"Don't take counsel of your fears."

Fred C. Koch[1]

CHAPTER 1

EVOLUTION OF A BUSINESS

"He that would know what shall be,
must consider what hath been."
—H. G. Bohn[2]

"In truth, there is no such thing as a growth industry. There are only companies organized and operated to create and capitalize on growth opportunities. Industries that assume themselves to be riding some automatic growth escalator invariably descend into stagnation."
—Theodore Levitt[3]

An understanding of MBM® and how it served to guide and build Koch Industries is helped by a brief review of the company's evolution.

A good starting place is my grandfather, Harry Koch, who was trained as a printer's apprentice. He emigrated from the Netherlands in 1888 and three years later settled in Quanah, Texas, where he bought a struggling weekly newspaper and print shop. That newspaper, the *Tribune-Chief*, is still published today.

Quanah was in a very poor area, so many of Harry's customers paid, in part, with barter. My father, Fred C. Koch, born in 1900, saw little future in Quanah or the printing business. He left to study engineering at Rice, where he was elected president of his sophomore class. He transferred to MIT upon learning it had created the first-ever chemical engineering program. He became captain of the boxing team at MIT, where he graduated in 1922. Following graduation, my father was employed as a chemical engineer by three different companies.

In 1925, he was invited by an MIT classmate to become a partner in an engineering firm in Wichita, Kansas. Two years after joining that firm, which was renamed the Winkler-Koch Engineering Company, my father developed an improved thermal cracking process for converting heavy oil into gasoline. His development was less expensive and increased yields with less downtime.

Winkler-Koch's success in selling this process to independent refiners immediately caught the attention of the major oil companies. To control the technology, most of the majors had pooled their cracking patents into what was known as the Patent Club, coordinated by the Universal Oil Products Company (UOP). Then, as now, UOP was the leading refinery process development company. The difference was, back then, UOP was owned by the majors.

Unlike my father's development, which was royalty-free, the Patent Club charged a high royalty. In 1929, the Patent Club—worried about the increased competitiveness of the independents—sued Winkler-Koch and all its customers, alleging patent infringement. This crippled Winkler-Koch's business in the U.S. It survived by building plants abroad, especially in the Soviet Union where it built 15 cracking units. As a result, Winkler-Koch enjoyed its first real financial success during the early years of the Great Depression.

Fred found the Soviet Union to be "a land of hunger, misery and terror." Virtually all the Soviet engineers he worked with were purged by Stalin, who exterminated tens of millions of his own people. This experience, combined with what his Communist associates told him of their methods and plans for world revolution, caused my father to become a staunch anti-Communist.

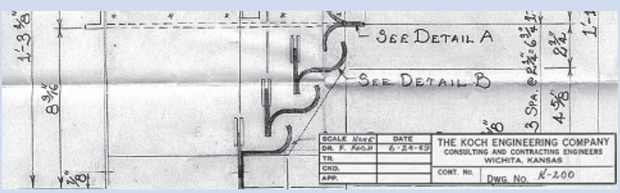
Throughout 23 years of lawsuits with the Patent Club, Winkler-Koch only lost one, and even that verdict was overturned when it was discovered the judge had been bribed. The resulting scandal was so great that the majors "donated" UOP to the American Chemical Society. Winkler-Koch countersued, settling in 1952 for $1.5 million. Although that was a sizeable sum, it prompted my father to advise me to "never sue; the lawyers get a third, the government gets a third and you get your business destroyed." I've tried to follow his advice and have filed very few lawsuits. Unfortunately, he forgot to tell me how to keep from being sued.

In 1940, Fred accepted an offer to join a new company being formed to build a 10,000-barrel-per-day refinery near East St. Louis. This company, the Wood River Oil & Refining Co., Inc., was the predecessor of Koch Industries. My father, one of five initial stockholders, was recruited to design and operate the plant. He bought a 23 percent interest in the company for $230,000.

Wood River got off to a rough start, hampered by a 90 percent "excess profits" tax during World War II and a conflict that arose among the original stockholders. In 1944, two of those stockholders sold their shares back to the company. In 1946, Wood River acquired an 8,000-barrel-per-day refinery and a 10,000-barrel-per-day crude oil gathering system near Duncan, Oklahoma, for $400,000 and a 10 percent interest in Wood River. (Gathering systems transport crude oil from the wellhead to a major pipeline.) These assets were placed in a new, wholly-owned subsidiary, Rock Island Oil & Refining Co., Inc. This refinery was shut down in 1949, but the gathering system became the foundation for Wood River's largest business.

