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IN

PROFILES IN OPERATIONS RESEARCH

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George Kozmetsky

George Kozmetsky played an essential role in the establishment and development of operations research (OR) and management science (MS) in the U.S. He was one of a small number of visionaries who, during the early 1950s, recognized the importance of quantitative wartime research to business and organizations. He was instrumental in the founding of TIMS and served as TIMS’s fifth president. He wrote one of the earliest treatises spelling out the impact of digital computers on management and organizations (Kozmetsky, Kircher 1956). George played a key role in applying OR and MS to business and society by his uncanny talent for translating OR/MS academic research findings and theory into practical applications and, conversely, for identifying promising applications and new research areas for OR/MS researchers. He demonstrated through his own entrepreneurial activities the value of OR and MS in the practical world. At the same time, he made significant contributions to underlying theories relating to MS.

To the broader public, George is better known for his many-faceted contributions to society: successful entrepreneur (co-founder of Teledyne, Inc.); theorist and writer in the fields of management, entrepreneurship and innovation, organizational behavior, technology commercialization, venture management, regional economic development, and business education; architect of the city of Austin’s rise as a Technopolis, and development of other Technopolis regions throughout the world; Dean of the Business School of The University of Texas at Austin who transformed the School from a regional business school into a world-renown educational institution; mentor or investor to hundreds of successful entrepreneurs and business leaders; the founder of IC² Institute, one of the world’s leading interdisciplinary organizations focusing on economic and societal growth and progress; and philanthropist who, with his wife, Ronya, founded the RGK Foundation which has funded ground-breaking research in such areas as education, women’s rights, and medical research. George was awarded the National Medal of Technology by President Clinton for being the driving force behind the commercialization of various technologies. His contributions to OR and MS, the practice and development of management education, and his positive impact on individuals and organizations, continue to have a major impact on global economic development and society. Throughout his life, George seems to have consistently been at the right place at the right time with the needed intelligence, energy, talent, and vision to make a difference.

The Early Years

George Kozmetsky was born in Seattle, Washington on October 5, 1917 to George and Nadya Kozmetsky, both recent immigrants from Grodna, Belarus. He was five years old when his father died. To support the family, his mother (whose maiden name was Omelanitz) worked cleaning Pullman cars and, when he grew old enough, George unloaded fishing boats at Seattle’s docks. After graduating from Franklin High School in 1934, he enrolled at the University of Washington. At the University of Washington, George was exposed to a number of truly outstanding teachers, some of whom became role models: Clark Kerr, who later developed the University of California system, and Grant Butterbaugh, who asked George to run the statistics laboratory at the University. As an ROTC
student, he spent the summer of his junior year in 1937 training in Vancouver, Washington. As an early but minor example of “being at the right place at the right time,” George, who had learned Russian from his parents, was asked by the Barracks Commander, General George C. Marshall, to act as translator for two Russian pilots who had landed in Vancouver for refueling. Kozmetsky was commended for his good work. In 1938, he graduated from the University of Washington at the age of twenty receiving a BA degree in political science. A year later, he and a fellow classmate opened the first CPA firm in Olympia, the capital of Washington, where he worked until he joined the Army soon after Pearl Harbor.

Although George graduated from the University of Washington as an ROTC candidate, he failed to pass his ROTC physical exam and, therefore, did not receive a commission. When the United States entered World War II, he felt strongly that he should support his nation. George enlisted in the Army as a private, passing the physical without mentioning that he had failed an earlier physical. Just before he was shipped to Europe in late 1943, he married his sweetheart, Ronya Kcosiff, also a University of Washington graduate. George and Ronya had met three years earlier on a blind date. As children of Russian immigrant families, they shared the same culture, had similar values, and both had a deep appreciation for hard work and for education. According to George, on the day that they married—November 5, 1943—Ronya told him that she gave the marriage five years. Fortunately, Ronya’s prediction proved incorrect, and they enjoyed a strong marriage and family life, while developing successful careers and making substantial and continued contributions to academia, business, and public service.

