Philippine Management Review 2019, Vol. 26, 31-52.

The Impact of Corporate Diversification on Firm Performance

Regina M. Lizares, Ph.D.*
University of the Philippines, Cesar E.A. Virata School of Business, Diliman, Quezon City 1101, Philippines

This study investigates the relationship between corporate diversification and firm performance of Philippine publicly-listed non-financial firms, using the resource-based view (RBV) view of the firm as its framework. The results show that the: (1) degree of diversification has a positive effect on firm performance; and (2) type (related or unrelated) of diversification has different effects on firm performance, with related diversification outperforming unrelated diversification. Ultimately, firm performance is linked to the successful diversification of valuable, rare, and inimitable economies of scope to related businesses, and not just to the absolute amount of diversification.

Keywords: Diversification; Firm Performance; Philippines; Resource-Based View (RBV); Rumelt measure

1 Introduction

Firms pursue growth through various ways: increasing market penetration, pursuing market and/or product development, and diversification (Ansoff, 1957). Diversification is neither a goal nor a plan; each firm that diversifies must choose the types of business it enters, the degree to which it builds on past strengths and competencies or require the development of new ones, and the total amount of diversity that is appropriate (Rumelt, 1974, p.1). The common growth path pursued by firms is to move from a focused, single business to a larger business expanding and diversifying to related areas, and possibly even unrelated areas (Rumelt, 1974, pp. 146-148). Holding firms is one form of organizing this increasing diversification, likely into unrelated fields.

The RBV is a model of firm performance that focuses on the resources and capabilities controlled by a firm as a source of sustained competitive advantage (Barney & Hesterley, 2008, p. 74). According to the RBV, a firm may be incentivized to diversify if it possesses the necessary excess resources to make diversification economically feasible (Wernerfelt, 1984). These excess resources cannot be sold due to market failure caused by high transaction costs or imperfect mobility (Peteraf, 1993; Wan, Hoskisson, Short, & Yiu, 2011); with market failure, transferring it to a related business within a firm may be optimal – the marginal costs of doing so are often minimal, but the benefits of using them in another business unit can be substantial (Teece, 1980).

Firms pursue corporate diversification as a strategy to deliver superior firm performance. This diversification-performance (D-P) relationship has been studied considerably, inside and outside[1] of the United States. There are a handful of diversification researches in the Philippines (Gutierrez & Rodriquez, 2013; Pratyaksa, Sayoc, Koga, & Siy, 2015; Rodriguez & Sandoval, 2016); but aside from the unpublished work of Aquino (2003), the D-P relationship has hardly been explored. Thus, this study aims to test some of the commonly advanced hypotheses concerning the effect of the degree and type (related or unrelated) of corporate diversification on firm performance in the Philippine context. This desire to contribute motivates this study and frames its key question.

What is the relationship between corporate diversification and firm performance?

This study takes a strategic management perspective on diversification, as captured by the RBV. It uses the Rumelt measure of diversification, and both accounting- and market-based firm performance

* Correspondence: Tel +63 2 928 4571; Fax: 63 2 929 7991. Email: rmlizares@up.edu.ph
The author acknowledges the Office of the Chancellor of the University of the Philippines Diliman, through the Office of the Vice Chancellor for Research and Development, for funding support through the Thesis and Dissertation Grant.
[1] Australia (McDougal & Round, 1984), Canada (Lecraw, 1984), Chile (Khanna & Palepu, 2000), India (George, 2007), Italy (La Rocca & Staglianò, 2012), Spain (Ramírez Alesón & Escuer, 2002), Taiwan (Chen & Yu, 2012), the U.K. (Grant, Jammine, & Thomas, 1988; Grinyer, Yasai-Ardekani, & Al-Bazzaz, 1980; Hill, 1983), and Vietnam (Phung & Mishra, 2016).

measures to explore the D-P relationship of Philippine publicly-listed non-financial firms. The results show that the: (1) degree of corporate diversification has a positive effect on firm performance; and (2) type (related or unrelated) of corporate diversification has different effects on firm performance, with related diversification outperforming unrelated diversification.

Unrelated diversification has been pursued primarily by holding firms. Diversification in this case may be mistaken as a resource to create sustained competitive advantage. The economies of scope being exploited are either not directly specific to the critical success factor in a given market (Fishbein, 1970; Montgomery & Singh, 1984), and/or are not considered valuable, rare, and inimitable, using the RBV lens. Ultimately, firm performance is linked to the successful diversification to related businesses of valuable, rare, and inimitable economies of scope, and not just to the absolute amount of diversification.

These findings have strategic and managerial implications. Strategically, firms need to determine if diversification is a resource that leads to sustained competitive advantage for them; and if yes, to identify the optimal degree of corporate diversification, where that additional expansion into another area is still marginally beneficial. This certainly is a difficult task, but equally difficult is to accept that limit, and to not continue diversifying into more, likely unrelated areas. Managerially, there is a need to scale up general management skills to manage the increasingly diversifying firm, and to develop improved system of strategic review and formal systems of intervening during crisis situation (Rumelt, 1974, p. 156-158).

2 Theoretical Framework

Corporate diversification research in general and D-P research in particular abound, supported by several theories in the field of industrial organization (IO), strategic management, and finance. This study approaches the D-P relationship with a strategic management perspective, as captured by the RBV. This section develops these concepts further as the underlying theoretical framework of this study.

2.1 Diversification

Corporate diversification is the entry of a firm or business unit into new lines of activity either by process of internal business development or acquisition, which entails changes in its administrative structures, systems, and other management process (Ramanujam & Varadarajan, 1989). Firms may have different reasons for diversifying, such as to utilize excess productive capacity, to reinvest earning, to distribute risk, to compensate for technological obsolescence, to obtain top management, and so forth (Ansoff, 1957). These reasons may prompt the direction diversifications takes: (1) vertical diversification, branching into production of components, parts, and materials; (2) horizontal diversification, introducing new products that leverage firm's know-how and experience; and (3) lateral diversification, moving beyond the confines of the industry to which the firm belongs to (Ansoff, 1957).

Whatever the reason for, or the direction corporate diversification takes, diversification offers the firm the possibility to: (1) increase returns through growth; (2) spread risk by combining uncorrelated financial flows to absorb fluctuations in demand in other businesses; and (3) create shareholder value through the exploitation of economies of scope, and creation of efficient internal capital and labor markets (Palich, Cardinal, & Miller, 2000; Purkayastha, Manolova, & Edelman, 2012; Teece, 1980; Wan et al., 2011). Nonetheless, there are limits to diversification: (1) congestion and loss of control from the over-extended use of shared resources (Purkayastha et al., 2012); and (2) top management challenge from the increasing complex and diverse (likely less familiar) business portfolio (Grant et al., 1988; Palich et al., 2000).

2.1.1 Diversification-Performance Relationship

The D-P relationship is a highly researched topic in the field of IO (external perspective), strategic management (internal perspective), and finance, with several reviews article having been written on it (e.g., Barney, 1997, pp. 388-389; Datta, Rajagopalan, & Rasheed, 1991; Purkayastha et al., 2012; Ramanujam & Varadarajan, 1989).

The IO diversification perspective approaches the topic largely premised on agency theory and transaction costs economics (Wan et al., 2011). With a structure-conduct-performance (SCP) paradigm focus, the IO perspective places the determinants of firm performance outside the firm (to the industry's structure), and views market power as the source of better firm performance for diversified firms. Because of its ability to acquire and exercise market power, a diversified firm is allegedly able to circumvent competitive market forces through mechanisms, such as cross-subsidization, predatory pricing, reciprocity in selling and buying, and barriers to entry (Palepu, 1985).

On the other hand, the strategic management diversification perspective, the focus of the present study, draws insight from IO and organization economics, but places the determinants of firm performance inside the firm (to its resources and managerial actions). The RBV offers a unified theoretical framework for this broad diversification research stream that emphasizes the importance of firm resources (Wan et al*.,* 2011). The most important contribution of the strategic management perspective centers on the investigation of whether (un)related diversification benefits firm performance, with Rumelt's (1974) seminal work spawning several follow-on researches.

The financial diversification perspective looks at three broad streams (Purkayastha et al*.,* 2012): (1) *risk reduction motive of diversification,* claims firm diversify to reduce the total variance in organizational earnings, through negatively correlated earnings stream from two or more businesses (Amit & Livnat, 1988b); (2) *failures in the capital market,* asserts firms can reduce capital-raising transaction costs by raising capital internally, can more efficiently allocate resources between divisions, as well as monitor and control them more effectively (Williamson, 1975, pp. 155-162); and (3) *agency view,* explores the possibility that diversification may be motivated by managerial gains (more power and prestige, better compensation, and less unemployment risk) (Amihud & Lev, 1981; Jensen & Murphy, 1990).

