A New Mission for Business Schools: The Development of Actor-Network Leaders

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ABSTRACT. The lesson of actor-network theory is that to effect desired change, leaders must understand their place in the network and deploy strategies that forge new relationships and strengthen existing connections between individuals, groups, and other entities—both human and nonhuman. In this article, the authors use the Roy H. Park Leadership Fellows Program in the Johnson School of Management at Cornell University as a case study to demonstrate leadership as both an effect and cause of network change. They conclude with a new mission for leaders and business schools.

The idea that leaders work within social networks and are influenced by those networks is not new. Bass (1990) cited numerous studies examining various aspects of network contexts and leadership. As he put it: "Leadership depends on interaction. Interaction depends on physical proximity, social and organizational propinquity, and networks of open channels of communication. And so, not surprisingly, the emergence and success of leadership depend on such physical and social arrangements. Such arrangements may also be possible substitutes for leadership" (p. 658). He went on to note that networks are important both to transactional and transformational leaders. Leaders build and foster social networks with employees, peers, and customers. In turn, networks enable leaders to get their work done, transact with customers, transfer knowledge, innovate, and create value.

The importance of social networks to leadership is emphasized in the McKinsey Leadership Research Project, "Leadership in the Context of Emerging Worlds: Illuminating the Blind Spot" (Arthur et al., 2000). In this ongoing research project, prominent thought leaders from academe and business share their insights on the challenges facing leaders. They note that the "value constellation" of business in today's

world is embedded in and generated through dynamic "web-shaped patterns of relationships," and that the task of leaders is to recognize those patterns and to position themselves within this "generative domain of relationships" to reshape the world. They indicate that the blind spot for most leaders is "in not seeing or understanding the full process of social reality formation" in terms of how experience is cognized, accessed, and translated into knowledge and action at the tacit, behavioral, relational, and system levels (p. 6). They argue for a new methodology—a "distributed leadership phenomenology" that will enable leaders to describe and access relevant experience as it emerges from the tacit and social levels for leadership and strategy development. They instruct leaders to analyze the shared context in

which they find themselves, learn how to recognize emerging relationships and patterns of behavior, and work collectively with others to cogenerate ideas, solutions, and actions for maximizing business performance.

The findings of that study are supported by extensive research indicating that networks and their attendant product of social capital are strongly related to business performance. For example, it has been found that social capital facilitates the flow of information and knowledge; improves relationships, teamwork, and coordination of work; increases individual commitment and flexibility; creates normative integration and promotes shared culture; enhances innovation and organizational agility; increases efficiency and reduces transaction costs; and improves economic performance and the likelihood of organizational success (Adler & Kwan, 2002; Bolino, Turnley, & Bloodgood, 2002; Kostova & Roth, 2003; Nhapiet & Ghoshal, 1998). Additional studies on globalization (Castells, 1996) and multinational corporations (Nohria & Ghoshal, 1997), as well as company-based networks (Charan, 1991; Cohen & Prusak, 2001), also point to the network and social capital as essential in understanding and explaining leadership and business performance.

In this article, we present a contextual view of leadership and leadership

development through the lens of actor-network theory. It is our contention that the actor-network view of leadership provides a more salient and balanced explanation of how leadership actually works in today's business world than reductionist, trait-based, and competency theories do.

Leadership and Actor-Network Theory

While at the École des Mines in Paris, Michel Callon (1991) and Bruno Latour (1992) conducted a number of ethnographic studies that are generally credited with popularizing actor-network theory (ANT). They made case studies of three attempts in France to formulate new science policy regarding an electric car to be made publicly available, a telephone to become integrated into a global computer system, and a proposed computer-driven public transportation system in Paris. The failure to implement science policy in each case was attributed to a top-down approach in which policy leaders (a) did not build adequate support for the change by taking into account the interests and needs of key stakeholders and (b) did not resolve disputes with those who opposed the policies. Latour and Callon's conclusion was that a common conception of social reality could not be forged to support successful policy implementation without strategic alliances and support from an encompassing network of intermediaries.