After his initial enlisted military training, George soon moved to the officer ranks. He served as an officer in the medical corps in Europe where he earned a Silver Star, Bronze Star with Oak Leaf Cluster, and Purple Heart. He was frequently on the front lines providing emergency medical care for injured soldiers. George was wounded while performing spot surgery. He rarely talked about his war experiences, but he did admit that he took the opportunity, while training for the medical corps and in the field of battle, to read every medical book and article that he could get his hands on. He retained an avid interest in medical research for the rest of his life. This was a pattern that George would follow throughout his professional life—he would identify an area that had great importance to him, become immersed in the literature, set forth a research agenda, and experiment with applications.

Harvard, Carnegie and the Revolution in MS

By the time George returned from Europe, he and Ronya had saved enough funds to support his graduate education. He was offered fellowships and assistantships to attend graduate school at several prominent universities, including Columbia and Michigan. He and Ronya concluded, however, that Harvard Business School was the place to pursue his graduate education. During his MBA studies, George prepared a number of Harvard Business School (HBS) case studies that
focused on managerial accounting and control. He received his MBA as a Baker Scholar in 1947 and, thus, joined the ranks of the World War II military veterans who attended the HBS and who subsequently transformed American business in the postwar period (Callahan and Forbes, Inc. 2002). George decided to remain at Harvard to pursue a doctoral degree in a new “teach and study” program. In the summers, he taught and helped members and leaders of the United Steel Workers of America and other unions to understand contracts and financial reports, as well as improving their negotiating skills. George’s dissertation focused on the financial aspects of labor unions and pension funds, the first time such an examination of this aspect of union administration had been undertaken. His dissertation was published by Harvard under the title “Financial Reports of Labor Unions” (Kozmetsky, 1950). During this period, he taught a wide range of courses at Harvard’s Graduate School of Business and at Radcliffe: accounting, control, finance, labor economics, and social, economic, and political problems. George was invited to join an informal, distinguished group of Boston area professors who met weekly to discuss the nascent field of what they had labeled the “behavioral sciences.” As a result of his research into administrative and behavioral sciences, he became quite familiar with the work of Carnegie’s Professor Herbert Simon, a future Nobel Laureate in Economics, who laid the foundations for what is now called “behavioral economics.”

In 1950, Dean George Leland Bach and Professor Simon, from the new Graduate School of Industrial Administration (GSIA) at Carnegie Institute of Technology (now Carnegie Mellon University), visited Harvard to hire a talented case method professor to supplement the quantitative courses that Carnegie was offering. After some discussion, they hired George as an Assistant Professor of Finance to start in the fall of 1950 (Cooper, 2007). For his part, George recognized that a major change in the study of management was being led by the faculty at Carnegie. He quickly became intrigued with Carnegie’s “applications research” approach to management which focused on generating general theories of management and which drew on a broad base of knowledge including accounting, behavioral sciences and organization theory, as well as emphasizing database and field studies. At Carnegie, Herb Simon, George Kozmetsky, William (Bill) W. Cooper and their colleagues led in the application of behavioral science research to management. George became a strong advocate for the new discipline of MS; he was also a bridge to Harvard’s more traditional case study approach to teaching business. George obtained funding from the Controllership Foundation to support GSIA’s research into the evolving nature of the controllership function which culminated in the book *Centralization vs. Decentralization in Organizing the Controller’s Department* (Simon et al. 1954).

The Good Old Days: The Controller’s Office in the 1960s

"After receiving my MBA in 1965, I (Larry Secrest) worked in the Ford Motor Company corporate controller’s office and subsequently in the corporate controller’s office of Lear Siegler, Inc, a rapidly growing conglomerate. At Ford, it typically took more than a month to close the monthly corporate books in those days—we were simply overwhelmed with accounting numbers and different accounting treatments. Management did not want to wait a month to find out how the company had performed financially in the prior month...so we developed some pretty clever approximations to give management estimated profits and sales in a week or two after the end of the month. For example, we weighed invoices on a factory scale in order to estimate accounts payable (as I recall, 100 pounds of invoices = $60,000 of accounts payable—a rather interesting use of statistical inference).

