

Presence and Profiles of Women on Corporate Boards in Philippine Publicly Listed Corporations: A Resource Dependence Theory Perspective

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Using a resource dependence perspective, this study investigates meso-level factors influencing the likelihood of a woman director (WOCBs) in Philippine publicly listed corporations (PLCs) and identifies profiles of WOCB based on the resources they provide a firm. Employing a sample of 252 PLCs and logistic analysis, this study determines that board size is significant and positively associated with the likelihood of a WOCB. Furthermore, utilizing the biographical data of 456 WOCB and cluster analysis, this study identifies five profiles of WOCB and determines the dominance of WOCBs who have a profile of a business expert.

Keywords: Resource dependence theory, WOCB, Philippines, cluster analysis

1 Introduction

Board of director (board) composition has always been an important issue in corporate governance research; and in the last three decades, the study of women on corporate boards (WOCBs) has piqued notable interest from academics, governments, policy makers, practitioners, and supra-national bodies (Kirsch, 2018), particularly in developed markets. This increased interest in WOCBs has been driven by several reasons, such as but not limited to: the underrepresentation of women in senior corporate leadership and board roles and the (sub-optimal) impact of a homogenous group on decision-making, particularly its negative impact on corporate governance and performance (Nguyen et al., 2020); and the increasing pressure from diverse stakeholders and expectations from highly qualified women who are likely to exit if they see no/few WOCBs, especially given the given the business and moral justice case of having a fairer gender balance (Terjesen et al., 2009).

Both industry and the academe have investigated various aspects of WOCB. Industry studies have explored broadly the impact and state of gender diversity at the macro and micro levels and have offered insights and tools to advance gender diversity in the workplace (Women in the workplace, 2022; Women matter, 2017). They have also focused sharply on gender diversity of boards of publicly-listed corporations (PLCs) and have provided insights on the political, social, and legislative trends behind the numbers (Milhomen, 2022; Progress at a snail's pace, 2022). Despite their variations in research focus, they all align on the insight that despite (slow) improvements, women remain underrepresented in the economy, (top) management, and board levels, as well as great disparities exist across continents and countries.

Academic studies, meanwhile, have focused on the various levels of analysis from the individual/microlevel to the board, firms and industry/meso-level, and to the institution and actor/macrolevel to understand the factors shaping gender composition in corporate boards (Kirsch, 2018; Terjesen et al., 2009). Kirsch (2018) further points out that many of the meso-level studies have taken a functionalist perspective, such as resource dependence theory (RDT), when studying the appointment of women on boards.

RDT postulates that an organization is highly dependent on its external environment for its performance and survival (Pfeffer & Salancik, 2003); and that a board effectively offers "a strategy for accessing resources, exchanging information, developing interfirm commitments, and establishing legitimacy" (p. 161). These actions are necessary to manage an organization's external environment. Hence, the presence of WOCB is due to their beneficial effect. The resources WOCB provide, based on their accumulated expertise, experience, knowledge, and reputation (Jones et al., 2008, p. 1014), may link an organization to its environment and serve to reduce uncertainties and interdependencies (Hillman et al., 2007). Systematic literature review (SLR) studies on WOCB (Kirsch, 2018; Nguyen et

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al., 2020; Terjesen et al., 2009) have determined with an RDT lens that WOCB: (1) contribute resources that male directors are unable to provide, such as greater connection with salient female stakeholder constituencies, which can enhance board effectiveness and firm performance; (2) offer gender differences in values and traits that can lead to more balanced and better decision making abilities, which can affect social and ethical aspects of firm behaviors; and (3) provide a symbolic value that can increase organizational legitimacy and corporate reputation, which can address compliance with gender equality-related policies and lead to attracting and retaining women talent.

With the exception of Saeed et al. (2016), who studied the emerging markets of Brazil, Russia, India, and China, the majority of recent meso-level WOCB studies focus on developed markets. Further, to this author's knowledge, the closest to identifying the type of resources WOCB provide a board is the exploration of Singh et al. (2015) on the legitimacy attributes of WOCB in France.

Hence, informed by RDT (Pfeffer & Salancik, 2003) and the extension resource dependence role of directors, a taxonomy by Hillman et al.'s (2000), this study: (1) investigates the meso-level factors influencing the likelihood of a WOCB in emerging market PLCs, specifically the Philippines, using logistic regression; and (2) identifies profiles of WOCB based on the resources they provide a firm, using cluster analysis. Though previously and similarly studied by Supangco (2008), this meso-level study differs on two major aspects: (1) it narrowly focuses on the likelihood of a WOCB compared to Supangco's (2008) study that looked at both the number and proportion of women on both the level of management and the board; and (2) it has a wider sample of 252 PLCs compared to Supangco's (2008) sample of 100 PLCs. Further, though Hillman et al.'s (2000) taxonomy on resource dependence role of directors has been used to understand board composition vis-à-vis changes in the external environment (Hillman et al., 2000) or the point in a firm's life cycle (Kroll et al., 2007), among others, it has not been used to profile WOCB based on the resources they provide a firm.

The Philippines makes an appealing institutional context to study the presence and profiles of WOCB. Despite having no hard quota nor specific guidelines on board diversity policy (Progress at a snail's pace, 2022; SEC 2015, 2016), the country's PLCs is approximately in line with the global average for percentage of WOCB. This is unlike other countries that have imposed national level regulations on board gender quotas (e.g., many EU countries and Chile), or regional/state-imposed measures to increase women representation (e.g., US), or regulations that demand gender balance in certain types of organizations, mostly government-owned (e.g., Argentina, Colombia, and Canada) (Progress at a snail's pace, 2022). The Philippines ranks higher than other countries that have a national quota or quota-equivalent for all or certain listed companies (e.g., India, Greece, Morocco, and Argentina).

This study theoretically adds to the small body of RDT meso-level studies in emerging markets, and to the even fewer studies in the Philippines (Supangco, 2008; Unite et al., 2019)—reconfirming a significant and positive association of board size and the likelihood of a WOCB. Further, it pioneers the profiling of WOCB using RDT and the exploratory data analysis statistical technique of cluster analysis—offering novel insights. Based on the resources they provide a firm, and in the case of the Philippines, there is a preference for WOCB who have accumulated resources as a business expert (as an active or former executive in other PLCs and/or director in other PLCs), either on its own or in combination with other accumulated resources as an insider (who has deep firm-specific expertise and information) or as a community influential (who has expertise/influence/linkages with non-business organizations relevant to the firm's environment).

2 Literature review and hypothesis development

2.1 Representation of women in a board

2.1.1 Industry studies on WOCB

This interest in WOCB has resulted in numerous industry studies that regularly track women in business, at the (top) management, and/or board level (Milhomen, 2022; Progress at a snail's pace, 2022; Women in the workplace, 2022; Women matter, 2017).

McKinsey Global Institute's Women Matter series (since 2007) explore the economic impact of increased gender diversity at the macro and micro levels and how to make change happen in firms (Women matter, 2017). Ten years since its first report, it has seen slow progress and the persistence

of wide disparities across continents and countries in the representation of women in the economy, top management, and board level (p. 25). Its 2017 report highlights that despite accounting for 50% of the global working-age population, women generate only 37% of global gross domestic product, and account globally for only 39% of the labor force and 25% of management position (p. 8, 11). This underrepresentation increases in the apex of corporate decision making with women accounting on average for just 17% of corporate board members of the top 50 listed companies within the G20 countries (p. 25). Further, this average belies great variations from one country to another with greater women representation in European countries that have enforced quotas (39% in France, 33% in Italy, and 31% in Belgium) (p. 26).

LeanIn.Org's and McKinsey & Company's annual Women in the Workplace (since 2015), meanwhile, focuses on the state of women in corporate America to give companies insights and tools to advance gender diversity in the workplace (Women in the workplace, 2022, p. 2). It explicitly does not include board members in its primary analysis unless they also are executives, that is CEOs, and direct reports to CEOs responsible for company operations and profitability (p. 55). Nevertheless, its insights on women leaders are compelling. It shows that women remain dramatically underrepresented in corporate America, especially in senior leadership, with only one in four C-suite leaders being a woman (p. 7). Worse, the pandemic has changed what women want from their companies, including the growing importance of opportunity, flexibility, employee well-being, and diversity, equity, and inclusion (p. 2); and in the pursuit of these, women leaders are leaving their companies at the highest rate in years (p. 7).

