ENGINES OF PROGRESS:

DESIGNING AND RUNNING

ENTREPRENEURIAL VEHICLES

IN ESTABLISHED COMPANIES—

THE ENTER-PRIZE PROGRAM

AT OHIO BELL, 1985–1990

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INTRODUCTION

In the 1980s, entrepreneurs became culture heroes in American business (Drucker 1984) at the same time that established companies were chastised for lagging in innovation (Peters and Waterman 1982; Kanter 1983). In the second half of the decade, in response to internal business pressures and external exhortations to become more innovative and entrepreneurial, many companies developed corporate entrepreneurship programs to stimulate new ideas— termed "newstreams" (Kanter 1989)—and to capture their benefits by channeling them into new products or new ventures.

Interest in corporate entrepreneurship was not new, of course. There had been previous waves of interest that produced decidedly poor results (Hanan 1976). Fast (1979) estimated that between 1965 and 1975 about one-quarter of the *Fortune* 500 firms had a special unit devoted to the development of new ventures, most of which had disappeared or evolved into either an operating unit (if one new venture was successful enough to become an on-going operation) or a general strategic planning department.

Whereas the concept of corporate entrepreneurship was not new, the 1980s added their own flavor. In some companies, the corporate entrepreneurship concept was tied to *financial*

expectations based on venture capital successes. In the venture capital model, the company would fund external start-ups or internal ideas with great potential, some of which might also develop technologies of more general interest to the company. External investments would help the company capitalize on the greater innovation brought by start-up entrepreneurs; internal investments would ensure that neither ideas nor the employees coming up with them would be lost to the organization. In other companies, on the other hand, the concept was tied to *cultural* goals: employee pressures for greater participation, the critique of many companies as unwieldy and stultifying, innovation-stifling bureaucracies, or top-management desire to awaken the entrepreneurial spirit throughout the company.

Thus, the range of models and types of corporate entrepreneurship programs proliferated in the 1980s. The Harvard Business School Research Program on Entrepreneurship in Established Companies set out to compare and contrast a *range* of types. What were the benefits and drawbacks of various methods of organizing to produce innovation and new ventures? The research program drew from earlier research on the successful innovation process on a project-by-project basis (Kanter 1983, 1988); however, its particular focus was not on a particular innovation but on the *entrepreneurial vehicle*—the engine to produce newstreams.

Four generic types can be identified: the *pure venture capital* model (Analog Devices Enterprises), which invests in companies started outside of the parent company; the *new venture development incubator* (Eastman Kodak's New Opportunity Development), which manages ventures as independent entities, spawned either internally or externally; the *idea creation and transfer center* (Raytheon's New Product Center), which develops newstreams but passes them on to established operations to exploit; and the *employee project* model (Ohio Bell Enter-Prize, the subject of this report), a more entrepreneurial variant of employee involvement or suggestion programs. The first two models, covered in earlier reports, involve large amounts of funding and arms-length relationships between the parent and the venture. *They inevitably fail—even if they produce projects with potential as stand-alone businesses.* They fail in the sense that the parent company cancels them—as Analog and Kodak did, and as Alcan (unpublished) did, with its own new business development center. The third model, exemplified by Raytheon and also covered in an earlier report, is much more successful—but it tends to involve smaller amounts of funding, more incremental products or ventures, and close attention to ensuring that the entrepreneurial vehicle remains centered on the parent company's strategic objectives.

In general, the greater the connection and compatibility between the newstream activity and the mainstream business, the greater the likelihood that the parent company would rate its efforts as successful and continue to support its existence. (This finding is in line with that of other researchers, e.g., von Hippel 1977; Sykes 1986; Block 1982.) This, of course, produces a tension. Greater "compatibility" means greater conservatism and hence, potentially less-radical innovation—unless the mainstream culture is *already* entrepreneurial (Kanter 1983). It has also been found that newstream projects need an incubation period in a kind of greenhouse suited to the delicate conditions of early development, detached from the pressures of on-going operations (Kanter 1989; Galbraith 1982).

How can a newstream program resolve this dilemma? It does so by defining its goals as benefiting the mainstream, remaining closely linked to the mainstream by providing a narrow channel through which anybody can introduce an idea, and offering itself as a *demonstration* of entrepreneurial behaviors that could be implanted in the mainstream business. The Ohio Bell Enter-Prize Program is an example of this resolution. It was primarily *cultural* in its orientation and its measure of success, though the company clearly derived

greater financial benefits than resulted from the large-scale, new-business programs under-taken by others. Enter-Prize originated in a cultural goal—to give greater voice to employees. By opening up the entrepreneurial process widely, albeit modestly, the company found it could also produce financially successful newstreams. Instead of making a few big bets on a few, big, new business opportunities—one of the conditions that Sykes (1986) argued was responsible for the failure of corporate new venture programs and that Geneen (1985) criticized as inappropriate for a public corporation)—Ohio Bell placed a large number of very small bets, to give opportunities to many employees and to play the percentages (with more projects, a likelihood of more successes—Quinn 1979).

THE ENTER-PRIZE PROGRAM AT OHIO BELL

In 1985, Ohio Bell designed Enter-Prize, an "Excellence Through Employee Innovation" program that supported, nurtured, and rewarded employees who had ideas that cut operating costs or generated revenues. Enter-Prize represented a formal link between individual and corporate performance and employee compensation, and also provided an avenue through which employees could pursue innovative projects that might help the company maintain a position of leadership in the increasingly competitive telecommunications market. In 1986, for example, the Enter-Prize program provided total backing for an innovative software project that automated production of an engineering document that took hours to complete manually. The program was developed by two engineers, Walt Bailey and George Badziong. The winner of a tax-paid award, which fell in the $10,000 to $30,000 range, this entrepreneur "won" big with his first Enter-Prize project. So did the company, saving $815,796 in a two-year period of time.

When officers at Ohio Bell increased the ante on employee proposals for change and innovation, they sent a clear signal throughout the organization that the company was changing its ways. Enter-Prize was visible proof of Ohio Bell's attempt to facilitate the difficult culture change it faced—moving from its former status as a dependent subsidiary of a highly successful "monopoly" to forging a place of market leadership for itself in a rapidly changing industry. Between 1985 and 1990, managers throughout the company helped dozens of other employees like Walt Bailey transform their ideas about how to improve the efficiency and effectiveness of Ohio Bell operations into working projects.