2.2 Resource-Based View

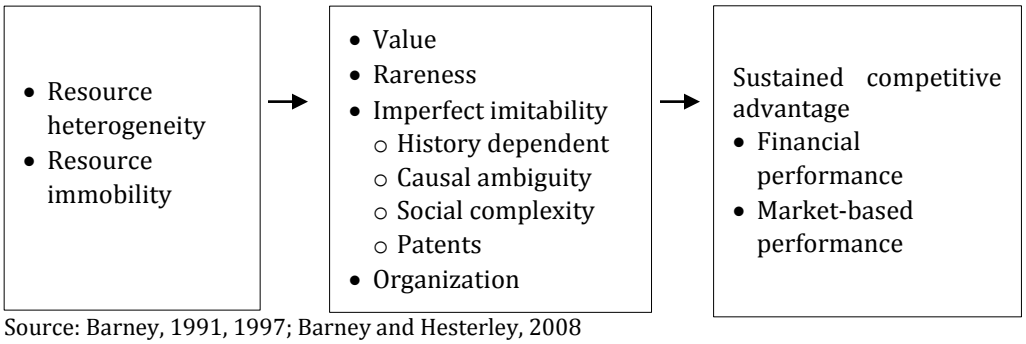
The RBV is one of the most widely accepted strategic management theory. It is a model of firm performance that focuses on the resources and capabilities controlled by a firm as a source of sustained competitive advantage (Barney & Hesterley, 2008, p. 74), explaining why firms in the same industry might differ in performances. Similar to diversification, much has been written on the RBV, both on the theoretical and/or empirical level, with several reviews article having been written on it (e.g., Kraaijenbrink, Spender, & Groen, 2010; Mahoney & Pandian, 1992; Newbert, 2007; Wan et al., 2011).

The RBV integrates a management perspective with an economics perspective. It is efficiency-oriented and is resource-level focused (Peteraf & Barney, 2003). It has a strong IO heritage (Conner, 1991), and is complementary to the IO perspective (Mahoney & Pandian, 1992; Peteraf & Barney, 2003). The RBV is an efficiency-based explanation of firm performance differences. Rather than relying purely on market power, collusion, or 'strategic' behaviors, the RBV theorizes that competitive advantage derives from firm-specific resources that are scarce (rare) and superior in use, relative to others (Barney, 1991; Peteraf, 1993). Furthermore, the RBV provides a resource- and enterprise-level explanation of sustained performance differences among firms (Peteraf & Barney, 2003). It focuses on the resources and capabilities, controlled by an enterprise, that underlie persistent performance differentials among firms. Its unit of analysis is the firm (Barney, 2001a). Other levels of analysis attribute firm performance outcomes more directly to external factors, such as market structure, institutional factors, or strategic interactions, rather than to internal or enterprise-level factors (Barney, 2003).

Barney (1991, 1997) is regarded as the first to formalize the then fragmented RBV literature into a comprehensive and testable theoretical framework (Newbert, 2007). He bases his articulation of the RBV on two fundamental assumptions about resources and capabilities; that these resources and capabilities are: (1) heterogeneously distributed among firms, and some firms within the same industry may perform certain activities better than others based on these resource differences (resource heterogeneity); and (2) imperfectly mobile and this immobility persists, due to the rarity and difficulties in acquiring or imitating these resources and capabilities (resource immobility). Resource heterogeneity and resource immobility combined allow for differences in resource endowment to exist and persist, resulting in resource-based sustained competitive advantages (Barney, 1991; 1997, pp. 142-144; 2001b; Barney & Hesterley, 2008, pp. 75, 107).

Barney further develops a tool for internal analysis of all the different resources and capabilities a firm might possess, and the potential of each of these to generate competitive advantage (See Figure 1). He advocates that for a firm to achieve a state of sustained competitive advantage, it must acquire and control **V**aluable, **R**are, **I**nimitable resources and capabilities, plus have the **O**rganization to absorb and apply them – the VRIO framework (Barney, 1991, 1997; Barney & Hesterley, 2008).

Figure 1. The RBV Illustrated



Source: Barney, 1991, 1997; Barney and Hesterley, 2008

The RBV has its criticisms (e.g., Foss & Knudsen 2003; Priem & Butler, 2001; Teece et al., 1997), and Kraaijenbrink et al., (2010) offer a review and assessment of these criticisms. Despite these criticisms, the RBV has significantly contributed to the study of strategic management and diversification in particular, as it: (1) considers the motives for, and limitations of diversified growth, as well as the existence of multi-segment firms; (2) provides a theoretical perspective for predicting the direction of diversification; and (3) offers a theoretical rationale for predicting superior firm performance for certain categories of related diversification (Mahoney & Pandian, 1992).

2.2.1 The RBV and Diversification

The RBV offers a unified theoretical framework for the broad diversification research stream of strategic management (Wan et al., 2011). It postulates that diversification is the result of excess capacity in firm resources which have multiple uses, and for which there is market failure (Peteraf, 1993; Wan et al., 2011).

Considering Barney's assumptions of resource heterogeneity and resource immobility, the RBV explains how the D-P relationship is significantly influenced by a firm's resources and capabilities (Wan et al., 2011). One, firm resources and not market factors limit the growth and the choice of business for a firm (Penrose, 1995); the firm may be incentivized to diversify if it possesses the necessary excess unique resources to make diversification economically feasible (Wernerfelt, 1984). Two, resource immobility implies that a firm may find it difficult to sell some of its excess unique resources in the market (Peteraf, 1993; Wan et al., 2011); thus, transferring it to related business within a firm may be optimal – the marginal costs of doing so are often minimal, but the benefits of using them in another business unit can be substantial (Teece, 1980).

Applying Barney's VRIO framework, for diversification strategy to be a source of sustained competitive advantage, it must not only be valuable, but also rare and costly to imitate, and the firm must be organized to implement this strategy. The value of the firm's diversification strategy comes from its ability to create economies of scope that individual investors find too costly to create or exploit. These economies of scope can be based on operations (shared activities, core competencies), and/or finance (internal capital allocation, risk reduction, tax advantage), and/or anticompetitive behavior (market power). Each economics of scope leads to different types of diversification and results in different values. Moreover, the rareness of the firm's diversification strategy depends on the number of competing firms exploiting the same economies of scope in diversification. Furthermore, the inimitability of the firm's diversification strategy is driven by how costly it is for competing firms to either directly duplicate or substitute these economies of scope. In direct duplication, diversified competing firms try to create these cooperative relations among their businesses to gain these economies of scope. The more socially complex the relationships are, and the more time needed to develop and nurture them, the more difficult and costly it is for these competing firms to directly

duplicate these economies of scope. In substitution, diversified competing firms may just choose to: (1) completely forego economies of scope, and allow each business in the diversified firm to grow independently of each other, exploiting other resources than diversification; and/or (2) pursue economies of scope outside of the diversified firms via strategic alliance (e.g., R&D) (Barney, 1997, pp. 390-394).

3 Hypotheses

This study investigates the effect of both the degree and type (related or unrelated) of corporate diversification on firm performance. Studying the type of diversification is especially significant since the strategic management perspective's major contribution to the study of diversification is the concept of relatedness and its impact on firm performance.

3.1 Degree of Diversification

Conceptually, the availability of unused productive services is an incentive to expand/diversify (Penrose, 1995). Diversification can lead to superior firm performance, compared to a focused strategy, as it offers the opportunities to: (1) increase returns through growth; (2) spread risk by combining uncorrelated financial flows to absorb fluctuations in demand in other businesses; and (3) create shareholder value through the exploitation of economies of scope, and creation of efficient internal capital and labor markets (Palich et al., 2000; Purkayastha et al., 2012; Teece, 1980; Wan et al., 2011).

Empirically, research on the D-P relationship is inconclusive, with contradictory results on the nature of this relationship (Datta et al., 1991; Montgomery, 1985; Palich et al., 2000). Some studies have found a positive relationship between diversification and firm performance (Amit & Livnat, 1988a; Chatterjee, 1986; Chen & Yu, 2012; Grant et al., 1988; Kiker & Banning, 2008; Pandya & Rao, 1998); a negative relationship (Grinyer, Yasai-Ardekani, & Al-Bazzaz, 1980; Phung & Mishra, 2016); no relationship (McDougal & Round, 1984; Montgomery, 1985; Palepu, 1985); or a curvilinear relationship with firm performance increasing as the firm shifts from single-business to related diversification strategy, but firm performance decreasing as the firm changes from related to unrelated diversification strategy (Ramírez Alesón & Escuer, 2002; Aquino, 2003; Jung & Chan-Olmsted, 2005; Khanna & Palepu, 2000; Palich et al., 2000).

The inconsistencies in the D-P relationship can possibly be explained by differences in the: (1) samples considered, since the market in which the firms operate affects its performance (Dubofsky & Varadarajan, 1987); (2) time frames of the studies, since the macroeconomic environment (e.g., inflation, interest rate) also impacts firm performance (Dubofsky & Varadarajan, 1987); and (3) perspective taken. The perspective taken impacts the measures used to operationalize diversification and firm performance (Hoskisson, Hitt, Johnson, & Moesel, 1993; Palich et al., 2000). The IO perspective, which generally concludes that no significant D-P relationship exists, employs a product Standard Industrial Classification (SIC) count index to measure diversification, and market-based firm performance measures; while the strategic management perspective, which reports a systematic D-P relationship, uses categorical measures (e.g., the Rumelt measure) to capture diversification, and accounting-based firm performance measures (Palepu, 1985).