"In both companies, the Simon et al. book was a much used desk reference. Both of these large, rapidly growing companies were dealing with the many issues of consolidated financial reporting and the need for decentralized reporting. Simon et al. was the best source of wisdom on how to maintain financial integrity, consolidate information in a timely manner, and allow decentralized decision making and, thus, improved performance. It was required reading for anyone who wanted to succeed in the modern large corporation.”

(Secrest 2008)
Business Leader and Entrepreneur

In 1952, George was offered an Assistant Controllership position at Hughes Aircraft by his Harvard classmate, Roy Ash. Initially, he indicated that he really did not have much interest in the Hughes position and was very happy at Carnegie, but Ash persisted. George visited Hughes where several of his Harvard classmates and other talented managers were transforming Hughes from a failing aircraft company into a state of the art electronics company. Recognizing that Hughes would provide him a base from which to refine his practical understanding of business and organizations, as well as provide his family with a sounder economic position, George accepted the position. Hughes Aircraft had a truly extraordinary management team that included Roy Ash, Tex Thornton, Simon Ramo, and Dean Woolridge. George quickly realized, however, that although the company had successfully moved into defense contracting in record time, they had failed to set up an integrated accounting, control, and project management system that would allow the company to meet, on schedule, its commitments for delivering a major new airborne radar system. The urgency of the situation caused him to conclude that the establishment of traditional accounting controls would take too long. Hence, with the assistance of Carnegie Mellon academic colleagues, especially Bill Cooper and Abe Charnes, a new management and control system was designed and installed; it was based on statistical measurement and provided the tools for managing and delivering the radar project on time. George subsequently transferred from the controller’s office to Hughes Advanced Electronics Laboratory where he learned to program and build digital computers (Cooper 2007).

At this point in his career, George was faced with a number of attractive career opportunities, including job offers from Robert McNamara at Ford Motor Company and Robert Trueblood at Carborundum. He decided he wanted a position that would allow him to focus on using computers in management. Roy Ash, who had left Hughes for Litton Industries, offered George the chance to develop a digital computer system for Litton. He took the challenge and, in a relatively short period, proved his vision by transforming Litton’s digital computer department.

Recognizing George’s entrepreneurial abilities, Tex Thornton, now the head of Litton, offered him the management of his own division. Shortly thereafter, the division received a major contract from the Navy for the development of a large, airborne computer system which evolved into the Department of Defense Airborne Warning And Control System. George always identified Thornton’s offer to head a stand-alone division at Litton as an important beginning in his development as an entrepreneur. In his new position, he worked directly with Henry Singleton who was in charge of inertial guidance systems for Litton. Together, they were a tremendously talented management team: Henry was extremely capable in science and engineering; George was equally capable in business systems and finance. In less than six years they and their colleagues built a division with an order backlog of more than $1 billion.
However, when it became clear that they would not be able to maintain the Electronic Equipments Division as an integrated group within Litton, George and Henry, now corporate vice presidents, left the company. Within six months, they founded Teledyne, Inc. in 1960.

The founding of Teledyne was in many respects a classic application of MS. The company’s strategic plan built on the strengths of each founder: Henry’s prowess in inertia guidance, robotics, and information theory, and George’s expertise in management systems, computers, government contracting, and finance. They studied future markets, growth rates, and profit margins for a number of products and components. In the end, they carefully selected the product-market areas with the best potential for growth and profit and in which they were likely to have a competitive advantage. The goal was to grow their new company to $1 billion in ten years.

As Teledyne was being founded, George’s wife Ronya, who was a social worker, decided to change her career to that of a school teacher. While raising three children, Ronya began taking classes in education at the University of California, Los Angeles (UCLA) and became a school teacher. Since George and Henry had agreed to initially forgo a salary from their new company, the school teacher temporarily became the primary breadwinner for the Kozmetsky family.