On the other hand, MSCI's annual Women on Boards Progress Report (since 2009) tracks and reports on board gender diversity across the 2,887 companies, large- and mid-cap across developed and emerging markets, comprising the MSCI ACWI (Morgan Stanley Capital International All Country World Index) as of October 2021 (Milhomen, 2022). Its latest 2021 study highlights a moderate improvement in the rate of increase in women representation on boards compared to 2020, and shows developed European countries having the highest percentage of companies with at least 30% women directors (78.7%) (p. 3). Despite these, the boards of all constituents of the MSCI ACWI still remain male-dominated overall, with only 1.2% having a majority female board; and worse, 26.4% of the constituents of the MSCI Emerging Markets Index, a subset of the MSCI ACWI, still having all-male boards (p. 3).

Lastly, Deloitte's biannual report (since 2010) offers global boardroom diversity statistics and insights on the political, social, and legislative trends behind the numbers (Progress at a snail's pace, 2022). Its latest report (2022, p. 6) covers a dataset of 10,493 companies, in 51 countries, more than 176,340 directorships, across Asia Pacific, America and Europe, Middle East, and Africa. Table 1 summarizes the relevant global and Philippine WOCB statistics.

Table 1. Global vs. Philippine WOCB Statistics

| | Global | Philippines |
|--|--|---|
| Women on boards (%) | 19.7 (range: 1.2–43.2) | 17.7 (27 out of 51 countries) |
| | +2.8 percentage point from 2018 | +3.8% percentage points from 2018 |
| Age (years) (board member/chair) | 57.2/57.7 -0.2/-1.7 years from 2018 | 62.6/72.0 -1.9/+2.0 years from 2018 |
| Stretch factors* | 1.30 seats +0.04 seats from 2018 | 1.30 seats +0.04 seats from 2018 |
| Board tenure (years) (board member/chair) | 5.1/5.0 -0.4/0.4 years from 2018 | 8.6/12.5 -0.9/+2.2 years from 2018 |
| Top 3 industries with WOCB | Life sciences and health care Financial services Consumer business | Consumer business Financial services Energy and resources |

note: means, unless otherwise specified

*Stretch factor = total number of board seats occupied by an individual in a given country divided by unique number of individual on boards in a given country

Source: Progress at a snail's pace (2022)

2.1.2 Academic research on WOCB

Similarly, this interest in WOCB has resulted in numerous academic studies, allowing the generation of a few SLR studies on WOCB in the last decade and a half; these SLRs also offer research agendas for WOCB, suggesting directions for future studies to enhance the understanding of gender in boards (see Kirsch, 2018; Nguyen et al., 2020; Terjesen et al., 2009, for further details).

Terjesen et al. (2009) are perhaps the first to undertake a SLR study on WOCB, reviewing over 400 published references across disciplines. They limit their review scope to the areas of theoretical perspectives, characteristics, and impact of WOCB at the individual, board, firm, and industry/environment level. They discover that a vast majority of WOCB literature is descriptive and only one in ten papers offered a theoretical framework, with RDT as a common perspective for studying WOCB at the firm level. Further, they also find that gender diversity on boards contribute to more effective corporate governance, and WOCBs positively contribute to important firm level outcomes.

Kirsch's (2018) SLR study reviews 310 journal articles on WOCB from 1981 to 2016. She identifies four distinct streams of research: (1) differences between women and men directors on boards; (2) factors shaping board gender composition; (3) effects of board gender composition on outcomes; and (4) antecedents and outcomes of board gender quotas and other forms of regulation (see Kirsch, 2018, p. 356, Table 4 for a summary of the four research streams). Based on her findings, she offers a conceptual framework on the causal processes of the antecedents and outcomes of women's access and presence on a board, respectively, as well as a research agenda to enhance the understanding of board gender composition (p. 346).

Nguyen et al.'s (2020, Abstract) is likely the most recent SLR study on WOCB, reviewing 634 journal articles that: used a variety of methodologies; covered over 100 countries and 10 disciplines; published from 1981 to 2019; and focused on the theoretical perspectives and empirical evidence of antecedents and effect of WOCB on financial and nonfinancial performance. They discover that: (1) a large number of the studies are descriptive and/or draw on single rather than multi-theoretical perspectives; (2) studies focus on firm-level rather than country-level antecedents of WOCBs; and (3) there is a lack of qualitative, mixed-methods, and cross-cultural/country studies (Abstract).

2.1.3 Resource dependence theory and WOCB

One of the more powerful theoretical lenses for understanding WOCB at the meso-level is RDT. Pfeffer and Salancik (2003), the proponents of RDT, posit that an organization is not autonomous, but rather it is highly dependent on its external environment for its performance and survival. Yet, an organization has the ability to respond to risks, uncertainties, and contingencies that these (inter-)dependencies may cause, but in the process, it produces new patterns of (inter-)dependencies (Pfeffer & Salancik, 2003). Their theory has three central themes.

First, they indicate that an organization's environmental context matters, impacting and constraining an organization's actions. They elaborate that an organization's choices and actions, across a wide range of activities, from say board composition to alliances, is affected by its position in and the pressures placed on it by its broader external environment. An organization is an open system, embedded in networks of interdependencies and social relations, and dependent on the environment for its resources (Pfeffer & Salancik, 2003).

Second, they claim that an understanding of the construct of power is necessary in understanding intra- and inter-organizational actions, for such power has some effect on organizational behavior. The level of power differs across organizations because of the peculiarities of its interdependence and its location in the social space (Pfeffer & Salancik, 2003).

Third, they point out that an organization has the opportunities to manage and control its environment—negotiating its position to increase its own dominance and/or lessen that of others, lessening the pressures it faces, and altering interdependencies. A variety of tactics are available to an organization to do so, such as but not limited to: absorbing the interdependencies through mergers and acquisitions or bringing the important relationships into an organization through employment; establishing semi-firm linkages through joint venture, or interlocking directorates via cooptation of important relationships into a board and/or advisory committees, or interorganizational coordination via associations; and engaging in political activities (Pfeffer & Salancik, 2003).

Pfeffer and Salancik (2003) further postulate that interlocking directorates is one of the most flexible and easiest ways for an organization to create linkages with and manage aspects of its external environment. A board effectively offers “a strategy for accessing resource, exchanging information, developing interfirm commitments, and establishing legitimacy¹” (p. 161). Through cooptation, an organization’s interest becomes the director’s interest, ideally translating into: support and aid for the organization especially of its problems; favorable presentation of the organization to others; and acceptance of responsibilities for some of the organization’s actions (p. 163). Specifically, four benefits are offered by a board (Pfeffer & Salancik, 2003, p. 45, 161): (1) access to resources, such as advice and counsel from people with relevant experience, expertise, and information; (2) creation of channels of communication flow with external parties of importance to the organization; (3) provision of commitment for support from important elements outside the organization; and (4) creation of legitimacy for the organization as the presence of prestigious and legitimate persons provide confirmation to others of its value and worth. RDT review articles of Davis and Cobb (2010) and Hillman et al. (2009) show support, among others, for the role of the board and the benefits it extends in managing an organization’s external environments.

