

The Student Perspective

Alliance Management at Eli Lilly: Lessons on How Alliance Capability Contributes to Sustainable Advantage

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Executive Summary

Alliances have long been an important strategy in the pharmaceutical industry even though more than half fail. Eli Lilly set out to create a core competence in the area of strategic alliance management that would not only improve its success rate, but also differentiate the firm from its competitors in the industry. The manner in which Lilly approached that challenge provides an applied example of how theories of organizational values, the resource based view, the five forces and the extended value chain can promote sustainable advantage. More importantly, Lilly's experience provides numerous managerial lessons on the importance of top-to-bottom organizational commitment to collaboration, deployment of personnel and financial resources to operationalize that commitment, and the development of routines and procedures that enable the organization to learn from prior failure.

Introduction

The uncertainty of the drug development process has long made the outsourcing of research and development (R&D) programs an important part of pharmaceutical firms' strategies (Clarke, Cortada, & Fraser, 2004). Such initiatives have typically taken the form of strategic alliances: collaborative organizational agreements (Inkpen, 2001) enabling firms to achieve competitive advantage by producing and marketing new products and services (Gulati, 1998; Teece, 1992) and sharing resources, knowledge and capabilities (Spekman, Forbes, Isabella, & MacAvoy, 1998). Unfortunately, more than half of the alliances in the pharmaceutical industry fail (Clarke, et al., 2004; Fraser & Henderson, 2007), making this approach a highly risky one. Nevertheless, in the late 1990s Eli Lilly and Company decided to pursue an aggressive alliance strategy to augment its internal drug development and commercialization capabilities. In order to mitigate the risks associated with these relationships, Lilly set out to create functions designed to identify, formalize and develop collaborative skills and routines to better manage them (McKenna, 2006). The purpose of this study is to consider the effectiveness of Lilly's strategy and determine whether it has helped them create a sustainable competitive advantage for the firm.

This investigation considers the decisions behind Lilly's alliance management philosophy and the manner in which it has created its partnership programs. It will investigate the goals that guide Lilly's strategy, the internal capabilities that enable it, and the external factors that

challenge it. The next three sections of this study consider each of those elements through a variety of theoretical perspectives, including organizational values (Nash, 1988), the resource based view of the firm (Barney, 1991), the five competitive forces (Porter, 1980), and the extended value chain (Porter, 1985). Finally, the implications that Lilly's experience provides for managers are discussed.

Values and Mission

Lilly's Commitment to Alliances

Successful companies link their strategy to operations through meaningful value and mission statements that are clearly articulated and reinforced throughout the organization (e.g., Neely, Adams, & Kennerley, 2002; Tichy & DeVanna, 1990). Eli Lilly's corporate values are prominently displayed on the firm's website ("Compliance and ethics," n.d.) and are based on three core elements: integrity, excellence and respect for people. These describe the importance of honest dealings for all stakeholders, encouragement of innovation, high-quality products and superior business results through an environment of continual improvement, and the promotion of respect for all people touched by the firm. They are further subdivided into four areas: principles of medical research; health, safety, and environment; direct-to-consumer advertising; and animal care and use ("Business practices," n.d.). Finally, they are articulated in two formal statements of ethical behavior: the *Red Book – Code of Business Conduct* and the "Code of Ethical Conduct for Lilly Financial Management."

Lilly's alliance collaborations are guided by a similar set of values that direct the firm to "discover, develop, and deliver the innovative pharmaceutical therapies that will help people live longer, healthier, and more active lives" by following a collaborative vision, a globally networked strategy, and a straightforward approach ("Partnerships," n.d.). The company holds three core principles toward its collaborations: (a) make alliances a true, written corporate policy, (b) establish an actual process for forming alliances and helping them work effectively, and (c) ensure that certain foundational elements that feed alliance success are consistent among all alliances (Stach, 2006).

However, goals and missions are ineffective if they are not communicated effectively throughout the organization (Neely & Wilson, 1992). To this end, Lilly appears to have gone to significant lengths to promote and reinforce its mission and values. In addition to the prominent placement of Lilly's core values on the corporate website, the firm's *Red Book – Code of Business Conduct* (Eli Lilly and Company, 2008) outlines the code of business conduct for its employees. The *Red Book* is designed to guide Lilly employees in decision-making, seeking help, understanding corporate values, promoting Lilly's brand attributes, minimizing safety risks to patients and the broader community, enhancing relationships with customers and partners, and avoiding the costs and consequences of noncompliance. The document notes that failure to complete training and certification on these policies will result in disciplinary action, and this message is reinforced both internally and externally through prominent placement on the company website.

Lilly's commitment to its alliance partnership values receives similar reinforcement. A letter from Lilly's president and CEO emphasizes that the firm sees productive partnerships as essential to its ongoing pursuit of innovation and excellence ("Partnerships," n.d.) Additionally, the firm's website touts specific collaborative strengths in the areas of R&D, Commercialization, and Manufacturing ("Uniting our strengths," n.d.), and it includes a statement from the VP of Lilly's Office of Alliance Management indicating that "Our goal is to be the best at partnership value creation." The company also publishes a brochure (Anonymous, 2008) summarizing its partnering philosophy. That document contains specific examples of key alliances, what they generated for both Lilly and the partners, and case examples of Lilly alliances ("Partnering profiles," n.d.).

Alliances are acknowledged to be a significant aspect of Lilly's business, and the firm currently has more than 100 active relationships (Anonymous, 2008). Overall, Lilly's strong set of values and overt commitment to effective and mutually beneficial collaboration appears to be producing results. Wahl and Kogut (2007, p. 4) summarized this as follows:

Realizing that excessive IP concerns could kill the investment in an alliance, Lilly developed a body of management principles for research partners that it labeled *research innovation without walls* (italics in original). This management philosophy enhanced the capacity of these alliances to pursue cutting-edge science and technology by joining internal and external sources... These partnerships introduced important new medicines for treatment of cancer, schizophrenia, osteoporosis, diabetes and cardiovascular complications and maintained one of the strongest new drug pipelines in the industry.

Assessing Lilly's Alliance Values and Mission

Firms generally operate in the context of two guiding concepts: core ideology and values that can hold the firm together as it grows, and an envisioned future that articulates descriptions of what the firm needs to achieve (Collins & Porras, 1996). Consequently, value statements will embody "a timeless quality of guiding principles" whereas mission statements provide more specific benchmarks of success for managers and a common corporate goal for employees (Nash, 1988, p. 156). Given that most strategic decisions are made by the firm's top management team and carried out by lower levels in the organization, successful implementation of strategy is achieved by ensuring that goal congruence between these layers is facilitated by linking higher order goals and vision to more operationally defined mission parameters (Kellermanns, Walter, Lechner, & Floyd, 2005; Neely, et al., 2002).