However, a relationship has been found between accounting- and market-based firm performance measures (Ball & Brown, 1968; Jacobson, 1987). Moreover, the product count and the Rumelt measure exhibit a strong relationship in measuring firm's total diversification (Montgomery, 1982); however, the Rumelt measure is able to capture the distinction of related or unrelated diversification, which the product count index is unable to do.

Kiker and Banning's (2008), in meta-analytic review of 34 empirical studies of the D-P relationship, attribute the disparate results to statistical artifacts: sampling and measurement errors. They cannot attribute the difference to the chosen sample, use of moderators (such as industry structure and organizational factors), method chosen (categorical versus continuous diversification measures, accounting- versus market-based firm performance measures), or effects due to time-lag in obtaining the measurements.

With a sharp focus on the theoretical underpinnings of diversification from the strategic management perspective and the RBV, it is hypothesized that:

Hypothesis 1 (H1): The degree of corporate diversification has a positive effect on firm performance.

3.2 Type of Diversification

Conceptually, the direction of the planned diversification is shaped by the firm's resources, and the resources that the firm needs to carry out this diversification (Penrose, 1995). The RBV suggests that developing a diversification strategy based on inputs that are VRIO can provide the basis for sustained competitive advantage (Markides & Williamson, 1996). Such inputs can only be firm specific and can be exploited if firms diversify to related industries (Collis & Montgomery, 1995). Related diversification provides opportunities for the exploitation and extension of core factors into other businesses, leading to economies of scale and scope, efficiencies in resource allocation, and opportunities to exploit particular skills and knowledge (Rumelt, 1982; Teece, 1980). Firms pursuing related diversification realize economic benefits from the exploitation of proprietary know-how, as well as specialized and indivisible physical assets (Teece, 1980), sharing and transferring these resources and skill sets across different businesses (Purkayastha et al., 2012).

Viewed this way, firms that pursue related diversification can outperform those with unrelated diversification. Firms generally initiate diversification by moving into related industries because of the ease of sharing resources, and then gradually move towards unrelated diversification, making highly diversified firms more likely to be unrelated diversifiers (Rumelt, 1974, p. 146-148). At this point, it is unlikely to have resources that can be useful to all businesses (Wan et al., 2011), making unrelated diversifiers rely largely on financial and managerial/control competencies, which are not directly specific to the critical success factor in a given market (Montgomery & Singh, 1984). The limits to diversification may have been reached: (1) congestion and loss of control from the over-extended use of shared resources (Purkayastha et al., 2012); and (2) top management challenge from the increasing complex and diverse (likely less familiar) business portfolio (Grant et al., 1988; Palich et al., 2000).

Empirically, unlike research on the degree of diversification, there is more research consensus on the type (related or unrelated) of diversification and its effect on firm performance. Related diversifiers outperform unrelated diversifiers (Ramírez Alesón & Escuer, 2002; Bettis, 1981; Jung & Chan-Olmsted, 2005; Lecraw, 1984; Markides & Williamson, 1996; Palepu, 1985; Palich et al., 2000; Rumelt, 1974, 1982; Robins & Wiersema, 1995; Varadarajan & Ramanujam, 1987). The curvilinear D-P relationship empirically captures the limits of diversification. Nevertheless, some studies show that unrelated diversifiers outperform related diversifiers (Chatterjee, 1986; Chen & Yu, 2012; Dubofsky & Varadarajan, 1987; Grinyer et al., 1980; Michel & Shaked, 1984;); or that there is no difference in firm performance (Amit & Livnat, 1988b; Bettis & Hall, 1982; Grant et al., 1988; Hill, 1983).

With the theoretical foundations and the greater agreement in empirical evidence, it is hypothesized that:

Hypothesis 2 (H2): The type (related or unrelated) of corporate diversification has different effects on firm performance, with related diversification outperforming unrelated diversification.

4 Methodology and Results

This study considers the top Philippine publicly-listed non-financial firms as its sample. The independent variables are the degree and type (related or unrelated) of corporate diversification, while the dependent variable is the firm performance, both accounting- and market-based measures. Pooled cross-section regression is used to investigate the relationship between these variables.

4.1 Sample

The sample is composed of 55 firms – the top 10 firms in the industrial, mining, property, and service sector, as well as the top 15 firms in the holdings firm sector in terms of market capitalization, as of end 2015 (See Appendix). The financial sector is excluded from the sample because it is subject to special accounting regulations which distort a cross-section analysis (Amit & Livnat, 1988a, 1988b).

The firms' diversification and performance are observed over the time period 2011 to 2015. Total sample amounts to 226 observations after: (1) removing observations with extreme positive or negative growth and returns; and (2) accounting for firms that did not submit annual report disclosure information in certain years and firms that were not yet listed.

Diversification is captured in the operating segment reporting section of the firm's SEC Form 17-A (Annual Report)[2]. Each operating segment represents a strategic business unit that is organized and managed separately, offering different products and serving different markets.

The firms' SEC Form 17-A are the primary source of diversification data and Firm Age, while the firms' financial data are obtained from Thomson Reuters Worldscope.

4.2 Definition and Measurement of Variables

Measurements of the degree and type (related or unrelated) of corporate diversification, as well as the firm performance differ depending on the diversification perspective taken (See Table 1).

Table 1. Measurement of Variables

Diversification Perspective	Diversification Measure	Firm Performance Measure
IO	Objective	Market based
Strategic management	Subjective	Accounting based
Finance	Objective	Market based

Research has shown that there is convergence in the results of these different diversification and firm performance measures. For diversification, Hoskisson et al. (1993) find convergent validity between the IO preferred objective SIC indices and the strategic management preferred subjective Rumelt measure. For firm performance, a relationship has been found between accounting-based and market-based firm performance measures (Ball & Brown, 1968; Jacobson, 1987).

Table 2 summarizes the definition and measurement of variables used.

Table 2. Definition and Measurement of Variables

Variable	Measurement
Dependent Variables, Firm Performance	
Accounting-Based Measures	
Return on Assets (ROA) • ROA has been shown to be highly correlated to other indicators of firm performance, such as return on equity (ROE) and return on invested capital (ROIC) (Bettis, 1981) • One of the most widely employed firm performance measures	Net income/Total assets as of year-end; Average ROA for the last three years as of year-end[3]
Return on Sales (ROS)	Net income/Total sales; Average ROS for the last three years as of year-end

[2] Philippine Financial Reporting Standard 8, Disclosures on the Aggregation of Operating Segments requires companies to explicitly disclose judgments made by management in applying the aggregation criteria. The disclosures include: (1) a brief description of the operating segments that have been aggregated; and (2) the economic indicators that have been assessed in determining that the operating segments share similar economic characteristics.

[3] E.g., To compute for ROA of 2011, the ROAs of 2009, 2010 and 2011 are computed and then averaged to represent ROA for 2011. The same methodology is used for subsequent years, as well as for computing ROS.

Variable	Measurement
Market-Based Measures	
Tobin's Q[4] • Measure of the firm's assets in relation to its market value	(Market value (MV) of common stock + Book value (BV) of preferred stock + BV of current liabilities net of current assets + BV of long-term debt)/BV of total assets
Sharpe Ratio • Measure of excess market returns that also captures risk	(Current versus prior year-end MV – yearly average risk-free rate)/Standard deviation of stock returns over the year
Independent Variables, Diversification Measures[5]	
Single Segment • Measure of firm focus or otherwise	Binary variable: 0- Single segment; firm has only one segment, has no segment breakdown; 1- More than one segment
Rumelt Measure • Simpler and fewer categories than the original Rumelt measure (1974, 1982) due to the limited financial and industrial information	Categorical variable: 0- Single-Segment; 1- Dominant-Segment; revenue from a single segment is ≥ 0.70 of total sales; 2- Diversified-Segment; revenue from a single segment is <0.70 of sales
Number of Segments • Measure of number of operating segments, strategic business units • Proxy for SIC count	Categorical variable: 0- Single-Segment; 1- Few, 2-3 Segments; 2- Several, 4-5 Segments; 3- Many, > 5 Segments
Diversification Type • Measure of related or unrelated diversification • Considers only observations classified as Diversified-Segment using the Rumelt measure (Category 2)	Binary variable: 0- Related Diversification; <0.70 of revenue from a single segment, and the remainder of revenues from a related business domain(s); 1- Unrelated Diversification; <0.70 of revenue from a single segment, and the remainder of revenues from an unrelated business domain(s)
Control Variables	
Firm Size	Log of total assets, as of year-end
Leverage • Extent to which firm's assets are funded by debt	Total long-term debt/Total assets, as of year-end
Growth • Measure of growth opportunity	Total book value equity/Total market value of equity, as of year-end
Investment • Measure of investment intensity	Capital expenditure/Total assets, as of year-end
Dividend Yield • Reflect firm's dividend policy	Dividend per share/Share price, as of year-end
Firm Age • Number of years the firm has been in existence	Current year – date of firm's incorporation

4.2.1 Dependent Variables

The firm's performance is the dependent variable. Both accounting- and market-based firm performance measures are used to have a more integrative view, and to accurately reflect the D-P relationship as suggested by Hoskisson et al. (1993). For both accounting-based firm performance measures, averages over a three-year period are used to capture the effects of decisions that require longer timelines to implement, as well as to smoothen any potential aberrations associated with a single year's firm performance.