Latour and Callon argued that successful change requires a common conception, an encompassing support network, and the resolution of disputes through compromises. These leadership activities are embodied in the following definition and description of actor-network theory:

> Actor-network theory is a progressive constitution of a network in which both human and non-human actors assume identities according to prevailing strategies of interaction. Actors' identities and qualities are defined during negotiations between representatives of human and non-human actants. The most important of these negotiations is "translation," a multi-faceted interaction in which actors (1) construct common definitions and meanings, (2) define representatives, and (3) co-opt each other in the pursuit of individual and collective objectives. In the actor-network theory, both actors and actants (non-human entities, e.g., computers, software, data, reports, knowledge, cell phones, offices, etc.) share the scene in the reconstruction of the network of interactions leading to the stabilization of the system. (Bardini, 1997, n. 4)

From a leadership standpoint, actor-network theory suggests two important and seemingly conflicting perspectives. The first perspective is that all actors are also networks in and of themselves. They are not simply persons or bodies but also a body-network—a pattern of heterogeneous relations, or an effect produced by such relations. The meaning of actor-network is that an actor is always a network defined by the order of materials and the patterning of relationships. According to this perspective, leadership, knowledge, power, and even organizations are social products or effects of a heterogeneous network or context that surrounds them. This context includes other people, financial resources, facilities, equipment, technology, space, location, and many other entities.

These entities are competing with other entities for dominance within the network. The patterns that emerge from the struggle define the network, be it a leader, organization, or other phenomenon, and determine its capabilities and options. As Law (1992, p. 4) put it:

> The actor-network theory assumes that social structure is not a noun but a verb. Structure is not free standing, like scaffolding on a building-site, but a site of struggle, a relational effect that recursively generates and reproduces itself. . . . It is the result of a struggle with like networks in which one pattern overcomes another through a process of "heterogeneous engineering" in which bits and pieces from the social, the technical, the conceptual and the textual are fitted together, and so converted (or "translated") into a set of equally heterogeneous (scientific) projects.

To devise strategies for influencing the network, a leader may ask some of the following questions: What ideas, innovations, objects, facilities, and resources can be created or mobilized and juxtaposed within the network to achieve desired results? How can ideas and material objects needed for patterning of social relations within the network be communicated? How are decisions translated into actions within the network? What relationships need to be established, realigned, repaired? How does a leader lead effectively within this network? The answers to these questions represent key strategies that a leader can use to influence networks (see Table 1).

TABLE 1. Strategies in Actor-Network Theory (Law, 1992)

Strategy 1. Because some materials are more durable than others and so maintain their relational patterns longer, one strategy is to embody or inscribe a set of relations in durable materials (e.g., inscription of thoughts into books).

Strategy 2. Durability is ordering through time; mobility is ordering through space. Through materials and processes of communication—writing, electronic communication, methods of representation—we can find translations that create the possibility of transmitting relational effects.

Strategy 3. Translation is more effective if it anticipates the responses and reactions of the material to be translated. This is the functionalism of business: to find or create centers of translation to generate these effects or dissolve resistances. Translation also involves the capacity to foresee outcomes and appropriate relational circumstances that have important "calculational" consequences that increase network robustness.

Strategy 4. A series of discourses that ramify through and reproduce themselves in a range of network instances or locations, such as enterprise administration, vocation, or vision, and generate complex configurations of network durability, spatial mobility, systems of representation, and calculability. These configurations have the capability of generating center asymmetries and hierarchies characteristic of formal organizations: media propaganda, artificial intelligence systems, enterprise computing systems, etc.

The tension between the leader as an effect of the network and the leader as shaper of the network plays out in a variety of ways. Principally, the network sets the parameters and provides the materials—other actors, resources, power, and so on—that the leader may use to shape and align the network to his or her vision or conception of reality.

An Example of Using Actor-Networks to Create Leadership Models

The Roy H. Park Leadership Fellows Program in the Johnson School at Cornell University offers a good example of how actor networks contributed to the creation of the program and of how a leadership development program can foster actor-network leadership competencies. The Park Program is a fellowship of full tuition plus stipend that is offered to up to 30 students per class. It is funded by the Triad Foundation as a renewable grant in honor of the late Roy H. Park, Sr., a local entrepreneur. The purposes of the grant are to attract high-caliber students and create a niche in leadership education for the Johnson School. Since its inception in 1997, the program rapidly has gained a reputation as a unique and powerful leadership development experience in management graduate education. The Park Program increasingly has attracted students from other top-five schools, and the resulting leadership curriculum, which is now available to all students in the school, was recognized as the most robust leadership training experience at a top-20 business school in a 2001 benchmarking study by Kellogg students.

The original grant leading to the creation of the Park Program and a leadership curriculum at the Johnson School was the result of an intricate *confluence of mutual interests of actor networks, both external and internal to school.* Three key, external network relationships helped shaped the context for the important role the program was to play in the future of the school. First, the founding grant was based on the wishes of Roy H. Park, Sr., who had developed relationships with past deans, and whose son, Roy H. Park, Jr., had attended the Johnson School. Second, the

grant was followed closely by the school's move into a new facility that was funded largely by a $20 million gift from Sam Johnson, whose family had a long relationship with Cornell and the Johnson School. Finally, Jeffrey Parker, a graduate of the school, created the Parker Center, a state-of-the-art investment research center, with a $2 million gift. The combination of the Parker Center, the new facility, and the Park Leadership Fellows Program led to the school's dramatic rise from 18th to 8th place in the *Business Week* rankings in 1998 and helped increase greatly the attractiveness of both the school and the Park Program.