Further, the SLR articles of Kirsch (2018), Nguyen et al. (2020), and Terjesen et al. (2009) synthesize the numerous studies investigating the impact and effect of WOCB. Focusing on the RDT perspective, they observe that access to resources and creation of legitimacy is a recurring benefit offered by WOCB. First, RDT asserts that WOCB provide a board with resources that male directors are unable to provide, such as greater connection with salient stakeholder constituencies of female employees and consumers; hence, these diverse boards ideally have superior resources which can improve board effectiveness and firm performance (Kirsch, 2018; Nguyen et al., 2020). Second, aside from the unique skills, knowledge, experience, and perspectives any board member brings to a board, RDT contends that WOCB bring gender differences in values and traits which alter board dynamics and conduct, and influence board processes; hence, these boards ideally have more balanced and improved decision making abilities which can affect social and ethical aspects of firm behaviors (Kirsch, 2018; Nguyen et al., 2020; Terjesen et al., 2009). More than men, WOCB are more likely to possess “risk management, regulatory/legal/compliance, political/government, human resources, sustainability and/or corporate governance skills,” focus on solving social issues (Nguyen et al., 2020, p. 7-8), and adopt “more ethical, risk-averse, and long-term oriented points of view” (Kirsch, 2018, p. 352). Third, RDT propounds the symbolic value of WOCB both internally and externally which can enhance organizational legitimacy and corporate reputation (Terjesen et al., 2009, p. 34). Externally, WOCB “can improve confidence in the firms claim in compliance with gender equality-related polices” (Nguyen et al., 2020, p. 7), reducing “external political pressures and the feeling that it is the right thing to do” (Terjesen et al., 2009, p. 24). Internally, WOCB can further attract women talent to a firm, and serve as role models to inspire and retain them (Nguyen et al., 2020; Terjesen et al., 2009).

2.1.4 Relationship of meso-level variables and the presence of WOCB

Several studies have shown that women’s representation on boards is not uniformly spread across different types of boards, firms, and industries, suggesting that meso-level factors influence women’s access, according to Kirsch (2018, p. 351). She further states that many of these meso-level factors that link board, firm, and industry characteristics, and board gender composition use functionalist reasoning for the appointment of women on boards. RDT is one such functional explanation. Hence, the presence of WOCB is due to their beneficial effect. In RDT terms, the resources WOCB provide, based on their accumulated expertise, experience, knowledge, and reputation (Jones et al., 2008, p. 1014), may link a firm to its environment and serve to reduce uncertainties and interdependencies (Hillman et al., 2007).

Firm size and WOCB: Hillman et al. (2007) argue that the larger and more visible an organization, the greater its scrutiny and pressure to conform to social expectations of gender diversity and the greater its liabilities if it fails to do so. Following from the legitimacy benefit offered by a board, according to RDT (Pfeffer & Salancik, 2003), WOCB then provides an organization said legitimacy, confirms to others an organization’s value and worth, and shows the rest its conformity with the

¹ RDT mirrors institutional theory’s institutional isomorphism, in that legitimacy and conformity to societal expectation are considered essential in organizational survival (Hillman et al., 2007, p. 943).

business and moral justice case of having a fairer gender balance (Terjesen et al., 2009). Empirically, a consistently positive relationship is shown between organizational size and WOCB (Adams & Kirchmaier, 2016; Gregorič et al., 2017; Hillman et al., 2007; Lückerath-Rovers, 2009; Mínguez-Vera & Martin, 2011; Nekhili & Gatfaoui, 2013; Saeed et al., 2016). With the exception of Saeed et al. (2016), all the studies use samples from developed markets. The only study in the Philippines (Supangco, 2008) shows firm size to have no effect on WOCB; therefore, there is an opportunity to reconcile this seeming inconsistency with previous empirical results possibly brought about by its institutional context.

Hence, following the conceptual arguments and preponderance of empirical results, this study hypothesizes that:

H1: Firm size positively influences the likelihood of a WOCB.

Board size and WOCB: The need for an organization to link with its external environment—say for access to resources, channels of communication flow, and support from important external elements—may be achieved via the board, according to RDT. This need may have a consequent effect on a board's size; that is, the greater the need for external linking, the greater the likelihood a board is larger, and perhaps the greater the need for female directors (Lückerath-Rovers, 2009). Further, in line with RDT, the inclusion of women on a board may provide legitimacy, proof that a firm offers equal opportunity. Moreover, it may be practically easier to make room for a female director in a larger board. Empirically, a consistently positive relationship is shown between board size and WOCB (Gregorič et al., 2017; Hillman et al., 2007; Lückerath-Rovers, 2009; Mínguez-Vera & Martin, 2011; Nekhili & Gatfaoui, 2013; Saeed et al., 2016; Supangco, 2008).

Hence, on account of the conceptual arguments and consistent empirical results, this study hypothesizes that:

H2: Board size positively influences the likelihood of a WOCB.

Industry classification and WOCB: The nature of an industry also may affect the value of and benefits from female representation on a board, according to Hillman et al. (2007). They argue that having WOCB could provide a valuable form of legitimacy, again in line with RDT, in the eyes of potential and current employees—critical resources of an organization. Additionally, Nguyen et al. (2020) point out that WOCB can provide the critical connection with the external environment, such as women customers; and they can possess greater skills than men valued more in certain industries than others, such as skills in “risk management, regulatory/legal/compliance, political/government, human resources, sustainability, and/or corporate governance” (p. 7). Empirically, for studies in developed markets, a significant positive relationship with WOCB is seen in industries dependent on female labor (Hillman et al., 2007) and in manufacturing and finance (Lückerath-Rovers, 2009); but a negative relationship is seen in STEM (science, technology, engineering, and math) and finance industries (Adams & Kirchmaier, 2016), as well as more R&D intensive industries (Nekhili & Gatfaoui, 2013). Saeed et al.'s (2016) study, covering the emerging markets of Brazil, Russia, India, and China, show mixed relationship between WOCB and industry classification—with a positive relationship seen in WOCB and the wholesale and retail industries only in Brazil; the professional services and hospitality industries in all the countries except Brazil; and in the high-tech industry with all the countries except Russia. Also, no relationship is seen for the service industry in the only study in the Philippines (Supangco, 2008).

Hence, as a consequence of the conceptual arguments and numerous empirical results, including that in emerging markets, which may offset a few mixed empirical results, this study hypothesizes:

H3: Industry sector positively influences the likelihood of a WOCB.

2.1.5 Type of directors and the resources they provide a firm

Hillman et al. (2000, p. 235) extend RDT by creating a taxonomy on the resource dependence role of directors and the resources they provide a firm (See Table 2). They draw heavily from the paper of Baysinger and Zardkoohi (1986) who offer a similar taxonomy. The resources' directors provide are “dependent on their accumulated expertise, experience, knowledge, and reputation” (Jones et al., 2008, p. 1014).

Table 2. Resource Dependence Role of Directors

| Type of director* | Resources provided |
|--|---|
| Insider (Decision managers) | <ul style="list-style-type: none"> • Deep firm-specific expertise and information |
| Business expert (Decision controllers) | <ul style="list-style-type: none"> • Working expertise, experience, and content knowledge in strategic problem-solving and decision-making, ideally in a similar environment as the firm • Advice and counsel on key decisions facing management • Oversight and assessment of management's performance • Alternative viewpoints on issues, problems, and ideas • Channel of communication between firms • Legitimacy, care-off prestige associated with his/her work experience or other affiliation |
| Support specialist (Decision supporters) | <ul style="list-style-type: none"> • Specialized expertise and information in specific areas that support the firm's strategies, such as banking, law, and insurance • Linkages to external suppliers or government agencies for channels of communications and/or access to vital resources (e.g. capital and legal support) • Legitimacy |
| Community influential (Symbolic or stakeholder representatives) | <ul style="list-style-type: none"> • Expertise on and linkage/influence with the broader community, and powerful community groups/organizations (e.g., political arena, local community, workers, and consumer interests) • Non-business viewpoint on issues, problems, and ideas • Representation of non-business interests • Legitimacy, may symbolize the firm's commitment to various social goals |

* In parenthesis is the typology used by Baysinger and Zardkoohi (1986)

Source: Baysinger and Zardkoohi (1986); Hillman et al., (2000)

This taxonomy has been used in various studies to understand the following: the dependence of a board's composition on a firm's external environment (Baysinger & Zardkoohi, 1986); the evolution of board composition vis-à-vis changes in the external environment (Hillman et al., 2000); the differences in board composition depending on a firm's lifecycle stage (Kroll et al., 2007); and the influence of board composition on firm actions (Jones et al., 2008). Baysinger and Zardkoohi (1986), using a sample of 252 PLCs in the U.S. (n = 132 regulated and n = 120 nonregulated), identify that "regulated firms employ a higher proportion of non-business-affiliated board members tasked to promote the social image of a firm" (p. 348)—also known as community influentials based on Hillman et al.'s (2000) taxonomy. Hillman et al. (2000), tracking a sample 14 U.S. airlines from the period of regulation to deregulation (1968 to 1988), demonstrate how board composition changes to parallel changes in the external environment, with more insiders and support specialists in a board during regulation and more business experts and community influentials during deregulation. Kroll et al. (2007), using a sample of 534 young entrepreneurial firms completing their initial public offering in the U.S. in 1996 or 1997, determine that these firms are better served (positive association with performance) if the majority of a board are insiders who can steer a firm in its early stages with their valuable tacit knowledge, entrepreneurial vision, and personal investment in the firms' ongoing viability. Lastly, Jones et al. (2008), utilizing a sample of 403 publicly traded U.S. firms (n= 203 family and n=200 nonfamily controlled), empirically show that business experts and support specialists, through their experience, knowledge and networks, tend to encourage diversification in publicly traded, family-controlled firms, implying that their presence seem to reduce the perceived risk the family firm has associated with diversification.