The Enter-Prize process demanded commitment and continued involvement from the employees who suggested the change in procedures or products. The innovators would work their way through four stages (depending on the nature of their projects) as they turned their creative dreams into a business reality. Initially, applicants would investigate the feasibility of their ideas and submit a formal application for approval—often this investigation would require the input of experts either inside or outside of the company; they then would seek managerial sponsorship and develop an implementation plan; next, they would sell their ideas to the appropriate vice president of the department, who would provide the seed money; finally, they would follow through on their projects by personally seeing their innovations to completion. Enter-Prize candidates who were successful in bringing their ideas to fruition received an award that represented a percentage of the net income from their project. Awards were in the form of cash gifts, and all taxes were paid by the company.

Corporate strategists hoped that if employees championed their own ideas (Maidique 1980), this program could bring the company the tangible benefit of heightened profits as well as the intangible benefit of a firmer employee commitment to corporate endeavors. By the middle of 1987, Enter-Prize had met its profit objectives. By 1990, the program had

contributed more than $14 million to Ohio Bell's net earnings, based on over 500 projects culled from 6000 applications.

ENTER-PRIZE AS PART OF A LARGER CULTURE CHANGE: FROM PROTECTED MONOPOLY TO AGGRESSIVE COMPETITION

In addition to its "hard" profit objective, Enter-Prize had the soft objective of helping Ohio Bell to accomplish a difficult culture change. Due to the post-divestiture realities that the company encountered following the break-up of AT&T's Bell System on January 1, 1984, Ohio Bell launched Enter-Prize to facilitate its transition from being a regulated monopoly to an open-market competitor, a transition the company had to make quickly if it was not to lose too much ground to low-price market leaders like MCI or Sprint. Although the break-up ushered in no new competitors for the local residential service Ohio Bell provided, competitors abounded for IntraLATA local area calls, for business service, and for coin-operated telephones. AT&T, MCI, and Sprint offered Ohioans long-distance alternatives to the Ohio Bell system. Smart-set telephones sold by AT&T, GTE, ITT, Northern Telecom, Comdial, and Panasonic enabled residential and business customers to bypass Ohio Bell's premium services, such as call-waiting or conference calling. Furthermore, deregulation meant that companies could completely bypass the need for any Ohio Bell service by purchasing their own facilities; AT&T, Northern Telecom, IBM/ROLM, and Nippon Electric helped businesses set up systems that made the regional operating companies unnecessary middlemen. Divestiture had made Ohio Bell's market position far shakier than it had ever been before.

A 1982 decree that preceded implementation of the 1984 divestiture ruling grouped Ohio Bell with the Bell companies of Illinois, Indiana, Michigan, and Wisconsin into the new company eventually called Ameritech, one of the seven regional holding companies that consolidated the 20 local Midwestern operating companies that had been part of AT&T. In addition to the telephone operating companies like Ohio Bell, Ameritech formed seven less-regulated subsidiaries to help bring the "Baby Bells" into technologically advanced areas of the business as quickly and as competitively as possible.

As an independent company, Ohio Bell officers had to consider ways to grow profits. They realized that although expense controls would make a significant contribution to a solid earnings performance, controls had to be augmented by other programs. If Ohio Bell and Ameritech wanted to meet the total information needs of major business customers, they needed to grow the business and to compete. New products, new systems, and new ways of serving customers were imperative for future strength. However, inertia plagued many of the "Baby Bells" following divestiture. The regional operating companies struggled to transform themselves from regulated monoliths by trying to respond flexibly to market changes and competitive challenges, while at the same time rigid state and federal regulations restricted their autonomy.

Since more than just minor fine-tuning of the corporation was needed to facilitate this transformation to independence, the officers believed that Ohio Bell needed a different company culture. A dilemma emerged regarding how innovation and creative thinking could be encouraged among an army of employees who only knew of careers in a monopolistic company in which risk-taking was unnecessary and, some thought, frowned upon. Outside the Bell Labs, AT&T had created an environment in which some employees honored tradition and being able to fit into the system more than they valued innovative practices and creative problem-solving. AT&T had a lot to be proud of because it had created a camaraderie among

its employees. Camaraderie, while a powerful bonder, was less useful in a time of rapid change. Bell employees shared a technical and managerial language that set them apart from everyone else. Employee service clubs, such as the Pioneers, provided a telephone-based social life. The company was thought to be a cradle-to-grave employer, hiring out of high school and promoting from within. Many top executives began as clerks, installers, and as women started to enter the executive ranks, as telephone operators as well.

Ohio Bell had never before been pressured to perform to the best of its ability. After divestiture, at all levels in the company, from craftperson to top executive, there was a realization that a new outlook was needed. Ohio bell employees had to scrutinize what they were doing and how they were doing it, while continuing to service their customers.

Change—deviating from the status quo and not performing routine tasks that had been ritualized by manuals—had never been part of the company culture. In pre-Enter-Prize days, several potential innovators had trouble garnering managerial support for their new ideas. A technician who, after much frustration had developed a valuable tool for the company, recalled that he had to go over his supervisor's head to get support because he was so frustrated. Many people who had constructive ideas about how to improve the workplace or develop new business could find no avenue through which to pursue their plans.

Potential innovators recognized a resistance to change among their peers as well as their managers. Prior to divestiture, half of 1% of the company's revenues went to AT&T for "staff support," the production of manuals and guidelines that structured jobs and centralized AT&T staff operations. After the break-up, formal guidelines disappeared and without central instructions or new role descriptions, some employees drifted aimlessly from task to task, waiting for routinized directions that were not being issued. Many did not realize that the break-up imposed competitive threats that changed the nature of the way Ohio Bell did business, and demanded that the company extract the most from all of its personnel.

When Ohio Bell was spun off as part of Ameritech in 1984, Ameritech recognized that lack of Bell employee on-the-job initiative was a significant weakness that needed to be remedied. In order for the company to react to the rapidly changing, competitive marketplace, Ohio Bell had to rely upon its employees for new ideas and better ways to run the business. Whereas Ohio Bell had been only 2% of AT&T, it became a more significant 21% of Ameritech, and therefore played a larger role in the profitability of its parent company.

As Ohio Bell adjusted to the realities of divestiture, it received support from Ameritech. Less directive and restrictive with its operating companies than AT&T had been, Ameritech retained fewer corporate functions than did AT&T, eliminating directory service, long-distance operator service, and telephone equipment sales from the operations of the regional companies. Ameritech also pared down the number of levels of managers and increased spans of control. Employees had greater autonomy and officers were allowed to implement programs unique to the company, programs like Enter-Prize that did not grow out of mandates from the parent company.

