Public-Private Partnership, Entrepreneurship Strategy, and Regional Economic Development: A Case Study

Julius H. Johnson, Jr., and Thomas F. George

Abstract

This exploratory study describes the entrepreneurship strategy and regional economic and value-added benefits of the public-private partnership of the University of Missouri-St. Louis (UMSL), the region's public research university, with Express Scripts, Inc. (ESI) from 2005 through 2013. We interviewed twenty-eight stakeholders in the partnership using grounded theory. The emergent themes and regional economic and value-added benefits of the partnership and the strategic management implications have helped clarify the potential and natural fit of the entrepreneurship strategy and economic development mission for an urban university. The partnership cuts across all areas: the strategy of relocating the ESI corporate headquarters to the UMSL campus; the ESI commercial real-estate development process elements, in which four buildings were built (two on campus and two next to campus); the student experience through internships and employment; the donor relationships, with gifts to UMSL reaching \$150 million; and the faculty relationships as measured through research and class projects. ESI has grown through strategic mergers and acquisitions during 2005–2013 to become the largest player in the pharmacy benefits manager industry with \$93.9 billion in 2012 revenue.

Introduction

Many scholars (Bonanni, Lépineux, and Roloff 2012; Dodgson and Staggs 2012; Etzkowitz 2003a; Goldstein, and Drucker 2006; Hoskisson et al. 2013; Lendel 2010; Lester 2005; Van Buren 2002; Tornatzky, Waugaman, and Gray 2002; Wood et al. 2002) have found that the participation of universities in entrepreneurship and economic development as part of their overall mission is value-added for the university. This has escalated the interest in understanding the impact of universities on the process of regional economic growth and development. Some have argued that universities do not have the competencies to be successful practitioners of economic development, and their involvement in these activities as part of their mission might compromise the integrity of the university (Cooper 2003).

Other researchers (Bonanni, Lépineux, and Roloff 2012; McWilliams and Siegel 2001; Rothaermel, Agung, and Jiang 2007; Tracy, Phillips and Haugh, 2005; Woods and Logsdon 2001) find that "the research stream on the entrepreneurial university views

entrepreneurial activity as a step in the natural evolution of a university system that emphasizes economic development in addition to the more traditional mandates of education and research." As a consequence, these researchers argue that "most of the articles in this research stream attempt to reveal organizational designs of universities that inhibit or enhance the commercialization of university inventions." Moreover, they go on to state, "Studies have revolved around incentive systems, university status, location, culture, intermediary agents, focus, experience, and defined role and identity." In addition to organizational design, other studies focus on the characteristics and roles of faculty and the nature of the technology to be commercialized.

Etzkowitz (2003b) argues, "While the above-mentioned factors comprise internal elements of an entrepreneurial university, scholars have also recognized that the process of university entrepreneurship is influenced by external factors." To be more specific, these are "most notably federal laws and policies like the Bayh-Dole Act in the United States (Jacob, Lundqvist, and Hellsmark 2003; Mowery et al. 2001), the surrounding industry (Gulbrandsen and Smeby 2005), and regional conditions" (Feldman and Desrochers 2003). These researchers go on to state, "In this stream, entrepreneurial activities are measured in various ways: existence of a formal program, cooperation agreements, research support, licensing, marketing activities, quality of commercial output (licenses, patents), involvement in research joint ventures, and existence of incubators and research parks."

Following this line of research, the first purpose of this article is to describe the foray of the University of Missouri-St. Louis (UMSL) into the realm of entrepreneurship and economic development, through an evolving public-private partnership with Express Scripts, Inc. (ESI), formerly a Fortune 100 company and now a Fortune 24 company, and one of America's leading managers of pharmacy benefit plans who manage prescription drug plans for employers and insurers and serve as 'middlemen' between the drug companies and the payers. ESI announced in 2005 that it would build their new corporate headquarters as the first tenant in the new Business, Technology, and Research Park on the campus of UMSL. The company also stated, "The location will promote collaboration between Express Scripts, one of the largest companies headquartered in St. Louis, and the region's largest university. Early opportunities for joint initiatives include health-economics research and information technology, key strengths for both organizations" (Express Scripts Press Release 2005). The company stated further, "Our expansion to UMSL aligns Express Scripts and our employees with the business research and civic resources that will help strengthen and grow our company. We envision a flourishing collaboration that will serve as a model for public-private initiatives throughout the United States."

A second purpose of this article is to understand the potentials of the relationship during the period 2005–2013 through a broader examination of universities and companies as anchor tenants and their ability to help promote regional economic development (Agrawal and Cockburn 2003; Goldstein and Drucker 2006; Lendel 2010). It is this broader understanding that this paper attempts to provide. Thus, the research question examined in this study is: What were the entrepreneurship strategies

and the regional economic and value-added benefits of the University of Missouri–St. Louis and Express Scripts public-private partnership?

The manuscript is organized as follows: First, we provide a review of the literature focusing on: (1) studies on the entrepreneurial university; (2) studies on research, business/science, and technology parks; (3) studies on public private partnerships; and (4) studies on regional economic development that have provided some theoretical foundations in our understanding of the important economic drivers of success for universities and their entrepreneurship strategy. Second, we describe our methodological approaches, followed by results and analysis. We then provide a discussion of the findings of this study, ending with conclusions that include a discussion of theoretical and policy implications, managerial relevance, limitations, and directions for future research.

Literature Review

Entrepreneurial University

Recent research (Dodgson and Staggs 2012; Rothaermel et al. 2007) finds that scholars in the entrepreneurial university research stream attempt to answer important questions such as: "Why are some universities more entrepreneurial than others?" (Coupe 2003; Etzkowitz 2003a; Feldman and Desrochers 2003; Jacob et al. 2003; Siegel et al. 2003). Other research has investigated: "What are the barriers to universities becoming more entrepreneurial?" (Schmiemann and Durvy 2003; Siegel et al. 2003). Some researchers have examined: "How can universities be more successful in entrepreneurial activities?" (Grandi and Grimaldi 2005; Powers and McDougall 2005). Others have considered: "How do entrepreneurial universities relate to entities outside the ivory tower?" (Gulbrandsen and Smeby 2005; Link and Scott 2005; Moray and Clarysse 2005). Moreover, Rothaermel et al. (2007) find that "many scholars are attempting to resolve the conflicts that arise as universities become more entrepreneurial" (Debackere and Veugelers 2005).

Rothaermel et al. (2007) also find that "entrepreneurial activities have the potential to affect the university system's mission and its traditional focus on academic governance of faculty." More to the point: "Some scholars suggest that a more entrepreneurial university drives more applied and problem-solving research, results in more secretive behaviors among faculty, aggravates the conflict between advancing knowledge and generating revenues, and thus interrupts or even threatens academic freedom" (Gulbrandsen and Smeby 2005; Louis et al. 2001).

"Scholars have also attempted to reconcile these opposing opinions by observing that the mission of universities today requires a balance of both traditional and entrepreneurial roles" (Etzkowitz et al. 2000) and suggested that "the two roles may actually complement and reinforce each other" (Siegel et al. 2003a). "Taken together, the line of research on university entrepreneurship can clearly benefit from a more holistic systems perspective across different levels of analysis, rather than its current

focus on distinct subsystems, which is a reflection of its fragmented and embryonic state" (Rothaermel et al. 2007). As a consequence, scholars have concluded that "entrepreneurship is a relatively young field (Cooper 2003); some argue that it is in its adolescence" (Low, 2001). Supporting these positions are arguments suggesting that entrepreneurship is a field (1) in which the search for a distinct theory of entrepreneurship continues (Phan 2004) and (2) that is characterized by low paradigmatic development (Ireland, Webb, and Combs 2005).

Research, Business/Science, and Technology Parks

Link and Scott (2011) argue, "Research, science, and technology parks are increasingly seen as a means to create dynamic clusters that accelerate economic growth through the transfer of knowledge and technology." These authors also find that "the term *research park* is more prevalent in Europe, and the term *technology park* is more prevalent in Asia." In this regard, these scholars report that many definitions of a park have been proffered, mostly by professional organizations.

These organizations include the Association of University Research Parks 1998; International Association of Science Parks 2005; United Kingdom Science Parks Association 2006; and United Nations Educational, Scientific and Cultural Organization 2006; and by "parks themselves as a way to define their activities," according to Link and Scott (2011). These researchers find that "common among these definitions is that a park is a type of public-private partnership that fosters knowledge flows—often between park firms and universities and among park firms—and contributes to regional economic growth and development."

Many scholars (Link and Scott 2011; Rothaermel et al. 2007) find that "studies on the academic literature on research parks attempt to answer questions pertaining to the nature of research parks and their impact." Some of the findings by Link and Scott (2003a, 2003b) include "an understanding of research parks as novel innovative environments." Other findings suggest that "the purpose of research parks are links of technology transfer through spin-offs, research collaborations, and informal points of accessibility to various resources, including human resources" (Siegel, Westhead, and Wright 2003). Other researchers (Lofsten and Lindelof 2002) find that "research on research parks also attempts to answer questions related to their impact on firm members as well as on academic missions of affiliated universities."