3 Methodology

3.1 Sample and data

This study uses a cross sectional data set, covering 252 active PLCs on the Philippine Stock Exchange (PSE) and 426 WOCBs of these PLCs as of the end of 2021. This study, together with Saeed et al. (2016) and Supangco (2008), are the few that use an emerging market sample compared to the more regularly studied developed markets (Adams & Kirchmaier, 2016; Gregorič et al., 2017; Hillman et al., 2007; Lückerath-Rovers, 2009; Mínguez-Vera & Martin, 2011; Nekhili & Gatfaoui, 2013). This

sample is much smaller than Saeed et al.'s (2016) panel dataset of 1002 firms across four emerging markets observed over the period 2005–2012, but it is clearly more focused on one institutional context, the Philippines. Further this sample is more than twice of Supangco's (2008) 100 Philippine firm cross sectional data set.

Data for the PLCs' board and top management team (TMT), numerical and qualitative biographical data of WOCB, and financial information have been obtained from S&P Capital IQ Pro and the PLCs' 2021 annual reports. There are no quotas for WOCBs in the Philippines, just broad suggestions (Progress at a snail's pace, 2022). One, in 2015, the Philippines' Securities and Exchange Commission (SEC) released an advisory recommending the election of at least one female independent director in the boards of PLCs, in view of the best corporate governance practices outlined in the ASEAN Corporate Governance Scorecard (SEC, 2015). Two, in 2016, the SEC's Philippine Code of Corporate Governance recommended establishing a board diversity policy, which should include gender and other criteria (SEC, 2016).

3.2 Variables

Table 3 details the variables used for this study resulting from a review of literature.

Table 3. Study Variables

| Variable | Measurement |
|--|---|
| Variables for Logistic Regression | |
| Dependent Variable | |
| WOCB | Binary measures: 0 – None and 1- Present; indicates absence or presence of a woman in the board |
| Independent Variable | |
| 1. Firm Size | Continuous measure; log of total assets as of end 2021; also used by Adams and Kirchmaier (2016); Lückerrath-Rovers, (2009); Mínguez-Vera and Martin (2011); Nekhili and Gatfaoui (2013); Saeed et al. (2016) |
| 2. Board Size | Continuous measure; log of total number of directors as of end 2021; also used by Nekhili and Gatfaoui (2013); Saeed et al., (2016) |
| 3. Industry Classification | Categorical measure: 1– Financial, 2 – Holding Firm, 3 – Industrial, 4 – Mining and Oil, 5 – Property, 6 – Services, and 7 – SME (small and medium enterprise); based on PSE sector classification |
| Control Variable | |
| 1. Firm Age | Continuous measure; log of number of years difference between end 2021 and date of firm's incorporation; also used by Gregorič et al. (2017) |
| 2. Prop. of Women in TMT | Continuous measure; total number of women in TMT over total size of TMT; also used by Supangco (2008) |
| Variables for Clustering* | |
| 1. Insider | Binary measures: 0 – None and 1 – Present; defined as active or former management and/or owner of the firm |
| 2. Business Expert | Binary measures: 0 – None and 1 – Present; defined as active or former: executive and/or director in other PLCs |
| 3. Support Specialist | Binary measures: 0 – None and 1 – Present; defined as active or former: banker, lawyer, insurance firm representative, accountant, consultant, and/or advertising / public relations expert |
| 4. Community Influential | Binary measures: 0 – None and 1 – Present; defined as active or former: government official, political leader, university faculty, and/or a leader of nonprofit organization(s) |
| 5. Age | Continuous measure; standardized age of WOCB |
| 6. Other PLC Directorship | Continuous measure; standardized number of other PLC boards a woman director sits in |

*Source: Baysinger and Zardkoohi (1986); Hillman et al. (2000)

For the logistic regression model, the dependent variable, *WOCB*, represents the absence or presence of a woman director in the board. Three independent variables, informed by RDT, represent meso-level variables, *Firm Size*, *Board Size*, and *Industry Classification*, which may be associated with the likelihood of a WOCB. Lastly, two control variables, *Firm Age* (Gregorič et al., 2017; Hillman et al.,

2007; Saeed et al., 2016; Supangco, 2008) and *Women in TMT* (Supangco, 2008), are chosen from a review of literature and among several other variables tested. Gregorič et al. (2017, p. 278) offer two opposing views on the influence of firm age on the likelihood of a WOCB: (1) older firms may feel more pressured to comply with societal pressure given they have more to lose in terms of status or reputation; or (2) older firms may have more valuable and longer-term relations with different constituencies and more accumulated internal resources, lessening their dependence on external resources and reducing external pressures.

For the cluster analysis, the taxonomy created by Hillman et al. (2000) on resource dependence role of directors is used. Four variables represent the four types of directors and the resources each provides—*Insider*, *Business Expert*, *Support Specialist*, and *Community Influential*. This study recognizes that the resources provided by a WOCB are not mutually exclusive and does force a WOCB into one category. A WOCB can provide more than one of the four resources, resources that she has likely accrued over her professional life and across various external environments. Two additional variables are included in determining the clusters, *Age* and *Other PLC Directorship*. In principle, these two additional variables also may be considered additional resources: age equating to general wisdom and circumspection, and other PLC directorship (interlocking directorate) equating to additional linkages to manage a firm's external environment.

3.3 Statistical analysis

Using STATA 15 statistical software, this study conducts correlations, cross-sectional logistic regression to test its hypotheses on the likelihood of a WOCB in Philippine PLCs, and cluster analysis to profile the resource dependence role of WOCBs in Philippine PLCs based on the resources they provide a firm.

A logistic regression model to analyze the likelihood of a WOCB is specified as follows:

$$WOCB = \beta_0 + \beta_1 FirmSize + \beta_2 BoardSize + \beta_3 IndustryClassification + \beta_4 FirmAge + \beta_5 Female\ in\ TMT + \mu_{it} \quad (1)$$

Cluster analysis, an exploratory data analysis statistical technique to organize data into groups based on similarity of close associates, is used to determine the different types of WOCBs based on the resources they provide a firm. A hierarchical agglomerative clustering using average linkage method and Gower for the (dis)similarity measure, given the mix binary and continuous measures of the variables, is used to determine the relevant clusters of WOCBs.

4 Results

4.1 Descriptive results

Table 4 profiles the study sample by total PLC, PLC without WOCB, and PLC with WOCB, and Table 5 describes the study sample by PLCs with WOCB, by sector.