Debate has ensued over the use of either accounting- or market-based firm performance measures. Accounting-based firm performance measures are derived from historical financial statements, and are criticized for: (1) scope for accounting manipulation; (2) undervaluation of assets; (3) distortions due to depreciation policies, inventory valuation, and treatment of certain revenue and expenditure

[4] This simplified approximation of Tobin's q avoids the complicated calculations required to compute replacement cost; it only requires basic financial and accounting information for its computation. Besides, this approximate q explains at least 96.6% of the variability of the more theoretically correct model of Tobin's q (Chung & Pruit, 1994).
[5] Information obtained from operating segment reporting section of the firm's SEC Form 17-A.

items; (4) differences in methods of consolidating accounts; and (5) differences due to lack of standardization in international accounting conventions. Furthermore, these measures are oriented to the past, and thus may not reflect the expected future cash flow which a firm is likely to generate (Chakravarthy, 1986).

Nevertheless, decisions on diversification are made by management using these sources of information. Furthermore, use of accounting-based firm performance measures preserve consistency with other research that has been carried out in strategic management, allowing it to be directly compared with a substantial body of work on related topics in strategy; it also helps to make the research replicable and cumulative (Robins & Wiersema, 1995).

Market-based firm performance measures are derived primarily from firm's stock prices. Under the assumption that markets are efficient, all future benefits of diversification are fully anticipated and incorporated into the stock price (Lubatkin, 1983). Caution though is suggested when interpreting Philippine market-based performance measures given Aquino's (2006) study showing statistical evidence of weak-form efficient and mixed evidence for the semistrong-form efficiency of the Philippine stock market. Moreover, the use of market-based firm performance measures may be particularly relevant for firms undertaking long gestation projects, such as infrastructure, petrochemicals, power and property, to name a few, where returns are not yet realized but investments have already been accounted for.

These measures are not substitutes, but are complements to each other, each offering different perspectives and neither dominating the other. Both measures are used in this study.

4.2.2 Independent Variables

The firm's degree and type (related or unrelated) of corporate diversification are the independent variables. Subjective categories are used to measure diversification.

Similar to the debate on firm performance measure, there are also differences in the diversification measures used, partly driven by the perspective adopted. Diversification measures can be: (1) count, using primarily SIC codes; (2) categorical, such as the Rumelt measure and its variants; or (3) continuous, such as Hirschman index, entropy index, stock market index, specialization ratio, and share of largest business (Datta et al., 1991). The most popular measures are the SIC indices and the Rumelt measure. The objective SIC indices offer the advantages of concreteness and replicability, and also the disadvantages of the varying degrees of breadth in the SIC classes, and the implicit assumption of equal dissimilarity between SIC classes (Montgomery, 1982; Rumelt, 1982). On the other hand, the subjective Rumelt measure offers the advantage of a rich measure that captures the subtleties of a firm's diversification strategy, and also the disadvantage of subjectivity, challenge on validity problems, and time-consuming assembling of data from numerous, fragmented information sources (Montgomery, 1982; Ramanujam & Varadarajan, 1989).

Hoskisson et al. (1993) suggest ideally both a subjective, categorical measure – the Rumelt measure, and an objective, continuous measure – entropy measure (Palepu, 1985; George, 2007) be used for maximum accuracy. However, using either one alone is acceptable given their discovery of the two measures' convergent validity. Montgomery's (1982) study also shows that the product count and the Rumelt measure exhibit a fair amount of correlation in measuring the total diversity of a firm's operations. Due to the lack of granular accounting and industry details available for this study's sample to compute for entropy measure, this study uses only the Rumelt measure and its variants. This study also categorizes the firms based on the number of operating segments they have, a proxy for the SIC count. Since the number of operating segments clusters around four groupings (See Table 3), the use of categorical variables to classify the numbers of operating segments is sufficient to understand the relationship between diversification and firm performance. Besides, beyond five segments, the number of data points tapers, skewing the distribution and affecting the statistical results.

Table 3. Profile of Sample: Diversification by Number of Operating Segment

Number of Operating Segments	% of Total
Single-Segment	28
Few, 2-3 Segments	34
Several, 4-5 Segments	18
Many, > 5 Segments	20

4.2.3 Control Variables

Several variables are controlled for because of their potential influence on either firm performance, diversification, and/or the D-P relationship.

Leverage is negatively related to firm performance as seen in prior studies (Chen & Yu, 2012). Diversified firms are more leveraged given their: (1) greater capacity and access to the capital markets, and cost savings when securing financing due to their larger size; and (2) diversified cash flows which reduce risk of bankruptcy. (Montgomery & Singh, 1984). Effectively, diversified firms indirectly and negatively impact firm performance through their greater leverage.

Investments are positively related to firm performance, inconsequential whether driven by diversification or not. Investments relationship with diversification is ambiguous; its effect depending on where the investment is directed to. Large investments may be negatively related to diversification if investments are directed to current operations, or positively related to diversification if investments are directed to new businesses (Phuong & Mishra, 2016).

Firm Size relationship with firm performance is ambiguous; it has shown to be both positively and negatively related to firm performance. Larger firms may have cost advantages due to scale economies, pricing control, market power, or all, directly and positively impacting profitability. At the same time, however, larger firms may have costs arising from managerial diseconomies, directly and negatively impacting profitability. Larger firms have more resources which may motivate firms to diversify to exploit synergies, indirectly and positively impacting profitability (Phung & Mishra, 2016; Tanriverdi & Venkatraman, 2005).

Growth is negatively related to diversification; firms with high growth opportunities have low levels of diversification. Diversification may be driven by outlook of the firm's long-term performance and growth opportunities. As such, firms with low growth opportunities tend to expand their operations through diversification. (Phung & Mishra, 2016; Singh, Mathur, & Gleason, 2004).

Firm Age is positively related to diversification as seen from prior evidence. Older firms may have the capacity to do business in new industries, and/or may have fewer growth opportunities spurring them to diversify (Chen & Yu, 2012).

Dividend Yield's relationship with diversification is ambiguous. Multi-segment firms may obtain benefits from internal capital market, funding growth internally and not paying dividends. At the same time, they may access external capital market easily, funding growth with debt, and possibly maintaining a high dividend policy (Manos, Murinde, & Green, 2012; Phung & Mishra, 2016).

4.3 Results

4.3.1 Descriptive Statistics

Table 4 presents the means, standard deviations, and correlation coefficients among all variables.

The diversification measures of Rumelt Measure and Number of Segments show a predictably high and significant correlations between them, as they are variants of each other. Moderate positive correlation exists between Firm Size and these two diversification measures; this reinforces Tanriverdi and Venkatraman (2005) claim that larger firms have more resources, which may indicate higher propensity to diversify given the higher potential for exploiting synergies. The other variables reflect low inter-correlations. Tests for multicollinearity show moderate correlation within acceptable tests range, with a variance inflation factor (VIF) mean of 1.64, and a range of 1.13 to 2.29.

Table 4. Mean, Standard Deviation and Correlation Matrix

		Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1	ROA	0.06	0.05	1.00											
2	ROS	0.19	0.27	0.37*	1.00										
3	Tobin's Q	0.63	0.91	0.46*	-0.05	1.00									
4	Sharpe Ratio	0.12	0.78	-0.03	0.03	0.01	1.00								
5	Rumelt Measure	1.11	0.81	0.08	0.06	-0.20*	-0.00	1.00							
6	Number of Segments	1.31	1.09	-0.07	-0.03	-0.27*	0.02	0.87*	1.00						
7	Firm Size(1)	7.96	0.60	-0.11	-0.06	-0.32*	-0.11	0.49*	0.53*	1.00					
8	Leverage	0.22	0.16	-0.15*	-0.05	-0.23*	-0.04	0.07	0.03	0.50*	1.00				
9	Growth	0.83	1.25	-0.23*	-0.02	-0.37*	-0.04	0.18*	0.26*	0.21*	0.09	1.00			
10	Investment	0.07	0.05	0.02	-0.13*	0.38*	0.01	-0.36*	-0.39*	-0.28*	0.06	-0.20*	1.00		
11	Dividend Yield	0.03	0.02	0.39*	0.07	-0.07	-0.00	0.10	-0.02	0.10	0.06	-0.01	-0.06	1.00	
12	Firm Age	38.31	24.92	0.05	-0.05	0.08	-0.11	0.03	-0.04	0.07	-0.13*	-0.08	0.02	0.27*	1.00

(1) Log of Total Assets

Table 5 shows the large dispersion of all four firm performance measures.

Table 5. Details of Firm Performance

Variables	Mean	Std. Deviation	Minimum	Maximum
ROA	0.06	0.05	-0.12	0.21
ROS	0.19	0.27	-1.15	2.80
Tobin's Q	0.63	0.91	-0.59	4.79
Sharpe Ratio	0.12	0.78	-3.77	3.92

Firm diversification variables point to an 'average' firm having more than one segment, either as a Dominant-Segment or as Diversified-Segment firm.

Table 6 captures the diversification levels of the sample.