Stated another way, "Scholars studying the impact of research parks on member firms have not found convincing evidence that membership in research parks is effective in contributing to a firm's economic performance" (Lofsten and Lindelof 2002). Researchers also indicate "they have found differences in underlying factors that lead to higher economic performance, such as motivation of founders, cooperation, and networking opportunities with universities" (Lofsten and Lindelof 2005). "Unlike the numerous studies on member firms' performance, research on the impact of research parks on university missions is limited" (Rothaermel et al. 2007). Phan, Siegel, and Wright (2005) provide an insightful review of the literature on research parks and

incubators. These researchers find that "in addition to innovation networks and research parks, another aspect of the environmental context for entrepreneurial activities is a university's technology business incubator."

Public-Private Partnerships

"A public-private partnership, with reference to a park, is an infrastructure that leverages, formally or informally, the efficiency of innovation that takes place within park firms and, when present, within universities" argues (Link and Link 2009). These scholars also find that "the term *public* refers to any aspect of the innovation process that involves the use of governmental resources, be they federal or national, state, or local in origin." In addition, these researchers find that "the term *private* refers to any aspect of the innovation process that involves the use of private-sector resources, mostly firm-specific resources." And, they go on to state, "Resources are broadly defined to include all resources—financial, infrastructural, research, and the like—that affect the general environments in which innovation occurs." Finally, these researchers find that "the term *partnership* refers to any and all innovation-related relationships, including but not limited to formal and informal collaborations in R&D."

Mahoney, McGahan, and Pitelis (2009) find that "the search of value from both public policy and private interest perspectives is the central tenet behind almost any publicprivate engagement." Moreover, these researchers go on to argue that "the value sought in public-private interaction is conceived as the sum or entirety of benefits obtainable from the exchange regardless of whether it is the firm (i.e., private actor), the customer, or any other participant in the transaction who appropriates that value" (Amit and Zott 2001). "Yet, in contrast to purely corporate ties, it entails broader, widely spread public benefits and costs to the society at large" (Brinkerhoff and Brinkerhoff 2011; Rangan, Samii, and Van Wassenhove 2006). "This critical feature of public-private interactions implies the need for a clear distinction between the value-creation and appropriation processes." And as Lepak, Smith, and Taylor (2007) argue, "Value creation depends on both the amount of value realized by the target users and an exchange of a monetary amount of the value received." Kivleniece and Quelin (2012) conclude, "Public-private ties have a potential to create value when reliance on these hybrid mechanisms delivers new and appropriable benefits to society for which it directly (as consumers) or indirectly (as taxpayers) is able and prepared to pay." Furthermore, Bowman and Ambrosini (2000) and Priem (2007) find that "value capture, by contrast, does not precondition value creation per se, entailing instead a pursuit of appropriative and retentive actions as a function of individual preferences, interests, or objectives, and the relative power of various claimants in the relationship."

Regional Economic Development

Many studies have examined the relationship between universities and regional economic development. Some of the notable works include Lendel (2010) and Phan et al. (2005) who examined the impact of universities on local labor markets. Other studies (Gottlieb 2001; Link and Rees 1990) investigated university spillover effects on employment. The latter study was similar to Bania, Eberts, and Fogarty (1993), in

which the authors attempted to measure the commercialization possibilities of university basic research. All in all, these studies have produced mixed results as to their ability to promote regional economic development. In contrast, the findings of Poyago-Theotoky, Beath, and Siegel (2002), Adams (2001), and Adams, Chiang, and Starkey (2001) about the effect of the geographic proximity of university research on industrial research, along with several other studies (Cortwright and Meyer 2002), found that for most industries, activities that lead to innovation and growth take place within only a few regions nationally or globally.

These findings stimulated other work by Tornatzky, Wagaman, and Gray (2002), which concluded that universities can positively impact regional economic growth. This finding is supported in a recent study by Lester (2005), who argues that the importance of alignment of the university mission with the needs of the local economy is a paramount ingredient for success in initiatives by universities to promote regional economic development. Other studies (Agrawal and Cockburn 2003; Audretsch, Lehmann, and Warming 2004; Audretsch and Lehmann 2005) found that university regional economies vary markedly in their ability to convert local academic research into local innovation, and the presence of the university as an anchor tenant enhances and provides a stimulus to the regional innovation system. This finding is similar to recent studies by Lendel (2010) who found that the bundled nature of university products (people, programs, etc.) makes it impossible to separately assess the impact of universities on their regional economies. Other research by Link and Scott (2006, 2011) found that "university research parks are important as a mechanism for the transfer of academic research findings, as a source of knowledge spillovers, and as a catalyst for national and regional economic growth."

Summary

In this section, we have reviewed the sources for entrepreneurship, regional economic development, and value-added benefits implied by a range of theoretical perspectives in an industry-university partnership such as embodied by UMSL and ESI. Our literature review above has examined the following topics: the entrepreneurial university; research, business/science, technology parks; public-private partnerships; and regional economic development. For each of these perspectives, we have described the theoretical implications and limitations of an industry-university partnership. In the next section, using a grounded theory development approach, we begin the process of describing the main sources of entrepreneurship, value-added benefits, and regional economic development for the UMSL-ESI public-private partnership.

Methodology

Grounded Theory

A lack of prior theorizing about a topic makes the inductive case study approach an appropriate choice of methodology for developing theory (Eisenhardt 1989). In this regard, qualitative methods can be particularly effective in (1) providing insights that are difficult to obtain from quantitative methods, (2) understanding meanings in

human interactions in organizational settings, and (3) researching areas where there is little previous knowledge (Frankel, Naslund, and Bolumole 2005; Gephardt 2004; Naslund 2002; Stern 1980; and Strauss and Corbin 1998). We have used a specific form of qualitative research in this study, namely grounded theory, which is one of a number of powerful research traditions that include phenomenology, case studies, and narrative research (Creswell 2003; Glaser and Strauss 1967; Suddaby 2006). This is a research tradition relying heavily (although not exclusively) on in-depth interviews, observation, and document analysis which people and organizations use to address important problems they face. It is a systematic approach to qualitative research that facilitates theoretical abstraction from field data through a process of constant comparative analysis. Essentially, this process compares multiple concepts articulated by study participants. Stated another way, these concepts are captured within individual interview transcripts, and across transcripts. This constant comparison is orientated toward theoretical similarities and differences in order to develop higher-order concepts that help interpret and explain behavior (Gephardt 2004; Glaser 1978).

Research Strategy

For the purpose of this study, we define the entrepreneurial university as one that has the ability to generate a focused strategic direction both in formulating academic goals and in translating knowledge produced within the university into economic and social utility. Research universities are often believed to be one of the conditions for successful local economic development (Lendel 2010). This researcher goes on to argue ". . . institutional context and prior experiences with commercial activity influence interaction with industry and ultimately affect the ability of the university to impact its local environment and determine its role in the regional innovation system. The examination of a counterfactual case, where the local economy has not captured the benefits of proximity to a research university, illuminates the complexity of this process."

Our research design was based on multiple case histories, thereby allowing for replication logic (Yin 1989). That is, we treated a series of case histories as experiments. Each case history served to test the theoretical insights gained from the examination of previous cases, and to modify or refine them. This replication logic fosters the emergence of testable theory that is free of research bias (Eisenhardt 1989) and allows for a close correspondence between theory and data (Glaser and Strauss 1967). Such a grounding of the emerging theory in the data can provide a new prospective on a research topic (e.g., Hitt and Ireland 2000). However, it is especially useful in the early stages of research, when it is not clear yet to what extent the research question was informed by existing theories (for a recent example of such an inductive study, see Galunic and Eisenhardt 2001). Both motivations hold in the context of this study. Furthermore, using case histories is a good research strategy for examining "a contemporary phenomenon in its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin 1989). Such difficulty is present in this exploratory study.

Subjects

Table 1. Interviewees

The research for this study was conducted from 2005 to 2013 through 28 in-depth interviews with individuals who have been stakeholders in the public-private partnership between UMSL and ESI. Specifically, the subjects for this study were topmanagement executives for Express Scripts (chief executive officer, executive vice president, senior vice presidents, vice president, director, consultants in real estate, legal counsel, and a developer); officials for the University of Missouri System (president and director of Research Parks); officials at UMSL (university chancellor, vice chancellors, assistant to the provost, legal counsel, dean and associate dean, director and faculty); public officials; experts in commercial real estate development; economic development practitioners; senior legal partners; and other public affairs practitioners who were stakeholders and could provide perceptions, and describe challenges, benefits, and the managerial process by the partners which highlight the nature of the public-private partnership that was an intrinsic part of Express Scripts' decision regarding its relocation to the UMSL campus. Despite the obvious advantages of the interview technique, there are several problems inherent in the method. Since interview responses were based on reconstructed events, the case histories derived from the interviews may have differed from events as they actually occurred. No attempt was made to cross-validate case histories within the stakeholder organizations (see Table 1).

