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**THE STATE OF POST-ACQUISITION PERFORMANCE
LITERATURE: WHERE TO FROM HERE?**

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THE STATE OF POST-ACQUISITION PERFORMANCE LITERATURE: WHERE TO FROM HERE?

The performance of firms after an acquisition is a central question for strategic management and is clearly of interest to managers considering an acquisition. A growing body of research has considered the question of post-acquisition performance; however, as a whole existing research in this area is largely atheoretical and the findings are equivocal. Organizational renewal is suggested as a potential theoretical lens, and a review of existing research identifies challenges and opportunities for future research on identifying factors driving post-acquisition performance.

By any measure acquisitions represent a major force in the modern economy. The number of acquisitions in America increased 600 percent between the 1970's and the 1980's (Goodman and Lawless, 1994: 258), and the number of deals worldwide set a new record every year between 1994 and 2000, with over 35,000 transactions in 2000 (*Wall Street Journal*, 2001). Additionally, the value of acquisition activity in the United States exceeded \$2.6 trillion, in 1992 dollars, between 1976 and 1990 (Jensen, 1993), and hit a record \$1.636 trillion in the first ten months of 2000, besting the previous full year record set in 1998 (*Wall Street Journal*, 2000). Despite the widespread use of acquisitions by firms research suggests most acquisitions do not improve firm performance (e.g., Datta, *et al.*, 1992; Ravenscraft and Scherer, 1987), and one-third to one-half of acquired firms are later divested (Lubatkin and Lane, 1996; Ravenscraft and Scherer, 1987). The risk an acquisition represents for firms goes beyond later divestiture to also include financial losses, stock devaluation, damage to firm and manager reputations, and dismissal of managers (e.g., Donaldson, 1990; Kaplan and Weisbach, 1992; Montgomery, *et al.*, 1984).

The disconnect between high acquisition activity in the face of evidence that a significant number of acquisitions fail implies that existing literature does not provide clear guidance for managers. Indeed, there is no theoretical framework that explains the

relationship between the antecedents of acquisition on firm performance (Hitt, *et al.*, 1998; Hoskisson, *et al.*, 1993; Sirower, 1997). The goal of the current paper is to build a common base for future research on post-acquisition performance by suggesting a theoretical lens, and reviewing existing literature on post-acquisition performance.

Corporate entrepreneurship or how existing firms pursue organizational renewal may offer insight into why firms pursue acquisitions. Corporate entrepreneurship can be viewed as combining resources either internal or external to the firm (Burgelman, 1983). Internal corporate entrepreneurship involves combining existing firm resources in new ways, and is normally associated with venturing. The majority of corporate literature focuses on venturing; however, corporate entrepreneurship as practiced by firms goes further. External corporate entrepreneurship involves integrating resources in the external environment with a firm's internal resources. Although external entrepreneurship can include alliances, acquisitions are normally viewed as the primary option (Olson, 1990). Both internal development and external acquisition involve recombining firm resources—implying that firm resources are often underutilized. Indeed, profit-seeking firms with excess resources can diversify into other markets either through internal development or external acquisition as a strategy to more efficiently employ firm resources (Teece, 1982). However, neither internal nor external corporate entrepreneurship has high success rates (Stringer, 2000; Kambil, 2000), and the development of internal resources is better understood (Ahuja and Katila, 2001).

Research needs to move beyond whether acquisitions on average have a positive or negative effect to identify factors that lead to increased or decreased acquisition success (Gerpott, 1995). A resource synergy view of acquisitions is consistent with organizational renewal in that Brown and Eisenhardt (1998) identify the most successful approach to

organizational renewal involves recombining the best of existing resources with something new. Further, the integration of another firm with resources needed to create competitive advantage is consistent with the resource-based view of the firm (Wernerfelt, 1984). This paper summarizes current progress in identifying factors leading to acquisition success.

The current section of the paper has introduced the research focus. The next section uses the resource-based view as a theoretical framework for studying acquisitions. This is followed by a summary of existing research on post-acquisition performance and observed limitations in existing research. The paper then summarizes suggestions for future research before concluding.

THEORY

Although existing theory has been inadequate for explaining post-acquisition performance, the key to success appears to be the ability to identify complementary resources that allow the creation of synergy, which supports the resource-based view of the firm (Hitt, *et al.*, 1998).