Table 4. Profile of PLCs—Total, Without WOCB, and With WOCB

| Variable | Total | | | | | | | Without WOCB | | | | | | | With WOCB | | | | | | |
|------------------------|-------|--------|-----------|------|---------|------|-------|--------------|------|--------|------|--------|-----------|------|-----------|------|--------|-----------|------|---------|--|
| | Obs. | Mean | Std. Dev. | Min | Max | Obs. | Mean | Std. Dev. | Min | Max | Obs. | Mean | Std. Dev. | Min | Max | Obs. | Mean | Std. Dev. | Min | Max | |
| Firm Age, Years | 252 | 45.10 | 25.91 | 1.20 | 118.47 | 43 | 47.41 | 24.45 | 7.18 | 97.12 | 209 | 44.62 | 26.24 | 1.20 | 118.47 | 209 | 44.62 | 26.24 | 1.20 | 118.47 | |
| Firm Size, PhP mn | 252 | 154.00 | 425.00 | 0.00 | 3620.00 | 43 | 36.80 | 86.50 | 0.02 | 427.00 | 209 | 179.00 | 461.00 | 0.00 | 3620.00 | 209 | 179.00 | 461.00 | 0.00 | 3620.00 | |
| # of Women in TMT | 252 | 3.81 | 3.18 | 0.00 | 21.00 | 43 | 2.35 | 2.17 | 0.00 | 12.00 | 209 | 4.11 | 3.27 | 0.00 | 21.00 | 209 | 4.11 | 3.27 | 0.00 | 21.00 | |
| Prop. of Women in TMT | 252 | 0.38 | 0.21 | 0.00 | 1.00 | 43 | 0.26 | 0.16 | 0.00 | 0.80 | 209 | 0.40 | 0.21 | 0.00 | 1.00 | 209 | 0.40 | 0.21 | 0.00 | 1.00 | |
| # of WOCB | 252 | 1.68 | 1.33 | 0.00 | 8.00 | 43 | 0.00 | 0.00 | 0.00 | 0.00 | 209 | 2.02 | 1.20 | 1.00 | 8.00 | 209 | 2.02 | 1.20 | 1.00 | 8.00 | |
| Prop. of WOCB | 252 | 0.18 | 0.15 | 0.00 | 0.73 | 43 | 0.00 | 0.00 | 0.00 | 0.00 | 209 | 0.22 | 0.13 | 0.07 | 0.73 | 209 | 0.22 | 0.13 | 0.07 | 0.73 | |
| Prop. of PLC with WOCB | 252 | 0.83 | 0.38 | 0.00 | 1.00 | 43 | 0.00 | 0.00 | 0.00 | 0.00 | 209 | 1.00 | 0.00 | 1.00 | 1.00 | 209 | 1.00 | 0.00 | 1.00 | 1.00 | |

Table 5. Profile of PLCs with WOCB, by Sector

| Sector | # of PLC | Prop. of PLC | # of WOCB, Mean | Prop. of WOCB, Mean |
|----------------|----------|--------------|-----------------|---------------------|
| Financial | 24 | 0.96 | 2.42 | 0.21 |
| Holding Firm | 30 | 0.91 | 2.07 | 0.23 |
| Industrial | 56 | 0.88 | 2.07 | 0.22 |
| Mining and Oil | 14 | 0.64 | 2.07 | 0.21 |
| Property | 36 | 0.84 | 1.89 | 0.23 |
| Service | 46 | 0.77 | 1.83 | 0.21 |
| SME | 3 | 0.60 | 2.00 | 0.26 |
| Total | 209 | 0.83 | 2.02 | 0.22 |

Only 209 of the 252 sample (83%) have a WOCB and those PLCs with WOCBs have on average two or 22% of the board. Nearly all PLCs in the financial sector (96%) have a WOCB, while only about two-thirds of PLCs in the mining and oil sector (64%), and small and medium enterprises (SME) sector (60%) have a WOCB.

Table 6 profiles the study sample by WOCB, and Table 7 further describes it by sector.

Table 6. Profile of WOCB

| Variable | Obs. | Mean | Std. Dev. | Min | Max |
|------------------------|------|-------|-----------|-------|-------|
| Age, Years | 426 | 61.00 | 12.73 | 30.00 | 93.00 |
| Board Tenure, Years | 426 | 8.96 | 8.96 | 0.04 | 42.70 |
| Other PLC Directorship | 426 | 0.88 | 1.30 | 0.00 | 5.00 |
| Insider | 426 | 0.37 | 0.48 | 0.00 | 1.00 |
| Business Expert | 426 | 0.54 | 0.50 | 0.00 | 1.00 |
| Support Specialist | 426 | 0.23 | 0.42 | 0.00 | 1.00 |
| Community Influential | 426 | 0.26 | 0.44 | 0.00 | 1.00 |
| Undergraduate Degree | 403 | 0.99 | 0.10 | 0.00 | 1.00 |
| Master's Degree | 403 | 0.46 | 0.50 | 0.00 | 1.00 |
| PhD Degree | 403 | 0.06 | 0.23 | 0.00 | 1.00 |

Table 7. Profile of WOCBs, by Sector

| Sector | Obs. | Age, Years | Board Tenure, Years | Type of Director, Prop. | | | Other PLC Directorship | Resources | | | Education, Prop. | | | |
|----------------|------|------------|---------------------|-------------------------|------|------|------------------------|-----------|-----------------|--------------------|-------------------|----------------|--------|------|
| | | | | ED* | NED* | ID* | | Insider | Business Expert | Support Specialist | Comm. Influential | Under-graduate | Master | PhD |
| Financial | 58 | 63.05 | 7.09 | 0.16 | 0.33 | 0.52 | 0.60 | 0.24 | 0.52 | 0.38 | 0.31 | 1.00 | 0.51 | 0.07 |
| Holding Firm | 62 | 62.82 | 11.11 | 0.37 | 0.24 | 0.39 | 1.16 | 0.45 | 0.65 | 0.19 | 0.21 | 0.98 | 0.49 | 0.02 |
| Industrial | 117 | 60.36 | 7.59 | 0.26 | 0.41 | 0.33 | 0.74 | 0.32 | 0.43 | 0.21 | 0.31 | 0.98 | 0.43 | 0.11 |
| Mining and Oil | 29 | 59.69 | 7.21 | 0.17 | 0.14 | 0.69 | 0.76 | 0.17 | 0.59 | 0.28 | 0.21 | 0.96 | 0.50 | 0.04 |
| Prop | 68 | 58.97 | 10.71 | 0.40 | 0.26 | 0.34 | 0.94 | 0.50 | 0.62 | 0.16 | 0.19 | 1.00 | 0.48 | 0.02 |
| Service | 86 | 61.66 | 9.97 | 0.31 | 0.28 | 0.41 | 1.08 | 0.43 | 0.53 | 0.24 | 0.27 | 1.00 | 0.40 | 0.05 |
| SME | 6 | 54.67 | 5.69 | 0.50 | 0.33 | 0.17 | 0.33 | 0.50 | 0.83 | 0.33 | 0.17 | 1.00 | 0.83 | 0.00 |
| Total | 426 | 61.00 | 8.96 | 0.29 | 0.31 | 0.40 | 0.88 | 0.37 | 0.54 | 0.23 | 0.26 | 0.99 | 0.46 | 0.06 |

note: means, unless otherwise specified

* ED = executive director, NED = non-executive director, and ID = independent director

WOCBs are mature in age ($M = 61.00$, $SD = 12.73$), have long board tenures ($M = 8.96$, $SD = 8.96$), sit on one other PLC board ($M = 0.88$, $SD = 1.30$), and are majority IDs (40%) or NEDs (31%). Nearly all have an undergraduate degree (99%) and almost half have a master's degree (46%). Over half provide resources as a business expert ($M = 0.54$, $SD = 0.50$). Unsurprisingly, the industrial and the service sectors have nearly half of WOCBs in their sectors (48%) for these PLCs also comprise nearly half of the PLCs with WOCB.

4.2 Statistical results

4.2.1 Logistic regression

Table 8 contains the correlation results of the variables used for the logistic regression.

Table 8. Correlation Results

| | 1 | 2 | 3 | 4 | 5 |
|--------------------------|--------|--------|--------|---------|-------|
| 1. WOCB | 1.000 | | | | |
| 2. Firm Size | 0.137* | 1.000 | | | |
| 3. Board Size | 0.178* | 0.258* | 1.000 | | |
| 4. Firm Age | -0.059 | -0.017 | 0.275* | 1.000 | |
| 5. Prop. of Women in TMT | 0.258* | 0.099 | -0.103 | -0.205* | 1.000 |

* Significant 5% level

Given the data values are a mix of binary and continuous measures, different correlations are computed—Pearson between continuous measures and point biserial between binary and continuous measures. *WOCB* reflects significant positive correlations with *Firm Size* ($r = 0.137$), *Board Size* ($r = 0.178$), and *Prop. of Women in TMT* ($r = 0.258$). *Board Size* also reflects significant positive correlations with *Firm Size* ($r = 0.258$) and *Firm Age* ($r = 0.275$). Lastly, *Firm Age* and *Prop. of Women in TMT* reflect a significant negative correlation ($r = -0.205$).