Table 1: Interviewees.
Express Scripts
Chairman and Chief Executive Officer
Executive Vice President and General Counsel
Senior Vice President, Chief Operating Officer, Operations and Technology
Senior Vice President, Marketing and Communications
Senior Vice President Corporate Development
Vice President, Corporate Real Estate Services
Director, Corporate Real Estate Services
Planner and Architect, Christner, Inc.
Real Estate Consultant, Grub/Ellis/Kronbach Partners
President, Opimus: A Sustainable Development Company
Legal Counsel, Husch & Eppenberger
University of Missouri–St. Louis
Chancellor
Vice Chancellor for Managerial and Technical Services

Vice Chancellor for Advancement

Special Assistant to the Provost for Public Affairs and Economic Development

Dean, College of Business of Administration

Associate Dean, Graduate Studies, College of Business Administration

Director, Campus Architect

Consultant for Real Estate and Economic Development

University Architectural Consultant

Legal Counsel, Thompson and Coburn, LLP

University of Missouri System

President, University of Missouri System

Director, Research Parks

St. Louis County Economic Development Council

President

Senior Vice President

St. Louis County Executive

President of Regional Commerce and Growth Association

Executive Director of Regional Business Council

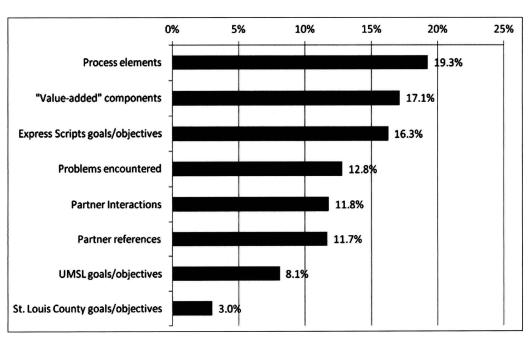
Data Collection

Through the interviewing process, we collected case histories from the subjects. These interviews were tape-recorded and professionally transcribed verbatim and analyzed. The interviews lasted between 30 minutes and 2 hours in length and were based on semistructured questions. The following four-step process was followed to collect data for the study as suggested by various researchers (Chakraborty, Sarker, and Sarker 2010; Mello and Flint 2009; Okamoto 2001; Suddaby 2006). First, questions were asked of the interviewees that drew out their experiences about the entrepreneurship strategy and regional economic and value-added benefits of the public-private partnership. Second, to build on the results of the constant comparative method of analyzing the transcripts, as themes began to appear in the data, the interviews were read again with an initial round of coding to establish a basic coding hierarchy. Third, a second round of coding verified or adjusted previously-assigned codes and updated the coding hierarchy by screening out duplicate or overlapping categories, as well as defining further codes that captured additional concepts overlooked in the first round of coding. Fourth, as a final check, we screened quotations (data segments) assigned to individual codes to ensure consistency, with further refinements to the coding for each quotation.

More to the point, we first reviewed question responses and analyzed all interview content in ATLAS.ti version 6.1. This package is a well-regarded computer-assisted qualitative data analysis software (CAQDAS) that automates coding of documents,

video, or web-based media with sizeable narrative content. As is true with other CAQDAS systems, ATLAS.ti supports the assignment of codes to segments of text that allude to, or specifically cite, topics that represent themes in the data. Furthermore, we drew upon Bryant and Charmaz (2007) and Suddaby (2006) for overall methodological procedures and guidance utilizing their underlying logic of the coding procedures, and adapting the procedures as necessary. These codes were subsequently sorted, compiled as frequencies, and manipulated graphically to portray how the data contributes to answering the research question for this study. Moreover, the final coding hierarchy comprised 141 codes. On completion of the content analysis, the first step in summarizing the data was to run frequencies of all topics mentioned, with a focus on: (1) the assets that each partner contributed; (2) the benefits the partners appeared to receive; (3) the challenges encountered; and (4) the development and partnership formation processes. In this regard, the most frequent interviewee remarks pertained to the "development process." This term refers to the steps involved in making the Express Scripts relocation a reality, with special emphasis on planning and the vision that directed it, along with more practical aspects, such as infrastructure development and site selection. It also encompasses partner negotiations and agreements leading to the growth of the partnership. In addition, interviewees repeatedly commented on the perceived benefits—both value-added and the positive elements that were the intended objectives. Statistics on a range of topic categories are shown in Table 2.





Results, Analysis, and Emergent Themes

Eisenhardt (1989) finds that "in inductive studies, data analysis is often hard to distinguish from data collection, since building theory that is grounded in the data is an iterative process in which the emergent frame is compared systematically with evidence from each case." In this section, we describe some of the more important concepts and categories (resources and capabilities of UMSL and ESI and benefits for North County and NorthPark, ESI benefits, state and local government benefits, resources and capabilities of multiple partners, benefits pertaining to multiple partners, beneficiaries, and challenges). These concepts and categories are appropriate for studying the entrepreneurship strategy and the regional economic and value-added benefits of the public-private partnership between the University of Missouri–St. Louis and Express Scripts that emerge as themes in coding of the interview data.

Note: NorthPark is a 550-acre retail and industrial space that offers mixed-use development with a blend of urban accessibility and suburban amenities. This endeavor is the only urban development project in St. Louis County located between two major highways and near the international airport and the University of Missouri–St. Louis, and served by Metro-Link (North Hanley station). NorthPark is governed by the Lambert Airport Eastern Perimeter Joint Development Commission. This is an 11-member body that has representation from the three municipalities (city of Kinloch, city of Ferguson, and city of Berkeley), the state of Missouri, the city of St. Louis, St. Louis County, and the University of Missouri System. In addition, the board also includes representatives from North County Inc., and Metropolitan Congregations United, and a representative from the business community at large, according to one interviewee.

University of Missouri-St. Louis

Interviewees placed great emphasis on the importance of the vision for the project. They gave much credit to the project originators' "entrepreneurship strategies" and their "strategic intent," or what they ultimately wanted to achieve that was sustained over a decade and, in some cases, even longer. Many interviewees had high praise for UMSL's approach to completing the deal with ESI. They emphasized the benefits of long-term planning—in particular, the development of a campus master plan which guided land acquisition beginning in the 1990s. They stressed that UMSL had used "best practices" in submitting its proposal to ESI, presenting what it had to offer and closing the deal. UMSL was engaged in the development of a research park when the Express Scripts opportunity arose, so much of the preliminary development, especially some of the land acquisition, already had been completed.

Another area of importance that many interviews stressed, which was crucial to the project's success, was St. Louis County's support for Interstate-70 improvements. While funding was eventually secured, these interviewees remarked on the effects of limited funding and their efforts to supplement funding from other sources. They also viewed the St. Louis County contribution to redevelopment of Geiger Road as a significant development and crucial to the project's success.

In a meeting with Express Scripts and the University of Missouri-St. Louis officials, the County Executive committed to provide financial support for building this essential access road in support of Express Script's decision to move its corporate headquarters to the Business, Technology, and Research Park on the campus of the University of Missouri–St. Louis.

In addition, according to the interviewees, the "Chancellor's Economic Development Committee" played an important role in planning and advising on how to handle unexpected developments. Throughout the process, the chancellor consulted with this committee, faculty, staff, and students (including the university assembly and faculty senate) and the president of the University of Missouri System in deciding whether and how to pursue the Express Scripts opportunity. Other presentations were made to the Board of Curators and Express Scripts management.

One interviewee stated, "If I had said that we're going to do this and didn't have support from the campus, I would say it would probably eventually fail, or have so much resistance for such a long period of time that it would be difficult to make the kind of progress that we wanted to make . . . shared governance will eventually lead to the best result. I have never actually gone through shared governance where something that was 'wrong' got approved by the process—it might be different than what I envisioned initially, but the most appropriate action will be taken."

Also crucial was the availability of skilled individuals familiar with commercial real estate developments and engineering-related aspects of infrastructure and transportation issues who were able to serve as consultants on the project. As a consequence, another significant phase of project implementation was the upgrade to infrastructure—in particular, the Interstate-70 exchange, but also electrical and technological improvements—that would accommodate both the ESI campus and NorthPark developments. Interviewees indicated that this ultimately positioned UMSL to strategically leverage infrastructure improvements on its boundary with Interstate-70, which would prove attractive to ESI in its relocation plans. A variety of agreements were negotiated and finalized as part of the project.

Comparable support was provided by legal teams who understood public policy and recognized its importance in relation to their client's needs. Two pieces of state legislation were crucial to the partnership. First was the enabling legislation (Real Estate Enabling Act 173) from the 1990s, which supported acquisition of land on which the Business, Technology, and Research Park could be established. Secondly, the Missouri Quality Jobs Act provided an important incentive for corporations to remain in Missouri. Creative financing—orchestrated by the developers—provided an additional incentive for structuring the real estate proposal with ESI. Project leadership expressed a willingness to treat the Express Scripts achievement as a regional success for which many share responsibility. In summary, the complete listing of the value-added benefits for the University of Missouri–St. Louis for the partnership, as described by the interviewees, is provided in Table 3.

Table 3: UMSL/ESI public-private partnership and regional economic development benefits (2005–2013).