The resource-based view (RBV) of the firm offers a framework for explaining how firms achieve and sustain competitive advantage by building internal resources to take advantage of environmental opportunities (Barney, 1991; Mahoney and Pandian, 1992; Peteraf, 1993; Wernerfelt, 1984). The RBV operates on the assumption that firms are comprised of unique resource bundles that exhibit variation over time (Barney, 1991; Wernerfelt, 1984). A main contribution of RBV is identifying that differences in firm profits result from heterogeneity in firm resources, and that firms possessing valuable, rare, inimitable, and non-substitutable resources can earn above average profits (Barney, 1991). An important implication of the RBV is that firms can accumulate or build resources that will be the source of above average performance. Further, resource accumulation and employment represent an area that firm

managers can directly influence as they pursue improved performance. For example, Anand and Singh (2001) suggest that better firm resources are combined through acquisitions.

It is important that RBV is consistent with notion of synergy, because synergy has been the dominant rationale used to explain acquisition activity (Hoskisson and Hitt, 1990). I define *synergy* as increased competitiveness beyond what the two firms could accomplish independently (Sirower, 1997). The most common justification for acquisitions is that the acquired firm complements the position of the acquiring firm in a way where an agreement is profitable for both the buyer and seller (Lubatkin and Lane, 1996; Penrose, 1959). Framed in this light acquisitions can be viewed as an attempt by firms to more efficiently use internal resources by combining them with external resources. In situations where synergy can only be created from integrating operations from both firms, one would expect that both firms would have more equal bargaining power (Chatterjee, 1986) that would result in more even distribution of the expected benefits from a combination. When complementary synergy between two firms results in equal bargaining power, the impact should be smaller acquisition premiums. This is important, because everything else equal the smaller an acquisition premium the more likely a firm will experience higher post-acquisition performance (Hayward and Hambrick, 1997; Sirower, 1997).

Managers have a central responsibility for evaluating the attractiveness of industries when contemplating diversification to formulate strategies that take into account both their resources and the environment (Cooper, 1993). It is unlikely that increased economic rents from synergy will occur without an identifiable strategy (Sirower, 1997). There are several potential strategies that firms may be attempting to use through acquisitions, including:

- Increase the likelihood of innovation by increasing the probability of successful resource combinations (Teece, 2000),

- Leverage internal resources by recombining them with resources available externally (Tidd and Trehwella, 1997),
- Faster entry into a market than internal development (Capron, 1999),
- Lower entry costs than internal development (Roberts and Berry, 1985), and/or
- Overcoming entry barriers (Singh and Montgomery, 1987), or other market failures, such as patents (Williamson, 1975; Teece, 1986).

More attention needs to be paid to the strategies behind firm acquisitions and the resource-based view may offer the theoretical base to build testable hypotheses surrounding synergy. This is an important contribution, because there is no theoretical framework that currently explains the relationship between the antecedents of acquisition on firm performance (Hoskisson, *et al.*, 1993; Hitt, *et al.*, 1998).

However, it is important to remember that synergy is elusive (Ramanujam and Varadarajan, 1989). One reason synergy is elusive is that collaborative synergies also involve costs requiring increased coordination, including political infighting (Brown and Eisenhardt, 1998). Further, acquisitions require resource commitments that affect acquiring firm performance (Sirower, 1997). For example, the price of a firm is important for at least two reasons. First, if you cannot afford the price demanded by a target, the synergy cannot be achieved. Second, the premium paid for a target firm will impact post-acquisition performance (Sirower, 1997; Hayward and Hambrick, 1997) and too high a price may outweigh any synergistic benefits. Additionally, the RBV is not without criticism. The RBV has been criticized as being vague in outlining how resources contribute to competitive advantage and as lacking empirical testing (Priem and Butler, 2001). Further, the RBV has been criticized as less relevant in dynamic or rapidly changing markets where value-generating resources often exhibit reduced half lives (D'Aveni, 1994; Eisenhardt and Martin, 2000). The present study empirically tests a model derived from RBV in a dynamic context in an attempt to see whether criticism of RBV is justified.

LITERATURE REVIEW

This section of the paper reviews empirical literature that examines post-acquisition firm performance. There is a long history of acquisition research with academic research studying mergers and acquisitions since at least 1953 (McGowan, 1971) and any claim of comprehensively reviewing the literature would be foolish. In my literature review, I focus on empirical research on post-acquisition firm performance with an emphasis on strategic management literature published since Jensen and Ruback's (1983) review. Empirical studies were identified by: 1) manual search of article titles and abstracts of *Strategic Management Journal* and the *Academy of Management Journal* issues for the last six years, and 2) reading studies that were referenced by multiple studies from Step 1. A total of 26 studies were included in the review, and they are summarized in Table 1. Though not comprehensive, the studies reviewed are expected to be representative of existing post-acquisition performance research.