At first Teledyne’s business model did not progress as the founders had envisioned. In less than a year, the company was close to running out of working capital. At this moment, as fate would have it, a fire swept through Bellaire destroying several hundred homes including the Kozmetsky’s. When the insurance check arrived, Ronya, George and the family decided to continue living in their motel room and to invest the insurance money in Teledyne. These funds helped keep the company solvent until George and Henry were able to raise additional capital. After a shaky first year, the company began to thrive, becoming very successful in government contracting and in the acquisition of promising technology companies. Teledyne developed into an amalgam of over 130 companies that made products that included electronics, engine tools, acoustic research, stereo speakers, and seismic systems to monitor earthquakes. The founder’s exceeded their original goal of building a $1 billion company in ten years by accomplishing it in eight.

When Teledyne was founded, George told Henry that one day he hoped to return to academia to promote advanced teaching methods and curricula in management. Teledyne was prospering and George was eager for another challenge. As his son Greg noted in an article by Walters (2003, 14), “He felt it was time for him to bring academia and the corporate world closer together.”

**MS at the Longhorn Corral: UT-Austin**

George received very attractive offers from Carnegie Mellon and the University of California, Berkeley (which offered a joint appointment in engineering and business), but ultimately, the
University of Texas (UT) at Austin presented him with the most attractive offer: Dean of one of the nation’s largest collegiate schools of business. Judson Neff, a former teacher of George at Harvard, and Foster Parker, an executive with Brown and Root (an engineering and construction company), both influential members of the UT Business Advisory Council, were strong advocates for George’s appointment. George was particularly impressed with the quality and commitment of the University’s Board of Regents and Chancellor Harry Ransom and Provost Norman Hackerman. In the summer of 1966, the Kozmetsky family drove from Los Angeles to Texas. In September, George began his new job as Dean of the College of Business, University of Texas at Austin.

In typical Kozmetsky fashion, George set a number of important goals prior to becoming Dean. One of his first and highest priorities was to create a first class MS/OR faculty. To achieve this goal, he turned to Carnegie Mellon and to his many MS/OR colleagues. His major hires included three highly respected professors: Abe Charnes, Tim Ruefli, and some years later, Bill Cooper. In conjunction with his hiring goals, George brought leading academicians from Harvard, Stanford, SRI International, NASA, and other leading institutions to conduct research into technology management, including management of research organizations, technology forecasting, and to generate practical applications from these research efforts. Leaders in the technology sector who were recruited included Albert Shapero, James Bright, and Eugene Konecci. Also, under Dean Kozmetsky, particular emphasis was placed on technology entrepreneurship and innovation. Within a very short period of time, UT became internationally recognized as a leading center for OR/MS, management of technology, entrepreneurship, and practical applications.

George used his business contacts to revitalize the College of Business Advisory Board, and to enhance close communication between the Texas and global business communities and the College of Business’ professors. Shortly after his arrival, the College of Business received its first endowed chair which was soon followed by almost two dozen additional endowed chairs. Business leaders in Texas and elsewhere increasingly began to turn to the UT College of Business for help with problems that they encountered in their businesses.

George encouraged the business faculty to work more closely with colleagues in other academic fields to solve important problems. Joint appointments and interdepartmental research and teaching by the business school faculty included cooperative activities with faculty and students in engineering, architecture, history, philosophy, economics, political science, psychology, social work and other academic disciplines. Particularly strong relationships were forged with the LBJ School of Public Affairs and the Law School where joint MBA degrees were offered for the first time. George also served as an advisor to The University of Texas System Offices, a position which enabled him to promote interdisciplinary research throughout the entire university system; he was instrumental in the establishment of the Advanced Robotics Research Center at UT Arlington, The Center for Energy and Economic Diversification at UT Permian Basin, and a variety of cross border programs with Mexico.