Table 6. Profile of Sample: Diversification by Sector and Number of Segments

	Sector					
Segment	**Holding Firm**	**Industrial**	**Mining**	**Property**	**Services**	**Total**
Single	0	13	25	5	20	63
Dominant	7	26	5	24	14	76
Diversified	59	7	5	11	5	87
Related	5	7	0	11	5	28
Unrelated	54	0	5	0	0	59
Total	**66**	**46**	**35**	**40**	**39**	**226**

Overall, 38% of the sample are Diversified-Segment firms, with 68% undertaking unrelated diversification, and 32% related diversification. Dominant-Segment firms comprise 34% of the sample, and Single-Segment firms the remaining 28%.

By sector, mining and services consist primarily of Single-Segment firms. The industrial and property sectors comprise mainly of Dominant-Segment firms. Lastly, the holding firms sector is dominated by Diversified-Segment firms (with no one business segment contributing greater than 0.70 of total sales), and nearly all the unrelated Diversified-Segment firms of the sample are in this sector.

Firm Size averages PhP 187 billion in total assets, ranges from PhP 198 million to PhP 1.35 trillion, and also has a large spread (s.d. = PhP 232 billion) (Reminder: log of total assets is the measure used). Firm Age averages at 38 years old and has a large dispersion (s.d. = 24.92) reflective of its large range of 3 to 102 years old.

4.3.2 Regression Results

4.3.2.1 Testing Hypothesis 1: Degree of Diversification and Firm Performance

Table 7 (accounting-based firm performance measures) and Table 8 (market-based firm performance measures) show that the degree of corporate diversification has a positive effect on firm performance, supporting H1. Going beyond a Single-Segment and Dominant-Segment indeed has a positive effect on firm performance. Diversification is rewarded with higher firm performance, both on accounting- and market-based measures.

Among the various firm performance measures used, ROA and Tobin's Q show robust results versus ROS and Sharpe Ratio. Regressions on ROS and Sharpe Ratio explain less the 0.012 of the D-P relationship; a possible reason for the poor explanatory power of ROS may be the long gestation projects firms undertake, such as infrastructure, petrochemicals, power and property, to name a few, where sales are not yet realized. Meanwhile, regressions on ROA and Tobin's Q explain from 0.229 to 0.330 (Adjusted R-Squared), respectively, of the D-P relationship; and their results are significant ($p<0.000$).

All three diversification measures (Single Segment, the Rumelt Measure, and Number of Segments) show a positive significant relationship to ROA and Tobin's Q.

One, the binary measure of Single Segment shows that firms with more than one segment have higher ROA and Tobin's Q than firms with just one segment.

Two, similarly, the Rumelt Measure shows that moving from a Single-Segment to a Dominant-Segment (segment sales ≥ 0.70 of total sales) is significantly and positively related to both ROA and

Tobin's Q. It also shows that moving from a Dominant-Segment to Diversified-Segment (no one segment has > 0.70 of total sales) continues to significantly and positively affect ROA, but not Tobin's Q.

Three, the Number of Segments measure shows that moving from Single-Segment to Few (2-3) Segments has a significant positive effect on both ROA and Tobin's Q. However, moving from Few (2-3) Segments to Several (4-5) Segments has different effects on firm performance measures with no significant effect on ROA; and a significant negative effect on Tobin's Q, supporting earlier findings of a curvilinear D-P relationship (Ramírez Alesón & Escuer, 2002; Aquino, 2003; Jung & Chan-Olmsted, 2005; Khanna & Palepu, 2000; Palich et al., 2000). Lastly, results show that expanding from Several (4-5) Segments to Many (> 5) Segments has no impact on both ROA and Tobin's Q.

Firm Size, Leverage, and Growth are consistently negative, and Investment consistently positive, but they are not always significant when regressed against ROA and Tobin's Q. The consistent negative sign of Firm Size may support the point that costs increase due to the managerial diseconomies caused by increasing firm size (Tanriverdi & Venkatraman, 2005). Meanwhile, the negative sign of Leverage and positive sign of Investment are consistent with prior studies' findings on their relationship with firm performance.

Dividend Yield and Firm Age show differing signs on the two firm performance measures of ROA and Tobin's Q. These two variables are only consistently significant vis-à-vis ROA, with Dividend Yield positively related, and Firm Age negatively related with firm performance.

4.3.2.2 Testing Hypothesis 2: Type of Diversification and Firm Performance

Table 9 shows that the type (related or unrelated) of corporate diversification has different effects on firm performance, supporting H2. Unrelated diversification detracts from firm performance, indicating that diversification has a limit on its positive effect on firm performance. This supports earlier findings of a curvilinear D-P relationship (Ramírez Alesón & Escuer, 2002; Aquino, 2003; Jung & Chan-Olmsted, 2005; Khanna & Palepu, 2000; Palich et al., 2000).

This analysis only includes the: (1) two firm performance measures that earlier showed significant results, ROA and Tobin's Q; (2) Diversified-Segment observations from the Rumelt Measure (n = 87), which is further subdivided into Related (n = 28) and Unrelated (n = 59) diversification; and (3) control variables that earlier showed significance.

Based on a binary measure of related or unrelated diversification, results reveal that both accounting- (ROA) and market-based (Tobin's Q) firm performance measures are lower with unrelated diversification compared to related diversification. Though both show significant results, results from regression on Tobin's Q are more robust, explaining more of the D-P relationship (Adjusted R-Squared = 0.353), and reflecting higher significance (p<0.000).

Signs of the control variables are consistent with the earlier regressions on degree of corporate diversification and firm performance – negative signs for Firm Size, Leverage (albeit not significant), and Firm Age, and positive signs for Investment and Dividend Yield.

Table 7. Summary of D-P Regressions: Accounting-Based Firm Performance Measures

	ROA			ROS		
	1	2	3	4	5	6
	Single Segment	Rumelt Measure	Number of Segments	Single Segment	Rumelt Measure	Number of Segments
Firm Size	-0.008	-0.008	-0.003	-0.058	-0.062	-0.031
	(0.009)	(0.010)	(0.010)	(0.032)*	(0.033)*	(0.033)
Leverage	-0.041	-0.041	-0.052	0.020	0.028	-0.038
	(0.017)**	(0.018)**	(0.019)***	(0.092)	(0.092)	(0.099)
Growth	-0.008	-0.008	-0.007	-0.008	-0.009	-0.003
	(0.005)*	(0.005)*	(0.004)*	(0.005)	(0.005)	(0.006)
Investment	0.059	0.059	0.052	-0.710	-0.725	-0.681
	(0.075)	(0.075)	(0.074)	(0.312)**	(0.315)**	(0.320)**
Dividend Yield	0.869	0.870	0.826	0.912	0.888	0.804
	(0.126)***	(0.127)***	(0.130)***	(0.848)	(0.850)	(0.867)
Firm Age	-0.000	-0.000	-0.000	-0.001	-0.001	-0.001
	(0.000)**	(0.000)**	(0.000)***	(0.001)	(0.001)	(0.001)*

	ROA			ROS		
	1	2	3	4	5	6
	Single Segment	**Rumelt Measure**	**Number of Segments**	**Single Segment**	**Rumelt Measure**	**Number of Segments**
Single Segment	0.020			0.040		
	(0.008)**			(0.059)		
Rumelt Measure						
Single-Segment		0.000			0.000	
		(.)			(.)	
Dominant-Segment		0.021			0.029	
		(0.008)***			(0.060)	
Diversified-Segment		0.020			0.053	
		(0.009)**			(0.060)	
Number of Segments						
Single-Segment			0.000			0.000
			(.)			(.)
Few, 2-3 Segments			0.026			0.056
			(0.008)***			(0.059)
Several, 4-5 Segments			0.012			0.041
			(0.008)			(0.065)
Many, > 5 Segments			0.008			-0.037
			(0.011)			(0.065)
Adj R-Squared	0.233	0.229	0.242	0.008	0.005	0.012
# of Obs.	226	226	226	226	226	226
F-Statistic	11.282	9.929	9.338	1.970	1.736	5.100
p-Value	0.000	0.000	0.000	0.060	0.092	0.000

Note: Standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01; constants estimated, but not reported

Table 8. Summary of D-P Regressions: Market-Based Firm Performance Measures

	Tobin's Q			Sharpe Ratio		
	1	2	3	4	5	6
	Single Segment	**Rumelt Measure**	**Number of Segments**	**Single Segment**	**Rumelt Measure**	**Number of Segments**
Firm Size	-0.208	-0.171	-0.122	-0.189	-0.188	-0.226
	(0.108)**	(0.113)	(0.125)	(0.121)	(0.130)	(0.134)*
Leverage	-0.929	-1.000	-1.140	0.059	0.057	0.148
	(0.411)**	(0.417)**	(0.417)***	(0.295)	(0.290)	(0.290)
Growth	-0.202	-0.195	-0.189	-0.015	-0.015	-0.021
	(0.133)	(0.132)	(0.125)	(0.027)	(0.027)	(0.030)
Investment	5.856	5.988	5.351	0.152	0.154	0.299
	(1.575)***	(1.587)***	(1.547)***	(1.256)	(1.272)	(1.231)
Dividend Yield	-2.244	-2.039	-3.791	1.141	1.144	1.669
	(1.843)	(1.806)	(1.779)**	(3.079)	(3.065)	(3.211)
Firm Age	0.001	0.001	-0.000	-0.004	-0.004	-0.003
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
Single Segment	0.238			0.157		
	(0.124)*			(0.136)		
Rumelt Measure						
Single-Segment		0.000			0.000	
		(.)			(.)	
Dominant-Segment		0.330			0.159	
		(0.138)**			(0.163)	
Diversified-Segment		0.130			0.156	
		(0.136)			(0.140)	
Number of Segments						
Single-Segment			0.000			0.000
			(.)			(.)
Few, 2-3 segments			0.422			0.093
			(0.136)***			(0.150)
Several, 4-5 segments			-0.199			0.294
			(0.117)*			(0.214)
Many, > 5 segments			0.094			0.234
			(0.178)			(0.143)
Adj. R-Squared	0.285	0.290	0.330	-0.001	-0.005	-0.002
# of Obs.	226	226	226	226	226	226
F-Statistic	4.260	4.282	10.106	2.308	2.551	2.639
p-Value	0.000	0.000	0.000	0.027	0.011	0.006