- UMSL/ESI MBA program exclusively for senior managers and above: employees are nominated by their VPs to participate based on career goals, job grade, and performance. First cohort of 14 graduated in August 2010, second cohort of 17 graduated in 2011, and a third cohort of 25 graduated in 2013.
- 220 UMSL graduates are employed by Express Scripts.
- 140 graduates have been hired since Express Scripts located to the Business, Technology, and Research Park on the campus of UMSL.
- UMSL/ESI exploring mutually beneficial "IT Professor in Residence" to engage an
 external objective perspective to supplement project teams AND ability to compete.
 Opportunity for UMSL to witness first-hand examples of IT in motion in a Fortune
 24 company and the ability to combine theory with practice (IT class collaboration).
- UMSL/ESI development program in behavioral economics.
- UMSL/ESI information technology class projects collaboration.
- UMSL/ESI program with employees at Earth City at the community college level who then can transfer students to UMSL or other four-year institutions.
- Express Scripts Foundation: NorthPark and the region (\$4.5 million in contributions to UMSL—in recognition of this, UMSL's Computer Science Building was renamed "Express Scripts Hall"). The chairman and chief executive officer of Express Scripts was chairman of UMSL's successful \$154 million capital campaign.
- Express Scripts announced plans to build a \$50 million 315,000 square foot building, as the first tenant, in the Business, Technology, and Research Park on the campus of UMSL in 2005.
- Express Scripts announced plans to build a \$35 million 181,000 square-foot building (connected to the previous building mentioned above) in the Business, Technology, and Research Park on the campus of UMSL in 2007.
- Express Scripts announced plans to build a \$75 million 221,000 square foot building, the Technology and Innovation Center, in NorthPark in 2009, located just across Interstate-70 from the other two buildings on campus.
- Express Scripts announced plans in 2010 to build a \$50 million 227,000 square-foot office building in NorthPark.
- Express Scripts announced plans in 2013 to build a \$56 million 220,000 square foot office building in NorthPark.

Source: University of Missouri-St. Louis and Express Scripts.

Express Scripts

The UMSL-ESI public-private partnership established a model that may attract other companies interested in similar relationships. Many interviewees described the importance of Express Scripts "business level strategies" or "business model" and its strategic and structural alignment with what the organization wanted to achieve, with comparable strategies applied by UMSL to the public-private partnership. The shared corporate values of UMSL were aligned closely with ESI. For example, both organizations work diligently to deliver the very best 'product' (quality) at the lowest possible cost (affordability) to as broad a constituency as possible (access). One could argue that the alignment of ESI's values and mission and its "business model" helped in the decision by ESI to locate its corporate headquarters to UMSL as well as the subsequent development of the partnership.

One interviewee stated, "We wanted a 'business model' that would 'align our interest' and our 'shareholders' interest' with those of our 'patients' and 'clients.' . . . We decided to . . . take all the component pieces that we knew were the most expensive part of healthcare on the drug side which is 'branded products' . . . the least expensive were 'generics.' The idea was to take our profits and put it into the areas that save us the most money . . . generics that we mail . . . our highest profit item at Express Scripts is generics that we mail."

The strategic planning process on the part of ESI involved examination of site selection options both within the metropolitan region and out of state; careful release of information regarding the company's intention to move its headquarters; and weighting the benefits among its short list of sites. The ESI relocation process had multiple phases, with an element of competition at each phase. There were efforts to attract ESI away from Missouri to other states and from St. Louis to another part of the region and to other locations within St. Louis itself. There were other sites proposed by competing developers, and following the selection of the UMSL site, a final round of competition to choose a developer. (While UMSL was chosen as the site and primary partner with ESI, the developer with whom UMSL originally made the proposal to ESI then would have to compete separately against other developers due to the competitive dynamics of the process.)

Interviewees described another factor considered to have a significant influence on the project's success: the commitment of leadership. For both ESI and UMSL, commitment was sustained through a change of administrations—in UMSL's case, with a transition in chancellors and also in presidents of the University of Missouri System, and a change of chairman and chief executive officers at Express Scripts. To be more specific, the actual deal to relocate ESI's corporate headquarters to the UMSL campus was done with the CEO of ESI, the University of Missouri System president, and the UMSL chancellor. However, predecessors also helped set the stage.

Comparable to shared governance within the university, ESI had meetings that enabled managers to voice their opinions about relocation to the UMSL site. Interviewees also

stressed the benefits of the public-private partnership resulting from government incentives with legislation such as the Missouri Quality Jobs Act and other means of encouraging and helping business to grow. Once the site was selected, ESI worked with an architect to develop a "building design" that would both exemplify and support its corporate culture. Although the partnership was not involved in this aspect of the project, the architect ensured that the building met ESI needs, but at the same time could transition easily to one or more new tenants at some point in the future. The pinwheel design of the corporate headquarters building is a green building that supports Express Scripts corporate values, which stress community service, deemphasize traditional hierarchies between staff and management, and promote daily, routine, and informal communications among staff at all levels.

These "building design aspects," as discussed by many interviewees, are work environment improvements over the previous headquarters, specifically the capacity to house all staff required to work out of the headquarters office, as well as the characteristics of the new "building design" that support the corporate culture. The design of the headquarters at ESI, as described by several interviewees, is a three-level building with the office level at the top, and also the establishment of a collaboration center, which is located in the first wing for meetings. These three levels are connected by a center staircase that promotes informal meetings as people travel between levels. One interviewee stated, "We made offices so small that you really can't have a meeting in there. . . [It] forces you to walk through the hallways, walk down the stairwell . . . greet our employees and associates, talk to them. Everyone has the same office . . . no reserved parking for anyone. I do think that is a cultural statement."

While many partner representatives were conscious of various campus amenities that would be accessible to Express Scripts personnel, several people mentioned the simple fact of being on a university campus, which created a desirable environment for a corporate headquarters. Many interviewees indicated that the importance of the project's influence on Express Scripts' reputation and image through its association with an academic institution, the visibility of the UMSL site from Interstate-70, and transportation access were some of the considerations for Express Scripts in making the move to UMSL. This also included the availability of Metro-Link, where its convenient location would encourage Express Scripts staff to rely more on this mode of transportation to work rather than driving, thereby reducing the demand for parking. Receiving equal emphasis from interviewees was the proximity of interstate exchanges and Lambert International Airport, all within a few minutes' drive of UMSL-ESI.

Note: Metro-Link is the light rail transit system in the Greater St. Louis area of Missouri and Illinois. The entire system currently consists of two lines (Red line and Blue line) connecting Lambert-St. Louis International Airport and Shrewsbury, Missouri with Scott Air Force Base near Shiloh, Illinois through downtown St. Louis. The system has thirty-seven stations, two of which are located on the campus of the University of Missouri–St. Louis. One of these stations is near the headquarters buildings for Express Scripts.

Proximity to UMSL provides ESI contact with a diverse student body with a wide range of interests and backgrounds for recruitment into its workforce. In addition, several evolving educational options have been tailored for ESI staff, both locally and in other ESI locations not on campus. For example, there is the opportunity to obtain an associate degree from St. Louis Community College followed by a baccalaureate degree from UMSL, through a curriculum designed with ESI personnel in mind. As another example, there are university technological classroom projects that involve collaboration between UMSL faculty, students, and ESI personnel. In addition, ESI has designed programs to increase its utilization of human resources. Stated another way, ESI describes these activities as "pipeline development programs," which is a term that ESI uses to describe corporate efforts to develop a pool of junior managers (1) drawn from UMSL students and from other universities brought in as interns or (2) Express Scripts personnel who take advantage of UMSL's professional MBA program, which includes expanded tailored curriculum, coursework, and course offerings.

One interviewee stated, "The most important piece of our company, it's what every company is all about . . . is its people. When you think about that, and how you position yourself to always have the right people to take care of each generation as a company grows, prospers, and changes . . . I think at the end of the day, that's what this was all about. Moving here was making sure we put ourselves into a position where we had access to be influenced by a great university . . . a tremendous opportunity to get the right people to continue to grow Express Scripts and become a leader in both St. Louis and Missouri, and ultimately the United States and someday the world. So, that's where we're headed!"

The partnership is also working on the development of a new academic program in behavioral economics, funded through a gift from ESI. ESI's strategic approach to the development of human capital is part of their "community engagement" and "corporate citizenship" activities, which include providing opportunities for the local workforce for the communities where the new headquarters is located (Bonanni, Lépineux, and Roloff 2012; McWilliams and Siegel 2001; Tracy, Phillips, and Haugh 2005; Woods and Logsdon 2001).

The project has suggested areas where UMSL can develop a significant niche, such as behavioral economics, which is the study of psychology as it relates to the economic decision-making processes of individuals and institutions. Express Scripts finds that "nothing is more fundamental to optimizing healthcare and pharmacy benefits than an advanced understanding of human behavioral. Researchers around the world continue to amass endless data and important findings about the behavior of consumers and patients."

In addition, ESI lent assistance to UMSL's capital campaign through donations from the corporation and from its foundation, and assisting with contacts with other corporations (see Table 4). The philanthropic generosity to UMSL from the corporation, foundation, and CEO and his wife has reached nearly \$5 million to date.

The chairman and chief executive officer of Express Scripts chaired the successful \$154 million dollar capital campaign for the University of Missouri–St. Louis. One interviewee stated, "The chair of our capital campaign is a great promoter of the university . . . a great promoter of public education. If you think about how much has gotten done in the last few years in terms of our partnership . . . we have truly just begun."