Insert Table 1 about here

There are several conclusions that can be drawn from Table 1 about literature on post-acquisition performance, including the impact of acquisitions on firm performance, diversity in the performance measures studied, and commonality on independent variables.

First, research conclusions on the impact of acquisitions on acquiring firm performance are equivocal. However, the general a priori bias to post-acquisition performance literature is that the primary aim of acquisitions is improving firm performance (Lubatkin, 1983). Based on this assumption, the conclusions of nineteen of the 26 studies that made blanket conclusions on the effectiveness of acquisitions are summarized in Table 2. Conclusions are essentially evenly distributed between either an acquisition by a firm

increasing performance, or having no or a negative impact on firm performance regardless of the performance measure employed. The category of “other” measures largely represents a smaller stream of research using alternative measures to capture the impact of acquisitions on firm innovation (e.g., Hitt, *et al.*, 1991; Ahuja and Katila, 2001). A total of eight studies find acquisitions increase firm performance and twelve studies find either no impact or a negative impact on performance. A Chi square difference test based on the count data totals (McClave and Benson, 1994) results in concluding that no significant differences between the findings of the studies exist ($p = .371$). Although this simple test does not account for sample or observed effect size, it is a striking realization that if you randomly look at the results of two studies you are as likely to find conflicting conclusions as you are consistent findings. Truly, existing post-acquisition performance research results are equivocal.

Insert Table 2 about here

The next conclusion from the review is that there are multiple measures of post-acquisition performance, although most studies use either stock market and/or accounting measures. Again, studies using other measures represent a smaller stream of research using alternative measures to capture the impact of acquisitions on firm innovation. Unfortunately, neither post-acquisition performance literature nor strategic management literature in general exhibits consensus on what constitutes firm performance (Daily, *et al.*, in press). This observation is further discussed under measuring performance in the limitations of existing research.

Although there are several different measures of firm performance and there is diversity displayed in the independent variables considered, there is also some commonality. I discuss findings for the most common variables that should be considered in future research

(see Table 3). My review shows the impact of firm diversification on subsequent performance has received the most attention of researchers with some measure of diversification considered in 21 of the 26 studies. Although no relationship between acquiring a related versus an unrelated firm and post-acquisition performance has been found (e.g., Fowler and Schmidt, 1989; Lubatkin, 1987), the preponderance of literature suggests acquiring related firms leads to increased post-acquisition performance (e.g., Kusewitt, 1985; Palich, *et al.*, 2000; Rumelt, 1974, 1982).

Insert Table 3 about here

The second most common independent variable involves either size or relative size of the acquired firm with fourteen studies considering size as a variable. Acquisition risk may be reduced if the target firm is large enough to achieve 'critical mass' while remaining smaller than the acquiring firm (Kusewitt, 1985; Sharma and Kesner, 1996), due to decreased financial strain and integrative effort.

Acquiring firm experience and target firm performance tied as the third most common variables with five studies considering each variable. Prior experience with acquisitions can build knowledge about how to perform acquisitions that would help firms avoid problems that would hurt performance (Haspeslagh and Jemison, 1991; Lubatkin, 1983). Although it seems reasonable that would-be acquirers will evaluate the attractiveness of a target firm's resources in light of the firm's performance, consistent guidance on the expected relationship does not exist. For example, Vermeulen and Barkema (2001: 470) argue a firm's long-term competitiveness will be enhanced through learning acquisitions, and that "a firm will learn more by acquiring a highly profitable, technology rich venture than by taking over a poorly performing firm that happens to be a bargain." However, target firm's poor financial

performance is also thought to reflect either resource mismanagement or the absence of complementary resources needed to create competitive advantage (Temple, *et al.*, 1981). Finally, it may be that target firm profitability has no impact on an acquiring firm's post-acquisition performance (Anand and Singh, 1997).

The friendliness of an acquisition, R&D expenditures, and method of accounting were considered as variables in four studies. When considering the friendliness of an acquisition, Kusewitt (1985: 166) simply stated: "unfriendly takeovers should be avoided." R&D expenditures can support absorptive capacity in acquiring firms (Cohen and Levinthal, 1989, 1990), or technological capability in target firms. For example, R&D investments may act as a barrier to entry through firms achieving economies of scale, and the accumulation of patents and technology capability (Montgomery and Hariharan, 1991; Sharma and Kesner, 1996). The importance of including the method of accounting for an acquisition is discussed under measuring performance in limitations of existing research.