Similarly, collaborations are more effective when collaborators have concrete goals and a shared vision (Eden & Huxham, 2001). Goal and mission statements that are not actively supported and promoted throughout the organization will be perceived as lacking in substance and can confuse employees and customers alike. In such cases customers may come to question an otherwise value-laden firms' credibility (Trapp, 1999). Consequently, mission statements are ineffective unless they are communicated clearly throughout the organization (Neely & Wilson, 1992). Using this standard one can conclude that Lilly is not only driven by a congruent set of core values that are communicated throughout the organization, but also committed to their

use in day-to-day operations. The firm's values appear prominently in numerous, publically available locations. Moreover, these statements are voiced by various senior executives from the firm and reinforced in operational policies set down in its *Red Book – Code of Business Conduct* and the "Code of Ethical Conduct for Lilly Financial Management."

Lilly's value and mission guidelines also meet empirical conditions for firm performance. Pearce and David (1987) found that mission statements of successful firms contained a minimum statements of company philosophy, self-concept and its desired public image. Partnering philosophy is embodied in the statement that "by working together, we can discover, develop, and deliver the innovative pharmaceutical therapies that will help people live longer, healthier, and more active lives." Self-concept is articulated in its contention that "as the first pharma company to establish an office of alliance management, we continue to devote dedicated, experienced teams to ensure partnership success." Finally, public image is embodied in the industry-leading statement "we are continuing to transform Lilly from a fully integrated pharmaceutical company to a fully integrated pharmaceutical network (FIPNet)" ("Partnerships," n.d.).

Taken as a whole, Lilly's values – both corporate and alliance-based – are clear and consistently communicated. Moreover, they generally meet theoretical guidelines by containing measures that have been associated with effective companies. There is a strong tie between overall firm goals and their partnering correlates, suggesting that there is a high level of internal congruence within the organization in support of its partnerships. Finally, the partnering mission is articulated in great detail. While it was not possible to review additional internal documents explaining lower-level mission directives (though these may in fact exist internally), it is arguable that Lilly's partnering values and its commitments to them are robust. The next section of this paper considers Lilly's internal capabilities in the area of alliance management in conjunction with two theoretical perspectives. Since strategic alliances are a hybrid organizational form combining elements of both hierarchy and market dynamics (Williamson, 1985), they call upon unique organizing capabilities that are well defined by the resource-based view of the firm. Additionally, because these partnerships involve the coordination of up- and downstream functions it is important to consider the implications that extended value chains have on the enterprise.

Alliance Management Capabilities

Lilly's Partnering History

In the late 1990s Lilly came to the strategic determination that access to innovation, rather than scale, was going to be a critical success factor for pharmaceutical firms (Klee, 2004) and that it would grow organically rather than through acquisition (Atkins, 2007). Even though alliances had been commonplace in the pharmaceutical industry, Lilly's decision meant that it would emphasize alliances over the more prevalent mergers and acquisition (M&A) model. In order to do so it concluded that it had to "develop an expertise, if not outright and highly recognized excellence, in alliance management" (Atkins, 2007, p. 31). This led to the

establishment of four groups specifically involved in its partnership process. Global External Research and Development would identify alliance opportunities. Two groups, Corporate Business Development and Corporate Finance Investment Banking, would negotiate agreement and financial conditions. Finally, Office of Alliance Management would have responsibility for implementing and managing the ongoing relationships created by the formal interfirm agreements ("Sourcing global innovation," n.d.).

In the early years following this decision, Lilly focused on its alliance contracts; however, it later realized that this was the "easiest part of the process" and learned that clear expectations and governance processes were important (Atkins, 2007, p. 31). The firm recognized that, aside from the risk of technical failure, "most unsuccessful alliances fail due to implementation issues, personality conflicts and other non-technical factors" (Stach, 2006, p. 28). This mission subsequently became the specific responsibility of the Office of Alliance Management (OAM). The head of OAM would report to Lilly's senior vice president of corporate strategy and policy, who in turn would report to the chairman and CEO. Hence, the efforts of the group would be strongly linked with overall firm initiatives, and a high degree of executive team support could be facilitated.

Lilly's alliance management model is organized around a three-person management lead team responsible for the collaboration's success: an alliance champion (a senior executive responsible for support and oversight), an alliance leader (a technical leader / project manager), and an alliance manager (a representative from the OAM who supports the alliances leader and serves as the advocate for the alliance) (Sims, Harrison, & Gueth, 2001). The alliance manager is not directly involved in day-to-day activities though they do devote more time to Lilly's most complex and strategic relationships. Approximately 15 alliance managers work in the OAM at any time (Sims, et al., 2001).

Lilly's alliance managers are expected to act as "honest brokers" and manage the complexities of the relationship (W. G. Dyer, Dyer, & Dyer, 2007). To support the alliance managers' efforts Lilly has also developed a tool kit (i.e., set of processes) used consistently across different collaborations. An important part of Lilly's process is cultural assessment prior to formation; alliance managers use this to identify potential differences in cultural values, organization structure, decision-making and leadership styles, and reward systems. Lilly then conducts a "strategic futures exercise" to ensure that there is congruence on strategic intent and priorities. Once the alliance is underway the alliance managers utilize a "Voice of the Alliance" survey tool to assess overall satisfaction and alignment among the alliance's participants (Sims, et al., 2001). Various other tools have also been developed and implemented by OAM, as well as training on alliance management for line managers and research scientists.

There is a long tradition of partnerships at Lilly; a partnership was responsible for Lilly's formation and the world's first commercial insulin product nearly a century ago (Anonymous, 2008). Unlike other pharma firms that are focused on mergers to add capability, Lilly has focused on a system of carefully managed alliances, allowing them to create "virtual size" (Klee, 2004). Arguably Lilly has demonstrated an ongoing commitment to alliance excellence, as well as the ability to learn from its mistakes. For example, its Amylin alliance was so problematic at the outset that it became the subject of a front page *Wall Street Journal* article (Abboud, 2005).

However, the article goes on to note that application of its best practices, as orchestrated by a representative from the OAM, enabled Lilly to turn the alliance into a relationship that is now touted as a partnering success ("Partnerships," n.d.).