During his fifth year at UT, George undertook a major revision of the graduate business curriculum emphasizing MS/OR, management of research and development, management of technology, technology forecasting, entrepreneurship, new product development, technology
venturing, program management, and seminars for husband-wife teams focusing on career and life planning, all concepts that students could use in their careers. Simultaneously, he introduced Classroom 2000 that incorporated state of the art information technologies into the classroom. In conjunction with the College of Engineering, he established an experiential laboratory course focusing on the dynamics of fast-growth new technologies, successful commercialization of promising new technologies, and methods for accelerating regional economic development.

The new curriculum and subsequent modifications focused on producing creative and innovative managers, a theme that George followed throughout the remainder of his career. For example, George noted that the “University of tomorrow must get prepared to research and teach creative and innovative management as a new discipline requiring understanding and implementation of solutions to generalized as well as specific problems of society.” (Kozmetsky, 1984, 3) See also Kozmetsky, 1985 and Smilor, et al, 1988)

IC²

In 1982, George resigned as Dean of UT’s Business School to devote full-time to the Institute for Constructive Capitalism (IC²) that he had founded as an arm of The University of Texas at Austin in 1977. George was deeply concerned with the seeming inability of many parts of the world to participate in the economic and technical growth that was occurring in the U.S. His vision was to have a “Think and Do” center that would seek ways to improve business, government and academic relations at home and abroad, and to accelerate economic development throughout the world through technology commercialization.

The Institute gave George the freedom and opportunity to work on large-scale unstructured problems that required transdisciplinary and collaborative research and methodologies. He again drew on his national and international colleagues in academia, business, and government to found a virtual network of IC² Institute Fellows ultimately totaling over 200 leading scholars and practitioners. The underlying guidelines of IC² were to foster academic, business, and government collaboration; to be global and multidisciplinary; to focus on unstructured problems; to appreciate both technology and ideology; to extend academic and professional boundaries; and to engage in theory application as well as theory development—“Think and Do” was the motto.

George catalyzed, networked, and supported Institute Fellows’s research in areas within and outside of OR: Data Envelopment Analysis (DEA); evolutionary economics; innovation economics; medicine; telecommunications; diffusion of innovation; network methods (both the classical OR type and the newer MySpace type); strategic alliances and consortia; Post-Cold War politics and nuclear disarmament; demographics; lean manufacturing; statistical information theory and optimization; and Japanese management methods, among others (Cooper et al. 1997; Kozmetsky et al. 1994; Thore et al. 1995; Ronstadt and Kozmetsky 1999.)

The Institute, subsequently renamed the Institute for Innovation, Creativity and Capital (still IC²), was a key catalyst at UT and with greater Austin’s business and government sectors. It
helped implement the grand plan that transformed Austin from a university and government town into a world recognized “technopolis.”

In 1989, IC² launched the Austin Technology Incubator (ATI) with city, county, and university support. Simultaneously, IC² also established The Texas Capital Network to provide a virtual meeting place for venture capital providers, angels, and entrepreneurs. In the early 1990s, IC² was instrumental in the establishment of additional community entrepreneurial and networking organizations such as the Austin Software Council. In 1996, IC² launched UT-Austin’s first Internet-based degree program, the M.S. in Science and Technology Commercialization. Based on these and other creative and innovative programs, IC² engaged in a range of state, national, and international research, education, and “technopolis building” programs. Over the years, IC² has become recognized as a key contributing institution in the areas of entrepreneurship, technology commercialization, and services to accelerate wealth and job creation through technology-based entrepreneurship and economic development.

