCKS

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Drago, Manestra, & Santella (2011)	*EBOLR*	Firm Level: Collusion		Social networks	Italy
Burt (1979)	*SN*	Firm Level: Resource-seeking	Firm performance	Structural theory of corporate cooptation	US
Burt (1980)	*ASQ*	Firm Level: Resource-seeking			US
Burt, Christman, & Kilburn (1980)	*ASR*	Firm Level: Resource-seeking		Structural theory of corporate cooptation	US
Mintz & Schwartz (1981)	*ASR*	Firm Level: Resource-seeking		Theory of finance control	US
Stearns & Mizruchi (1986)	*ASQ*	Firm Level: Resource-seeking		RDT	US
Mizruchi & Stearns (1988)	*ASQ*	Firm Level: Resource-seeking		RDT	US
Shrader, Hoffman, & Stearns (1991)	*JMI*	Firm Level: Resource-seeking		RDT	US
Ong, Wan, & Ong (2003)	*CGIR*	Firm Level: Resource-seeking		RDT and bank control theory	Singapore
Simoni & Caiazza (2012)	*CG*	Firm Level: Resource-seeking		Social networks	Italy
Haija (2014)	*MSSJ*	Firm Level: Resource-seeking		Structure theory	US
Martin, Gozubuyuk, & Becerra (2015)	*SMJ*	Firm Level: Resource-seeking		RDT	US

TABLE A-1 CONTINUED

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Galaskiewicz, Wasserman, Rauschenbach, Bielefeld, & Mullaney (1985)	*SF*	Firm Level: Legitimacy and director expertise		Interorganizational theories	US
Johnson, Schnatterly, Bolton, & Tuggle (2011)	*JMS*	Director level: Career advancement		Social capital and RDT	US
Mizruchi (1990a)	*ST*	Director level: Career advancement	Others (similarity of behaviors)	Social networks	US
Koenig & Gogel (1981)	*AJES*	Director level: social ties		Hegemony theory	US
Ornstein (1984)	*ASQ*	Director level: social ties		Interorganizational theories	US
Yue (2012)	*OS*	Director level: social ties		Contact theory	US
Bohman (2012)	*SN*	Director level: social ties		Social networks	Sweden
Zajac & Westphal (1996)	*ASQ*	Other: boards seek directors from other similar boards		Agency theory and interorganizational theories	US
Kono, Palmer, Friedland, & Zafonte (1998)	*AJS*	Other: spatial Consideration		Various	US
Marquis (2003)	*ASQ*	Other: imprinting theory		Imprinting theory	US
Beckman, Haunschild, & Phillips (2004)	*OS*	Other: environment-uncertainty experienced by the firm		Behavioral decision theory	US
Mizruchi, Stearns, & Marquis (2006)	*ASR*	Other: history	Strategy diffusion	Institutional theory and social networks	US

TABLE A-1 CONTINUED

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Devos, Prevost, & Puthenpurackal (2009)	*FM*	Other: weak performance	Firm performance	N/A	US
Clawson & Neustadtl (1989)	*AJS*		Strategy diffusion (political strategy)	Interorganizational theories	US
Galaskiewicz & Wasserman (1989)	*ASQ*		Strategy diffusion (mimic behaviors)	Institutional theory and social networks	US
Davis (1991)	*ASQ*		Strategy diffusion (spread of poison pills)	Agency theory and inter-org. theory	US
Haunschild (1993)	*ASQ*		Strategy diffusion	RDT, financial theories and agency theory	US
Davis & Greve (1997)	*AJS*		Strategy diffusion	Social Networks	US
Rao, Davis, & Ward (2000)	*ASQ*		Strategy diffusion	Social networks and social identity theory	US
Carpenter & Westphal (2001)	*AMJ*		Strategy diffusion	Agency theory	US
Westphal, Seidel, & Stewart (2001)	*ASQ*		Strategy diffusion	Institutional theory- mimetic	US
Sanders & Tuschke (2007)	*AMJ*		Strategy diffusion	Institutional theory	US
Connelly, Johnson, Tihanyi, & Ellstrand (2011b)	*OS*		Strategy diffusion	Social networks	US
Okhmatovskiy & David (2012)	*OS*		Strategy diffusion	Institutional theory	Russia
Noyes, Brush, Hatten, & Smith-Doerr (2014)	*JOSBM*	Firm Level	Strategy diffusion	Social Network	US
Cai, Dhaliwal, Kim, & Pan (2014)	*ROAS*	Firm Level	Strategy diffusion	Social Network	US
Diestre, Rajagopalan, & Dutta (2014)	*SMJ*		Strategy diffusion	Social networks	US