Similarly, the selection of the leadership theme for the Park Program *was also the result of the evolving interests of a small but important network of actors internal to the system.* This key group emerged in the late 1980s and early 1990s as a result of their participation in what is now known as the Adirondack Experience, a 6-day Outward Bound type of leadership program, initiated in 1987. A number of administrators and faculty participated in this program over the years and kindled an interest in creating more leadership development experiences for students. This group included the acting dean at the time of the original grant award, Thomas Dyckman, Associate Dean John Elliott, chaired professor J. Edward Russo, and program director C. Clinton Sidle, who was later recruited to return to the school to head the program. The growing interest among the first three of these key players led to an exploration of the school's opportunities and a potential partnership with the Center for Creative Leadership. As a result of this percolating interest, when the foundation approached the school with the possibility of the grant and asked the school to name a theme for the program, the timing was ripe for giving the Park Program a leadership theme.

Finally, *actor networks also played a key role in the development and growth of the program.* An internal committee chaired by Professor Jay Russo and composed of faculty, staff, and Park fellows developed the initial program. This committee prepared a plan that became the road map for the program during its

first couple of years. Among those ideas were the creation of a leadership speaker series, service projects in the community to develop leadership skills, an external advisory board, and a center for leadership at the Johnson School. The speaker series and service projects were launched immediately. The external Park Advisory was launched shortly afterward and included thought leaders and authors Ken Blanchard and Jim Belasco, Professor Bruce Avolio, now at the University of Nebraska, and a number of prominent Johnson alumni business leaders. The Center for Leadership in Dynamic Organizations was inaugurated 2 years later in 2000, after efforts around leadership had gained momentum. Both the external Park Advisory Board and the center have played key roles in shaping the program, forming key networks, and extending them into the business world.

The growth of the Roy H. Park Leadership Fellows Program is the result of a web of mutual interests that manifested in money, partnerships, curriculum changes, and physical, social, and intellectual capital. No single player could claim responsibility or ownership. Implementation of the program was achieved through a network of individual leaders whose influence and skills coalesced around a simple and evolving theme of leadership.

Developing Actor-Network Leaders

The Park Program and the leadership development experience in general at the Johnson School are designed to develop the very competencies that foster actor-network leaders. An actor-network leader is a person who has learned to see connections and relationships between people and things and develop the networks of knowledge, information, space, and social capital necessary for managing and increasing organizational or system performance. In essence, actor-network leaders have learned to develop a level of personal influence that helps them serve as attractors—important nodes or connectors—in a vast array of potential networks in a system. This is analogous to the role of "strange attractors" in

physics that magnetically pull a system into shape. The personal influence necessary to serve in this role depends on a diverse set of competencies that include

- *knowledge* for understanding the business, grasping the crossfunctional issues, and seeing the possible connections;
- *relationship* skills for building trust, interpersonal influence, and social capital for collaborative efforts;
- *vision* for seeing the possibilities, understanding what is most important, and communicating direction and strategy;
- *action orientation* for leading by example and embodying and modeling the way for others; and finally
- *personal mastery* and self-knowledge for understanding the personal motivations and values that drive personal development and the ability to learn from experience.

This is the set of leadership competencies that make up the leadership model discussed in the last section. This model guides the design of the curriculum and drives personal learning strategies of the Park Fellows and other students participating in the leadership focus discussed above. Students are assessed and reassessed on these competencies to determine the success of their efforts to improve areas of identified need throughout their 2-year experience. These competencies were developed through a collaborative effort by the faculty members of the Johnson School's Center for Leadership and Dynamic Organizations and the College of Industrial and Labor Relations, along with the corporate partners of the College's Center for Advanced Human Resource Studies (CAHRS). The Industrial and Labor Relations faculty members associated with CAHRS conducted a study of best practices and leadership competencies among the corporate partners, and their results provided the foundation for the Johnson School's leadership model, summarized in Figure 1.