Table 9 contains the results of the two regression models, containing: (1) only the control variables; and (2) all study variables.

Table 9. Regressions Results – WOCB

| | (1) Only Control Variables | (2) All Variables |
|-------------------------|-------------------------------|----------------------|
| Firm Age | -0.052 (0.256) | -0.337 (0.294) |
| Prop. of Female in TMT | 4.031** (1.053) | 3.932** (1.054) |
| Firm Size | | 0.023 (0.075) |
| Board Size | | 2.636** (0.897) |
| Industry Classification | | |
| Financial | | 0.000 (.) |
| Holding Firm | | -0.161 (1.241) |
| Industrial | | -0.459 (1.172) |
| Mining and Oil | | -1.940 (1.156) |
| Property | | -1.039 (1.213) |
| Service | | -1.521 (1.131) |
| SME | | -1.927 (1.542) |

| | (1) Only Control Variables | (2) All Variables |
|-------------------|-------------------------------|----------------------|
| Pseudo R-squared | 0.083 | 0.184 |
| # of Observations | 252 | 252 |
| p-value | 0.000 | 0.000 |

note: standard errors in parentheses; * p<0.05, ** p<0.01

The overall logistic regression (Regression 2) is statistically significant (Pseudo R-squared = 0.184, p = 0.000). Further, the addition of the independent variables, *Firm Size*, *Board Size*, and *Industry Classification*, increases the explanation of the variance for *WOCB* significantly (+0.101 for Pseudo R-squared).

Hypothesis H1 is not supported by the regression results, despite being positive, for there is no significant relationship between *WOCB* and *Firm Size* ($\beta = 0.023$). This contrasts from the variable's significant positive correlation ($r = 0.137$, $p < 0.05$), conceptual RDT arguments, and several empirical results that show a positive significant relationship; but it is similar with the only other Philippine study (Supangco, 2008). Hypothesis H2 is supported by the regression with a significant positive relationship of *WOCB* and *Board Size* ($\beta = 2.6360$, $p < 0.01$). This is line with the variable's significant positive correlation results ($r = 0.178$, $p < 0.05$), conceptual RDT arguments, practical argument of more room for *WOCB* in larger boards, and several empirical studies that show the same positive significant relationship. Hypothesis H3 is not supported by the regression for there is no significant relationship between *WOCB* and any of the *Industry Classification*, likely because of the coarse PSE sector classification.

Only the control variable *Prop. of Women in TMT* is significant (and positive), in line with the results of Supangco (2008). *Firm Age* is not significant, similar to the results of Gregorič et al. (2017), Saeed et al., (2016), and Supangco (2008).

4.2.2 Cluster analysis

Table 10 contains the correlation results of the variables used for the cluster analysis

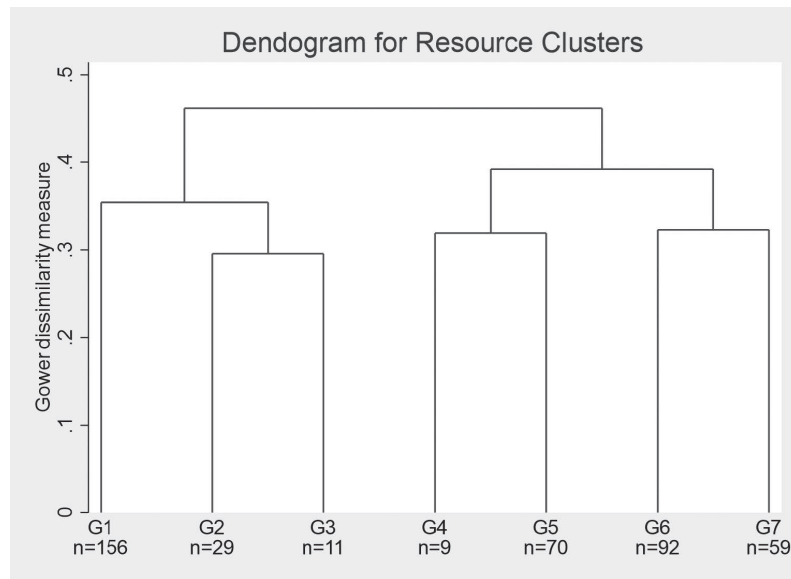
Table 10. Correlation Results

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------------|---------|--------|--------|--------|--------|-------|
| 1. Insider | 1.000 | | | | | |
| 2. Business Expert | -0.062 | 1.000 | | | | |
| 3. Support Specialist | -0.242* | 0.089 | 1.000 | | | |
| 4. Community Influential | -0.209* | 0.103* | 0.154* | 1.000 | | |
| 5. Age | -0.202* | 0.209* | 0.058 | 0.230* | 1.000 | |
| 6. Other PLC Directorship | 0.020 | 0.622* | -0.020 | 0.179* | 0.189* | 1.000 |

* Significant 5% level

Given the data values are a mix of binary and continuous measures, different correlations are computed—tetrachoric between binary measures and point biserial between binary and continuous measures. Among the resources provided by *WOCB*, the resources provided by an *Insider* reflects a significant negative correlation with the resources brought by a *Support Specialist* ($r = -0.242$) and a *Community Influential* ($r = -0.209$), likely because the resources gained by an *Insider* is internal to a firm and that of the two others is external to a firm. However, the resources provided by a *Community Influential* reflects a positive significant correlation with a *Business Expert* ($r = 0.103$) and a *Support Specialist* ($r = 0.154$). *Age* has a significant negative correlation with the resources brought by an *Insider* ($r = -0.202$) but it has a significant positive relationship with a *Business Expert* ($r = 0.209$) and a *Community Influential* ($r = 0.230$), indicating that the increase in these resources and the passage of time move in step. The *WOCB* sitting in one other board or more, *Other PLC Directorship*, has a significant positive correlation with the resources brought by a *Business Expert* ($r = 0.622$) and a *Community Influential* ($r = 0.179$), and with *Age* ($r = 0.189$) perhaps also reflecting open-ended, unspecifiable but valuable resources gained overtime.

Figure 1 shows the dendrogram, a diagram that shows the hierarchical relationship between objects, and Tables 11 and 12 profile the clusters by *WOCBs* and by *PLCs*, respectively, based on the resources they provide a firm.

Figure 1. Dendrogram for Resources Clusters**Table 11. Resource Clusters, Profile of WOCBs**

| Resource Cluster | Obs. | Prop. of Total | Proportion | | | | Age, Years | Other PLC D'ship. | Board Tenure, Years |
|--|------|----------------|------------|---------------|---------------|---------------|------------------|-------------------|-----------------------|
| | | | Insider | Bus'n. Expert | Supp. S'list. | Comm. I'tial. | | | |
| 1. Ambiguous Resource | 156 | 0.37 | 0.44 | 0.00 | 0.15 | 0.01 | 56.53 (33-84) | 0.00 (0-0) | 8.52 (0.04-42.64) |
| 2. Community Influential | 40 | 0.09 | 0.28 | 0.00 | 0.38 | 1.00 | 64.35 (34-93) | 0.00 (0-0) | 10.37 (0.64-33.00) |
| 3. Business Expert and Insider | 79 | 0.19 | 1.00 | 1.00 | 0.11 | 0.13 | 59.66 (32-81) | 1.82 (0-5) | 12.76 (0.18-42.70) |
| 4. Business Expert | 92 | 0.22 | 0.00 | 1.00 | 0.37 | 0.00 | 63.88 (33-93) | 1.30 (0-4) | 7.78 (0.04-42.30) |
| 5. Business Expert and Community Influential | 59 | 0.14 | 0.00 | 1.00 | 0.32 | 1.00 | 67.86 (37-86) | 1.86 (0-4) | 5.94 (0.10-35.56) |
| Total | 426 | 1.00 | 0.37 | 0.54 | 0.23 | 0.26 | 61.00 (30-93) | 0.88 (0-5) | 8.96 (0.04-42.70) |