LIMITATIONS OF EXISTING RESEARCH

There are two primary limitations to the body of literature studying post-acquisition performance. The first limitation deals with sampling issues and the second limitation involves measurement of the dependent variable, firm performance. Each limitation is addressed separately in the following paragraphs.

Sampling Issues

There are two related issues involving sampling procedures that limit the ability to make conclusions from previous studies and may contribute to equivocal results. The issues involve generalizability, or the degree that results can be expected to be consistent across settings and time. Two-thirds of the reviewed studies either relied on Federal Trade

Commission (FTC) large merger series or on samples where the characteristics of sampled firms are largely unknown, or not reported. The ability to generalize to other settings is the first concern, because in the studies using the FTC data or samples with unknown characteristics the impact of industry is a concern. Existing literature suggests that industry characteristics influence the performance of firms (Porter, 1980, 1985; Rumelt, 1991; Schmalensee, 1985). However, a minority of the studies reviewed controlled for industry by limiting the sample, use of industry dummy variables, or using industry adjusted measures. Further, diversification research, in general, is limited in that it ignores industry effects (Hoskisson and Hitt, 1990). In other words, not only is the impact of an acquisition on firm performance unclear industry impacts are largely unknown and may help explain equivocal results.

The second sampling concern involves the ability to generalize across time. Approximately one-third of the studies reviewed rely to some extent on FTC large merger series data that has neither been collected nor updated since 1979 (Finkelstein, 1997). Heavy reliance on the FTC data is a concern, because acquisition activity varies with time (Hoskisson and Hitt, 1990; Lubatkin, 1983) and appears to be correlated with business cycles (Ramanujam and Varadarajan, 1989; Lipin, 2001). Still most of the reviewed studies using the FTC database spanned the 1970s, a time frame that exhibited both expansions and recessions (Ramanujam and Varadarajan, 1989), and did not control for potential business cycle effects. The ability to generalize study findings across time is limited by the dependence of current research on FTC data and the lack of controlling for business cycles may have had on study findings. Indeed, studying the generalizability of acquisition

performance relationships over time is an interesting and under researched issue (Ramanujam and Varadarajan, 1989).

Measuring Performance

The second area of limitations in existing research involves measurement of firm performance. While multiple measures of acquisition effectiveness have consistently been encouraged (Hoskisson and Hitt, 1990; Lubatkin, 1983) to allow cumulating of research across disciplines (Ramanujam and Varadarajan, 1989) and to understand differences in accounting and stock market measures (Hoskisson, et al., 1993), the majority of reviewed studies focused on only one type of performance measure. For example, of the 26 studies summarized in Table 1, only five used both stock market and accounting measures, while ten studies used just stock market measures, six used only accounting based measures, and five used other measures. Stock market and accounting measures are complementary in that stock performance represents ex ante expectations, while accounting based performance represents ex post measures of performance (Anand and Singh, 1997). Individually, stock and accounting measures each have limitations.

In the case of stock market measures, most literature looking at post-acquisition performance of firms has employed the Capital Asset Pricing Model (CAPM) methodology (Sirower, 1997). In the present review, six of the fifteen studies using stock measures were identified as employing CAPM. There are recognized limitations to using CAPM in regard to acquisition studies in that acquiring firms must be relatively inactive in the acquisition market to avoid confounding affects. Avoiding confounding events is a critical assumption of CAPM that is more difficult to justify the longer the event window considered in cases like acquisitions where information is revealed over time (Williams and Siegel, 1997). Although

the study is not unique in this respect, Lubatkin (1987) used an event window of over 68 months without justifying the length of the window or checking for confounding returns (Williams and Siegel, 1997). One problem is that none of the identified studies used event windows even approximately close to one another, which limits generalizability and comparison of findings. Finally, the application of CAPM in management research has been criticized due to practical and theoretical issues (Chatterjee, *et al.*, 1999). For example, if synergy is possible, it may not be recognized by stock market measures because of information asymmetries (Hitt, *et al.*, 1998).