Programs for Culture Change

Ohio Bell reacted to the need for change by increasing support for two pre-existing AT&T programs that encouraged employee identification with the company, Quality of Work Life and participative management.

Ohio Bell's leaders aimed for more decentralized decision-making though only some departments were reported to have truly participative leaders by 1987, when the research

began. Compensation packages and promotion criteria reinforced the need for more initiative. As was the case at other regional operating companies, Ohio Bell's team awards reflected how well the company did—they were a form of profit-sharing that applied to management and non-management alike.

Implementation of its culture change was slow-going for Ohio Bell because several "cultural stumbling blocks" impaired progress. Interviewees in 1987 reported barriers to change such as:

1. Employees who were excellent at carrying out other people's directions but not self-directed.
2. A number of incentives that encouraged optimization of a sub-unit's goals even if though these might be detrimental to the performance of the corporation.
3. Promotion from within for virtually 100% of all positions.
4. Lack of receptivity to new ideas or new ways of structuring the business.
5. Comfort with tangible things and discomfort with ideas and concepts.

Based on this kind of diagnosis, in late 1984 the then-vice president of Personnel, James McGowan, decided that expanding a 1981 Employee Suggestion Plan program was a perfect "spring board" from which to launch a program designed to bring about an internal culture change.

THE EVOLUTION OF ENTER-PRIZE: FROM COMPLAINTS TO SUGGESTIONS TO INNOVATIONS

The Suggestion Plan originated in 1981 as an executive response to problems associated with the company "Direct Line," a complaint box, which was slow and ineffective and perpetuated a pessimistic and cynical outlook rather than contributing to optimistic goals for improvement. Corporate planners were aware that problems existed within the organization and developed the Suggestion Plan as a vehicle to bring about changes that were easy to implement and required low commitment either from the person who suggested the improvement or from executive sponsors. However, as Ohio Bell's business needs changed after divestiture, by late 1984 the Suggestion Plan had proved inadequate for encouraging innovative ideas of the magnitude that the company needed. Consequently, in January 1985 McGowan charged Division Manager Harry Fletcher with the duty of developing a broader program that did more than encourage improvements of existing procedures or products. McGowan wanted one that supported development of new technologies and new ways of organizing business operations.

Harry Fletcher worked with District Manager Christine Miller in designing the new program. McGowan's assignment had no parameters. As they tinkered with the mechanics of a program that would generate suggestions of depth and scale that would significantly affect the company's bottom line, Fletcher and Miller met with the legal and financial departments to determine the best alternatives.

By July 1985, Fletcher and Miller had a model of the new "Enter-Prize" program, which was delineated by formal guidelines. The program attempted to empower employees, an under-utilized resource, so that they could implement ideas they came up with that accomplished any of the following objectives, as reflected in Ohio Bell publications:

• Reduce expense by working at a lower cost or with greater efficiency
• Increase revenues

- Create new lines of business
- Improve quality of products or services and thereby enhanced customer satisfaction
- Improve security or safety of company personnel and property
- Improve employee attitudes so that the company could efficiently capitalize upon its human resources.

Not only had the two come up with a program in 6 months, but they had also selected the program's first winner. Paul Karas, an electrical engineer on the Network Services staff, had been working for a long time on a solution to a problem with the Ohio State Lottery system. His Multipoint Data Bridge—a device that decreased downtime for the Ohio Lotto by creating a bridge that enabled the lottery system to continue operating even when local terminals broke down—qualified for immediate Enter-Prize publicity and reward.

Enter-Prize consisted at the start of a team of people who conducted initial screening. Fletcher, Miller, and representatives from corporate planning, marketing, and consulting services documented ideas and met to analyze possibilities.

The Enter-Prize Process

The Enter-Prize process was comprised of several well-defined steps that created an avenue for invention. Entrants knew from the start the stages through which their ideas had to progress in order for them to become working projects. Strict guidelines covered what kinds of ideas were eligible for the program. According to Enter-Prize documents, ineligible ideas included the following:

- Matters covered by collective bargaining or Equal Employment Opportunity Laws and Regulations
- Improvements that could be corrected through normal maintenance procedures or supervisory action
- Ideas producing only personal benefits to the employee who submitted it
- Matters already under consideration due to previous ideas or regular management reviews
- Procedures currently under investigation or already in effect elsewhere in the company
- Ideas that state a need for improvement within a plan or method for corrective action
- Violations of legal obligations
- Modifications of forms not in company-wide use
- Slogans and advertising.

The Enter-Prize staff had four full-time employees, one of whom was a clerk. The other three staff members checked applications and made sure they were filled out properly. One of them would contact the employee if questions arose about the project. When an application was complete, the Enter-Prize staff then forwarded it to innovation consultants who evaluated the proposals. The innovation consultants served as a resource for technical expertise. Enter-Prize staff encouraged innovation consultants to evaluate proposals as quickly as possible so that they could notify the applicant about the success of his or her proposal within a 90-day period. When the company did not have in-house expertise, Enter-Prize staff would hire an outside expert or contract the work out to a research firm.

If a project was approved, Enter-Prize required that the innovator remain actively involved in implementing the idea. Some employees were offered the choice of working full-time on their projects, a choice that was generally reserved for larger-scale and more technologically complex projects. As the project progressed, Enter-Prize staff offered support to winners as they worked on their projects and helped them hurdle any unforeseen barriers that might pose problems. When an applicant completed his or her project, Enter-Prize assessed the bottom-line impact of the project and informed the winner's area vice president of the appropriate reward amount.

The process was by no means "easy"—Enter-Prize warned applicants, "Be prepared for hard work. Remember Edison: 'Invention is 1% inspiration, 99% perspiration.' " A typical project passes through a series of stages:

1. DEVELOP IDEA: an employee had an idea that might have qualified for Enter-Prize sponsorship.
2. CONSULT: The employee decided to apply for Enter-Prize backing and telephoned one of the Enter-Prize staff to ask questions. The consulting stage helped potential innovators weigh the pros and cons of following through with their ideas.
3. FILL OUT APPLICATION: The potential innovator detailed his/her business plan by filling out an application form. The form requires a description of the situation of interest, the proposed change, an assessment of the overall impact of the idea, cost consideration, research projections, and implementation ideas.
4. REVIEW APPLICATION: Enter-Prize staff made sure applications were filled out properly. A staff member might have worked with an employee in order to help develop ideas more thoroughly.
5. FORWARD APPLICATION TO INNOVATION CONSULTANT: Innovation consultant, "subject matter experts," received completed applications. These people were on the technical or managerial staff and were assigned, on top of their regular duties, the task of reviewing Enter-Prize proposals for feasibility and potential.
6. PROVIDE FEEDBACK TO APPLICANT: Enter-Prize staff tried to let applicants know within 90 days whether or not their idea would work. Unfortunately, because innovation consultants have many demands on their time, as well as a plethora of proposals, delays occurred.
   - *Rejection:* A rejection letter documented the reasons that the project was not viable, and was accompanied by a new application for future use. Applicants could resubmit their ideas or enter an appeals process if they disagreed with a decision. To date, the appeals process had never been used.