Table 12. Resource Clusters, Profile of PLCs

| Resource Cluster | | Firm Age, Years | Firm Size, PHP mn | # of Women in TMT | Prop. of Women in TMT | # of WOCB | Prop. of WOCB |
|--|------|-----------------|-------------------|-------------------|-----------------------|-----------|---------------|
| 1. Ambiguous Resource | Min | 6.04 | 0.00 | 0.00 | 0.00 | 1.00 | 0.08 |
| | Mean | 45.54 | 111.00 | 4.21 | 0.44 | 2.83 | 0.30 |
| | Max | 118.47 | 2420.00 | 21.00 | 1.00 | 8.00 | 0.73 |
| 2. Pure Community Influential | Min | 5.11 | 0.55 | 0.00 | 0.00 | 1.00 | 0.09 |
| | Mean | 49.83 | 301.00 | 4.13 | 0.37 | 2.48 | 0.24 |
| | Max | 91.23 | 3620.00 | 15.00 | 0.80 | 7.00 | 0.64 |
| 3. Business Expert and Insider | Min | 5.03 | 0.00 | 1.00 | 0.08 | 1.00 | 0.07 |
| | Mean | 39.51 | 211.00 | 4.54 | 0.50 | 2.59 | 0.29 |
| | Max | 108.44 | 2160.00 | 21.00 | 1.00 | 7.00 | 0.71 |
| 4. Business Expert | Min | 1.20 | 0.00 | 0.00 | 0.00 | 1.00 | 0.09 |
| | Mean | 43.99 | 178.00 | 4.34 | 0.43 | 2.74 | 0.29 |
| | Max | 118.47 | 3620.00 | 14.00 | 1.00 | 8.00 | 0.73 |
| 5. Business Expert and Community Influential | Min | 5.03 | 0.08 | 0.00 | 0.00 | 1.00 | 0.10 |
| | Mean | 52.13 | 341.00 | 4.97 | 0.39 | 2.76 | 0.29 |
| | Max | 109.63 | 2160.00 | 21.00 | 1.00 | 6.00 | 0.57 |
| Total | Min | 1.20 | 0.00 | 0.00 | 0.00 | 1.00 | 0.07 |
| | Mean | 45.40 | 194.00 | 4.39 | 0.44 | 2.72 | 0.29 |
| | Max | 118.47 | 3620.00 | 21.00 | 1.00 | 8.00 | 0.73 |

Several numbers of clusters have been explored before finalizing on five clusters. Increasing the clusters from three to four clusters reveals WOCBs who provide resources from being a *Community Influential* (G2 to G3 in Figure 1, n = 40), from four to five multiple resources from being a *Business Expert* and *Community Influential* (G7 in Figure 2, n = 59). Increasing the clusters from five to six just identifies a small group of WOCB who provide resources from being all three—*Insider*, *Business Expert*, and *Support Specialist* (G4 in Figure 2, n = 9). The five clusters of WOCBs based on the resources they provide a firm can be characterized as follows:

Cluster 1: Ambiguous Resource: (G1 in the dendogram) This is the largest cluster of the sample (n = 156, 37%). Nearly half of the WOCB in this cluster (n = 72, 46%) do not provide any resources to a board, while the rest (n = 84, 54%) provide resources related to being just an *Insider* (n = 61, 39%), or just a *Support Specialist* (n = 16, 10%), or a combination of both (n = 6, 4%). They do not sit on any other PLC board, likely because of the nonobvious resources they provide. They have a mean age of 56.53 years and board tenure of 8.52 years—all these measures below the sample's means. Most in this cluster are NEDs (n = 64, 41%) or EDs (n = 54, 35%); the 38 (24%) who are IDs are clearly not *Insiders* but are either *Support Specialists* (n = 12) or do not provide any resources (n = 26). PLCs in this clusters are mostly from the industrial sector (n = 53, 34%) and have the smallest mean firm size.

The remaining WOCBs (n = 270, 63%) fall under one of the four other cluster. Three clusters offer clear resources from being a *Business Expert*, either on its own (Cluster 4) or in combination with other resources (Clusters 3 and 5).

Cluster 2: Community Influential: (G2 and G3 in the dendogram) This is the smallest cluster of the sample (n = 40, 9%). The WOCB in this cluster primarily provide resources related to being a *Community Influential*; further, some provide additional resources as an *Insider* (n = 11, 28%) and/or a *Support Specialist* (n = 15, 38%). Despite providing clear resources as a *Community Influential*, they do not sit on any other PLC board; perhaps, the resources they offer are not entirely valued by other PLCs, unlike the resources offered by a *Business Expert* (Clusters 3 to 5). They have a mean age of 64.35 years and board tenure of 10.37 years. Over three-fourths in this cluster are non-EDs, sitting either as IDs (n = 18, 45%) or NEDs (n = 13, 33%). PLCs in this clusters are mostly from the industrial sector (n = 14, 35%).

Cluster 3: Business Expert and Insider: (G4 and G5 in the dendogram) This is the third largest cluster of the sample (n = 79, 19%). This is one of the two clusters with WOCB who provide resources not only from being a *Business Expert*, but also, in this case, from being an *Insider*; further, some provide additional resources as a *Support Specialist* (n = 9, 11%) and/or a *Community Influential* (n = 10, 13%).

They sit on 1.82 other PLC boards, have a mean age of 59.66 years, and board tenure of 12.76 years. Majority of the WOCB in this cluster are EDs ($n = 61, 77\%$). PLCs in this clusters are mostly from the property sector ($n = 22, 28\%$) and have the smallest mean firm age.

Cluster 4: *Business Expert*: (G6 in the dendogram) This is the second largest cluster of the sample ($n = 92, 22\%$). The WOCB in this cluster primarily provide resources related to being a *Business Expert*; further, some provide additional resources as a *Support Specialist* ($n = 34, 37\%$). They sit on 1.30 other PLC boards, have a mean age of 63.88 years, and board tenure of 7.78 years. No one from this cluster is an ED, with two-thirds serving as IDs and one-third as NEDs. A little over 40% of the PLCs in this cluster are from the service ($n = 20, 22$) and industrial ($n = 19, 21\%$) sectors.

Cluster 5: *Business Expert and Community Influential*: (G7 in the dendogram) This is the second to the smallest cluster of the sample ($n = 59, 14\%$). This is the other of the two clusters with WOCB who provide resources not only from being a *Business Expert*, but also, in this case, from being a *Community Influential*. Some even provide additional resources as a *Support Specialist* ($n = 19, 32\%$). They sit on 1.86 other PLC boards, have a mean age of 67.86 years, and a low board tenure of 5.94 years. None of the WOCB in this cluster are EDs, with two-thirds serving as IDs and one-third as NEDs. PLCs in this cluster are mostly from the industrial sector ($n = 20, 34\%$ of cluster), have the largest mean firm size, and firm age.

5 Conclusion

5.1 Discussion

This study has a two-pronged objective of investigating the meso-level factors influencing the likelihood of a WOCB in Philippine PLCs and identifying the profiles of WOCB based on the resources they provide a firm. It uses RDT theory of Pfeffer and Salancik (2003) and the extension resources dependence roles of directors, a taxonomy created by Hillman et al. (2000). The results indicate that board size is significant and positively associated with the likelihood of a WOCB in Philippine PLCs. The results also identify five profiles of WOCB and the dominance of WOCB who provide resources as a business expert, accumulated from being an active or former executives and/or directors in other PLCs.