TABLE A-1 CONTINUED

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Kang (2008)	*AMJ*		Spread of reputation	Signaling and attribution theories	US
Richardson (1987)	*ASQ*		Firm performance	RDT and interorganizational theories	US
Boyd (1990)	*SMJ*		Firm performance	RDT	US
Keister (1998)	*AJS*		Firm performance	Interorganizational theories	China
Phan, Lee, & Lau (2003)	*JMI*		Firm performance	RDT	Singapore
Yeo, Pochet, & Alcouffe (2003)	*JMG*		Firm performance	Resource dependence theory and upper echelons theory	France
Harris & Shimizu (2004)	*JMS*		Firm performance (acquisition performance)	RDT	US
Fich & White (2005)	*JCF*		Firm performance	N/A	US
Haniffa & Hudaib (2006)	*JBFA*		Firm performance	Agency theory	Malaysia
Kiel & Nicholson (2006)	*CGIR*		Firm performance	N/A	Australia
Sarkar & Sarkar (2009)	*PBFJ*		Firm performance	RDT and others	India
Pombo & Gutierrez (2011)	*JEB*		Firm performance	N/A	Columbia
Cai & Sevilir (2012)	*JFE*		Firm performance	Social networks	US
Horton, Millo, & Serafeim (2012)	*JBFA*		Firm performance	Social capital theory	UK
Kim & You (2013)	*JAMS*		Firm performance	Social networks	India
Palmer (1983)	*ASQ*		Formal coordination	Interorganizational theories	US

TABLE A-1 CONTINUED

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Mizruchi & Koenig (1986)	*ASR*		Political behaviors	Interorganizational theories	US
Mizruchi & Koenig (1988)	*SSR*		Political behaviors	Social networks	US
Mizruchi (1989)	*AJS*		Political behaviors	Interorganizational theories	US
Mizruchi (1990b)	*SF*		Political behaviors	Social networks	US
Mizruchi (1990c)	*SF2*		Political behaviors	Interorganizational theories	US
Palmer, Barber, Zhou, & Soysal (1995)	*ASR*		Being acquired	RDT and social networks	US
Westphal & Zajac (1997)	*ASQ*		Board control	Social exchange theory	US
Haunschild & Beckman (1998)	*ASQ*		Information-seeking	RDT	US
Gulati & Westphal (1999)	*ASQ*		Alliance formation	Social networks and agency theory	US
Geletkanycz, Boyd, & Finkelstein (2001)	*SMJ*		CEO compensation	RDT and social networks	US
Beckman & Haunschild (2002)	*ASQ*		Acquisitions	Upper-echelons theory	US
Burris (2005)	*AJS*		Similarity in political behaviors	Pluralist theory and class cohesion theory	US
Ruigrok, Peck, & Keller (2006)	*JMS*		Board involvement	Agency theory and social networks	Switzerland
Rosenkopf & Schleicher (2008)	*MDE*		Alliance formation	RDT	US

TABLE A-1 CONTINUED

Study	Journal	Antecedents to Interlocks	Outcomes from Interlocks	Theories	Study Setting
Haynes & Hillman (2010)	*SMJ*		Strategic change	RDT	US
Valenti & Horner (2010)	*JABE*		Monitoring	Social networks	US
Dreiling & Darves (2011)	*AJS*		Political unity	Social networks	US
Mahmood, Zhu, & Zajac (2011)	*SMJ*		Capabilities	Social networks	Taiwan
Boivie, Bednar, Barker (2012)	*JOM*		Compensation	Social netowrks	US
Moore, Bell, Filatotchev & Rasheed (2012)	*SMJ*		Foreign capital market choice	Institutional theory	US and UK
Huang, Luo, Liu & Yang (2013)	*JOM*		Benefits	Social networks	China
Johansen & Pettersson (2013)	*CGIR*		Auditors choice	Financial Theory	Denmark
Mandojana & Aragon-Correa (2013)	*BSTE*		Sustainability	N/A	US
Tuschke, Sanders, & Hernandez (2014)	*SMJ*		Learning	N/A	Germany

[1] Journal abbreviations: *AER: American Economic Review; AJES: American Journal of Economics and Sociology; AJS: American Journal of Sociology; AMJ: Academy of Management Journal; AMR: Academy of Management Review; ASQ: Administrative Science Quarterly; ASR: American Sociological Review; BSTE: Business Strategy and the Environment; CG: Corporate Governance; CGIR: Corporate Governance: An International Review; DB: Directors & Boards; EBOLR: European Business Organization Law Review; FM: Financial Management; JABE: Journal of Applied Business and Economics; JAMS: Journal of Advanced Management Science; JBFA: Journal of Business Finance & Accounting; JCF: Journal of Corporate Finance; JEB: Journal of Economics and Business; JFE: Journal of Financial Economics; JMG: Journal of Management and Governance; JMI: Journal of Management Issues; JMS: Journal of Management Studies; JOM: Journal of Management; JOSBM: Journal of Small Business Management; MDE: Managerial and Decision Economics; MSSJ: Modern Social Science Journal; OS: Organization Science; PBFJ: Pacific-Basin Finance Journal; ROAS: Review of Accounting Studies; SF: Social Forces; SF2: Sociological Forum; SMJ: Strategic Management Journal; SN: Social Networks; SSR: Social Science Research; ST: Sociological Theory;*