In the case of accounting measures, four of the ten studies employing an accounting based measure used Return on Assets (ROA). Even though literature has consistently identified ROA as a poor measure of acquisition performance, because it is impacted the method of accounting for an acquisition (Lipton, 1982; Sirower, 1997), studies continued to use ROA as measure. None of the four studies using ROA controlled for the method of accounting for an acquisition, and only four of the 26 studies reviewed controlled for accounting method, even though it has been shown to impact firm performance measures (Ravenscraft and Scherer, 1987). Historically, there have been two methods of accounting for an acquisition either pooling of interests or purchase.¹

Under pooling of interests, assets of an acquired firm are recorded at their pre-merger book value and the difference in amount paid for a firm is either debited or credited to acquirer's stockholders equity account (Ravenscraft and Scherer, 1987). Normally, pooling of interests is used when a company is acquired with stock. Additionally, pooling of interest accounting is significantly associated with higher acquisition premiums (Ravenscraft and

¹ The Financial Accounting Standards Board eliminated pooling of interests accounting and modified recording of goodwill with purchase accounting for all acquisitions completed after July 1, 2001 (Weil, 2001).

Scherer, 1987) and the premium paid for a target firm may impact post-acquisition performance (Hayward and Hambrick, 1997; Sirower, 1997). Pooling accounting can affect a firm's price to earnings (PE) ratio, because an increase in the number of a firm's shares will tend to lower its earnings per share. This could increase a firm's stock price, if investors bid up the price to reflect the pre-merger PE ratio. Additionally, a post-merger firm's stock price may not reflect cash flows from multiple businesses with different growth rates, because the target is absorbed into the acquirer and operating results are reported for the combined firm. This could decrease a firm's stock price, since earnings are not broken out by business segment. These potentially contradictory impacts of pooling of interests suggest the potential impact on stock market measures of performance for this accounting method could be a wash.

However, with purchase accounting the impact is not as benign. Under purchase accounting, acquired assets are entered at the effective price paid (Ravenscraft and Scherer, 1987). Normally, purchase accounting is used when a company is acquired with cash, debt, or a combination of cash and debt. The majority of acquisitions use purchase accounting and cash was used to pay for the majority of acquisitions between 1986 and 1997 (Hitt, *et al.*, 2001: 32). When a premium is paid under purchase accounting, the assets are either "stepped up" relative to their pre-merger values or an addition is made to the acquirer's "goodwill" asset account. Purchase accounting may decrease acquiring firm performance, when asset based measures are used. For example, ROA will decrease, if a premium was paid for a target firm, because goodwill increases an acquirer's assets, or the denominator in ROA.

IMPLICATIONS FOR FUTURE RESEARCH

Currently, our ability to predict post-acquisition performance is limited. Some of the factors identified from existing research and summarized in Table 3 may be important antecedents.

More studies need to focus on developing more robust theory for the motivations of acquisition and empirical prediction of post-acquisition performance. There are limitations displayed by existing literature that may contribute to the equivocal findings observed to date. There are several implications for future research on post-acquisition performance that are summarized individually below.

- 1) *We need better theoretical frameworks and more theory driven empirical research.*
Even though current research shows equivocal results, there is little to be gained in post-acquisition research that simply tests whether acquisitions have a positive or negative impact on firm performance. Firms have used and continue to use acquisitions as a strategic tool. Future research using RBV to explore synergy creation strategies and identified factors that may lead to synergy in acquisitions presents a significant opportunity for future research.
- 2) *Future empirical research needs to carefully consider the sample selection, including controlling for business cycles, industry, and regulatory changes.* Future studies on acquisition performance needs to use carefully selected samples (Chatterjee, 1986) to control for potential confounding effects. Better sample selection combined with more fully reporting of sample characteristics will help establish the extent that research results can be generalized or better interpreted in the face of inconsistent findings.
- 3) *It is important future empirical research on post-acquisition performance uses multiple measures of performance.* Neither stock market nor accounting measures alone are broad enough to capture different strategic considerations for an acquisition,

and using them together can help identify differences in accounting and stock market measures (Hoskisson, *et al.*, 1993).

- 4) *Future empirical research also needs to control for the method of accounting for an acquisition and avoid using ROA as a performance measure.* The method of accounting directly biases ROA and may have indirect effects on other performance measures (Ravenscraft and Scherer, 1987).
- 5) *There is a lack of research on factors affecting acquisition performance, particularly choice variables that managers control during the acquisition process* (Sirower, 1997). Future research needs to identify strategic factors that can be used to predict post-acquisition performance. The present review suggests several independent variables that have been explored in multiple studies that should be considered by future research.
- 6) *Finally, moderated relationships are largely unexplored in post-acquisition performance research.* Future research on post-acquisition performance needs to consider multiple variables and their potential interactions (Hoskisson and Hitt, 1990; Hitt, *et al.*, 1998). For example, only one of the 26 reviewed studies Capron (1999) explicitly testing for interactions.