   - *Acceptance and Sponsorship:* Upon approval, the Enter-Prize staff held a strategy meeting involving the innovator, the management team (typically the supervisor through the District Manager), and the innovation consultant. Together they discussed the resources needed from the company and exchanged ideas about who might be the best upper-level sponsor for the project. Sponsorship dramatically facilitated a winner's experience in managing the idea through Ohio Bell's bureaucratic labyrinth.
7. GET FUNDING: Innovators and their managers worked with their sponsors to determine a budget. Since Enter-Prize was a grass-roots organization, the area vice presidents allotted money to approved projects and their sponsorship was essential.
8. COMPLETE PROJECT AND RECEIVE REWARD: A project was considered complete when it was fully implemented or a trial had been conducted and an implementation

schedule developed. At this time, the bottom-line impact of a project was determined and the one or more employees who developed the idea receive a tax-paid cash award representing a percentage of the contribution that their project made to the corporation.

Since it was hard to assess the bottom-line benefit to the company, subject-matter experts from the appropriate departments as well as the corporate-level revenue management group were involved in measuring the value of each product. This set-up helped preserve the integrity of the awards and reduced the potential for bitterness among employees. Rewards for accepted proposals began at $50 for small suggestions. There was no upper limit on the amount awarded.

To encourage departmental support, the Enter-Prize winner's District Manager received a "drawing account" that represented 1% of the savings realized from the innovation. The "drawing account" was earmarked exclusively for innovative activities like Enter-Prize. Besides stimulating the winner's supervisor to continue support to Enter-Prize candidates, the drawing account represented a pool of available resources accessible to individuals with creative ideas for improvement and thus helped support future innovation.

The Enter-Prize program fulfilled on several levels Ohio Bell's mission of involving employees in more aspects of the business. First, employee suggestions or innovations provided the opportunity for an employee to see his/her idea materialize. Employees created something that benefited the company, and that program or product bore the signature of an individual who under the former Ohio Bell system may have been told, "Hey, that's not your job." Second, the Enter-Prize program facilitated interaction between employees and upper-ranking managers and executives. Enter-Prize participants not only met with the company officers and members of the corporate financial and legal staffs, but also "networked" with technical experts inside and outside of the company. Third, through an Enter-Prize Fair in which program winners displayed their work to company employees and outside visitors, innovation became "contagious," an important step in getting employees to think about innovation and to make it an integral part of their work life.

"Networking" at the Telephone Company: The Innovation Fairs

By January 1, 1987, Enter-Prize was established to the point that the old Suggestion Plan was dissolved into it. Having two programs had discouraged some employees from proposing projects because they were confused as to which program they should submit their ideas. The merger added clarity and administrative ease to the employee-innovation process. But the more important stimulus for employee input was another Ohio Bell first: Ohio Bell hosted two Innovation Fairs in April 1987 to showcase successful Enter-Prize projects.

The Fairs represented an effort to tap the "common sense" of more employees by spreading the word about Enter-Prize. Aware that innovation could be contagious and could become an ingrained employee response to workplace problems, corporate strategists hoped that the exposition of 17 of the projects would convince other employees that anyone could innovate. As they walked around, visitors saw displays of finished Enter-Prize projects as well as projects that were still in progress.

The Fairs helped to spread word about Enter-Prize and Ohio Bell's new commitment to growth through change in products and processes. Although Enter-Prize program participation did not increase dramatically after the Fairs, a greater percentage than before of submitted proposals was approved. The Fairs helped aspiring entrepreneurs to better tailor their projects to Ohio Bell's needs.

Since Enter-Prize was a grass-roots organization, Enter-Prize champions at the officer

level allotted funding for the two-day-long Fairs, one in Columbus and one in Cleveland. The Fairs were set up in the form of a trade show. Walk-through exhibits displayed winning Enter-Prize projects and spotlighted the winners. Besides promoting its own innovators, the Innovation Fairs spotlighted five other "resource exhibitors," which included:

1. Enter-Prize staff who answered questions about the program and passed out applications.
2. A representative from the Entrepreneurship Institute, a Columbus, Ohio, non-profit organization that did consulting for start-up businesses.
3. A representative from the Ohio Technology Transfer Organization, a non-profit, state-funded organization that encouraged sharing of technological research among schools, labs, and businesses.
4. Representatives from the Thomas Edison Program, which provided research and development grants and operated a new business incubator.
5. Ohio Bell's legal department, which provided information about patents, intellectual property rights, and regulatory restrictions imposed on the Baby Bells at the time of divestiture.

Over 1,800 guests (representing about 8% of Ohio Bell's total work force) attended the Fair, including a sprinkling of representatives from other companies and universities. DuPont emulated Ohio Bell's example at their own Fair a few months later. Local television and radio stations visited the Ohio Bell event and reported to their communities about the event, compounding the excitement generated by the Fairs. The attendance of executives from Ohio Bell's sister companies within Ameritech raised the possibility of Enter-Prize spreading throughout the Ameritech systems, an event that would make Ohio Bell the "mother" of a wave of corporate invention.

By 1990, the Enter-Prize program was still thriving. With the number of ideas submitted increasing at a steady 10% annually, Ohio Bell's management believed that they had clearly conveyed the high value placed on employees' creative input. The number of award winners tripled between 1989 and 1990, and the magnitude of financial results also grew; 10% of 1989's ideas stood to bring returns of over $50,000 each.

In February 1989, an Enter-Prize idea was awarded a patent, the first in the history of Ohio Bell. A second patent was awarded in 1990. Typically, Enter-Prize projects had involved one or two people, either nonmanagement, management, or both, but 12 people were involved with a 1990 project, seven of whom were nonmanagement.