More importantly, the firm has received a highly-regarded reputation for its alliance capabilities. Experts estimate that as many as 70% of alliances fail (Hughes & Weiss, 2007), so it is a challenge for a firm to distinguish itself in an environment where there is so little success. Yet, by 2000 Lilly had already developed a strong reputation for alliance management. A PriceWaterhouseCoopers survey of biotech and pharmaceutical company executives ranked the firm second in research alliances, sixth in clinical development partnerships and fifth in co-marketing relationship among the top 31 pharmaceutical firms (Anonymous, 2000). By the survey's 2003 version covering the top 27 firms Lilly was ranked in the top 5 in all categories and first overall (McKenna, 2006), and in a 2004 IBM survey they were also the top rated firm (Klee, 2004). Additionally, Lilly alliance management proficiency has been featured in numerous trade and academic publications (e.g., Atkins, 2007; J. H. Dyer, Kale, & Singh, 2004; Kale, Dyer, & Singh, 2001; Lam, 2004), and the OAM has received the "Corporate Alliance Excellence Award" from the Association of Strategic Alliance Professionals for having success in its alliance programs (W. G. Dyer, et al., 2007).

Alliance Capability as a Source of Sustainable Advantage

One theoretical lens for of assessing organizational capabilities is through the resource-based view. The resource-based view holds that an organization's resources can be classified as physical, human and organizational capital (Barney, 1991), and that such resources can create sustainable advantage when they are valuable, rare, and inimitable and when they offer unique organizing capability (Barney, 1997). Barney's (1991) conceptualization of the theory is based on two fundamental assumptions: firms in an industry are heterogeneous with respect to the strategic resources they control, and resources are not perfectly mobile across firms, so heterogeneity can be long lasting. Peteraf's (1993) concept of the resource-based view is similar, though it holds that sustained competitive advantage is achieved through superior resources (i.e., heterogeneity within an industry), ex post limits to competition, imperfect resource mobility, and ex ante limits to competition. Scholars have suggested that a firm's resource capabilities develop dynamically through a three-stage growth of organizational and team capabilities: founding, development and maturity (Helfat & Peteraf, 2003), but typically a firm is unaware of the process because imperfectly immutable resources are socially complex, created through path dependent conditions, and causally ambiguous (Barney, 1991).

The potential for a firm's resources to generate advantage can be realized in a number of ways. Managerial skills of the a management team have been found to affect firm performance more than industry, firm size, age and perceived environmental uncertainty (Carmeli & Tishler, 2006). Human capital is assumed to contribute to competitive advantage, and investments in firm-specific human capital have been found to have a significant impact on learning and firm performance (Hatch & Dyer, 2004). Firms have even been found to create advantage from asymmetries that would normally be reasons for failure (e.g., unproductive teams, disastrous divisions, burdensome contacts, or troublesome longtime clients) when they discover them,

assess their potential, take advantage of their immutability, embed them in an organizational design that exploits them and sustains their development, and matches these asymmetries to market opportunities (D. Miller, 2003).

In the area of interorganizational alliances, relational capability-building mechanisms (J. H. Dyer & Singh, 1998; Makadok & Barney, 2001) allow firms to enhance the value of specialized capabilities deployed along the value chain. Such mechanisms are derived from previous capability-building mechanisms (Holcomb & Hitt, 2007) and enable the firm to accumulate, integrate, and leverage experience over time. Alliance experience can subsequently materialize as functions (e.g., an alliance department), tools (alliance training), control and management processes (metrics) and through external parties (use of external consultants). These have all been found to partially mediate between alliance experience and performance (Heimeriks & Duysters, 2007). The ability of a firm to interact effectively across internal boundaries may likewise constitute a resource advantage (Ambrosini, Bowman, & Burton-Taylor, 2007), and this might also be applied to interfirm activities. Since the ability to manage alliances effectively is asymmetrically distributed across firms, this capability can be a source of competitive advantage (Ireland, Hitt, & Vaidyanath, 2002). An expert alliance manager or exceptional alliance management function should consequently be able to differentiate a firm from its competitors, and, in fact, empirical studies have found a significant positive relationship between a firm's investment in an alliance function and its performance (Kale, Dyer, & Singh, 2002).

Pharmaceutical Firms as Extended Value Chains

Modern pharmaceutical firms generally operate as extended value chains. Upstream drug discovery efforts can certainly be sourced within the firm, but pharma companies nevertheless maintain a number of external relationships from which therapies can be derived, such as university labs and biotechnology firms. Biotechnology firms are the most significant partners, and more than 40% of the drugs now in clinical trials by large pharmaceutical firms originated in biotech companies (Klee, 2004). Pharmaceutical firms have outsourced significant portions of their clinical trial efforts to contract research organizations (CROs) such that CRO revenues represented 24% of pharma R&D spending in 2008 (Saftlas, 2008). Similarly, manufacturing and downstream marketing efforts often involve co-marketing and promotion agreements with other pharmaceutical firms or contract manufacturing and contract marketing/sales organizations (CMOs) (Saftlas, 2008).

Lilly's latest strategic initiative utilizes an alliance management approach to enhance its value chain through a greater level of decentralization and mutual risk sharing with its development partners. This is an attempt to improve the upstream capability of its value chain. Lilly has named the traditional pharma model "FIPCo," and it seeks to transform its value chain into a fully-integrated pharmaceutical network, "FIPNet" (Anonymous, 2008). Lilly's current FIPCo model is a hub-and-spoke model based in Indianapolis with centralized governance/management and utilizing Indianapolis-based funding sources. Its new FIPNet model, on the other hand, consists of a network of cross-functional portfolio molecules in

multiple deal structures, more decentralized governance/management, and shared risk/reward opportunities.

Scholars note that sustainable competitive advantage can be achieved by combining resources across intrafirm and interfirm boundaries in dynamic industries such as pharmaceuticals, semiconductors, cellular, software and engineering services (Appleyard, Lybecker, & Wang, 2008). Hence, firms that develop a specialized expertise in collaborative relationships should be more likely to convert it into a valuable resource in their value chains. Centralized alliance management groups within the firm perform three critical functions in the learning process that can lead to alliance success: articulation, codification and sharing / internalization of alliance management know-how (Kale & Singh, 2007). Because the value chain can involve coordination across a number of different entities (Porter, 2004), scholars have incorporated alliance concepts to better coordinate and management it. Buckley and Ghauri (2004) argue that the ability to manage a value chain environment is contingent on utilizing structural forms such as joint ventures, spoke and hub arrangements, and alliances. Bretherton and colleagues have found that alliances are being used to perform many value chain functions because: (a) organizations are lacking in both capabilities and resources (Bretherton, 2003); (b) alliances with members of the value chain enable firms to take advantage of new market opportunities and discover knowledge (Beverland & Bretherton, 2001); and (c) firms successfully engaging in strategic alliances at various stages of the value chain have access to adequate resources, which in turn leads to sustainable competitive advantage and superior performance (Bretherton & Chaston, 2005).