Note: Standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01; constants estimated, but not reported

Table 9. Summary of Regressions: Diversification Type

	1 ROA	2 Tobin's Q
Firm Size		-0.427 (0.168)**
Leverage	-0.051 (0.031)	
Investment		5.255 (1.955)***
Dividend Yield	0.726 (0.230)***	
Firm Age	-0.000 (0.000)*	
Diversification Type	-0.017 (0.008)**	-0.298 (0.168)*
Adjusted R-Squared	0.135	0.353
No. of Observations	87	87
F-Statistic	4.140	14.116
p-Value	0.004	0.000

Note: Standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01; constants estimated, but not reported

5 Discussion and Conclusion

This study's objective is to investigate if there exists a relationship between the degree and type (related or unrelated) of corporate diversification and firm performance. The results show that the: (1) degree of corporate diversification has a positive effect on firm performance; and (2) type (related or unrelated) of corporate diversification has different effects on firm performance, with related diversification outperforming unrelated diversification.

Using the RBV to explicate the findings, several Philippine publicly-listed non-financial firms appear to have successfully utilized diversification strategy as a resource to create sustained competitive advantage. Both accounting- (ROA) and market-based (Tobin's Q) firm performance measures support that going beyond a Single-Segment and Dominant-Segment indeed has a positive effect on firm performance, supporting H1. This positive D-P relationship is in line with several other studies (Amit & Livnat, 1988a; Chatterjee, 1986; Chen & Yu, 2012; Grant et al., 1988; Kiker & Banning, 2008; Pandya & Rao, 1998).

These Philippine publicly-listed non-financial diversified firms use diversification as a resource that leads to sustained competitive advantage by exploiting their excess (unique) resources and capabilities (resource heterogeneity) (Wernerfelt, 1984). These operational economies of scope may be such things as deep consumer understanding and marketing capabilities for service firms, entrenched distribution networks for industrial firms, or enviable land banking and project management capabilities for property firms. Furthermore, diversification may be the only way to exploit these resources as it may be difficult to dispose of these excess (unique) resources in the market (resource immobility). Consequently, transferring them within the firm may be the only optimal, economically viable choice (Peteraf, 1993; Teece, 1980; Wan et al., 2011).

Diversification for these firms is not only valuable, but also likely rare and inimitable. Many of these Philippine publicly-listed non-financial diversified firms have been in existence for over 40 years, allowing them time to develop and nurture these socially complex relationship needed for economies of scope, and making it difficult and costly for others to imitate.

Some Philippine publicly-listed non-financial unrelated diversified firms reveal how diversification strategy may actually be mistaken as a resource to create sustained competitive advantage. Both accounting- (ROA) and market-based (Tobin's Q) firm performance measures support that the type (related or unrelated) of corporate diversification has different effects on firm performance, with related diversification outperforming unrelated diversification, supporting H2. This result is in line with several other studies that show related diversifiers outperform unrelated diversifiers (Alesón & Escuer, 2002; Bettis, 1981; Jung & Chan-Olmsted, 2005; Lecraw, 1984; Markides & Williamson, 1996;

Palepu, 1985; Palich et al., 2000; Rumelt, 1974, 1982; Robins & Wiersema, 1995; Varadarajan & Ramanujam, 1987).

These Philippine publicly-listed non-financial unrelated diversified firms, primarily holding firms, may be exploiting economies of scope that are based on finance (internal capital allocation, ability to raise capital) and/or anticompetitive behavior (market power), which are not directly specific to the critical success factor in a given market (Fishbein, 1970; Montgomery & Singh, 1984); and/or are not considered valuable, rare and inimitable. Financial synergies particularly may decrease as financial markets develop and their functioning improves. Consequently, unrelated diversifiers have to rely on exploiting market power to achieve superior firm performance, and the possibility of doing so lessens with the existence of anti-trust regulation (Palepu, 1985).

These findings have strategic and managerial implications. Strategically, firms need to determine if diversification is a resource that leads to sustained competitive advantage for them; and if yes, to identify the optimal degree of corporate diversification, where that additional expansion into another area is still marginally beneficial. This certainly is a difficult task, but equally difficult is to accept that limit, and to not continue diversifying into more, likely unrelated areas. Managerially, there is a need to scale up general management skills to manage the increasingly diversifying firm, and to develop improved system of strategic review and formal systems of intervening during crisis situation (Rumelt, 1974, p. 156-158).

5.1 Limitations and Areas for Future Research

Like any investigation, this study has several limitations which open up areas for future research. This study can be extended by: (1) covering a longer time frame to capture any temporal effects; (2) focusing the sample on a single industry and/or adding a moderating variable to increase exploratory power; and (3) considering other constructs of the concept of relatedness.

This study looks at a very short time frame of five years, a generally expansionary period of the Philippine economy with average GDP for the period 2011-2015 at 5.9% ("Philippine GDP growth (annual %) | Data", 2017). This chosen time period may have temporal effects that directly impact the findings (Dubofsky & Varadarajan, 1987). Diversification profiles may change quite abruptly with acquisition and divestiture (Ramanujam & Varadarajan, 1989); or the benefits of a diversification may not be realized fully for some time given a transition period during which the firm readjusts (Ansoff, 1957). Either way, possibly looking at a longer time period, ideally one that spans at least an economic cycle (Hill, 1983), can further validate the findings of this study.

Moreover, this study uses a multi-industry sample and solely focuses on the direct D-P relationship. The D-P relationship has been shown to be moderated by a host of other factors, such as industry (Bettis & Hall, 1982; Hoskisson et al., 1993; Montgomery, 1985; Robins & Wiersema, 1995; Rumelt, 1982) and business group affiliation/ownership (Chen & Yu, 2012; George, 2007; Khanna & Palepu, 2000). The explanatory power potentially available in single industry models, where numerous SCP differences among industries are eliminated, can be achieved (Bettis, 1981). However, this study's intent is not to look at inter- or intra-industry differences, but to examine average differences in diversification behavior of firms. Nevertheless, further studies focusing the sample on one industry may control for industry effects and may capture the differences in functional forms of diversification and firm performance relationship (Grant et al., 1988; Jung & Chan-Olmsted, 2005; Lecraw, 1984; Palepu, 1985; Purkayastha et al., 2012). After all, different core skills can be important success factors in different industries, thereby influencing the D-P relationship (Datta et al., 1991). Furthermore, nuancing the analysis to capture moderating factors may further increase the overall D-P relationship, and help explain its causes.

Furthermore, this study, together with many others, may possibly have narrowly captured the construct and operationalization of the concept of relatedness with its use of the Rumelt measure and its variants. The Rumelt measure conceptualizes relatedness in terms of similarities in the more tangible products, markets, and technologies of a firm's business (Stimpert & Duhaime, 1997). There is an overall need for stronger construct development to provide more precise meaning to this crucial construct in diversification (Wan et al., 2011). This presents an opportunity to further validate the D-P relationship, using multi-dimensional constructs of relatedness already developed, such as relatedness that captures differentiation and marketing skills (Stimpert & Duhaime, 1997), knowledge resources (Tanriverdi & Venkatraman, 2005), or strategic assets (Markides & Williamson, 1996).

Finally, other areas of diversification research can be explored using other theories to inform the hypotheses, such as: (1) investigating the mode of diversification, internal expansion versus M&As; (2) understanding the motives for diversifying, particularly exploring why holding firms engage in more unrelated diversification; agency theory, institutional theory, and resource-dependence theory can inform the research; and (3) exploring the path diversification takes, considering more dynamic capabilities of the firm. These areas, particularly the last two, may require more qualitative approaches in their investigation.

In conclusion, with Philippine publicly-listed non-financial firms as a sample, this study successfully shows a relationship between the degree and type (related or unrelated) of corporate diversification and firm performance in the Philippine context. It contributes to the growing knowledge of diversification in the Philippines and the D-P relationship in developing market. In addition, it reiterates that firm performance is linked to the successful diversification to related businesses of valuable (ideally rare and inimitable as well) economies of scope, and not just to the absolute amount of diversification.