The Enter-Prize program enlarged its scope between 1987 and 1990. "Facilitating Innovation" workshops informed employees about the Enter-Prize program and process and helped to stimulate participation. A "Corporate Challenge" workshop attempted to maximize middle-management support. A 1988 conference for first-level managers focused on helping employees identify ideas with promise. Enter-Prize staff distributed two guides, one to help innovation consultants and departmental coordinators to recognize valuable innovations, and one to generate support at the supervisor level. Through these avenues, employees at many levels and multiple locations were able to better understand Enter-Prize goals and how he or she might affect Ohio Bell's bottom line.

Because Ohio Bell did not charge the implementation costs against an Enter-Prize project, it was hard to calculate corporate investment in the program. Excluding the use of internal consultants and corporate resources, costs for prototypes, programmers, and patent searches were approaching $500,000. Two projects had generated $115,000 in revenues, combined. From the 20 completed major projects, savings to Ohio Bell exceeded $14 million. Without taking net-present-value into account (and uncalculated implementation costs), ROI

for Enter-Prize was slightly over 5:1. Still, officials argued that Enter-Prize was not estab-lished so that Ohio Bell could make money from its ventures; the goal was "a real change in the workplace."

The long-term plan for Enter-Prize was to integrate it with the Suggestion program and then combine that with existing Employee Involvement and Quality of Work Life programs, perhaps by 1993. It was hoped that Enter-Prize would not be a separate program but an entrenched operating style used by all managers.

ENTER-PRIZE AS AN ENTREPRENEURIAL VEHICLE: ISSUES IN PERSPECTIVE

The Enter-Prize program represented a change in the opportunities available to Ohio Bell employees. As it encouraged "newstream" activities, it helped the company to move in new directions and deviate from AT&T-ingrained operating procedures. Enter-Prize achieved this goal through both direct and indirect means. The program directly generated newstream activity by providing an avenue for employee innovations and actions that could generate revenue or cut costs; the program indirectly moved Ohio Bell in a new direction as it symbolized organizational change and inspired employees to take part actively in Ohio Bell's business.

Although Enter-Prize functioned as a newstream activity, it differed from the other entrepreneurial vehicles under study. Enter-Prize evolved out of Ohio Bell's Suggestion Plan and was not a true product of strategic planning. Aside from this difference, Ohio Bell's innovation program had several other unique aspects.

The Entry Process

When vehicles were arranged along a continuum, they ranged from actively being a source of ideas, to seeking and encouraging ideas, to passively selecting from those ideas presented. Ohio Bell was at the passive end of this continuum, preferring to select from those ideas presented rather than focusing on developing and nurturing ideas. This reliance on existing ideas as the sole source of input for the Enter-Prize program placed the organization in a risky position. Enter-Prize "creamed" the best ideas off the top of its pool of employee proposals and did not build a strong foundation to support actively the formation of new ideas. The practice of taking away good ideas without providing an avenue through which other good ideas might be developed could work only as long as good ideas existed. There was a question about what would happen in the future if Ohio Bell continued its policy of benign neglect regarding idea formation, did not implement a formal program that helped employees learn how to think of ideas that could be implemented to produce significant financial results, and relied upon employee inspiration as the only fuel for its Enter-Prize program.

Since Enter-Prize relied so heavily upon individual commitment to an idea and loyalty to the company, the "personality factor" was essential for a proposal to progress into a successful project. All current Enter-Prize winners shared a perseverance and virtually ob-sessive entrepreneurial vision that made them very unique individuals. One Enter-Prize winner's computer screen bannered "P E R S E V E R A N C E" as soon as the innovator logged on. Were it not for a participant's ability to overcome obstacles, to not accept "no" for an answer, and to dedicate him/herself to making a project work despite a great personal sacrifice of time and energy, Enter-Prize would not work.

Ohio Bell needed to recognize that initial Enter-Prize success rested on the motivation

of an ambitious few. The personal resolve required to turn dream into reality was not easily garnered from touring a Fair and seeing the products of other people's imaginations, but resulted from careful coaching of could-be entrepreneurs. Because innovators in this fairly change-resistant organization had to be obstinate, full of self-confidence, and virtually 100% sure of the viability of their proposal, Ohio Bell had to help employees to cultivate a single-minded focus on creating a tangible project from an idea. Ohio Bell risked draining its supply of talent as it supported the evaluation of creative proposals yet failed to support the cultivation of innovative ideas in the stages that preceded the preparation of a formal proposal.

The Nature of the Screening

The screening process determined which proposed ideas would receive corporate sponsorship and become live, innovative projects. A fine screen would filter very few ideas through, whereas a coarse screen would enable many ideas to pass through, some of which might be rough around the edges and might need to be refined. "False negatives," the turning down of really good ideas, resulted when a screen was too fine; "false positives," the acceptance of poor ideas, occurred when a screen indiscriminately allowed both strong and weak proposals to pass through.

Ohio Bell issued some "false negatives." One source of false negatives stemmed from jealousy on the part of the innovation consultant who evaluated the proposal. False negatives also occurred by accident. Sometimes ideas were turned down but the suggestions were later implemented. "False positives" were also a problem that beset the organization. Since Enter-Prize relied upon the part-time, almost extracurricular commitment of managers to serve as innovation consultants, it was often easier for the innovation consultants to accept an idea than to turn it down—even if the project would not really benefit the company. False positives also occurred when Enter-Prize invested in a project that turned out not to be as good as was originally projected.

Ohio Bell encountered the phenomenon of false negatives because innovation consultants lacked either:

- The time necessary to invest in refining a proposal so that it represented a viable project
- The broad perspective that reflected the long-range interests of the company and not short-term personal petty jealousies, or
- A communication network that linked them with other consultants and enabled them to make consistent decisions about project proposals.

The recourse for dealing with false negatives and false positives at Ohio Bell involved reducing innovation consultants' workload, investing in a comprehensive training program for innovation consultants, and developing a follow-up Enter-Prize project team that devoted considerable time to integrating successfully completed newstream projects into the routine of the everyday mainstream.

Integration of Newstream/Mainstream Activities

Newstream and mainstream activities at Ohio Bell were highly integrated since there was practically no separation of the development of innovative projects from the rest of Ohio Bell operations. Newstream projects arose in the midst of the mainstream and functioned within the established corporate hierarchy. For example, an innovator's boss became his/her

Enter-Prize sponsor, the innovator remained on the job as he/she completed the project, the innovator's department benefitted from the project—receiving the "bonus budget" (earmarked for innovation) based on 1% of the project's bottom-line benefit to the company, and the person returned to his/her former job when the project was complete. Not breaking with established corporate practices, the Enter-Prize process appeared as a minor change and showed employees how the corporate culture at Ohio Bell was changing in subtle ways.