To develop these competencies, the program follows an action-learning process of assessment, reflection, planning, and action that is repeated until skills are mastered. In essence, it serves not only as a model of leadership but also as a model of learning. Each of the students has an individualized learning plan that incorporates each aspect of the model as a strategy for learning and development. The overall strategy is to develop balance, agility, and wholeness by developing each area through his or her developmental process. In so doing, students increase their personal influence and ability to serve as attractors in the network. Learning plans include the strategies for developing

- *knowledge*, by acquiring the knowledge necessary for developing a new competency;
- *relationships*, by incorporating relationships with others for obtaining the feedback, coaching, and often the vehicle for practice;
- *vision*, by identifying a plan of action for applying and practicing new skills;
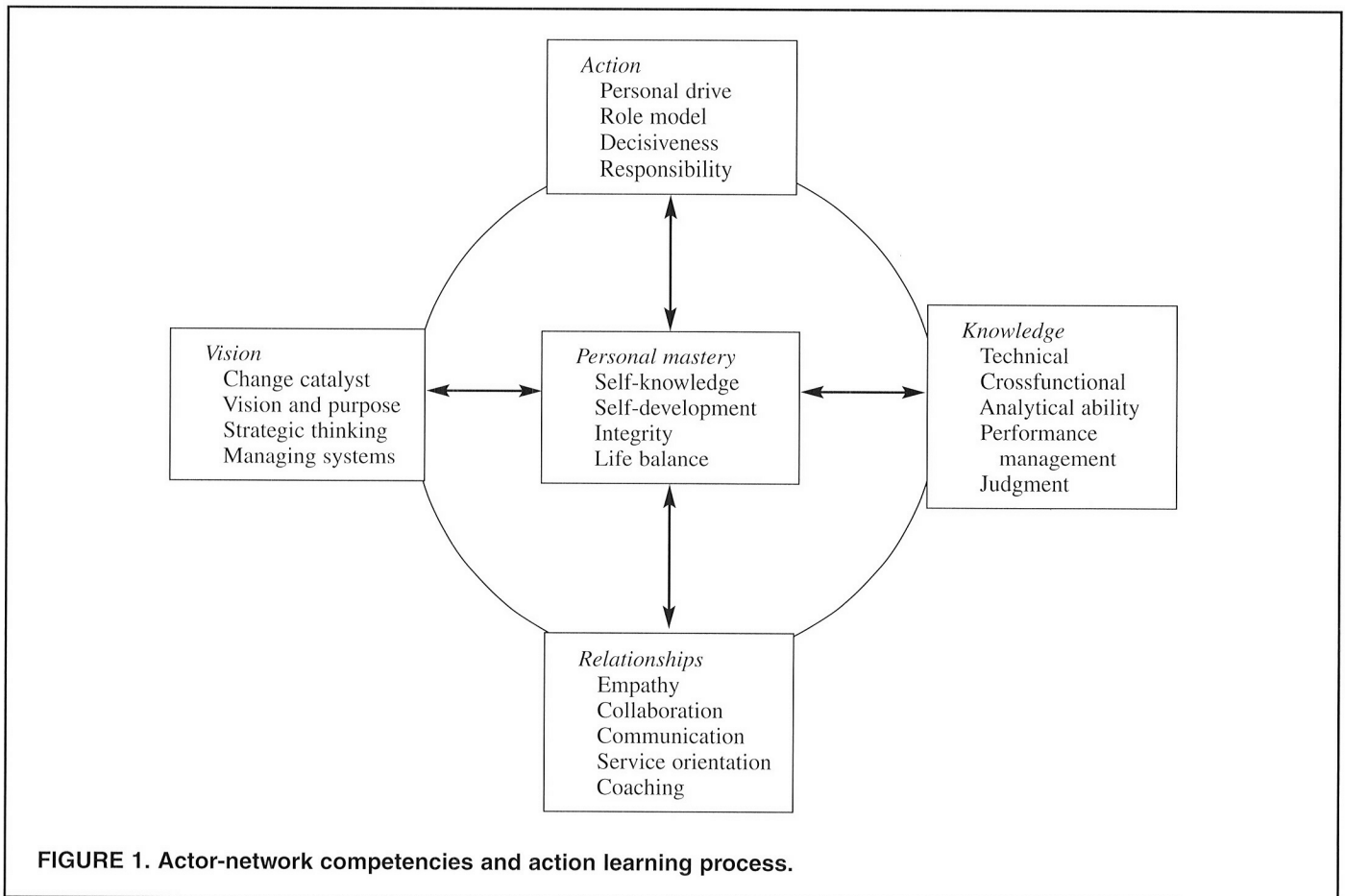

FIGURE 1. Actor-network competencies and action learning process.

• *action,* by taking action on the plan through practicing and experiencing the new behavior; and

• *personal mastery,* by reflecting on the experience to understand its lessons and revising the learning plan for the next cycle.