Assessing the Value of Lilly's Alliance Capability

It is evident that Lilly's strategic decision to emphasize a partnering strategy over one based on acquisitions has led the firm to implement a number of significant changes designed to ensure its success. The formation of four functional units dedicated to various aspects of alliance formation and management as well as the effort which has gone into supporting this operationally speak to the firm's high level of commitment to the strategy. Moreover, the recognition the program has achieved both from the press and in the way of industry awards suggests that the firm has managed to implement this approach effectively and with some level of distinction. It is arguable, then, that the firm has turned alliance management into a resource which is, if not completely inimitable and nonsubstitutable, is at least relatively valuable and rare. If nothing else, the ability to create such a comprehensive approach to alliances demonstrates solid organizing capability. Hence, using conditions for resource uniqueness (Barney, 1991, 1997) as a framework, it is possible to conclude that Lilly's alliance management capabilities should provide some level of sustainable advantage.

On the other hand, there are aspects of Lilly's alliance management capability that may still be incomplete or even ineffective. One such example can be gleaned from the Amylin case mentioned above (Abboud, 2005). While that alliance has been considered to be a success ("Partnerships," n.d.), one must ask why the initial problems with the relationship were able to spiral out of control, requiring the alliance management group to intervene in such as remedial fashion. Lilly's OAM was not only established by the time that the conflicts were coming to a

head, but the company had also deployed its alliance management tools and rolled out its internal training programs designed to raise alliance awareness of direct team members (Sims, et al., 2001). It is possible that this alliance was an isolated incident, but it is also possible that Lilly's approach of having alliance managers remotely oversee partnerships may not be responsive enough to adapt when issues arise. Consequently, one may infer that Lilly's alliance management model is either implemented in an uneven fashion or that it cannot quickly diagnose and troubleshoot conditions across such a large number of relationships.

Another area for consideration is how Lilly is configuring its value chain. Though the new FIPNet model proves to be a strong endorsement of Porter's (1985) thesis that a value chain can be configured in a highly decentralized manner, there is some theoretical disagreement that this approach will be most effective in stimulating pharmaceutical development and innovation. The pharmaceutical R&D process is time-consuming, causing development – and consequently alliances – to take years before financial results can materialize and success can be ascertained (Deeds & Rothaermel, 2003). In some cases even successful products do not emerge from intended targets, thereby further extending the development process. A prominent example is Viagra[®], which was originally targeted as a blood pressure medication. The drug failed its clinical trials and the program was about to be terminated. However, it was only after Pfizer discovered why it had difficulty getting test patients to return their samples (testers remarked that the product improved their sexual performance) that the firm got the idea to retarget it as an erectile-dysfunction medication (Twyman, 2004). The concern is that by transferring more of the initial development risk to its alliance partners under the FIPNet approach Lilly may find that partners will be less prone to work with Lilly than to work with other pharmaceuticals who are more willing to provide the greater assurance of up-front funding, even if it means less eventual return. Additionally, given that the risks of discovery are scientific rather than management oriented, it is not clear that Lilly's expertise in alliance management can improve the hit rate for scientific success.

A second value chain consideration is the fact that the centrality of an R&D organization has been found to enhance the breadth of the firm's knowledge base (Zhang, Baden-Fuller, & Mangematin, 2007). Lilly's Global External Research and Development group, one of the four functional areas created under the partnership umbrella, provides this centralized focus. However, the traditional function of that group has been to evaluate new technologies for potential partnership; it remains to be seen whether Lilly can effectively manage the process when development through partners occurs in an even more "arm's length" manner, and particularly one in which the partner bears more of the initial costs and risks of development. The fact that Lilly continues to do acquisitions, such as its recent purchase of ImClone (Saftlas, 2008) as well as announcing increasing willingness to do more (Rockoff, 2009) suggests that it is attempting to hedge its FIPNet strategy somewhat.

Lilly has a strong foundation upon which to build future alliances and craft a successful FIPNet strategy. However, the issues that Lilly has experienced indicate that its alliance management implementation may not be as complete or effective as might be assumed. Furthermore, the FIPNet strategy will call upon Lilly to manage risk in a much more remote manner that has been the case with its traditional alliances. While Lilly has a broad assortment of tools and routines to address management issues, it is not clear that they can manage the

differing expectations and uncertainty of scientific discovery that should occur when partners are expected to take on a much greater level of risk. Similarly, it is not yet evident how alliance management capability addresses critical issues emerging in the healthcare industry. This last area is considered in the next section.

Environmental Issues in the Pharmaceutical Industry

Key Industry Considerations

To ascertain the competitive and contextual challenges facing Lilly, it is necessary to assess the state of the pharmaceutical industry. Worldwide sales of pharmaceutical products reached \$756 billion in 2007, up 6.5% over the preceding year, with US sales representing \$286 billion of this figure (Saftlas, 2008). However, the pharma industry is facing a \$130 billion loss in sales by 2012 due to patent expiration. As a result, top-line sales growth is expected to slow to low- to mid-single digits in 2008 and 2009.

Social, economic and political factors are expected to play a major role in these decreased projections, especially due to changes occurring in healthcare (Saftlas, 2008). The US healthcare system faces many problems: stress of an aging population, rising costs, inefficiencies and imperfect quality. While pharma firms are already under some price pressure from third-party payer insurance programs, it is anticipated that these social trends will prove to be increasingly problematic since they are likely to result in government legislation that will force drug companies to reduce their prices even further. Standard and Poor's has estimated that potential legislative changes that will allow the government to directly negotiate drug prices for Medicare could reduce pharmaceutical revenues by 10% (Saftlas, 2008). Hence, the impact of both third-party and government cost-reduction is expected to result in a serious revenue and profit threat to pharma firms.

Pressures on prices exacerbate the traditional constraints of the pharma business model. Drug firms have 20 years of competitive price protection from the time they are awarded a patent. However, the lengthy drug development process experienced by pharmaceutical firms (Deeds & Rothaermel, 2003) has expanded from 11.6 years to 14.9 years during the last two decades, meaning that firms now need to reap the rewards of their development efforts even sooner than the traditional benchmark of within seven years of product launch (Javalgi & Wright, 2003). Since only one compound in 5,000 discovered ever reaches the point of a marketed product (Saftlas, 2008) experts calculate that large pharmaceutical firms each need to launch at least five "significant" drugs per year having a sales potential of \$350 million or more (Javalgi & Wright, 2003). Since pharmaceutical firms are already facing dwindling new product pipelines this is an extremely challenging target.