Table 4: University of Missouri–St. Louis—Interviewee data for value-added benefits for the public-private partnership.

QUADRANT: UNIVERSITY OF MISSOURI-ST. LOUIS

FRAMEWORK POINT	DESCRIPTOR CATEGORY	EMPHASIS (# comments
	Includes the following references:	per descriptor)
PLANNING PROCESS	Business, Technology, and Research Park development	25
Advance and long- term planning	• Advance planning, strategic thinking of university planners, leadership, economic	
	development advocates	16
	• Long-term planning strategies	14
	• Campus Master Plan (consultant: Sazaki)	11
	• Potential for further public-private partnersh	ips 4
	Niche area in higher education [behavioral economics, consumerology]	3
INFRASTRUCTURE Infrastructure	• Strategic property acquisitions, eminent domain (3 houses)	14
development	• Partnership with Metro-Link to establish on or near 3 campus stations	14
	Partnership with MoDOT to realign I-70 and construct the new Interchange	d 11
	Partnership with Great Rivers Greenway District to construct University Place Drive	
	and other transportation projects	2

ECONOMIC	MISSION OF UNIVERSITY	
University of Missouri System / University of	Community service mission	9
	Economic development mission	6
	◆ North County economic development	34
Missouri-St. Louis economic development	◆ Anchor tenant [term used for ESI], economic driver	11
leadership role	◆ Capacity for further economic development	9
	◆ Partnership with surrounding communities to formulate, promote, and pursue a common vision for economic development	5
PUBLIC-PRIVATE PARTNERSHIP	Innovation in education, business, economic development	17
Benefits	• Philanthropic activities, assistance with capital campaign	15
	UMSL reputation, image	13
	Brownfield site: Grant funding awarded to finance cleanup	6
	Addition of new partners	5
	• Land lease term: 99-year ground lease (\$2.50 / sq. ft.) with developer (paid up front)	4

In summary, the complete listing of the value-added benefits for Express Scripts and for the partnerships, as described by the interviewees, is provided in Table 5 under three categories: "development of human capital," "public relations," and "infrastructure."

Table 5: Express Scripts—Interviewee data for the value-added benefits for the public-private partnership.

QUADRANT: EXPRESS SCRIPTS (ESI)

FRAMEWORK POINT	DESCRIPTOR CATEGORY Includes the following value-added benefits:	EMPHASIS (# comments per descriptor)
DEVELOPMENT OF HUMAN CAPITAL Access to education	• "Pipeline" development programs (internships for UMSL students / MBA program for Express Scripts' staff)	19
facilities and resources	Access to college-educated/more diverse workforce	16

	• Education resources tailored to Express Scripts' needs	13
	UMSL reputation, image (association fosters growth)	12
	Faculty course/project partnerships	9
	ESI/UMSL research projects	8
	Campus environment	7
Work environment	Corporate culture, values (use of building design to reinforce egalitarian ethic)	20
	Corporate Citizenship Statement	16
	• Pinwheel building design/LEED certified: fosters collaboration and interaction around a	
	central atrium	12
	Access to campus amenities and services	10
	 Access to regional bike trail network (bike/pedestrian) 	1
Top management	• Planning for the future (Phase II, NorthPark expansion)	19
	Corporate leadership: strategic direction set by CEO	17
	Leadership development	12
	RELOCATION PROCESS	
	• Leadership commitment: interest in UMSL site sustained through CEO transition	11
	Missouri Quality Jobs Act	8
	Shared decision-making	7
PUBLIC RELATIONS	• North County economic development, other economic development spinoffs	34
Perceptions of Express Scripts and St. Louis County	• ESI reputation, image enhanced by association with university	20
St. Louis County	High visibility for proposed LIMSL site	7

INFRASTRUCTURE Availability of built environment resulting	Access to regional transportation networks (Lambert Airport, Metro-Link, I-70)	17
from preliminary development	• Access to regional infrastructure (roads, utilities, fiber optics)	17

St. Louis County Economic Council and State of Missouri

Interviewees placed great emphasis on the importance of leadership in seeing the project through, despite changes in personnel. In the case of local government, there was a change in the county executive position. The previous county executive had initiated negotiations with North County municipalities regarding economic development. These efforts were continued by the current county executive. In this regard, interviewees pointed out that the presence of Express Scripts in North County as an "anchor tenant and economic driver" provides an impetus for future economic development that will attract additional business to the area. Some interviewees pointed out that this was equally true of UMSL. The project's potential for stimulating the North County economic development climate was a favorite theme among most interviewees. North County municipalities and unincorporated areas that are in the vicinity of the Express Scripts development were regarded as beneficiaries — especially with regard to available jobs—in the economic development process.

Economic development is an aspect of the project that potentially could affect the entire region and is part of Express Scripts' interest, or "community engagement mission" and "corporate citizenship statement," in providing benefits to the communities where the company is located. Other interviewees viewed the ESI relocation as an opportunity to bring business to a more centrally located area of the metropolitan region and take a step toward reducing sprawl. Some interviewees took into consideration the influence that ESI's relocation might have on the business community in St. Louis, both in North County and elsewhere.

One interviewee stated, "We believe that we could be part of an economic revitalization of a hard hit area . . . Good for us! Good for the community! Good for the state! Good for the school!"

In general, references to business opportunities were more focused on the potential for further partnerships. In this regard, ensuring that Express Scripts would remain in St. Louis County was one of the challenges faced in the course of the planning stages for the project. As stated earlier, interviewees pointed out that Express Scripts' presence in North County gives a focus for future economic development and should attract additional businesses to the area. Express Scripts' location changes the perception of the North County area adjacent to the university and casts the available housing stock in a different light.

Moreover, many interviewees pointed out that Express Scripts' decision to locate in North St. Louis County is the source of many benefits for state and local governments

that include: workforce development because its operations require higher skilled labor, increased revenue from business taxes, and increased population in the region. Although the partnership can point to its recent success, the groundwork for this has taken years in the form of evolving relationships between various public and private entities. For example, local government officials indicated that they had been engaged with Express Scripts on various levels long before the prospect of relocation of their headquarters operations arose.

Although fewer interviewees discussed the importance of interpersonal contacts, those who did stressed the role of long-term relationships between representatives of the various partners. In general, these relationships had a positive influence in promoting the forward movement of the project. Although less directly related to the nuts and bolts of the partnership and its activities, some interviewees stressed the role of communications in conveying the unique advantages of the partnerships, both at a local and national level. Other interviewees stressed that the beneficial environment for the UMSL-ESI public-private partnership resulted from government incentives and other means of encouraging and helping businesses to flourish.

In summary, the complete listing of the value-added benefits for the St. Louis County Economic Council and state of Missouri, as described by the interviewees, is listed in Table 6 under four categories: county economic growth, county contribution to the partnership, state economic development, and state contribution to the partnership.

Table 6: St. Louis County Economic Council and state of Missouri interviewee data for the value-added benefits for the public private partnership.

QUADRANT: ST. LOUIS COUNTY ECONOMIC COUNCIL

FRAMEWORK POINT	DESCRIPTOR CATEGORY Includes the following references:	EMPHASIS (# comments per descriptor)
COUNTY	North County economic development	37
ECONOMIC GROWTH Benefits for county	NorthPark Development: largest non-flood plain development site in the county	31
Deficites for country	North County infrastructure upgraded	25
	• North County anchor tenants (ESI, UMSL)	11
	Retention of corporate headquarters in St. Louis County	9
	Increased tax base	2

CONTRIBUTION TO PARTNERSHIP Partnership activities	 Awarding incentives 	14
	◆ North County infrastructure: arterial road (\$10 million)	25
	◆ Involvement in Missouri Quality Jobs Act passage	8
	◆ Tax abatement	2
	Transportation Development District: partnered with developers in creative financing of	
	infrastructure development	10
	Business friendly public policy	8
QUADRANT: STATE STATE ECONOMIC DEVELOPMENT Benefits for state	Retention of corporate headquarters in the state of Missouri	9
	. In an accord to a book	
	• Increased tax base	9
	Job creation	7
CONTRIBUTION TO		
PARTNERSHIP	Job creation	7
	Job creation Business-friendly public policy	7

Some of the regional economic development impact of ESI and the relocation of its corporate headquarters operations to the Business, Technology, and Research Park on UMSL's campus during the period of 2005–2013 are described in Table 6. This is further illustrated in a recent economic study by Lawrence and Qu (2010) using Express Scripts company data, which found that ESI generates about \$1 billion in economic benefits for Missouri each year. The authors of this study go on to state, "Some of the specifics of these expenditures include: \$902 million spending by the company, its suppliers and related parties; 3,858 jobs at the company, with an additional 2,048 created indirectly; \$59 million in new capital expenditures; and \$25.5 million in taxes." The authors state further that "Express Scripts will produce \$10.5 billion in economic benefits over the next decade for the St. Louis area and state of Missouri."