Tight integration of newstream and mainstream activities had several advantages, one of which was that Enter-Prize fit well with the directive mode of the old company culture. Employees caught on easily and recognized that participation in the new program would directly benefit them. Employees might start out supporting Enter-Prize winners because that was what they should have done, not because they were committed to improving company operations. The formal status of the program and visible support from upper-level executives helped to overcome the cultural stumbling blocks that impeded rapid change within the organization.

Not only did a formal mandate from the top facilitate acceptance of Enter-Prize, but the regimented sponsorship process also eased the transition to a new mode of employee work and action. The formal, hierarchical sponsorship system tied in the support of bosses who might otherwise have felt threatened by the ingenuity shown and the initiative taken by the Enter-Prize innovator.

Although the close integration of newstream and mainstream activities had its advantages, it tended to skew the process toward projects that could be handled well within the confines of established Ohio Bell business operations. Enter-Prize did a good job of tapping the ideas of many "operational improvers," people who suggested innovative ways to correct existing problems—like a bulletin board that posts a list of software packages available within the company. However, it was unlikely that an Enter-Prize proposal, no matter how good, would result in the creation of a new line of business (as at Eastman Kodak). Regulatory restrictions also limited Ohio Bell's options in this area.

Because of the close contact the innovator retained to his/her original job and the high visibility the project took on within a department, the close integration often aroused peer envy.

The lack of separation from the mainstream also created tensions between creativity goals and efficiency goals for newstream activities. Those still in the mainstream had trouble embracing newstream projects because they threatened to disrupt the smooth functioning of the mainstream. It was hard for the mainstream managers who directly supervised potential newstream innovators to have the depth of vision required to support Enter-Prize projects when short-term mainstream imperatives for cost-cutting overwhelmed long-term newstream plans for prosperity and survival. Until the conflicting priorities of enhancing efficiency and encouraging creativity are worked out, Enter-Prize will rest on unstable ground, on a framework that could crumble if mainstream managers remain afraid to gamble with lost manpower and give newstream projects the support they need. Although all vehicles created this tension—a classic newstream/mainstream difficulty, the less closely aligned newstream activity was with mainstream activity, the more the newstream got protected from the efficiency push of the mainstream.

Infrastructure to Support the Newstream

Ohio Bell's Enter-Prize had a weak infrastructure. Since Enter-Prize was not intended to be a permanent program but rather a way of life, an infrastructure that would support this innovation process was not put into place. As stated earlier, innovators were given little

support in getting started—they had to come up with sound proposals and business plans by themselves and did not receive extensive coaching. Innovation consultants had to review applications in their spare time and for no reward, and the program had no mechanism in place that would ensure the use of developed ideas. These problems resulted because no strong infrastructure was created for the program.

In April 1988, Enter-Prize staff recognized that newstream ideas *did* require a different set of structures and processes from those of the mainstream and started asking themselves how they could improve the process. They developed a training program that taught techniques for generating new ideas, explained the Enter-Prize process, and stressed the need for innovation in American business through a series of lectures as well as individual and group exercises. Enter-Prize staff also organized a workshop for Innovation Consultants that was intended to help integrate their needs with the resources of the program. Although these efforts were a start, Ohio Bell needed to continue to strengthen its infrastructure in order to continue to nurture newstream activity. Newstream activities could not really emerge and continue effectively without a system separate from the hierarchy that managed the mainstream.

One of the largest problems that occurred because of the weak newstream-supporting infrastructure involved the fact that Enter-Prize was still mired in some Ohio Bell bureaucracy. Although applicants entered with high expectations, the wait during the lengthy approval process and garnering of the many layers of requisite managerial support frustrated many prospective innovators.

Payoffs

Payoffs from Enter-Prize included the program's value as a venture creation device as well as its value in facilitating a culture change. As a venture creation device, Enter-Prize worked at an exceedingly modest level given the size of the company. However, taking into account the point at which Ohio Bell started in 1984, it is remarkable that Enter-Prize could have had so much impact in such a relatively short amount of time. The program had a very positive impact as a culture-change device and stood as an inspirational example of entrepreneurship. Employee suggestions and innovations provide the opportunity for an employee to see his/her ideas take form. Enter-Prize came up successfully against the structure of the larger, change-resistant organization that enveloped it and helped make the mainstream of Ohio Bell a much more entrepreneurial company. Nevertheless, Ohio Bell could not reap the full benefits of this culture change unless it continued to nurture its newstream activities and worked to make sure that the newstream program, which was initially successful, remained so in the future. It was crucial to the continued success of Enter-Prize that it not become overburdened by mainstream processes.

One way Ohio Bell could help cultivate newstream activity was to decrease the dominance of restrictive vertical relationships—the "elevator mentality" (Kanter 1983)—which permeated the company. It appeared that those suggesting the newstream innovations were often in integrative positions and were able to develop innovative proposals because their roles at Ohio Bell crossed traditional job boundaries. They fit the profile of innovators within organizations as "seeing problems not within limited categories but in terms larger than received wisdom; they make new connections, both intellectual and organizational; and they work across boundaries, reaching beyond the limits of their own jobs-as-given" (Kanter 1983, p. 212). If it was these people, who were used to dealing with a lot of variables, who ended up thinking of ways to improve Ohio Bell's business, then the company should perhaps

have considered making more jobs overlap traditional, functional boundaries so that Ohio Bell could foster an integrationist mode of thinking in more employees in the future.

Enter-Prize was a start for Ohio Bell as it tried to entrench the mindset that minor changes were not the only goal that the organization hoped to achieve from its program of stimulating improvement. With time, the company hoped that all employees would recognize that proposals that influenced the company's business in the external environment of the world marketplace were as important as, if not more important than, ones that affected internal operations. The recent Enter-Prize innovators added a lot of hope to Ohio Bell's future because they developed marketable products, spun-off new businesses, or explored related technologies that could expand the scope of existing operations. The establishment of a supportive structure for employees who were willing to put themselves out on a limb was an instrumental part of Ohio Bell's culture change. Enter-Prize encouraged teamwork across hierarchical levels and developed an all-important sponsorship system between the employees who had ideas and the people who had the power to help make innovative dreams become working realities. Through Enter-Prize, employees gained access to people in the organization who they wouldn't normally have met. This chance to "network" with company officers, members of the corporate and legal staffs, technical experts from the engineering and planning departments, and fellow Enter-Prize participants broadened employees' awareness of company operations and contributed to an ever-valuable integrative way of thinking.