References

8990 Holdings, Inc. (2013-2015). *SEC Form 17-A.*

A. Soriano Corporation. (2009, 2012-2015). *SEC Form 17-A.*

ABS-CBN Corporation. (2011-2015). *SEC Form 17-A.*

Aboitiz Equity Ventures, Inc. (2009, 2011-2015). *SEC Form 17-A.*

Aboitiz Power Corporation. (2011-2015). *SEC Form 17-A.*

Alliance Global Group, Inc. (2009, 2011-2015). *SEC Form 17-A.*

Amihud, Y., & Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. *The Bell Journal of Economics*, *12*(2), 605-617.

Amit, R., & Livnat, J. (1988a). Diversification and the risk-return trade-off. *Academy of Management Journal*, *31*(1), 154-166.

Amit, R., & Livnat, J. (1988b). Diversification strategies, business cycles and economic performance. *Strategic Management Journal*, *9*(2), 99-110.

Ansoff, H. I. (1957). Strategies for diversification. *Harvard Business Review*, *35*(5), 113-124.

Apex Mining Company, Inc. (2011-2015). *SEC Form 17-A.*

Aquino, R. (2003). Corporate diversification and firm value. *UP College of Business Administration, Discussion Paper no. 306.*

Aquino, R. Q. (2006). Efficiency of the Philippine stock market. *Applied Economics Letters*, *13*(7), 463-470.

Atlas Consolidated Mining and Development Corporation. (2011-2015). *SEC Form 17-A.*

Atok-Big Wedge Company, Inc. (2012, 2105). *SEC Form 17-A.*

Ayala Corporation. (2009, 2011-2015). *SEC Form 17-A.*

Ayala Land, Inc. (2011-2015). *SEC Form 17-A.*

Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, *6*(2), 159-178.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99-120.

Barney, J. B. (1997). *Gaining and sustaining competitive advantage*. Reading, MA: Addison-Wesley Publishing.

Barney, J. B. (2001a). Is the resource-based "view" a useful perspective for strategic management research? Yes. *Academy of Management Review*, *26*(1), 41-56.

Barney, J. B. (2001b). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, *27*(6), 643-650.

Barney, J.B., & Hesterley, W. (2008). *Strategic management and competitive advantage, 2nd edition.* Upper Saddle River, NJ: Pearson.

Belle Corporation. (2011-2015). *SEC Form 17-A.*

Bettis, R. A. (1981). Performance differences in related and unrelated diversified firms. *Strategic Management Journal*, *2*(4), 379-393.

Bettis, R. A., & Hall, W. K. (1982). Diversification strategy, accounting determined risk, and accounting determined return. *Academy of Management Journal*, *25*(2), 254-264.

Bloomberry Resorts Corporation. (2012, 2014-2015). *SEC Form 17-A.*
Cebu Air, Inc. (2011-2015). *SEC Form 17-A.*
Chakravarthy, B. S. (1986). Measuring strategic performance. *Strategic Management Journal*, *7*(5), 437-458.
Chatterjee, S. (1986). Types of synergy and economic value: The impact of acquisitions on merging and rival firms. *Strategic Management Journal*, *7*(2), 119-139.
Chen, C. J., & Yu, C. M. J. (2012). Managerial ownership, diversification, and firm performance: Evidence from an emerging market. *International Business Review*, *21*(3), 518-534.
Chung, K. H., & Pruitt, S. W. (1994). A simple approximation of Tobin's q. *Financial Management, 23*(3), 70-74.
Collis, D., & Montgomery, C. (1995). Competing on resources: Strategy in the 1990s. *Harvard Business Review*, *73*(July-August), 118-128.
Company List. (2017). *Edge.pse.com.ph*. Retrieved from http://edge.pse.com.ph/.
Conner, K. R. (1991). A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management*, *17*(1), 121-154.
Cosco Capital, Inc. (2009, 2012-2015). *SEC Form 17-A.*
D&L Industries, Inc. (2012-2015). *SEC Form 17-A.*
DMCI Holdings, Inc. (2009, 2011-2015). *SEC Form 17-A.*
Datta, D. K., Rajagopalan, N., & Rasheed, A. M. (1991). Diversification and performance: Critical review and future directions. *Journal of Management Studies*, *28*(5), 529-558.
DoubleDragon Properties Corporation. (2014-2015). *SEC Form 17-A.*
Dubofsky, P. & Varadarajan, P. (1987). Diversification and measures of performance: Additional empirical evidence. *Academy of Management Journal*, *30*(3), 597-608.
Emperador, Inc. (2013-2015). *SEC Form 17-A.*
Energy Development Corporation. (2011-2015). *SEC Form 17-A.*
Filinvest Development Corporation. (2009, 2011-2015). *SEC Form 17-A.*
Filinvest Land, Inc. (2011-2015). *SEC Form 17-A.*
First Gen Corporation. (2011-2015). *SEC Form 17-A.*
Fishbein, R. (1970). Patterns of conglomeration. *Columbia Journal of World Business*, *5*(5), 23-32.
Foss, N. J., & Knudsen, T. (2003). The resource-based tangle: Towards a sustainable explanation of competitive advantage. *Managerial and Decision Economics*, *24*(4), 291-307.
GT Capital Holdings, Inc. (2011-2015). *SEC Form 17-A.*
George, R. P. (2007). Diversification and firm performance: The moderating influence of ownership structure and business group-affiliation. *South Asian Journal of Management*, *14*(3), 66-94.
Global Ferronickel Holdings, Inc. (2014-2015). *SEC Form 17-A.*
Globe Telecom, Inc. (2011-2015). *SEC Form 17-A.*
Grant, R. M., Jammine, A. P., & Thomas, H. (1988). Diversity, diversification, and profitability among British manufacturing companies, 1972-1984. *Academy of Management Journal*, *31*(4), 771-801.
Grinyer, P. H., Yasai-Ardekani, M., & Al-Bazzaz, S. (1980). Strategy, structure, the environment, and financial performance in 48 United Kingdom companies. *Academy of Management Journal*, *23*(2), 193-220.
Gutierrez, B. P., & Rodriguez, R. (2013). Diversification strategies of large business groups in the Philippines. *Philippine Management Review*, *20*, 65-82.
Hill, C. W. (1983). Conglomerate performance over the economic cycle. *The Journal of Industrial Economics*, *32*(2), 197-211.
Holcim Philippines, Inc. (2012-2015). *SEC Form 17-A.*
Hoskisson, R. E., Hitt, M. A., Johnson, R. A., & Moesel, D. D. (1993). Construct validity of an objective (entropy) categorical measure of diversification strategy. *Strategic Management Journal*, *14*(3), 215-235.
International Container Terminal Services, Inc. (2011-2015). *SEC Form 17-A.*
JG Summit Holdings, Inc. (2009, 2011-2015). *SEC Form 17-A.*
Jacobson, R. (1987). The validity of ROI as a measure of business performance. *The American Economic Review*, *77*(3), 470-478.
Jensen, M., & Murphy, K. (1990). Performance pay and top-management incentives. *Journal of Political Economy, 98*(2), 225-264.
Jollibee Foods Corporation. (2011-2015). *SEC Form 17-A.*
Jung, J., & Chan-Olmsted S. M. (2005). Impacts of media conglomerates' dual diversification on financial performance. *Journal of Media Economics*, *18*(3), 183-202.
Khanna, T., & Palepu, K. (2000). The future of business groups in emerging markets: Long-run evidence from Chile. *Academy of Management Journal*, *43*(3), 268-285.