In a related development, the company reported Express Scripts announced in 2011 that it had entered into an agreement with Medco Health Solutions to merge their two companies. The merger combined the expertise of two complementary pharmacy benefit managers (PBMs) to accelerate efforts to lower cost and quality of prescription drugs and improve the quality of care for Americans. The combined company will lead

the effort to lower costs of prescription medicine for American families and provide benefits to businesses in a globally competitive marketplace."

"The cost of quality healthcare is a great concern to all Americans; this is the right deal at the right time for the right reasons," said George Paz, chairman and CEO of Express Scripts. "Companies like ours have a responsibility to provide the leadership and resources required to drive out waste in healthcare and provide the best care in the world. The merger with Medco will accelerate our efforts to create greater efficiencies in the healthcare system and better protect American families from the rising costs of prescription medicine while improving health outcomes. This continues Express Script's commitment to strong growth, both organically and through strategic mergers and acquisitions. The opportunity with Medco represents an attractive, strategic combination which will provide the opportunity to move forward with a wide array of tools and resources to accomplish our goals" (Express Scripts Press Release 2011). "The acquisition of Medco by Express Scripts [to combine] two pharmacy benefits managers, with \$93.9 billion in 2012 revenue, created the largest player in the [PBM] industry." Subsequently, according to the company 2012 Form 10-K filing, "the merger was completed on April 2, 2012, through the establishment of a new company renamed Express Scripts Holding Company (the "Company" or "Express Scripts")."

Discussion of Findings

First, the purpose of this exploratory article has been to describe the entrepreneurship strategy and regional economic and value-added benefits of the UMSL-ESI publicprivate partnership during 2005–2013, as a result of Express Scripts' decision to move its corporate headquarters to the Business, Technology, and Research Park on the campus of the University of Missouri-St. Louis in 2005. This is the only Fortune 24 company with its corporate headquarters on a college/university campus. Four new buildings have been built—two on the campus (which house the company's headquarters operations) and two in NorthPark just on the other side of Interstate-70 adjacent to campus, which house a high-volume prescription center and office facility, plus announced plans to build another building (Express Scripts Press Releases 2005, 2007, 2009, 2010, and 2013). In this study, we interviewed 28 stakeholders in the public-private partnership using grounded theory. The subjects for this study were topmanagement executives for Express Scripts; officials for the University of Missouri System; university officials and faculty at UMSL; public officials; experts in commercial real-estate development; economic development practitioners; senior legal partners; and public affairs practitioners who were stakeholders that could describe challenges and benefits of the public-private partnership, and the strategic planning "process elements" by the partners.

Second, although fewer stakeholders discussed the importance of interpersonal contacts, those who did stressed the unique long-term relationships between representatives of the various partners. In general, these relationships had a positive influence in promoting the forward movement of the project. The stakeholders most intimately involved in the project's earliest stages described the process that ESI went

through in selecting the UMSL site. To be more specific, the ESI relocation process had multiple phases, with an element of competition at each phase. There were efforts to woo ESI away from Missouri to other states and from St. Louis to another part of the region. There were competing sites proposed by competing developers, and following the selection of the UMSL site, a final round of competition to choose a developer. Another factor considered to have a significant influence on the project's success was the commitment of leadership. In the case of both ESI and UMSL, commitment was sustained through a change of administrations; in UMSL's case, with a transition in chancellors as well as system presidents. Although relocation took place under the present CEO, the previous CEO also had seen the potential of the UMSL location and was engaged in the first overtures regarding a partnership. Guided by an early interest in expansion and the campus master plan, UMSL initiated its effort to acquire land adjacent to the original country club site in the early 1990s.

Third, stakeholders argued that this ultimately positioned the campus strategically to leverage infrastructure improvements on its boundary with Interstate-70 that would prove attractive to ESI in its relocation plans. A variety of agreements were negotiated and finalized as part of the project. These included the county's contribution to redevelopment of Geiger Road (changed to University Place), and less directly related to the nuts and bolts of the partnership and its activities, some stakeholders stressed the role of communications in conveying the unique advantages of the partnership, both at a local and national level. According to these stakeholders, committees formed by the chancellors played an important role in planning and advising on how to handle unexpected developments. In addition, creative financing—orchestrated by the developers—provided an additional incentive for closing the deal.

To summarize this discussion, the partnerships cut across all areas: the ESI corporate headquarters relocation strategy; ESI commercial real-estate development process elements, where four buildings were built; the student experience through internships and employment; donor relationships; and faculty relationships as measured through research and class projects. Express Scripts/university projects that involve collaboration between UMSL faculty and students include an MBA program with a curriculum tailored to meet Express Scripts' needs. Several educational options have evolved for Express Scripts staff—both locally and in other locations—in order to obtain academic degrees or complete coursework. Proximity to UMSL provides Express Scripts with access to a student body with diverse backgrounds for recruitment into its workforce. In addition, the partnership has suggested another academic area where UMSL might develop a significant niche, namely, behavioral economics.

Conclusions

Theoretical Development and Policy Implications

In this paper, our analysis and theoretical development attempt to bridge the sources of entrepreneurship, regional economic development, and value-added benefits implied by a range of theoretical perspectives in the UMSL and Express Scripts industry-

university partnership. Our literature review has examined the following topics: the entrepreneurial university; research, business/science, and technology parks; publicprivate partnerships; and regional economic development. Some of the theoretical implications that follow are: (1) The missions of universities require a balance of traditional and entrepreneurial roles and suggest that the two roles complement each other. In this regard, entrepreneurship is a relatively young field in which the search for a distinct theory of entrepreneurship continues on this important and underresearched topic that is characterized by low paradigmatic development; (2) Research on research parks attempts to answer questions related to their impact on firm members as well as their missions and their ability to promote economic development through association with a research university; (3) A public-private partnership, with reference to a research park, is an infrastructure that leverages, formally or informally, the efficiency of innovation that takes place within park firms and, when present, within universities. Furthermore, the search of value from both public policy and private interest perspectives is the central tenet behind almost any public-private engagement; (4) The alignment of the university mission with the needs of the local economy is a paramount ingredient for success in initiatives by universities to promote economic development. Using a grounded theory development approach, we have observed that none of the theories itself could describe the main sources of entrepreneurship, value-added benefits, and regional economic development for the University of Missouri–St. Louis and Express Scripts public-private partnership.

The policy implications of the study confirm the natural fit of the entrepreneurship strategy and economic development mission for an urban university. In addition, other policy aspects of the project are: (1) It has affected the entire region and is part of Express Scripts' interest, or "community engagement mission" and "corporate citizenship statement" in providing benefits to the communities where the company is located; (2) The ESI relocation has been an opportunity to bring business to a more centrally located area of the metropolitan region, and take a step toward reducing sprawl; (3) It has suggested areas where UMSL might develop a significant niche in higher education by creating a multidisciplinary program focusing on behavior economics (often termed consumerology—the study of psychology as it relates to the economic decision-making processes of individuals and institutions); (4) ESI's relocation has influenced the business community in St. Louis, especially in North County, increasing the value of the housing stock; and (5) The University of Missouri-St. Louis and Express Scripts public-private partnership has established a model that could enhance the potential for future development of the Business, Technology, and Research Park at the university by attracting other companies interested in similar relationships.

Managerial Relevance

Many stakeholders had high praise for UMSL's approach to completing the deal with ESI. They emphasized the benefits of long-term planning, in particular, the development of a campus master plan, which guided land acquisition beginning in 1990s. They stressed that UMSL had used "best practices" in submitting its proposal to ESI, presenting what it had to offer and closing the deal. UMSL was favorably compared to other entities unfamiliar with commercial real estate development, which

demonstrated their lack of experience and eliminated their bids from consideration. Moreover, stakeholders also placed great emphasis on the importance of the project's vision and those that shared it. One significant area of implementation for the project's strategic intent was the upgrade to infrastructure—in particular, the Interstate-70 exchange, but also electrical and technological improvements that would accommodate both the ESI campus and NorthPark development.

Another factor considered to have significant influence on the project success was the commitment of leadership. For both ESI and UMSL, with a transition of UMSL chancellors as well as UM System presidents, although relocation took place under the present CEO, the previous CEO had also seen the potential of the UMSL location and was engaged in the first overtures regarding the partnership. Guided by an early interest in expansion and the campus master plan, UMSL initiated its effort to acquire land adjacent to the original country club site in the early 1990s. More to the point, the strategic management approaches of ESI and UMSL and value-added benefits of the public private partnership clarified the potential and natural fit of the entrepreneurship strategy and regional economic mission for an urban university. In addition, the shared values of the university and its business level strategies are structurally aligned with the public-private partnership.

Limitations and Future Research

It is important to note some potential limitations of this research, which was designed to be an exploratory study using grounded theory to examine twenty-eight in-depth interviewees who were stakeholders in the public-private partnership between UMSL and ESI. The emergent themes described in the study were generated inductively during the data analysis process. Moreover, despite the advantages of the interview techniques, there are inherent problems in the method because interview responses of the subjects in this study were based on reconstructed events, and the case histories derived from the interviews may have differed from events as they actually occurred. Despite the obvious advantages of the interview technique, there are several problems inherent in the method. Since interview responses were based on reconstructed events, the case histories derived from the interviews may have differed from events as they actually occurred. No attempt was made to cross-validate case histories within the stakeholder organizations. As a consequence, respondents did not share their opinions on each of the themes.