Impact on TIMS and MS

The Operations Research Society of America (ORSA) was founded in 1953 mainly by OR analysts who were introduced to the field due to their work for the various branches of the U.S. military services during World War II. George, Bill Cooper and Mel Salveson, as well as a few others, decided that a professional society, one that emphasized a more inclusive approach to management, was needed; it would encompass all disciplines, especially behavioral sciences, that could contribute to increased understanding of the practice of management. They felt very strongly that the focus of ORSA was too narrow (tending to military applications) and that requirements for membership (at that time) too constraining. Thus, from its inception, The Institute of Management Sciences (TIMS) was global in membership and open to all scholars in disciplines that impacted the practice of management. Particular emphasis was placed on interdisciplinary research and applications. Founding TIMS President Bill Cooper recalls that as a Hughes Aircraft executive, George provided space and financial support for the first meetings of the group that would later become TIMS. In 1953, TIMS was formed in New York City with around 200 initial members (Cooper, 2007). George stayed active in TIMS serving as its first secretary-treasurer in 1954 and its fifth president in 1958.
As a trained accountant, George ran his enterprises by the numbers and was interested in anything that could make the numbers tell a more complete story. OR/MS fit the bill perfectly, as did the advent of the digital computer. He and many of his university colleagues believed that a revolution in management education was underway, and that this revolution consisted of transforming management and administration from an art to a science. These themes remained major forces throughout George’s academic and corporate activities. He demonstrated that OR/MS provided business organizations with invaluable tools for improving efficiency and effectiveness. He was a prime force in moving OR/MS from academia to business practice.

Vision Through Publications

Although George’s most visible accomplishments rested in the fields of economic development, entrepreneurship, business leadership, technology investments, and mentoring, he also had a profound impact on the teaching and study of management through his extensive writings and published works. Throughout his life, George Kozmetsky could be found on the boundaries and intersections of knowledge, identifying critical issues facing society, trying to understand the key factors driving large, ill-defined problems and seeking solutions to those issues.

Shortly after the birth of the modern electronic computer, George became convinced that the digital computer would have a huge transformational impact on the practice of management and management controls. Thus one of his earliest publications is a seminal discourse on the pervasive role digital computers would play in the future development of management,
management control systems, and the management of organizations (Kozmetsky and Kircher 1956).

In partnership with Herb Simon, Kozmetsky and others also made a major contribution to the practical application of OR/MS in a pioneering study of the controllership function in large organizations. This study discussed the behavioral and quantitative issues impacting large organizations generally and the impact of both behavioral sciences and digital computers on the controllership function in large, complex organizations. (Simon et al, 1954) It thus provided a viable framework which allowed decentralized management of increasingly large and complex modern organizations while retaining the integrity of financial controls and reporting at the corporate level.

By the time he became Dean of the College of Business at The University of Texas at Austin in 1966, George was convinced that unparalleled changes were taking place which would rapidly transform and drive the twenty-first century global economy and society.

The OR Vision of George

“It was a wide-ranging, transdisciplinary vision that sometimes George’s visitors found hard to understand. It ventured into areas beyond those that had been structured by the mathematics of operations research. George introduced us to qualitative methods of data collection and analysis—methods better suited to the new and emerging topic areas that interested him, but methods that most of his OR colleagues would have rejected in the ordinary course of things. ‘Do the scoring and run the model,’ he would say, ‘and then check your gut. If [your math and your intuition] are not saying the same thing, re-examine both of them and don’t make the decision until the two are in agreement.’

Phillips (2007)

“First, we are on the threshold of a great technology era in the United states and throughout the world. Technology is dramatically altering the shape and direction of society and the way people think and act. The rapid increase in and diversity of new technologies are changing the nature of economic competition. How communities, regions, and nations anticipate and respond to this new competitive environment will largely determine the health and viability of their economies.