In one sense traditional competitors appear to represent the least threatening industry competitive force. Although there are many cases where multiple companies are targeting products at the same therapeutic area, the size of many of the major target markets is such that multiple firms are able to generate significant sales. For example, Pfizer's anti-depressant

product Zoloft[®] generated \$3.3 billion in sales in 2005, but it split the market with a number of other products from competitors such as Wyeth's Effexor XR[®] (\$3.5 billion in revenues), Forest Laboratories' Lexapro[®] (\$1.9 billion in revenue), GlaxoSmithKline's Paxil[®] and Wellbutrin XL[®] (\$1.1 billion each) and Lilly's Cymbalta[®] (\$680 million) (Smith, 2006). However, all the major pharmaceutical firms are facing similarly weak pipelines as well as major roll offs in patent protected products so such revenue distributions are no longer assured. A bigger concern lies in pharma's ability to position itself against biotechnology firms as well as against other major pharma companies who seek to align with biotech firms offering the most promising science. Biotechs represent a combined threat of both new market entrants and suppliers, despite the fact that they have been pharma's partners for a many years. The potency of the biotechnology threat lies in the fact that it represents a different scientific approach to diseases. Standard and Poor's notes that:

In contrast to traditional medicines, which are based on small molecule technology, biologics are large-molecule proteins made from living organisms. As such, they offer several advantages, including therapies that generally require shorter development times, greater efficacy, and reduced side effects. They also offer much better patent protection than conventional drugs. As scientists' understanding of the genome improves, biotechnology expertise should assume even greater importance, since it is required for the development and manufacture of genetically derived drugs. (Saftlas, 2008, p. 13)

Biotech firms eager to capitalize on their technological advantage can also forward-integrate by developing their own sales channels. As this occurs biotech firms will emerge as significant direct competitors to traditional pharmaceutical companies.

Biotech firms continue to show robust revenue growth and are expected to grow 14-15% in 2008 vs. 5-6% for pharma overall (Saftlas, 2008). Standard and Poor's reports that over the past three years, large pharmaceutical companies have responded by, among other strategies, forming alliances and buying biotech companies (Saftlas, 2008). Products licensed from biotechnology firms was expected to account for \$100 billion of Big Pharma revenues in 2007, up from \$65 billion in 2002-2003 (Lam, 2004).

There is divided opinion as to the type of deals that pharmaceutical firms are doing with biotechs. Wood Mackenzie (Anonymous, 2003) and IMS Global Consulting (Class, 2003) have noted that firms are shifting away from late stage alliances and acquisitions to earlier stage opportunities in order to reduce costs. (As products move through the clinical trial process there is a greater ability to project their probability of being granted Food and Drug Administration approval. Consequently, late stage products warrant a higher license / purchase price than earlier stage products.) On the other hand, pharmaceutical firms have begun to look at earlier stage products as a way of enhancing their longer-term competitive positions since late stage products offer shorter windows of patent protected revenues (Evnin, Ledbetter, & Zipkin, 2003). Regardless of which approach emerges over the next few years, the fact remains that biotech firms have significant potential to impair pharmaceutical firm profits by insisting on richer deal terms (Saftlas, 2008) or becoming direct competitors.

Pharmaceutical firms also face competition from substitutes in the form of generic drugs. Once patents for drugs expire generic firms are able to offer equivalent products at a fraction of the price, thereby depriving the patent holding firm of long-term opportunities for high profitability. A number of social and governmental factors are expected to increase generic drug revenues in 2008 by 14-15%, but the most notable is preference by third-party payers and government healthcare programs. Continued consolidation among generic firms will give them economies of scale and further reduce their barriers to entry, making substitutes a more formidable competitive force for pharmaceutical firms. All of these factors combine to suggest that pharma profit opportunities will continue to be compromised by increased activity from generic drug manufacturers (Saftlas, 2008).

Theoretical Bases of External Competition

Because pharmaceutical firms such as Lilly are increasingly finding themselves in competition with both traditional pharma firms as well as upstream biotechs, generic producers and downstream customers, it is appropriate to utilize the multidimensional theoretical perspective of the five forces model (Porter, 1980) to evaluate the challenges in Lilly's environment. The five forces model stresses that in addition to their regular segment competitors focal firms also compete with: (a) potential entrants who are often supported by new and more efficient technologies; (b) substitute products which offer similar value but create position jockeying; (c) buyers who impair profitability by demanding lower prices through collective bargaining; and (d) sellers who impose higher prices or provide products of inferior quality. Some scholars have faulted the five forces model for lack of empirical evidence of its effect on firm profitability (Grant, 2002), its implication of markets as static entities (Hill & Jones, 1995), and inherent difficulty in identifying potential competitors and market opportunities (Bhide, 1994). However, others have pointed out that this theory enables firms to determine the best way to position themselves relative to multiple competing forces (Harrison & St. John, 1994). More to the point, the theory appears to work better for homogeneous industry groups (i.e., conceptual and strategic industries than for heterogeneous industries (A. Miller & Dess, 1996). While the pharmaceutical industry is comprised of a number of segments (i.e., big pharma, biotech, etc.) there is a high level of uniformity in terms of development risks, cost recovery timelines, distribution channels and regulatory oversight. Consequently, we should consider Porter's (1980) model to be applicable to Lilly's situation.

A second perspective from which to assess Lilly's environment is in terms of its value chain. The value chain provides a systematic categorization of a firm's activities by dividing them into two broad types of functions: (a) primary activities involved in the physical creation of a product or services, its delivery to the buyer and the support after the sale; and (b) support activities provide the infrastructure that enables the primary activities to take place on an ongoing basis (Porter, 1985, 2004). The key strategic implications of the value chain lie in determining which of the firm's activities are most distinct, where to configure the various functions, and how those functions should be linked and coordinated (Porter, 1996). As a result, supply chain design must derive from organizational strategy. Since firms achieve success by creating value for their final customers, supply chain relationships and processes must be integrated and aligned with strategy if the firm is to improve efficiency and effectiveness

(Morash & Clinton, 1998). Porter (2001) has emphasized that a distinctive value chain is one of the six principles of strategic positioning (along with right goal, value proposition, trade-offs, fit, and continuity of direction).

Scholars have noted that in this day and age the key is no longer ownership of capabilities, but rather a firm's ability to control and take advantage of capabilities regardless of where they reside (Gottfredson, Puryear, & Phillips, 2005). Ohmae (1989, pp. 17-18) notes: Managers are realizing that, no matter how strong and resourceful their firms might be, they are no longer able to maintain a competitive advantage at every step in the value chain in all national markets, nor are they able to maintain a cutting edge in the wide range of technologies required for the design, development, manufacture and marketing of new products. Thus, international strategic alliances have become an important means to rationalize operations to overcome potential difficulties and to help firms regain and maintain their competitive position in international markets.

While path dependent value chain decisions have an impact on the firm's ability to develop resources that produce sustainable advantage (Barney, 1991), overuse of external sources to complete value chain activities can lead to opportunism and excessive transaction costs (Rothaermel, Hitt, & Jobe, 2006). More importantly, overuse increases flexibility at the expense of increased path dependence in the use of external resources, which can ultimately lead to the loss of absorptive capacity (Cohen & Levinthal, 1990) to perform certain value chain activities when the need arises in the future.