This action-learning strategy is similar to the more well-known and widely used action-learning model of David Kolb (1984). In this sense, the action-learning process emulates the desired result, actor-network leadership.

The competency development and action-learning process for each of the five areas of the model are incorporated into a program design that is made up of a series of workshops, courses, events, and activities. These include workshops on personal mastery, team building, change management, dialogue, and creativity, as well as courses on personal development, ethics, and inclusion. They also include multiple assessments, reflection days, volunteer events, and fulfillment of leadership roles in the school. These learning activities are highly experiential and work together to create the competencies and practice opportunities necessary for creating an actor-network leader. Other overall design features of the program, which also work specifically to enhance networking, include the following:

Cohorting. The process of completing a developmental series of the activities as an intact cohort serves to bond the group. Students working in cohorts also build meaningful relationships, deal with real as opposed to simulated issues, learn to learn from one another, and gain an appreciation of the value of learning partners.

Coaching teams. Students often work in teams of three to critique plans, provide one another with feedback, and solve problem issues related to leadership and interpersonal effectiveness.

Mentoring. Students can work with a mentor who helps them cope with the transition to school, conduct job searches, and get the most out of the program experience. Park fellows also are assigned Park alumni mentors to help

with making career choices and building professional networks.

Alumni programming. This allows alumni to reconnect to help increase networking, engage in a community service event, and participate in a program to continue their development as leaders.

Team work. Working in teams in classrooms, clubs, and volunteer activities, students join peers to develop their leadership competencies. They are evaluated by their teammates on their team skills and are encouraged to use the teams as a practice field for developing their leadership skills.

Access to leaders. The school provides conferences and a speaker series featuring prominent business and thought leaders so students can meet and learn directly from people with years of experience and accomplishment.

Core teams. First-year students are organized into 64 heterogeneous teams. Each team is required to work on assignments as a team for three core courses during the 1st semester. After 6 weeks, new teams are formed and students complete the semester working for team rather than individual grades. This breaks down individualism, creates an appreciation for context, and teaches students to work as part of a team.

Job fairs. The school organizes job fairs featuring companies and other employers that give all students an opportunity to network and explore different career opportunities. Students are coached specifically on how to glean the most out of these opportunities.

Clubs. Students join professional clubs to help them explore or nurture a career affinity and practice their leadership skills. Often clubs, such as the consulting or finance clubs, organize symposiums that bring in professionals in the field and give them an additional opportunity to network and explore options.

Service projects. Students launch a new or improved program benefiting the local community. They work in teams and draw on their business background

in serving as consultants and change agents with their clients. It is their capstone experience and requires them to practice all the technical and interpersonal skills that they have learned to make a contribution to the community. Often these projects develop lasting relationships that have a long-term impact on the career choices of participants.

In summary, using the Park Leadership Model as an example, students learn the different competencies essential to increasing their interpersonal influence and becoming an actor-network leader. The leadership model, the action-learning framework, the curriculum design, and school activities work together in an integrated effort to teach students how to create and sustain system networks for accomplishing organizational goals.

Conclusion

To date, actor-network theory (ANT) has been applied on a very limited basis to the study of leadership and leadership development. Further, leaders and students operate within large, highly complex organizational networks. By their very presence, the actors work to maintain and revise the construction of those networks. The study of leadership and leadership development has too often focused on the individual leader. ANT provides a fresh perspective on the importance of relationships between human and physical actors. It also focuses attention on the sociotechnical networks that leaders create to accomplish their goals, emphasizing that no one acts alone; furthermore, important roles are played by resources of all kinds, including equipment, data, money, publicity, and power. As Goguen (1999) put it, "Actor-network theory can be seen as a systematic way to bring out the infrastructure (network) that is usually left out of the 'heroic' accounts of scientific and technological achievements."

Some recent applications of ANT in the area of leadership and management include studies of charisma and how it is distributed through networks (Pastor, Mendl, & Mayo, 2002), an examination of how the actor-network approach could be used to facilitate the green revolution

(Newton, 2002), a study of how managerial power is used in organizations (Law, 1996), an ethnographic study of virtual managers (Tomie, Hughes, Rouncefield, & Sharrock, 1998), a study of curricular change in medical schools (Busch, 1996), and a survey article on leadership and social networks in the military (Brass & Krackhardt, 1999).

These studies indicate that ANT provides a significant theoretical and methodological approach for examining the effects of leadership on networks and the effects of networks on leadership. Through analyzing the role and relations of leaders within the network and understanding the effect that networks have on leaders, we can devise strategies to manage the impact of the network on the leader. The leader then can learn to manage the network in such a way as to foster desired business results. Teaching actor-network leadership is an important new mission for business schools.

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