Further research might measure the relative importance of these issues by subjecting them to a direct test through a survey instrument or structured interviews. It is also important to mention that the data examined in this study represents one view of the phenomenon under investigation as to the entrepreneurship strategy and regional economic and value-added benefits of the UMSL-ESI public-private partnership. Future studies should also examine the viewpoints of other stakeholders and the importance of some of the "key success factors" and lessons learned from this study: (1) UMSL's approach to long-term planning and the development of a campus master plan that guided land acquisition began in the 1990s; (2) UMSL location; (3) commitment of leadership and shared visions for ESI and UMSL's; (4) alignment of ESI's and UMSL

values and mission; (5) funding support from St. Louis County for Interstate-70 improvements and contributions to the redevelopment of Geiger Road, now University Place; (6) availability of individuals with skills in commercial real estate development and engineering-related aspects of infrastructure and transportation issues, and legal teams who understood public policy serving as consultants for the project.

In summary, the purpose of this exploratory study is to describe the entrepreneurship strategy and regional economic and value-added benefits of the University of Missouri-St. Louis and Express Scripts, Inc. public-private partnership from 2005 through 2013. We interviewed 28 stakeholders in the partnership using grounded theory. The emergent themes and regional economic and value-added benefits of the partnership, and the strategic management implications have helped clarify the potential and natural fit of the entrepreneurship strategy and economic development mission for an urban university. The partnership cuts across all areas: the ESI corporate headquarters relocation strategy; the ESI commercial real-estate development process elements, where four buildings were built; the student experience through internships and employment; the donor relationships; and the faculty relationships as measured through research and class projects. ESI has grown through strategic mergers and acquisitions during 2005–2013 and is the largest player in the pharmacy benefits manager industry with \$93.9 billion in 2012 revenue. ESI generates about \$1 billion in economic benefits for Missouri each year and will produce \$10.5 billion in economic benefits over the next decade for the St. Louis area and Missouri as a whole.

References

Adams, J. D., E. P. Chiang, and K. Starkey. 2001. "Industry-University Cooperative Research Centers." *Journal of Technology Transfer*, 26: 73–86.

Adams, J. D. 2001. "Comparative Localization of Academic and Industrial Spillovers." NBER Working Paper No. 8292.

Agrawal, A., and I. Cockburn. 2003. "The Anchor Tenant Hypothesis: Exploring the Role of Large, Local, R&D-Intensive Firms in Regional Innovation Systems." *International Journal of Industrial Organization*, 21: 1227–1253.

Amit, R., and C. Zott. 2001. "Value Creation in e-Business." *Strategic Management Journal*, 22 (6/7): 493–520.

Audretsch, D. B., E. E. Lehmann, and S. Warming. 2004. "University Spillovers: Does This Kind of Knowledge Matter?" *Industry and Innovation*, 11 (3): 193–205.

Audretsch, D. B., and E. E. Lehmann. 2005. "Does the Knowledge Spillover Theory of Entrepreneurship Hold for Regions?" *Research Policy*, 34 (8): 1191–1202.

Audretsch, D., and M. Feldman. 1996. "R&D Spillovers and the Geography of Innovation and Production." *American Economic Review*, 86: 630–640.

Bania, N., R. Eberts, and M. Fogarty. 1993. "Universities and the Start-up of New Companies: Can We Generalize from Route 128 and Silicon Valley?" *Review of Economics and Statistics*, 75: 761–766.

Bonanni, C. F., F. Lépineux, and J. Roloff, eds. 2012. *Social Responsibility*, *Entrepreneurship and Common Good*. New York: Palgrave Macmillan.

Bowman, C., and V. Ambrosini. 2000. "Value Creation versus Value Capture: Towards a Coherent Definition of Value in Strategy." *British Journal of Management*, 11 (1): 1–15.

Brinkerhoff, D. W., and J. M. Brinkerhoff. 2011. "Public-Private Partnerships: Perspectives on Purposes, Publicness, and Good Governance." *Public Administration & Development*, 31 (1): 2–14.

Bryant, A., and K. Charmaz. 2007. "Grounded Theory in Historical Perspective: An Epistemological Account." In *The Sage Handbook of Grounded Theory*, edited by A. Bryant and K. Charmaz, 31–57. London: Sage.

Chakraborty, S., Saonee Sarker, and Suprateek Sarker. 2010. "An Exploration into the Process of Requirements Elicitation: A Grounded Approach." *Journal of the Association for Information Systems*, 11 (4): 212–249.

Cooper, A. C. 2003. "Entrepreneurship: The Past, the Present, the Future." In *Handbook of Entrepreneurship Research*, edited by Z. J. Acs and D. B. Audretsch, 21–34. London: Kluwer Academic Publishers.

Cortwright, J., and H. Meyer. 2002. Signs of Life: The Growth of Biotechnology Centers in the U.S. Washington, D.C.: Brookings Press.

Coupe, T. 2003. "Science Is Golden: Academic R&D and University Patents." *Journal of Technology Transfer*, 28 (1): 31–46.

Creswell, J. W. 2003. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 2nd ed. Thousand Oaks, CA: Sage Publications.

Debackere, K., and R. Veugelers. 2005. "The Role of Academic Technology Transfer Organizations in Improving Industry Science Links." *Research Policy*, 34 (3): 321–342.

Del Campo, A. A., A. Sparks, R. C. Hill, and R. T. Keller. 1999. "The Transfer and Commercialization of University-Developed Medical Imaging Technology: Opportunities and Problems." *IEEE Transactions on Engineering Management*. 46 (3): 289–299.

Dodgson, M., and J. Staggs. 2012. "Government Policy, University Strategy and the Academic Entrepreneur: The Case of Queensland's Smart State Institutes." *Cambridge Journal of Economics*, 36 (3): 567–585.

Eisenhardt, K. M. 1989. "Building Theories from Case Study Research." *Academy of Management Review*, 14: 532–550.

Etzkowitz, H. 2003a. "Research Groups as 'Quasi-Firms': The Invention of the Entrepreneurial University." *Research Policy*, 32 (1): 109–121.

———. 2003b. "Innovation in Innovation: The Triple Helix of University-Industry-Government Relations." *Social Science Information*, 42: 293–337.

Express Scripts Holding Company. 2012. Form 10-K.

Express Scripts Press Release. 2005. "Express Scripts to Build New Headquarters at University of Missouri–St. Louis."

Express Scripts Press Release. 2007. "Express Scripts to Expand at the University of Missouri–St. Louis."

Express Scripts Press Release. 2009. "Express Scripts Building New Center, Adds 270 Jobs."

Express Scripts Press Release. 2010. "Express Scripts Announces Plan to Build Fourth Building at Headquarters Campus."

Express Scripts Press Release. 2011. "Express Scripts and Medco Solutions Sign Definitive Merger Agreement; Medco Shareholders to Receive \$29.1 Billion."

Express Scripts Press Release. 2013. "Express Scripts Announced Plans to Build a \$56 Million 220,000 Square Foot Office Building in NorthPark."

Feldman, M., and P. Desrochers. 2003. "Research Universities and Local Economic Development: Lessons from the History of Johns Hopkins University." *Industry and Innovation*. 10 (1): 5–24.

Frankel, R. D., D. Naslund, and Y. Boumole. 2005. "The White Space of Logistics Research: A Look at the Role of Methods Usage." *Journal of Business Logistics*, 21 (2): 131–131.

Galunic, C., and K. M. Eisenhardt. 2001. "Architectural Innovation and Modular Corporate Forms." *Academy of Management Journal*. 6: 1229–1249.

Gephardt, R. P. 2004. "Qualitative Research and the Academy of Management Journal." *Academy of Management Review.* 47 (4): 545–462.

Glaser, B. G. 1978. Theoretical Sensitivity. Mill Valley, CA: The Sociology Press.

Glaser, B. G., and A. Strauss. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine De Gruyter.

Glodstein, H., and J. Drucker. 2006. "The Economic Development Impacts of Universities on Regions: Do Size and Distance Matter?" *Economic Development Quarterly*, 20: 22–43.

Grandi, A. and R. Grimaldi. 2005. "Academics' Organizational Characteristics and the Generation of Successful Business Ideas." *Journal of Business Venturing*, 20 (6): 821–845.

Gulbrandsen, M., and J. C. Smeby. 2005. "Industry Funding and University Professors' Research Performance." *Research Policy*. 34 (6): 932–950.

Hall, B. H., A. N. Link, and J. T. Scott. 2001. "Barriers Inhibiting Industry from Partnering with Universities: Evidence from the Advanced Technology Program." *Journal of Technology Transfer*, 26 (1–2): 87.

Hoskisson, R. E., M. A. Hitt, R. D. Ireland, and J. S. Harrison. 2013. *Competing for Advantage*. 3rd ed. New York. South-Western Cengage Learning.

Hitt, M. A., and R. D. Ireland. 2000. "The Intersection of Entrepreneurship and Strategy Management Research." In *The Blackwell Handbook of Entrepreneurship*, edited by D. L. Sexton and H. Landstrom, 45–63. Wiley-Blackwell.