Assessing Lilly's External Challenges

Even though analysts continue to project above-average profitability for pharmaceutical firms (Saftlas, 2008), the combined challenges of reduced prices, expiring products, weak pipelines and competitors offering products based on new technologies mean that successful drug companies will need to entertain new models if they expect to sustain their prominence over the long term. However, the question of which new model to adopt is most critical. Lilly's "align rather than acquire" strategy has not produced superior shareholder returns, in spite of the fact that firms with alliance management functions have been found to achieve superior stock performance (Kale, et al., 2001, 2002) and the company has arguably executed its alliance model better than any other firm in the industry. Moreover, Lilly has not completely avoided M&A, as is evidenced by its recent acquisition of ImClone (Saftlas, 2008) and its acknowledged interest in additional deals (Rockoff, 2009). The fact that Lilly is currently doing both alliances and acquisitions begs the question of how the company can differentiate itself going forward. More to the topic of this paper, it raises the question of how the firm can utilize its valuable alliance management capability to support its efforts in the future.

Relationships with biotech firms appear to hold at least part of the answer. Clearly, there will be even greater pressure on Lilly's Global External Research and Development group to make better choices for partnerships or acquisitions. Since licensing activity with biotechs has increased across all the big pharma companies, this creates a situation resulting in higher licensing and purchase prices, reinforcing a trend that has been in effect for some time (Evnin, et

al., 2003). Similarly, there will be the need to look at both early and late stage products in order to address the need for both near and long term revenue (Edwards, 2004).

The more relevant question is how the capability created by Lilly's alliance management competency can best be utilized. Certainly Lilly can continue to direct this at future alliances. Given the firm's plans to create a value chain using the FIPNet model, Lilly may find that it can leverage this capability to ensure that its relationships with various partners stay on track. If the industry follows this new model Lilly could find that it has an advantage over other pharma firms. On the other hand, it is likely that this new model will test firms' ability to adapt to new challenges, so the bigger question is how well Lilly is capable of learning from early mistakes. While the firm has displayed an ability to do this in the past (e.g., Abboud, 2005; Atkins, 2007), a big question is whether it has the ability to outlearn its competitors.

Another area of consideration is how Lilly can improve on the success of its acquisitions. Industry trends indicate that all firms – including Lilly – are looking for acquisitions that can increase the firm's pipeline (Saftlas, 2008). While it is possible for Lilly to simply pursue an accretive strategy of purchasing firms for their incremental products and revenues, this may not unlock the synergistic potential that could exist between Lilly and its acquired companies. On the other hand, if it is possible for Lilly to identify ways in which it can improve many of the issues and conflicts that occur after an acquisition (Dooley & Zimmerman, 2003) the firm may find that it can leverage both mergers and alliances better than its peers. If it is able to do so the firm may discover that it can not only generate higher levels of success from products and science it seeks to exploit, it may also find that it can promote greater levels of new discovery and innovation.

There is little Lilly can do to avoid many of the social, technological, environmental, economic and political forces that threaten the profitability of this industry. On the other hand, there are clearly a range of management alternatives the firm has implemented in the past that it may adopt for the future. Such collaborative options can offer valuable insights that managers outside of Lilly can also learn from. The last section of this paper will explore these.

Conclusions and Implications for Managers

Lilly has achieved significant results in its alliance endeavors. First of all, it has developed clearly articulated value and mission statements that thoroughly reinforced throughout the firm. This suggests that the firm has developed a strong orientation and discipline toward its alliance strategy and an appreciation of the appropriate alliance behaviors that ensure success. Second, Lilly has done an effective job in terms of implementing its "alliance rather than acquire" strategy. It has created dedicated corporate groups charged with various aspects of the partnership process, and it has paid particular attention to ways in which it can better manage ongoing alliance relationships by implementing special processes, tools and training. Third, it has managed to achieve a great deal of acknowledgement for its efforts, which have translated into awards and favorable publicity. Finally, it has anticipated the need to adapt to the challenges of drug development in an increasingly competitive industry by building a more sophisticated value chain through its FIPNet model. This suggests that the firm continues to seek

out innovative ways in which it can compete. Overall one might argue that the firm has distinguished itself by developing internal resources which, if not immutable and nonsubstitutable, are at least valuable and rare (Barney, 1991).

There are a number of lessons that today's managers can take away from Lilly's experience. The success of Lilly's efforts to create an industry-leading alliance culture suggests that there can be significant returns for today's organizations. Because alliances offer the opportunity to share risks and investment among partners (Mayer & Teece, 2008), they represent an effective way to hedge a firm's bets and leverage its financial investment. This can be particularly important in difficult economic times when available capital is limited. Alliances can also be integral to the success of firms that are attempting to thrive in industries which are undergoing change or technological convergence. In the case of pharmaceuticals, the challenges of generating sufficient new compounds to fill dwindling drug pipelines (Javalgi & Wright, 2003; Saftlas, 2008) require traditional big pharma firms to align with biotechs offering new techniques for developing drugs. Such challenges are not unique to the pharmaceutical industry; however, so managers in many industries should be able to identify similar synergies through their alliances.

Nevertheless, Lilly's experience also highlights that an effective alliance strategy requires more than an opportunistic interest in leveraging partner capabilities. First and foremost, alliances require a strong and pervasive vision that is driven down through the firm. While congruence across management layers is an important condition for operationalizing strategy (Kellermanns, et al., 2005), this is only achieved when firms consciously communicate internally and externally. The consistency with which Lilly has mapped alliance values to its core values is a good example of how thoroughly firms should approach this process. Secondly, alliances can only work when firms commit sufficient resources to properly support them. In one sense, the fact that alliances allow firms to share risks with their partners can unintentionally send the incorrect message that they can be managed with minimal or even no incremental resources. Lilly's experience, as well as those of other firms (e.g., Hughes & Weiss, 2007; Steinhilber, 2008), suggests that organizations need to be willing to make the necessary investment in processes and personnel development if their alliances are to succeed. Finally, as firms develop strong alliance management cultures they should be on the lookout for ways in which those capabilities can be applied elsewhere in the organization. For example, the ability to create a shared mission and culture between two collaborating firms is likely to prove valuable in integrating two firms in M&A scenarios. Similarly, the capability to manage extremely arms-length relations with external partners, such as Lilly will with its FIPNet partners, can offer firms the change to better manage their growing network of outsourced relationships.