COMPARISONS AND CONCLUSIONS

Of the four models examined so far, only the entrepreneurial vehicles that are more modest in scope and more closely tied to the mainstream business can be deemed successful. Both the *pure venture capital* model and the *new venture development incubator* have been shown to have severe drawbacks, leading in the concrete case studies to their cancellation after disappointing financial results, conflicts with mainstream managers, and a drain of managerial time.

The *employee project* model of the Ohio Bell Enter-Prize Program stands with the *professional project* model (technology development and transfer) of the Raytheon New Product Center as examples of much more successful "engines of progress." Both are effective, but they proceed from different goals and operate in different ways.

In the Raytheon case, new venture/product development activity was pursued for largely *financial* reasons: to ensure continuing innovation to fuel business growth in specific businesses. The professional staff of the entrepreneurial vehicle *were the innovators*. They had a permanent career in the New Product Center. They absorbed *technology* ideas from many parts of the business, listened to the needs of others, and created ideas that were then passed on to the mainstream in the form of commercializable products. As the Raytheon New Product Center evolved, it *learned to fit in* with the existing Raytheon culture. For a variety of reasons, the *receiving mainstream organizations wanted the output of the entrepreneurial program.*

In contrast, in the Ohio Bell case, new idea activity was pursued for largely *cultural* reasons. The professional staff of the entrepreneurial vehicle were *scouts* and *facilitators* of the ideas of others. The innovators were the product/project developers, but they moved in and out of the program as their projects began and ended. Organizational ties and complexities were much greater. As the Enter-Prize Program evolved, the *mainstream culture learned* to absorb the ideas and behaviors of innovators. At the same time, the program staff recognized the need for greater separation between mainstream and newstream in the vulnerable, project
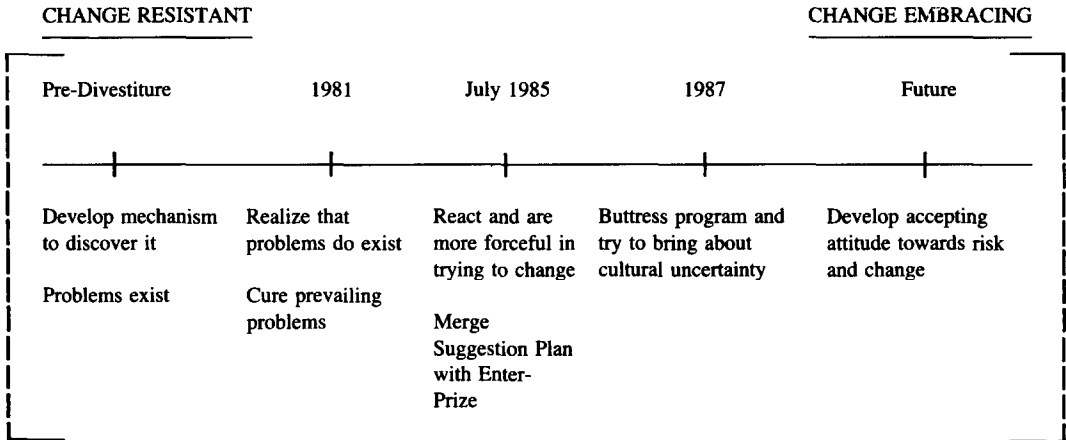
start-up stage, because of the potential for mainstream practices and distractions to interfere with the concentration required for project development. *This made it less likely that the receiving organizations would want the output of the entrepreneurial program.* And in the future the program could further evolve to resemble organizationally the Raytheon New Product Center—a permanent location for new-idea incubation but with a flow-through staff of project leaders. But this would create potential for conflict between mainstream and newstream.

Ultimately, then, the success of an entrepreneurial vehicle as a culture-change mechanism rests on a shaky and unstable foundation. Only if the newstream program produces financially successful projects can it "prove" itself as a model for culture change. But in order to ensure that it produces financially successful projects, it must either screen proposals so carefully that only the talented few get to participate (which undermines its value in spreading entrepreneurial opportunities to more employees); or it must separate newstream projects from the mainstream organization for their incubation period (which makes it more likely that problems of transfer back to the mainstream will occur).

The Ohio Bell Enter-Prize model was successful in its first 5 years, but its success rested on careful management of a delicate balance.

EXHIBIT 1

The Enter-Prize Program at Ohio Bell: Evolution of Employee-Involvement Programs at Ohio Bell

CHANGE RESISTANT   CHANGE EMBRACING

Pre-Divestiture	1981	July 1985	1987	Future
Develop mechanism to discover it	Realize that problems do exist	React and are more forceful in trying to change	Buttress program and try to bring about cultural uncertainty	Develop accepting attitude towards risk and change
Problems exist	Cure prevailing problems	Merge Suggestion Plan with Enter-Prize		

DIRECT LINE	SUGGESTION PLAN	ENTER-PRIZE	SUPPLEMENTARY PROGRAMS	"ENTERPRISE"
• Use complaint box to improve problems	• Employees suggest improvements that are easy to implement	• Try to encourage more than suggestions; want real innovation	• Document cultural change in quarterly video	• Hope that employees take responsibility for their own roles within the company without an official risk-results-in-reward program
• Slow & ineffective	• Requires low employee time investment	• Hope to operationalize innovation and institutionalize it within the company	• Management seminars, executive retreats	
• Perpetuated pessimistic and cynical outlook rather than creating optimistic ideals for the future	• Issues $50 rewards		• Emphasis on Work Relations survey	
			• Change compensation package	

EXHIBIT 2

The Enter-Prize Program at Ohio Bell: Types of Enter-Prize Projects

Enter-Prize projects range from technical products that generate revenue or save money to processes for field work or office use that streamline operations and mechanize work. Below is a sample of some of Enter-Prize's major winning entries.

Ohio Lotto Multipoint Data Bridge

In July 1985, Paul Karas developed a system that solved a customer's problem. The customer was the state of Ohio and the problem centered around the lottery network, which broke

down when one terminal malfunctioned. Downtime meant lost revenues for the state and disgruntled patrons. Karas' Multipoint Data Bridge resolved this problem and, thereby, increased revenue and bettered customer relations both for Ohio bell and for the lottery. His solution to one customer's problem is applicable for other customers' use as well as for internal use at Ohio Bell.