CONCLUSIONS

The goal of this study is building a common base for future research on post-acquisition performance by reviewing existing. Although there are challenges to predicting post-acquisition performance and current research offers equivocal results, progress has been made. However, the sheer number and dollar value of acquisitions demands better theoretical models and additional empirical research. Further advancing our understanding of post-

acquisition performance will require recognizing the challenges and opportunities identified in this review.

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Table 1. Summary of Empirical Research on Post-Acquisition Performance in Chronological Order

Author(s)	Performance Measure	Independent Variables	Sample	Analysis	Results
Jensen and Ruback (1983)	Stock market performance	Announcement period, merger vs. tender offer, source of gains	Summarizes 13 studies published between 1977 and 1983	Two-tailed significance tests	Corporate takeovers generate positive gains where target firm shareholders benefit and bidding firm shareholders do not lose.
Kusewitt (1985)	Accounting: ROA Stock: 10 year average return	Relative size, Acquisition rate, Asset acquisition rate, Industry commonality, Acquisition timing, Type consideration, target profitability, Price paid	128 firms from FTC large merger series making two or more acquisitions between 1967 and 1976	Correlation and multiple regression	Acquisition increases firm performance. Post-acquisition performance displays an inverted-U relationship with target size and acquisition rate. Related acquisitions and profitable targets are positively related to post-acquisition performance.
Chatterjee (1986)	CAPM: Abnormal stock market returns (-49 to + 50 days)	Type of merger and type of synergy	157 mergers from FTC database between 1969 to 1972	Regression	Acquiring firms exhibit higher stock performance

Table 1. Continued

Lubatkin (1987)	CAPM: Abnormal stock market returns (-18 to +64 months)	FTC classification: Product concentric, Horizontal and Market concentration, Conglomerate, Vertical	Different samples from 1948-1979 FTC large merger series (A) 257 firms that were infrequent acquirers (B) 439 firms that were frequent acquirers (C) 340 acquired firms	Two-tailed significance tests	Acquisitions lead to permanent gains in stockholder value for both acquiring and acquired firms' stockholders
Ravenscraft and Scherer (1987)	Profitability (Operating income to assets)	Size, purchase vs. other method, capital intensity, R&D intensity, advertising intensity, imports/exports, industry concentration, minimum efficient scale, industry growth	5,966 mergers from FTC database between 1950 and 1977	Cross-sectional regression	Pooling of interest acquisitions had similar performance as a control group, and purchase accountings experienced sub-control returns.
Singh and Montgomery (1987)	CAPM: Abnormal stock market returns (-800 to +400 days)	Related / unrelated	105 acquisitions valued over \$100M between 1975 and 1980	Regression	Abnormal returns of acquiring firms are not significant in related or unrelated acquisitions.

Table 1. Continued

Fowler and Schmidt (1989)	Stock: Return on common equity and total return to shareholders	Relative size, contested vs. uncontested, acquisition experience, organizational age, percentage acquired, industry commonality	42 manufacturing firms making major tender offer between 1975 and 1979	Bivariate and multivariate	In general, post-acquisition performance was substandard. However, older firms with previous acquisition experience that acquire a majority of a target stand a better chance of success
Chatterjee and Lubatkin (1990)	Stock market performance	Relatedness	120 mergers from FTC large merger series between 1962 and 1979 classified as concentric or conglomerate with daily stock price data	Two-tailed significance tests	Mergers, on average, may be value creating events that reduce systematic risk to shareholders
Hitt, Hoskisson, Ireland and Harrison (1991)	R&D Intensity, Patent Intensity, and Acquisitive growth	Size, ROA, Leverage, Liquidity, Diversifying acquisitions, Total diversification, Average industry R&D intensity	191 acquisitions between 1970 and 1986 across 29 industries	Multiple regression	Acquisitions have a negative effect on R&D investments, and diversifying acquisitions have a negative impact on patents