Second, the nature of economic development has fundamentally and permanently changed. New institutional alliances are altering the strategy and tactics of economic development and diversification. New relationships between the public and private sectors – especially among business, government, and academia – are having far-reaching consequences on the way we think about
and take action on economic development.” (Smilor, et al, 1988 (2) 50)

George would often emphasize the impact of these changes stating, “You can’t have a government that doesn’t trust business, you can’t have business that doesn’t trust government, and academia can’t proceed on a tangent that has no reference to business or government. (Walters, 2003, 15)

At The University of Texas at Austin, George reorganized the business school based largely on these two key assumptions. After leaving the business school for IC², the impact and management of technology commercialization on economic development and wealth creation became one of George’s major focuses. Much of the research and publications during the early years of IC² reflected this emphasis. As Kozmetsky noted, “Today’s environment for managing change is fundamentally different from even a decade ago…. International competition is taking the form of a worldwide scientific, technological and economic race for preeminence.” (Kozmetsky, 1985, xv) Notable publications inspired by Kozmetsky that focused on technology commercialization and economic development included Creating the Technopolis (Smilor, R., et al, 1988), Technology Companies & Global Markets (Gibson, 1991), and The Technopolis Phenomenon. (Gibson, et al, 1992)

Simultaneously, George recognized that existing management philosophies and concepts were inadequate to deal with dramatically increasing rates of change in society, multi-disciplinary issues and solutions, and the need to blend the best elements of professional and entrepreneurial management into a new discipline: creative and innovative management. This recognition gave rise to an additional research focus: What management characteristics and training are required by the changes that will be occurring in the twenty-first century? In Kozmetsky’s opinion a new type of manager was required with the ability to identify and solve complex, unstructured problems that typically cross functional and disciplinary boundaries.

“In my definition, creative management involves abilities to take a problem or crisis and develop its issues, generate alternative solutions, and select feasible initiatives from among the alternatives. Furthermore, creative and innovative management includes the ability to use initiatives as a first step to solutions. These initiatives need to be monitored to determine that the actions are indeed solving the problem and not creating new ones.” (Kozmetsky, G., 1984 4)

Charnes and Cooper sum up the impact for academia: “The end result, we believe, will be a new and important academic discipline that presently seems to be missing or at least underemphasized in our schools of management.” (Charnes, A., W. Cooper, 1984, xvi)
Published posthumously, *Immigrant and Minority Entrepreneurship: The Continuous Rebirth of American Communities*. 2004, edited with John Butler, was in many ways, a reflection of George’s personal background as the son of immigrants, and the importance he and John Butler placed on immigrants as a source of entrepreneurship and innovation in America.

During his career, George edited, co-authored or authored over twenty books and hundreds of articles. More relevant, his vision and ideas continue to inspire a growing number of publications from other authors. In 1984, Abe Charnes and Bill Cooper, both legendary figures in OR, published *Creative and Innovative Management: Essays in Honor of George Kozmetsky*, a collection of writings in the many areas of interest to George including those mentioned above. This book, perhaps better than George’s own writings, illustrates the breadth and depth of his influence on society.

**Giving Back**

Ronya, George and the entire Kozmetsky family strongly believed in the importance of giving back to society and in striving to improve the world. Just after moving to Texas, in 1966, Ronya and George acted on their longtime belief in and support of philanthropy by creating the RGK Foundation to help fund research and solutions to important societal problems in which they and society had interest. Over the years, The RGK Foundation has distributed tens of millions of dollars to worthy causes, contributing to such diverse social needs as mathematics and science education programs, neuroscience research, and housing for hurricane victims in Honduras. Ronya and George were especially committed to children oriented causes and Ronya was a founding board member of the Austin Children’s Advocacy Center. Ronya was inducted into the McCombs School’s (the renamed UT Austin School of Business) Hall of Fame in 1995. She sponsored the annual Women in Business Leadership Conference through the RGK Foundation. Ronya’s car has long displayed a bumper sticker that states: “If you think education is expensive, try ignorance.” The RGK Foundation also gave generously to Austin art and civic organizations as well as to the University of Texas and St. Edwards University. The month before he died, George gave $6 Million to Stanford University to found the Kozmetsky Global Collaboratory to work with IC² at UT-Austin on large scale unstructured global challenges.