Kiker, D. S., & Banning, K. C. (2008). How important is diversification? A meta-analytic review of the diversification/firm performance relationship. *Southern Business and Economic Journal*, *31*(1/2), 19-26.
Kraaijenbrink, J., Spender, J. C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management*, *36*(1), 349-372.
LT Group, Inc. (2009, 2012-2015). *SEC Form 17-A.*
La Rocca, M., & Staglianò, R. (2012). Unrelated diversification and firm performance: 1980-2007 evidence from Italy. *Australasian Accounting, Business and Finance Journal*, *6*(1), 75-82.
Lecraw, D. J. (1984). Diversification strategy and performance. *The Journal of Industrial Economics*, *33*(2), 179-198.
Lepanto Consolidated Mining Company. (2013, 2015). *SEC Form 17-A.*
Lopez Holdings Corporation. (2009, 2011-2015). *SEC Form 17-A.*
Lubatkin, M. (1983). Mergers and the performance of the acquiring firm. *Academy of Management Review*, *8*(2), 218-225.
Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal*, *13*(5), 363-380.
Manila Electric Company. (2011-2015). *SEC Form 17-A.*
Manos, R., Murinde, V., & Green, C. J. (2012). Dividend policy and business groups: Evidence from Indian firms. *International Review of Economics & Finance*, *21*(1), 42-56.
Marcventures Holdings, Inc. (2013-2015). *SEC Form 17-A.*
Markides, C. C., & Williamson, P. J. (1996). Corporate diversification and organizational structure: A resource-based view. *Academy of Management Journal*, *39*(2), 340-367.
McDougal, F. M., & Round, D. K. (1984). A comparison of diversifying and non-diversifying Australian industrial firms. *Academy of Management Journal*, *27*(2), 384-398.
Megaworld Corporation. (2011-2015). *SEC Form 17-A.*
Metro Pacific Investments Corporation. (2009, 2011-2015). *SEC Form 17-A.*
Michel, A., & Shaked, I. (1984). Does business diversification affect performance? *Financial Management*, *27*(1), 18-25.
Montgomery, C. A. (1982). The measurement of firm diversification: Some new empirical evidence. *Academy of Management Journal*, *25*(2), 299-307.
Montgomery, C. A. (1985). Product-market diversification and market power. *Academy of Management Journal*, *28*(4), 789-798.
Montgomery, C. A., & Singh, H. (1984). Diversification strategy and systematic risk. *Strategic Management Journal*, *5*(2), 181-191.
Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, *28*(2), 121-146.
Nickel Asia Corporation. (2011-2015). *SEC Form 17-A.*
PLDT, Inc. (2011-2015). *SEC Form 17-A.*
Palepu, K. (1985). Diversification strategy, profit performance and the entropy measure. *Strategic Management Journal*, *6*(3), 239-255.
Palich, L. E., Cardinal, L. B., & Miller, C. C. (2000). Curvilinearity in the diversification-performance linkage: An examination of over three decades of research. *Strategic Management Journal*, *21*(2), 155-174.
Pandya, A. M., & Rao, N. V. (1998). Diversification and firm performance: An empirical evaluation. *Journal of Financial and Strategic Decisions*, *11*(2), 67-81.
Penrose, E. T. (1995). *The theory of the growth of the firm*. New York, NY: Oxford University Press.
Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, *14*(3), 179-191.
Peteraf, M. A., & Barney, J. B. (2003). Unraveling the resource-based tangle. *Managerial and Decision Economics*, *24*(4), 309-323.
Petron Corporation. (2011-2015). *SEC Form 17-A.*
Philex Mining Corporation. (2011-2015). *Annual Reports.*
Philippine GDP Growth (annual %) | Data. (2017). Data.worldbank.org. Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=PH.
Philippine Seven Corporation. (2011-2015). *SEC Form 17-A.*
Phung, D. N., & Mishra, A. V. (2016). Corporation diversification and firm performance: Evidence from Vietnamese listed firms. *Australian Economic Papers*, *55*(4), 386-408.
Pratyaksa, R., Sayoc, R. A., Koga, M. M., & Siy, M. D. O. (2015). The influence of unrelated diversification and ownership structure on firm value: Evidence from Philippine conglomerates. *DLSU Business and Economics Review*, *25*(1), 45-62.

Priem, R. L., & Butler, J. E. (2001). Is the resource-based "view" a useful perspective for strategic management research? A*cademy of Management Review*, *26*(1), 22-40.

Puregold Price Club, Inc. (2011-2015). *SEC Form 17-A.*

Purkayastha, S., Manolova, T. S., & Edelman, L. F. (2012). Diversification and performance in developed and emerging market contexts: A review of the literature. *International Journal of Management Reviews*, *14*(1), 18-38.

Ramanujam, V., & Varadarajan, P. (1989). Research on corporate diversification: A synthesis. *Strategic Management Journal*, *10*(6), 523-551.

Ramírez Alesón, M. R., & Escuer, M. E. (2002). The impact of product diversification strategy on the corporate performance of large Spanish firms. *Spanish Economic Review*, *4*(2), 119-137.

Robinsons Land Corporation. (2011-2015). *SEC Form 17-A.*

Robinsons Retail Holdings, Inc. (2013-2015). *SEC Form 17-A.*

Rodriguez, R. A., & Sandoval, B. C. (2016). Foreign diversification of Philippine firms. *Philippine Management Review*, *23*, 17-26.

Robins, J., & Wiersema, M. F. (1995). A resource-based approach to the multibusiness firm: Empirical analysis of portfolio interrelationships and corporate financial performance. *Strategic Management Journal*, *16*(4), 277-299.

Rumelt, R. P. (1974). *Strategy, structure, and economic performance* (Ph.D.). Boston: Division of Research, Graduate School of Business Administration, Harvard University.

Rumelt, R. P. (1982). Diversification strategy and profitability. *Strategic Management Journal*, *3*(4), 359-369.

SM Investments Corporation. (2009, 2011-2015). *SEC Form 17-A.*

San Miguel Corporation. (2009, 2011-2015). *SEC Form 17-A.*

Semirara Mining and Power Corporation. (2011-2015). *SEC Form 17-A.*

Shang Properties, Inc. (2011-2015). *SEC Form 17-A.*

Singh, M., Mathur, I., & Gleason, K. C. (2004). Governance and performance implications of diversification strategies: Evidence from large US firms. *Financial Review*, *39*(4), 489-526.

Starmalls, Inc. (2012-2015). *SEC Form 17-A.*

Stimpert, J. L., & Duhaime, I. M. (1997). In the eyes of the beholder: Conceptualizations of relatedness held by the managers of large diversified firms. *Strategic Management Journal*, *18*(2), 111-125.

Tanriverdi, H., & Venkatraman, N. (2005). Knowledge relatedness and the performance of multi-business firms. *Strategic Management Journal*, *26*(2), 97-119.

Teece, D. J. (1980). Economies of scope and the scope of the enterprise. *Journal of Economic Behavior and Organization*, *1*(3), 223-247.

Teece, D. J., Pisano, G., & Schuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18,* 509-533.

Thomson Reuters Worldscope.

Top Frontier Investment Holdings, Inc. (2013-2015). *SEC Form 17-A.*

Trans-Asia Oil and Energy Development Corporation. (2012-2015). *SEC Form 17-A.*

Travellers International Hotel Group, Inc. (2013-2015). *SEC Form 17-A.*

Universal Robina Corporation. (2011-2015). *SEC Form 17-A.*

Varadarajan, P., & Ramanujam, V. (1987). Diversification and performance: A reexamination using a new two-dimensional conceptualization of diversity in firms. *Academy of Management Journal*, *30*(2), 380-393.

Vista Land and Lifescapes, Inc. (2011-2015). *SEC Form 17-A.*

Wan, W. P., Hoskisson, R. E., Short, J. C., & Yiu, D. W. (2011). Resource-based theory and corporate diversification: Accomplishments and opportunities. *Journal of Management*, *37*(5), 1335-1368.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*(2), 171-180.

Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications: A study in the economics of internal organization*. New York, NY: Free Press.

Appendix

Sample of Philippine Publicly-Listed Firms

Firm Name	Sub Sector
Industrial Sector	
1. Aboitiz Power Corporation	Electricity, energy, power and water
2. D&L Industries, Inc.	Food, beverage and tobacco
3. Emperador, Inc.	Food, beverage and tobacco
4. Energy Development Corporation	Electricity, energy, power and water
5. First Gen Corporation	Electricity, energy, power and water
6. Holcim Philippines, Inc.	Construction, infrastructure and allied services
7. Jollibee Foods Corporation	Food, beverage and tobacco
8. Manila Electric Company	Electricity, energy, power and water
9. Petron Corporation	Electricity, energy, power and water
10. Universal Robina Corporation	Food, beverage and tobacco
Holding Firms Sector	
1. A. Soriano Corporation	Holding firms
2. Aboitiz Equity Ventures, Inc.	Holding firms
3. Alliance Global Group, Inc.	Holding firms
4. Ayala Corporation	Holding firms
5. Cosco Capital, Inc.	Holding firms
6. DMCI Holdings, Inc.	Holding firms
7. Filinvest Development Corporation	Holding firms
8. GT Capital Holdings, Inc.	Holding firms
9. JG Summit Holdings, Inc.	Holding firms
10. LT Group, Inc.	Holding firms
11. Lopez Holdings Corporation	Holding firms
12. Metro Pacific Investments Corporation	Holding firms
13. SM Investments Corporation	Holding firms
14. San Miguel Corporation	Holding firms
15. Top Frontier Investment Holdings, Inc.	Holding firms
Mining Sector	
1. Apex Mining Company., Inc.	Mining
2. Atlas Consolidated Mining and Development Corporation	Mining
3. Atok-Big Wedge Company, Inc.	Mining
4. Global Ferronickel Holdings, Inc.	Mining
5. Lepanto Consolidated Mining Company	Mining
6. Marcventures Holdings, Inc.	Mining
7. Nickel Asia Corporation	Mining
8. Philex Mining Corporation	Mining
9. Semirara Mining and Power Corporation	Mining
10. Trans-Asia Oil and Energy Development Corporation (now called PHINMA Energy Corporation)	Oil

Firm Name	Sub Sector
Property Sector	
1. 8990 Holdings, Inc.	Property
2. Ayala Land, Inc.	Property
3. Belle Corporation	Property
4. DoubleDragon Properties Corporation	Property
5. Filinvest Land, Inc.	Property
6. Megaworld Corporation	Property
7. Robinsons Land Corporation	Property
8. Shang Properties, Inc.	Property
9. Starmalls, Inc.	Property
10. Vista Land and Lifescapes, Inc.	Property
Service Sector	
1. ABS-CBN Corporation	Media
2. Bloomberry Resorts Corporation	Casinos and gaming
3. Cebu Air, Inc.	Transportation services
4. Globe Telecom, Inc.	Telecommunications
5. International Container Terminal Services, Inc.	Transportation services
6. PLDT, Inc.	Telecommunications
7. Philippine Seven Corporation	Retail
8. Puregold Price Club, Inc.	Retail
9. Robinsons Retail Holdings, Inc.	Retail
10. Travellers International Hotel Group, Inc.	Casino and gaming

Source: "Company List", 2017