Lilly's experiences can also help firms identify some areas where they might improve their level of alliance success. The Amylin alliance provided a wealth of lessons that Lilly was later able to systematically apply to its other relationships (Rote & Ransom, 2004). Managers should therefore ask whether their firms have procedures which ensure that there are information loops back into other alliances. That case should also cause managers to ask whether they are supporting their alliances properly. Because alliances are so dependent upon cooperation and collaboration with a range of stakeholders (Hughes & Weiss, 2007), there can be situations where these stakeholders will operate in their own interests rather than on behalf of those of the

alliance. How the firm conceives and designates lower level responsibilities can have a big impact on how well it is able to monitor the various interactions that occur (Ferrin, Bligh, & Kohles, 2007). Managers should remember that Lilly's model of having an alliance manager effectively mentor the teams actually carrying out the alliance was supported by extensive education efforts into the greater organization (Sims, et al., 2001); firms which have not invested in such training will need to have their alliance managers take on a greater level of responsibility for these interactions.

Finally, managers should remember that their investment in alliance management is very often required to protect the expected rate of return from an alliance rather than generate incremental returns. Lilly quickly learned that deal-making – the part of the alliance management process in which the value of the opportunity is essentially captured through the activities outlined in the formal contract – was the easiest part of the process (Atkins, 2007); implementation and personality issues were more likely to cause alliance failure (Stach, 2006). Similarly, managers looking to maximize the value of their own alliances should begin to think of alliance management as a process that hedges the investment they are jointly making with their partner.

References

- Abboud, L. (2005, April 27, 2005). How Eli Lilly's monster deal faced extinction - but survived. *Wall Street Journal*, p. A1,
- Ambrosini, V., Bowman, C., & Burton-Taylor, S. (2007). Inter-team coordination activities as a source of customer satisfaction. *Human Relations*, 60(1), 59-98.
- Anonymous (2000). Global pharmaceutical company partnering capabilities survey (pp. 1-8). Toronto: PricewaterhouseCoopers.
- Anonymous (2003). Big pharma licensing strategies: Wood Mackenzie.
- Anonymous (2008). Power in partnerships: Turning ideas into reality through relationships, *Eli Lilly and Company Brochure* (pp. 1-8).
- Appleyard, M. M., Lybecker, K. M., & Wang, C. Y. (2008). Managing across boundaries: introduction to the Special Issue. *Managerial and Decision Economics*, 29(5), 383-388.
- Atkins, H. (2007). The impact of alliances: Perspectives from Endo Pharmaceuticals, Eli Lilly, Pfizer & Biogen Idec. *Specialty Pharma*, 3(1), 28-33.
- 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.

Bartlett, S. Ghoshal & J. Birkinshaw (Eds.), *Transnational management* (4th ed., pp. 311-338). New York: McGraw-Hill/Irwin.

Beverland, M., & Bretherton, P. (2001). The uncertain search for opportunities: Determinants of strategic alliances. *Qualitative Market Research*, 4(2), 88-99.

Bhide, A. (1994). How entrepreneurs craft strategies that work. *Harvard Business Review*, 72(2), 150-161.

Bretherton, P. (2003). The rationale for strategic alliances: An empirical study. *Journal of Euro - Marketing*, 13(1), 73-93.

Bretherton, P., & Chaston, I. (2005). Resource dependency and SME strategy: an empirical study. *Journal of Small Business and Enterprise Development*, 12(2), 274-289.

Buckley, P. J., & Ghauri, P. N. (2004). Globalisation, economic geography and the strategy of multinational enterprises. *Journal of International Business Studies*, 35, 81-98.

Business practices (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/compliance/practices/>

Carmeli, A., & Tishler, A. (2006). The relative importance of the top management team's managerial skills. *International Journal of Manpower*, 27(1), 9-36.

Clarke, S. B., Cortada, J. W., & Fraser, H. E. (2004). Learning the biopartnering game: How to achieve more from your biotech alliance, *IBM Institute for Business Value* (pp. 1-21). Somers, NY: IBM Business Consulting Services.

Class, S. (2003). *Selling the crown jewels?* Norwalk, CT: IMS Global Consulting.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.

Collins, J. C., & Porras, J. I. (1996). Building your company's vision. *Harvard Business Review*, 74(5), 65-77.

Compliance and ethics (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/compliance/>

Deeds, D. L., & Rothaermel, F. T. (2003). Honeymoons and liabilities: The relationship between age and performance in R&D alliances. *Journal of Product Innovation Management*, 20(6), 468-484.

Dooley, K. J., & Zimmerman, B. J. (2003). Merger as marriage: Communication issues in postmerger integration. *Health Care Management Review*, 28(1), 55.

- Dyer, J. H., Kale, P., & Singh, H. (2004). When to ally & when to acquire. *Harvard Business Review*, 82(7,8), 108-115.
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *The Academy of Management Review*, 23(4), 660-679.
- Dyer, W. G., Dyer, W. G., Jr., & Dyer, J. H. (2007). *Team building: Proven strategies for improving team performance* (4th ed.). San Francisco: Jossey-Bass.
- Eden, C., & Huxham, C. (2001). The negotiation of purpose in multi-organizational collaborative groups. *The Journal of Management Studies*, 38(3), 373-391.
- Edwards, M. (2004). The new alliance currencies, *Signals: Recombinant Capital*.
- Eli Lilly and Company (2008). *The red book - Code of business conduct*. Indianapolis, IN: Eli Lilly and Company.
- Evnin, L., Ledbetter, A., & Zipkin, I. (2003). Biotechnology venture capital: Leveraging pharma's need for products. *Venture Capital Journal*, (May), 1.
- Ferrin, D. L., Bligh, M. C., & Kohles, J. C. (2007). Can I trust you to trust me? A theory of trust, monitoring, and cooperation in interpersonal and intergroup relationships. *Group & Organization Management*, 32(4), 465-499.
- Fraser, H. E., & Henderson, S. (2007). *A marriage of minds: Making biopharmaceutical collaborations work*. Somers, NY: IBM Global Business Services.
- Gottfredson, M., Puryear, R., & Phillips, S. (2005). Strategic sourcing: From periphery to the core. *Harvard Business Review*, 83(2), 132-139.
- Grant, R. M. (2002). *Contemporary strategy analysis: Concepts, techniques, applications* (4th ed.). Malden, MA: Blackwell Publishers.
- Gulati, R. (1998). Alliances and networks. *Strategic Management Journal*, 14(4), 293-317.
- Harrison, J. S., & St. John, C. H. (1994). *Strategic management of organization and stakeholders: Theory and cases*. St. Paul, MN: West Publishing.
- Hatch, N. W., & Dyer, J. H. (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal*, 25(12), 1155-1178.
- Heimeriks, K. H., & Duysters, G. (2007). Alliance capability as a mediator between experience and alliance performance: An empirical investigation into the alliance capability development process. *The Journal of Management Studies*, 44(1), 25-49.

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010.

Hill, C. W. L., & Jones, G. R. (1995). *Strategic management: An integrated approach* (3rd ed.). Boston: Houghton, Mifflin.