**Honors and Remembrances**

George Kozmetsky is remembered for his splendid disregard of disciplinary boundaries, for his steadfast vision and mental agility, for his successes in business, and for his unstinting mentorship and inspiration of generations of students and faculty. In 1993, George was awarded the National Medal of Technology by President Clinton “for his commercialization of various technologies through the establishment and development of over one hundred technology based companies that employ tens of thousands of people and export over one billion dollars worldwide.” (Department of Commerce, 1993)

George’s comments regarding his selection for the Medal probably best captures what he valued most.
"As a first-generation American, I find it very humbling—indeed beyond my imagination—to be given this award. Whatever I have accomplished is the result of being an American plus great good fortune. I had wonderful parents. I have had a wife and children who were always with me, an excellent education, wise mentors, friends who inspired and supported me, exciting entrepreneurial ventures, and the opportunity to participate in cutting-edge programs and projects that link the academic, business, and government sectors for the general welfare. Mrs. Kozmetsky and I feel very strongly that individuals who have been so privileged ought to contribute to society. To be honored for simply being a responsible citizen is overwhelming, and I am deeply grateful."

George’s other awards and honors include: the 1987-88 Dow Jones Award from the American Assembly of Collegiate Schools of Business for his outstanding contributions to management education; the 1988 Thomas Jefferson Award from the Technology Transfer Society for his work in advancing technology transfer; and induction into the Texas Business Hall of Fame for his business contributions to the State of Texas. In 1989, he received the University of Washington Alumnus Summa Dignatus Award. He was Austin’s 1992 Entrepreneur of the Year. He is the first recipient of the Entrepreneurial Leadership Award from the MIT enterprise Forum of Cambridge, Inc. The YWCA of Austin honored George among its first Mentors and Allies for his sensitivity and gender blindness that goes beyond the definition of mentor to promoter of women in leadership positions.

George always took his greatest pride in the success of the many students and colleagues that he worked with and mentored. Even after failing health required him to use a wheelchair, he continued to work with students and colleagues on his and their favorite projects like the Cross-Border Institute for Regional Development initiative with South Texas and Northern Mexico education, business, and government communities. Young scholars and entrepreneurs had a special appeal for George, and he was always available to advise the interested as long as they would come by his office anytime between 4:30 and 6:30AM. Reflecting on his father’s impact, George’s son Greg stated:

"I think my father’s legacy, besides his family which always came first, is all the students he touched over the almost 50 years of teaching. He loved teaching; he loved the university; he loved meeting and talking to students. I really think that first and foremost, he would say he was an educator.” (Knight Rider 2003).

During George’s memorial service, Larry Faulkner, President of UT-Austin, captured George in the following word portrait (Knight Rider, 2003):
“George was a creative force of very rare power and quality, not only in this university but also in the business community worldwide. His institutional legacy here is extraordinary, and his influence will be felt for generations. And at a personal level, all who knew him will miss his generous spirit and remarkable imagination and vision.”

In a late in life conversation with the authors, George lamented the fact that “so many exciting things are happening... there are so many urgent needs that I won’t be around to watch and help.” In short, to George, life was a quest to better the world by learning everything he could about an area that he saw as having a great impact on mankind, generating hypotheses regarding how best to achieve useful goals, and then proceeding to test and implement these hypotheses. Life was an opportunity to conduct experiments, to learn more about the key elements of the world, and to accelerate the pace of change.

Such was the life of George Kozmetsky, always on the cutting edge of knowledge, always a fast ride with goals well beyond what anyone would normally dream, coupled with a pervasive excitement and energy of actually making a difference.

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References


Cooper, W. George Kozmetsky’s impact on management science and operations research. 2007 Tape recorded interview conducted by L. Secrest. The University of Texas at Austin (September 21)


Knight Rider/Tribune Business News. 2003. Entrepreneur who gave Austin its tech wings dies at 85 (May 1)

Kozmetsky, G. 1950. Financial Reports of Labor Unions. Division of Research, Graduate School of Business Administration, Harvard University, Boston, MA.


Ronstadt, R., G. Kozmetsky. 1999. eds. Newer Perspectives on the Generation of Knowledge, IC² Institute, The University of Texas at Austin.