Echo Canceller

In November 1985, Gene Mosley invented a system that automatically controls "echoes," sounds that cause poor telephone transmission and can make it difficult to hear or be heard on connections. Granger Associates currently manufactures Mosley's redesigned echo canceller (Ohio Bell cannot manufacture products because of deregulation restrictions). Mosley commented, "I never felt that an engineering idea from an operating company would fly. But now other regional holding companies are considering the system. We're setting a precedent."

Glocator

After a May 1985 visit to Bellcore, John Aulicino thought of a field application for a laboratory helium-neon laser. Aulicino believed that the laser could pinpoint fiber breaks or imperfections and quickly identify which fiber strands required replacement, a tool that would add great precision to repair procedures. Bellcore worked on a prototype and in November 1986, Aulicino teamed up with Bob Branicky to work out a manufacturing and marketing plan that did not violate divestiture agreements. Aulicino and Branicky hammered out a contract with Hughes Aircraft Company, which made the Glocator a registered trademark of Hughes'. The Glocator has been sold as far away as Brazil.

EADAS-Consolidating Software

In April 1986, Roger Hixson and Tom Penty found a way to save Ohio Bell over a million dollars by developing software that consolidates EADAS—a basic tool needed to run the company—onto an already up-and-running network. Their software reduced operating costs from $1.2 million to $360,000. The streamlining resulted in software that an outside vendor can offer to other customers who use its system.

Depreciation Rate Study Software

In November 1986, Frank Novak developed software that was used in 1987 to prepare Ohio Bell's official three-year depreciation-rate study. His project represented a year and a half's worth of work at merging mathematics and computer applications. He transferred his 14,000-line program from the basement study of his house to Ohio Bell, which is currently marketing the product to companies outside the Ameritech region.

Mechanized Feeder Administration (MFA) Software

In March 1987, Walt Bailey perfected the computer software that had given way to his previous Enter-Prize project of MCFIG. MFA contributed to efficient handling of several data bases and broadened the scope of information available to engineers. Because it was

so complex, it took a while for Bailey to fully develop it, but when it was finished, MFA resulted in more efficient use of corporate capital and faster delivery of service to customers.

Mechanized CARL File Input Generator (MCFIG) Software

In November 1986, engineers Walt Bailey and George Badziong turned an idea into a working product and brought that product to market. The eventual outcome, MCFIG, decreased the time it took to generate an engineering document as it automated processes and eliminated unnecessary manual work. Bailey and Badziong ended up creating a company within the Ohio Bell company and had Ohio Bell as the first "customer." An outside vendor is pursuing sales of the software to other regional Bell operating companies.

CRAS Installation and Maintenance Productivity Plan

In October 1987, Carol Twigger found a way to eliminate unnecessary manual efforts involved in producing productivity information for installers. Her software system provided a uniform method of gathering results and can be applied to other functions besides installation. CRAS has external market potential and meetings with AT&T, the most logical vendor, are being pursued.

Controlled Environmental Vault

In June 1986, non-management employee Jim Martin approached manager Don Skaggs about an idea he had that would help Ohio Bell better serve a Columbus-area customer. His project saved the company thousands of dollars as it avoided substantial installation delays by providing service through use of existing facilities housed in a Controlled Environmental Vault.

Inventory Mechanization

In August 1986, Bill Zaranec promoted an idea that would decrease surplus stock by mechanizing a system that tracked materials and supplies throughout the state. With Zaranec's system, employees cannot order an item if there is stock of the same item in surplus. Such inventory mechanization not only saved money but sped up Ohio Bell's delivery of orders.

EXHIBIT 3

The Enter-Prize Program at Ohio Bell: Rejection Letter

Innovation No. 0387005

May 8, 1987

Dear

Thank you for your Idea to have call waiting updated so that it is on a manual basis so that the customer may activate it or deactivate it as they wish. Your participation in Enter-Prize is appreciated.

According to the departmental evaluation, call waiting, a part of our Custom Calling Services,

is a generic program feature that is provided to us for our switching machines by the vendor. One of our switching machine vendors has provided us with an enhancement in their updated generic software packages called "Cancel Call Waiting."

Ohio Bell is requesting that the other vendors also provide this enhancement to their switching machine generic program.

Although this Idea is not recommended for adoption, perhaps your next one will be a winner. Keep trying—we need your Ideas to keep growing. A Form 9694 is enclosed for your use.

Sincerely,

Paul E. Courtwright
Assistant Administrator
Enter-Prize

Enclosure

EXHIBIT 4

The Enter-Prize Program at Ohio Bell: Summary of Enter-Prize Process as Experienced by a Winner

The following passage summarizes the working process for Enter-Prize entrepreneurs:

> In the early days, I was very private about my project and told no one I was working on it. I didn't know if I had a workable project and didn't want to tell people and then end up failing at it. Even though I didn't have the qualifications to develop the [computer] program, I was obsessed with making it work. I don't know why but I couldn't wait to get home to work on it each day.
>
> I learned I could be an Enter-Prize winner after I had a finished product. I filled out the application, worked with my supervisor to refine it, and was granted money for it. Really, the only company time I spent on my project was making phone calls or traveling. I developed procedures and everything at home.
>
> I didn't ask to be taken off the job because I was the only person in the company able to do it. It would have taken two months to train someone else and I didn't want to take that time. But, it was a major mistake not asking to be taken off the job—I didn't predict the problems and setbacks that would come. When I faced them I needed time and energy to resolve them, time and energy that I didn't have because I was still working on my regular job. Most Enter-Prize people don't have this problem though.
>
> The Innovation Fair was an incentive to make my idea "go." Without the Fair, I probably would have given up. Cleaning women to clerical workers to engineers to assistant vice-presidents were all saying, "This is good. We need it. I know people who do it manually." I developed a commitment to strangers as well as to myself to make this project work. It was also good to talk to the other Enter-Prize program winners. They understood how it is to be tired at work on Monday but still be happy inside. We had a lot in common—we all put in time outside our job and we all wanted to do something extra. I wouldn't hesitate to pick up the phone today, if I hit a big obstacle, and talk it over with some of the people I met that day.
>
> The award was no incentive whatsoever. I don't want money to be involved because my project is too important to put a price on. I want my project to be recognized because it is valuable. If other projects are getting prizes though, I want mine to size up to the value of the others.

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