Table 1. Continued

Agrawal, Jaffe and Mandelker (1992)	Abnormal Stock market performance adjusted for firm size	Merger vs. tender offer, Conglomerate vs. non-conglomerate, time sub-period	937 mergers and 227 tender offers by NYSE listed firms between 1955 and 1987	Two-tailed significance tests	Stockholders of acquiring firms suffer a statistically significant loss over a five-year post-merger period
Datta, Pinches and Narayanan (1992)	Stock market performance	Number of bids, bidder's approach, type of financing, type of acquisition, type and source of study data	41 acquisition event studies published between 1975 and 1989	Meta-analysis	Target firm shareholder's gain significantly from acquisitions and those of bidding firms do not.
Healy, Palepu and Ruback (1992)	Abnormal industry-adjusted cash flow returns	Investment characteristics, Purchase vs. pooling accounting, method of financing, relatedness, hostile vs. friendly	50 largest acquisitions between January 1979 to June 1984 covering 27 target industries and 33 acquirer industries	Cross-sectional regression	Merged firms have significant improvements in operating cash flows, resulting from increased asset productivity and this improvement is particularly strong for related acquisitions. Sampled firms also maintain their capital expenditure and R&D rates relative to their industry after a merger.

Table 1. Continued

<p>Hoskisson, Hitt, Johnson and Moesel (1993)</p>	<p>Three stock market performance measures Accounting: relative ROA and ROS</p>	<p>Subjective strategy, entropy classification, SIC category, relative ROA and ROS, Sharpe measure, Treynor measure, Jensen's alpha, debt/equity, firm size, and R&D intensity</p>	<p>160 of 200 manufacturing firms with over \$500M in sales randomly selected from those listed on the NYSE and AMEX, in 1988</p>	<p>Structural equation model</p>	<p>Diversification has a negative impact on accounting measures, and an indirect, but negative impact on market performance</p>
<p>Bruton, Oviatt and White (1994)</p>	<p>Subjective measure by panel of academics</p>	<p>Relatedness, acquisition experience, Relative size, Target performance</p>	<p>51 distressed firms acquired between 1979 and 1987</p>	<p>Multiple regression</p>	<p>Related acquisitions perform better than unrelated acquisitions; and past acquisition experience is associated with acquisition success</p>
<p>Gerpott (1995)</p>	<p>Self reported: R&D integration success and financial (profit trend, and sales trend)</p>	<p>Acquisition experience, buyer's influence, size of acquirer, size of acquiree, relative size, acquiree profitability, market relatedness, technology relatedness, friendliness</p>	<p>92 questionnaires (43% response rate) managers in German firms involved in acquisitions in 1988</p>	<p>Correlation</p>	<p>Relative size is negatively related to acquisition performance</p>

Table 1. Continued

<p>Anand and Singh (1997)</p>	<p>Stock: risk adjusted stock market return (3 day window) Accounting: normalized pre-tax cash flow</p>	<p>Overlapping business, and Tobin's q</p>	<p>Acquisitions of 289 firms in the 10 most defense-dependent industries at 4-digit SIC level between 1978 and 1992</p>	<p>Cross-sectional regression</p>	<p>In declining industries consolidating acquisitions outperform diversifying acquisitions.</p>
<p>Hayward and Hambrick (1997)</p>	<p>CAPM: Abnormal stock market returns (5 days prior to announcement, 5 days after acquisition)</p>	<p>Recent acquirer performance, media praise for CEO, CEO relative compensation, target firm profitability, target poison pill, relatedness, payment method, relative size</p>	<p>106 acquisitions in 1989 and 1992 valued over \$100M and reported in Securities Data Corporation's Mergers and Acquisitions database</p>	<p>Hierarchical multiple regression</p>	<p>On average acquiring firm's shareholder wealth declined after acquisitions. The greater a CEO's hubris the larger the shareholder loss. Target firm profitability, relative size, and relatedness not significant</p>
<p>Ramaswamy (1997)</p>	<p>Profitability</p>	<p>Market coverage, marketing intensity, risk propensity, overhead intensity, client mix, pre/post merger performance, relative size</p>	<p>46 intrastate mergers of banks in 1987</p>	<p>Hierarchical regression analysis</p>	<p>Mergers between banks with similar strategic characteristics result in better performance than those involving strategically dissimilar banks.</p>