Holcomb, T. R., & Hitt, M. A. (2007). Toward a model of strategic outsourcing. *Journal of Operations Management*, 25(2), 464-481.

Hughes, J., & Weiss, J. (2007). Simple rules for making alliances work. *Harvard Business Review*, 85(11), 122-131.

Inkpen, A. C. (2001). Strategic alliances. In M. A. Hitt, R. E. Freeman & J. S. Harrison (Eds.), *The Blackwell Handbook of Strategic Management*. Oxford: Blackwell.

Ireland, R. D., Hitt, M. A., & Vaidyanath, D. (2002). Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), 413-446.

Javalgi, R. G., & Wright, R. F. (2003). An international market entry model for pharmaceutical companies: A conceptual framework for strategic decisions. *International Journal of Medical Marketing*, 3(4), 274.

Kale, P., Dyer, J. H., & Singh, H. (2001). Value creation and success in strategic alliances: Alliances skills and the role of alliance structure and systems. *European Management Journal*, 19(5), 463-471.

Kale, P., Dyer, J. H., & Singh, H. (2002). Alliance capability, stock market response, and long-term alliance success: The role of the alliance function. *Strategic Management Journal*, 23(8), 747-767.

Kale, P., & Singh, H. (2007). Building firm capabilities through learning: the role of the alliance learning process in alliance capability and firm-level alliance success. *Strategic Management Journal*, 28(10), 981-1000.

Kellermanns, F. W., Walter, J., Lechner, C., & Floyd, S. (2005). The lack of consensus about strategic consensus: Advancing theory and research. *Journal of Management*, 31(5), 719-737.

Klee, K. (2004). Lilly's prescription for growth. *Corporate Dealmaker*, 12-20.

Lam, M. D. (2004). Why alliances fail. *Pharmaceutical Executive*, 24, 56-66.

Makadok, R., & Barney, J. B. (2001). Strategic factor market intelligence: An application of information economics to strategy formulation and competitor intelligence. *Management Science*, 47(12), 1621-1638.

Mayer, K. J., & Teece, D. J. (2008). Unpacking strategic alliances: The structure and purpose of alliance versus supplier relationships. *Journal of Economic Behavior & Organization*, 66(1), 106-127.

McKenna, I. (2006). *Building an organizational capability and achieving competitive advantage through alliance management*. Paper presented at the Atlanta Competitive Advantage Conference.

Miller, A., & Dess, G. G. (1996). *Strategic management* (2nd ed.). New York: McGraw-Hill.

Miller, D. (2003). An asymmetry-based view of advantage: Towards an attainable sustainability. *Strategic Management Journal*, 24(10), 961-976.

Morash, E. A., & Clinton, S. R. (1998). Supply chain integration: Customer value through collaborative closeness versus operational excellence. *Journal of Marketing Theory and Practice*, 6(4), 104-120.

Nash, L. (1988). Mission statements--mirrors and windows. *Harvard Business Review*, 66(2), 155-156.

Neely, A., Adams, C., & Kennerley, M. (2002). *The performance prism: The scorecard for measuring and managing business success*. London: Financial Times Prentice Hall.

Neely, A., & Wilson, J. (1992). Measuring product goal congruence: An exploratory case study. *International Journal of Operations & Production Management*, 12(4), 45-52.

Ohmae, K. (1989). The global logic of strategic alliances. *Harvard Business Review*, 67(2), 143-154.

Partnering profiles (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/partnerships/profiles/>

Partnerships (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/partnerships/>

Pearce, J. A., II, & David, F. (1987). Corporate mission statements: The bottom line. *Academy of Management Executive*, 1(2), 109-116.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179-191.

Porter, M. E. (1980). *Competitive strategy*. New York: The Free Press.

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York: The Free Press.

Porter, M. E. (1996). What is strategy? *Harvard Business Review*, 74(6), 61-78.

- Porter, M. E. (2001). Strategy and the Internet. *Harvard Business Review*, 79(3), 62-78.
- Porter, M. E. (2004). Competition in global industries: A conceptual framework. In C. A. Rockoff, J. D. (2009, March 31). Eli Lilly is on hunt for acquisitions. *Wall Street Journal*, p. B1,
- Rote, W. E., & Ransom, M. O. (2004). *From the brink of extinction to one team with one voice and one goal: The Amylin / Lilly alliance*. Paper presented at the Institute for International Research.
- Rothaermel, F. T., Hitt, M. A., & Jobe, L. A. (2006). Balancing vertical integration and strategic outsourcing: Effects on product portfolio, product success, and firm performance. *Strategic Management Journal*, 27(11), 1033-1056.
- Saftlas, H. (2008). *Healthcare: Pharmaceuticals Industry Survey*. New York: Standard & Poor's.
- Sims, N., Harrison, R., & Gueth, A. (2001). Managing alliances at Lilly. *In vivo: The Business and Medicine Report*, 19, 1-6.
- Smith, A. (2006, April 4, 2006). Who stands to gain when Zoloft goes generic? *CNNMoney.com*, from <http://money.cnn.com/2006/04/04/news/companies/antidepressants/index.htm>
- Sourcing global innovation (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/partnerships/sourcing/>
- Spekman, R. E., Forbes, T. M., III, Isabella, L. A., & MacAvoy, T. C. (1998). Alliance management: A view from the past and a look to the future. *The Journal of Management Studies*, 35(6), 747-772.
- Stach, G. (2006). Business alliances at Eli Lilly: a successful innovation strategy. *Strategy & Leadership*, 34(5), 28-33.
- Steinhilber, S. (2008). *Strategic alliances: Three ways to make them work*. Boston: Harvard Business Press.
- Teece, D. J. (1992). Competition, cooperation, and innovation: Organizational arrangements for regimes of rapid technological progress. *Journal of Economic Behavior & Organization*, 18(1), 1-25.
- Tichy, N. M., & DeVanna, M. A. (1990). *The transformational leader* (2nd ed.). New York: Wiley.
- Trapp, R. (1999). Blunder boss. *The British Journal of Administrative Management*, 12.
- Twyman, R. (2004). Viagra. *The Human Genome* Retrieved January 10, 2009, from http://genome.wellcome.ac.uk/doc_WTD020941.html

Uniting our strengths (n.d.). Retrieved January 1, 2009, from <http://www.lilly.com/about/partnerships/strengths/>

Wahl, H. H., & Kogut, B. (2007). *Eli Lilly multi-drug resistant tuberculosis partnership* (No. 06/2007-5435): INSEAD.

Williamson, O. E. (1985). *The economic institutions of capitalism*. New York: Free Press.

Zhang, J., Baden-Fuller, C., & Mangematin, V. (2007). Technological knowledge base, R&D organization structure and alliance formation: Evidence from the biopharmaceutical industry. *Research Policy*, 36(4), 515-528.

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