Among the meso-level factors influencing the likelihood of a WOCB in Philippine PLCs and via logistic regression, only *Board Size* is significant and positive while *Firm Size* and *Industry Classification* are not significant. The significant positive association of *Board Size* and *WOCB* supports the RDT concept that the greater the need for external linking, the greater the likelihood a board is larger—perhaps increasing the need for while concurrently creating more space for female directors. For ultimately, research has shown that women can provide boards with: resources that male directors are unable to provide that can enhance firm performance; gender differences in values and traits that can lead to more balanced and better decision-making abilities and affect social and ethical firm behaviors; and symbolic value that can increase organizational legitimacy and corporate reputation. Lastly, it also is in line with the many other studies that show a significant positive relationship between *Board Size* and *WOCB* (Hillman et al., 2007; Gregorič et al., 2017; Lückerath-Rovers, 2009; Mínguez-Vera & Martin, 2011; Nekhili & Gatfaoui, 2013; Saeed et al., 2016; Supangco, 2008). Nevertheless, attention must be called to the possible pitfall of an extremely large board, with “problems of coordination, communication, and decision-making possibly overwhelming the effectiveness of the group” (Yermack, 1996, p. 209), and not to mention, the greater expense of maintaining the board.

The non-significance of *Firm Size* and *Industry Classification* requires additional investigation and/or perhaps more fitting measures. *Firm Size* requires further probing given: (1) legitimacy demands from larger and more visible organization for a fairer gender balance and the immediate resource of legitimacy WOCB may provide; and (2) numerous studies that show a significant positive association with *WOCB* (e.g., Adams & Kirchmaier, 2016; Lückerath-Rovers, 2009; Mínguez-Vera & Martin, 2011; Nekhili & Gatfaoui, 2013), even in emerging markets (e.g., Saeed et al., 2016) and using different measures to capture firm size (e.g., log of employees by Gregorič et al. (2017) or the log of

sales by Hillman et al. (2000)). Perhaps the absence of a quota² never focused the public's attention on fairer gender balance in boards and reduced the legitimacy demand of having WOCB in Philippine PLCs. On the other hand, *Industry Classification* requires finer measures, such as the standard industrial classification (SIC), to better categorize firms based on their main area of economic activity and external environment they face. The use of PSE sector classification, though arguably suitable and ensuring adequate sample sizes, may be coarse and may have grouped some firms from rather different environments in the same category. In the case of the industrial sector, some firms are in highly regulated industries (e.g., electricity, energy, power, and water) while others are not (e.g., food, beverage and tobacco; construction, infrastructure, and allied services; chemicals, electrical components, and equipment).

Among the resource dependence roles of directors based on the resources provided by a WOCB to a firm and via cluster analysis, five profiles of WOCB emerge. A broad profile of a *Business Expert* emerges (Clusters 3 to 5, 54% of total WOCB sample), a WOCB who has accumulated her resources as an active or former executives and/or directors in other PLCs, and who offers interlocking directorates as she currently sits in 1.30 to 1.86 other PLC boards. As a *Business Expert*, she can provide a firm with any or all of the following resources: expertise, experience, and content knowledge in strategic problem-solving and decision-making; advice and counsel on key management decisions; oversight and assessment of management's performance; alternative perspectives on issues, problems, and ideas; a channel of communication between firms; and legitimacy due to the prestige associated with her work experiences or other affiliations.

These resources provided by a *Business Expert* can be on its own (Cluster 4), or in combination with resources accumulated as an *Insider* (Cluster 3) or *Community Influential* (Cluster 5). An *Insider* has accumulated her resources as an active or former management and/or owner of the firm. She can provide deep firm-specific expertise and information; this is not in line with RDT that pursues resources external to an organization. On the other hand, a *Community Influential* has accumulated her resources as a former government official, political leader, university faculty, and/or a leader of a nonprofit organizations. She can provide a firm with any or all of the following resources: expertise on, linkage, influence with a broader community (e.g., political arena, local community, workers, consumer interests); non-business viewpoint on issues, problems, and ideas; non-business interests representation; and legitimacy, perhaps symbolizing an organization's commitment to various social goals.

The biggest and smallest individual cluster, Clusters 1 and 2, respectively, do not provide interlocking directorate with other firms as they sit on no other PLC boards. Though Cluster 2 sharply defines the resources a WOCB provides a firm, that of a *Community Influential*, the same cannot be said of Cluster 1. Worse, there are 72 WOCB, 46% of Cluster 1 or 17% of the total WOCB sample who do not provide any of the four resources identified by Hillman et al. (2000). This raises the question—why do these WOCBs even sit on the board—and offers an area for future research. Perhaps the explanation of their inclusion on the board lies in other theoretical explanations other than resource dependence role of directors, such as legitimacy attributes (Singh et al., 2014). These directors' presence may be explained by legitimacy attributes related to family capital of the WOCB, due to their family relations with the CEO, owners or founders of the firm, and/or legitimacy attributes related to academic excellence of the WOCB due to their higher degrees from prestigious educational institutions.

5.2 Theoretical and managerial contributions and implications

This study adds theoretically and managerially to the body of research on WOCB. Theoretically, the study adds to the meager studies conducted in emerging market. It adds a new institutional context: (1) reconfirming a significant and positive association of board size to the likelihood of a WOCB; and (2) pioneering the profiling of WOCB using resource dependence role of directors, a taxonomy created by Hillman et al. (2000). The use of cluster analysis has offered a novel insight on the preferred profile of WOCB in the Philippines—one who has accumulated resources as a business expert (as an active or former executive in other PLCs and/or director in other PLCs), either on its own or in combination with other accumulated resources as an insider (who has deep firm-specific expertise and

² Either as a hard binding regulation of minimum levels of WOCB or a soft, more specific guidelines in the corporate governance code beyond the broad recommendation of establishing a board diversity policy

information) or as a community influential (who has expertise/influence/linkages with non-business organizations relevant to the firm's environment).

Managerially, the use of this taxonomy to profile WOCB ideally places a sharper focus on the appointment process for directors for PLCs—on the resources that directors provide a firm, especially those that connect a firm to the external environment; hopefully, it also encourages the general investing public to scrutinize the board, not just the WOCB, on the resources they individually provide a firm.

5.3 Limitations

This study is not without its limitations on the level of analysis, theory, sample, variables, measures, and analytical methodology used to inform this study—all of which offer avenues for future research.

This study is limited by the factors affecting the gender composition of board at the meso-level, informed by RDT, using cross-sectional logistic regression, and measuring just the likelihood of a WOCB in Philippine PLCs. First, gender composition can be analyzed at the microlevel, focusing on how appointments to boards are made, influenced by social factors, including gender, and considering other theories, such as homosocial reproduction, homosociality, homophily, similarity–attraction, corporate elite concept, among others (Kirsch, 2018). Second, the use of RDT, which focuses on “external dependencies, eliminates internal organizational predictors, such as leadership, hiring and promotional environments, culture, which also may be important organizational factors” (p. 949) in determining board gender composition (Hillman et al., 2007). Third, the sample is drawn from the PSE that may result in a large firm bias. Further, it uses publicly available biographical data that may vary in completeness and information quality. Also, a longer sample period beyond one year can be pursued, expanding to a panel data and possibly ascertaining causal mechanisms. Fourth, several other meso-level RDT variables can be used to determine gender composition of board, such as ownership composition and type, firm strategy, leverage, network effects, and other board characteristics in addition to board size, such as CEO duality, board independence, to name a few (Gregorič et al., 2017; Hillman et al., 2007; Nekhili & Gatfaoui, 2013; Saeed et al., 2016). Fifth and last, other measures can be considered like proportion and/or number of WOCB for the dependent variable to open up more analytical methods beyond logistic regression; and perhaps a finer measure of industry classification for the independent variables to yield more significant results as earlier discussed.

This study also is limited by the descriptive use of the resource dependence role of directors, a taxonomy created by Hillman et al. (2000), to understand individual WOCB. It is exploratory in nature and does not establish what kind of woman succeeds in accessing board positions (antecedents) nor the effects of WOCB (outcomes) (Kirsch, 2018). It also does not consider other demographic, human, and/or social capital variables to measure values and traits of WOCB (Kirsch, 2018). A clear next area for research is to push this study's individual characteristics of WOCB to yield insight on how specific women advance in boards, how their behaviors differ from men directors, and how they impact firm outcomes.

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