Table 1. Continued

<p>Sirover (1997)</p>	<p>CAPM: Abnormal stock market returns (28 different event windows)</p>	<p>Premium, contested / uncontested, method of payment, method of acquisition, relative size, related / unrelated</p>	<p>168 firms listed on NYSE and AMEX with target at least 10% relative size of acquirer and valued at least \$100M between 1979 and 1990.</p>	<p>Regression</p>	<p>Acquisitions destroy value in acquiring firms.</p>
<p>Hitt, Harrison, Ireland and Best (1998)</p>	<p>Industry adjusted ROA and R&D intensity</p>	<p>Complementarities, friendly, debt level, financial slack, change experience, emphasis on innovation, level of diversification, target evaluation, top management team turnover, multiple acquisitions, opportunism</p>	<p>24 acquiring firms classified as successful or unsuccessful based on ROA and R&D intensity changes from 191 firms completing acquisitions in the 1980's.</p>	<p>Multiple case and rater analysis</p>	<p>Successful acquisitions pursue complementary assets, are friendly, involve low debt, and emphasize innovation. Unsuccessful acquisitions are more diversified, occur at the same time as other acquisitions in a firm, and involve higher top management team turnover.</p>
<p>Bresman, Birkinshaw and Nobel (1999)</p>	<p>Self reported: Knowledge transfer, patent count</p>	<p>Communication, Visits and meetings, Articulability of knowledge, time elapsed, size of acquired unit</p>	<p>42 useable questionnaires (20% response rate) of R&D managers in units acquired by Swedish MNCs between 1927 and 1990</p>	<p>Poisson regression</p>	<p>Communication, and visits and meetings significantly predict knowledge transfer.</p>

Table 1. Continued

<p>Capron (1999)</p>	<p>Self reported: Market share, sales, intrinsic profitability, relative profitability, cost-based synergies, revenue-based synergies</p>	<p>Asset divestiture, resource redeployment, Horizontal scope, Geographic scope, Relative size, and Diversified acquirer</p>	<p>273 completed questionnaires (15% response rate) of executives from manufacturing firms making an acquisition between 1988 and 1992</p>	<p>Structural equation modeling</p>	<p>Cost-based synergies are not easily achieved; Capabilities related to market coverage have the strongest and most immediate impact on acquisition performance; Acquirers are better at redeploying their own resources than a target's resources</p>
<p>Haleblian and Finkelstein (1999)</p>	<p>Stock: CAPM, abnormal market returns (-240 to +5 days) Accounting: ROA</p>	<p>Acquisition experience, target-to-target similarity, acquirer-to-target relatedness, relative size, stock consideration, acquirer slack, attitude, acquiring firm performance, period effects, and CEO acquisition experience</p>	<p>449 large acquisitions completed between 1980 and 1992</p>	<p>Multiple regression</p>	<p>The more similar a firm's acquisition targets are to its prior targets the better the acquisitions perform. Although initial acquisitions tend to perform better than subsequent acquisitions.</p>

Table 1. Continued

<p>Palich, Cardinal and Miller (2000)</p>	<p>Accounting: Growth and profitability Stock: risk adjusted and unadjusted market returns</p>	<p>Degree of diversification</p>	<p>55 diversification studies published between 1971 and 1998</p>	<p>Meta-analysis</p>	<p>Diversification appears to be positive for firms up to a point, and then past a certain level performance declines</p>
<p>Ahuja and Katila (2001)</p>	<p>U.S. Patent counts</p>	<p>Number of non-technological acquisitions, absolute size of acquired knowledge base, relative size of acquired knowledge base, relatedness of acquired knowledge base, number of technological acquisitions where patents unavailable, R&D expenditures, Firm Size, Diversification, and Foreign acquisitions</p>	<p>72 firms from global chemicals industry between 1980 and 1991</p>	<p>Poisson regression</p>	<p>Absolute size of the acquired knowledge base reduces innovative output, and relatedness has a nonlinear impact</p>
<p>Jones, Lanctot and Teegeen (2000)</p>	<p>Self reported: Product, finance, and market measures</p>	<p>Dominant design stage, external product technology acquisition, external process technology acquisition, internal resources, and intellectual property protection</p>	<p>188 questionnaires (20% response rate) of managers in U.S. subsidiaries of both U.S. and foreign firms</p>	<p>Multiple regression</p>	<p>Firm performance is negatively impacted by external technology acquisition</p>

Table 2. Summary of Conclusions on Acquisitions and Firm Performance

Performance Measure	Increased Performance	No Impact or Decreased Performance
• Stock market	4	6
• Accounting	1	2
• Both Stock market and Accounting	2	1
• Other	1	3
Total ^a	8	12

^a Not significantly different based on Chi square comparison ($p = .371$)

Table 3. Common Research Post-acquisition Performance Research Variables

Variable	Number of Studies Using Variable
• Diversification, any measure	21
• Firm size or Relative size	14
• Acquisition Experience	5
• Target Firm Performance	5
• Hostile or Friendly acquisition	4
• R&D expenditures	4
• Accounting method	4