Ireland, R. D., J. W. Webb, and J. E. Combs. 2005. "Theory and Methodology in Entrepreneurship Research." In *Research Methodology in Strategy and Management*, edited by D. Ketchen and D. D. Bergh, 2: 1–32.

Jacob, M., M. Lundqvist, and H. Hellsmark. 2003. "Entrepreneurial Transformations in the Swedish University System: The Case of Chalmers University of Technology." *Research Policy*, 32 (9): 1555–1568.

Kivleniece, I., and B. V. Quelin. 2012. "Creating and Capturing Value in Public-Private Ties." *Academy of Management Review*, 37 (2): 272–299.

Laukkanen, M. 2003. "Exploring Academic Entrepreneurship: Drivers and Tensions of University-Based Business." *Journal of Small Business and Enterprise Development*, 10 (4): 372–382.

Lawrence, E. L., and J. O. Qu. 2010. *Economic Impact Study: Express Scripts Contributions to St. Louis and Missouri*. University of Missouri–St. Louis.

- Lepak, D. P., K. G. Smith, and M. S. Taylor. 2007. "Value Creation and Value Capture: A Multilevel Perspective." *Academy of Management Review*, 32 (1): 180–194.
- Lendel, I. V. 2010. "The Impact of Research Universities on Regional Economies: The Concept of University Products." *Economic Development Quarterly*. 24 (3): 210–230.
- Lester, R. 2005. "Universities, Innovation, and the Competitiveness of Local Economies: Summary Report from the Local Innovation Project (MIT-IPC-05-010)." Cambridge: MIT Industrial Performance Center.
- Link, A. N., and J. R. Link. 2009. *Government as Entrepreneur*. New York: Oxford University Press.
- Link, A. N., and J. T. Scott. 2003a. "The Growth of Research Triangle Park." *Small Business Economics*, 20 (2): 167–75.
- ———. 2003b. "U.S. Science Parks: The Diffusion of an Innovation and Its Effects on the Academic Mission of Universities." *International Journal of Industrial Organization*, 21 (9): 1323–356.
- Link, A. N., and J. T. Scott. 2005. "Universities as Partners in U.S. Research Joint Ventures." *Research Policy*. 34 (3): 385–393.
- Link, A. N., and J. T. Scott. 2006. "U. S. University Research Parks." *Journal of Productivity Analysis*, 25 (1): 43–55.
- Link, A. N., and J. T. Scott. 2011. "Research, Science, and Technology Parks: Vehicles for Technology Transfer." Working Papers from University of North Carolina at Greensboro, Department of Economics: Nos. 11–12.
- Lofsten, H., and P. Lindelof. 2002. "Science Parks and the Growth of New Technology-Based Firms—Academic—Industry Links, Innovation and Markets." *Research Policy*, 31 (6): 859.
- Lofsten, H., and P. Lindelof. 2005. "R&D Networks and Product Innovation Patterns—Academic and Non-Academic New Technology-Based Firms on Science Parks." *Technovation*. 25 (9): 1025–1037.
- Low, M. B. 2001. "The Adolescence of Entrepreneurship Research: Specification of Purpose." *Entrepreneurship Theory and Practice*, 26 (4): 17–25.
- Mahoney, J. T., A. M. McGahan, and C. N. Pitelis. 2009. "The Interdependence of Private and Public Interests." *Organization Science*, 20 (6): 1034–1052.
- McWilliams, A., and D. Seigel. 2001. "Corporate Social Responsibility: A Theory of the Firm Perspective." *Academy of Management Review*, 26 (1): 117–127.

Mello, J., and D. J. Flint. 2009. A Refined View of Grounded Theory and Its Application to Logistic Research. *Journal of Business Logistics*, 30 (1): 107–122.

Moray, N., and B. Clarysse. 2005. "Institutional Change and Resource Endowments to Science-Based Entrepreneurial Firms." *Research Policy*, 34 (7): 1010–1027.

Mowery, D. C., R. R. Nelson, B. N. Sampat, and A. Ziedonis. 2001. "The Growth of Patenting and Licensing by the U.S. Universities: An Assessment of the Effects of the Bayh-Dole Act of 1980." *Research Policy*, 30 (1): 99–119.

Naslund, D. 2002. "Logistics Needs Qualitative Research—Especially Action Research." *International Journal of Physical Distribution and Logistics Management*, 32 (5): 321–338.

Nelson, R. R. 2001. "Observations on the Post-Bayh-Dole Rise of Patenting at American Universities." *Journal of Technology Transfer*, 26 (1–2): 13.

Okamoto, S. K. 2001. "Interagency Collaboration with High-Risk Gang Youth." *Child and Adolescent Social Work Journal*, 128 (1): 5–19.

Phan, P. H. 2004. "Entrepreneurship Theory: Possibilities and Future Directions." *Journal of Business Venturing*, 19: 617–620.

Phan, P. H., D. S. Siegel, and M. Wright. 2005. "Science Parks and Incubators: Observations, Synthesis and Future Research." *Journal of Business Venturing*, 20 (2): 165–182.

Powers, J. B., and P. P. McDougall. 2005. "Policy Orientation Effects on Performance with Licensing to Start-ups and Small Companies." *Research Policy*, 34 (7): 1028–1042.

Poyago-Theotoky, J., J. Beath, and D. Siegel. 2002. "Universities and Fundamental Research: Reflections on the Growth of University-Industry Partnerships." *Oxford Review of Economic Policy*, 18 (1): 10–21.

Priem, R. L. 2007. "A Consumer Perspective on Value Creation." *Academy of Management Review*, 32 (1): 219–235.

Rangan, S., R. Samii, and L. N. Van Wassenhove. 2006. "Constructive Partnerships: When Alliances between Private Firms and Public Actors Can Enable Creative Strategies." *Academy of Management Review*, 31 (3): 738–751.

Rosenberg, N., and R. R. Nelson. 1994. "American Universities and Technical Advance in Industry." *Research Policy*, 23 (3): 323–348.

Rothaermel, F. T., S. D. Agung, and L. Jiang. 2007. "University Entrepreneurship: A Taxonomy of the Literature." *Industrial and Corporate Change Advance Access*, 1–101.

Rothaermel, F. T., and M. C. Thursby. 2005. "Incubator Firm Failure or Graduation? The Role of University Linkages." *Research Policy*, 34 (7): 1076–1090.

Schmiemann, M., and J.N. Durvy. 2003. "New Approaches to Technology Transfer from Publicly Funded Research." *Journal of Technology Transfer*, 28 (1): 9.

Scott, J. 2000. Social Network Analysis: Methods and Applications. Sage: London.

Siegel, D. S., D. A. Waldman, L. E. Atwater, and A. N. Link. 2003. "Commercial Knowledge Transfers from Universities to Firms: Improving the Effectiveness of University-Industry Collaboration." *Journal of High Technology Management Research*, 14 (1): 111–133.

Siegel, D. S., P. Westhead, and M. Wright. 2003. "Assessing the Impact of University Science Parks on Research Productivity: Exploratory Firm-Level Evidence from the United Kingdom." *International Journal of Industrial Organization*, 21 (9):1357–1369.

State of Missouri County Reporting (St. Louis County), December 2, 2008.

Stern, P. N. 1980. "Grounded Theory Methodology: Its Uses and Processes." *Image*, 12 (1): 20–23.

Strauss, A., and J. Corbin. 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: Sage Publications, Inc.

Suddaby, R. 2006. "What Grounded Theory Is Not." *Academy of Management Journal*, 49 (4): 633–642

Tornatzky, L., P. Waugaman, and D. Gray. 2002. *Innovation U.: New University Roles in a Knowledge Economy*. Research Triangle Park, N.C.: Southern Growth Policies Board, Southern Technology Council.

Tracy, P., N. Phillips, and H. Haugh. 2005. "Beyond Philanthropy: Community Enterprise as a Basis for Corporate Citizenship." *Journal of Business Ethics*, 58 (4): 327–344.

Wood, D. J., K. S. Davenport, L. C. Blockson, and J. H. Van Buren, III. 2002. "Corporate Involvement in Community Economic Development: The Role of U.S. Business Education." *Business and Society*, 41 (2): 208–241.

Wood, D. J., and J. M. Logsdon. 2001. "Theorizing Business Citizenship." In *Perspectives on Corporate Citizenship*, edited by J. Andriof and M. McIntosh, 83–103. London: Greenleaf.

Yin, R. 1989. Case Study Research: Design and Methods. Newbury Park, CA: Sage.

Author Information

Julius H. Johnson, Jr., is associate professor of strategic management and international business at the University of Missouri–St. Louis.

Thomas F. George is chancellor and professor of chemistry and physics.

Julius H. Johnson, Jr.
College of Business Administration
University of Missouri–St. Louis
St. Louis, MO 63121
E-mail: Johnson@umsl.edu

E-mail: Johnson@umsl.edu Telephone: 314-516-5309

Thomas F. George
Office of the Chancellor
University of Missouri–St. Louis
St. Louis, MO 63121

E-mail: TFGeorge@umsl.edu Telephone: 314-516-5252