In 1950, the Wood River refinery was sold and the remaining original stockholders sold their interests back to the company. My father retained the Wood River name and used most of the residual proceeds to buy ranches in Montana and Texas. These became his primary focus, along with the development of fractionation devices (used to separate liquids by boiling point differences). Other ventures included fiberglass pipe, camping trailers and cooling towers for homes. He even retrofitted a small fleet of bombers into corporate aircraft, but without success.

THE KASKADE TRAY



Fred C. Koch's innovative design for the Kaskade fractionation tray was introduced by Koch Engineering in 1949. It promised 50 percent more capacity with 25 percent better efficiency, but only at a very narrow throughput range. If its load increased or decreased even slightly, efficiency declined significantly.

Koch gave up on the Kaskade design after a customer accidentally installed the tray upside down and discovered it worked better that way.

As if these business challenges were not enough, my father also had to deal with a houseful of rambunctious boys. I was born in 1935, the second of four. By instilling a work ethic in me at an early age, my father did me a big favor, although it didn't seem like a favor back then. By the time I was eight, he made sure work occupied most of my spare time.

I was not an exemplary student in my early years, but I improved and was accepted at MIT, where I graduated with a bachelor's and two master's degrees in engineering. Following graduation, I stayed in Boston and went to work for Arthur D. Little, Inc. (ADL), a leading consulting firm.

After about two years at ADL my father began pressuring me to return to Wichita and join the family firm. Since I was learning a lot and enjoyed what I was doing, I turned him down. Finally, he made me an offer I couldn't refuse. He said his health was poor, and if I didn't come back to run the company, he would sell it.

By 1961, the company's name had been changed to Rock Island Oil & Refining Co., Inc. Its businesses, besides ranching, were a crude oil gathering system in southern Oklahoma and a 35 percent interest in the Great Northern Oil Company (GNOC). The interest in GNOC, which owned what was then a 35,000-barrel-per-day refinery near St. Paul, Minnesota, had been acquired in 1959 from Sinclair Oil. (Over the years, we have continually expanded this refinery and it will soon be nearly ten times that capacity.) Great Northern's other major stockholders were Pure Oil and GNOC's co-founder, J. Howard Marshall II.

My father stressed the importance of humility as well as hard work. When I arrived in Wichita, his first words to me were: "I hope your first deal is a loser, otherwise you will think you're a lot smarter than you are." He had nothing to worry about—I got us in plenty of losers.

My first assignment was to clean up the mess Koch Engineering faced in Europe, caused by having multiple contractors manufacture our fractionation trays in various countries. At that time, the company, which was owned separately from Rock Island by my three brothers and me, had only one plant, in Wichita, making one product—the Flexitray®—a fractionation device. Over the next several years, I spent a great deal of time in Europe setting up our own engineering and manufacturing site outside of Bergamo, Italy. Surprisingly, my father gave me almost complete freedom in the management of Koch Engineering. He told me I could do anything I wanted with it, short of selling it.

Koch Engineering was an indirect offshoot of Winkler-Koch, which never recovered from its decades-long lawsuits with the Patent Club. By 1944, my father and Lewis Winkler no longer shared the same vision for their company, so their partnership was dissolved. My father carried on the engineering business by forming Koch Engineering in 1945. It was two-thirds owned by my brothers and me, and one-third by Harry Litwin, its president. In 1954, Harry Litwin agreed to take the engineering business and form his own company while Koch Engineering retained the Flexitray business.

By the time I moved to Wichita, Koch Engineering had deteriorated to less than $2 million in sales and was barely breaking even. My response, besides setting up our own manufacturing in Europe, was to improve the marketing of Flexitrays and get us into related product lines, such as tower packing, mist eliminators and pollution control equipment. This approach was quite successful. I was named president of Koch Engineering in 1963, and by 1965 sales had more than doubled with a good return.

At this point I began to immerse myself, not only in building the company, but in understanding the principles that lead to prosperity and societal progress. I spent virtually all my spare time studying history and the humane sciences. As I learned concepts that seemed relevant to business, I started to apply them.

As a vice president of Rock Island, I also began working to build that company's largest business—crude oil gathering. My ally in this effort was Sterling Varner, who later bacame president and COO of KII. We aggressively bought trucks and trucking companies, as well as built and bought pipelines.

My father was supportive of these activities, but, given his poor health, wanted the company to retain sufficient liquidity to pay his estate taxes. As he was preparing to leave for an overseas trip, Sterling and I requested approval to buy two crude oil trucking companies in North Dakota. He gave us approval to buy one, but as soon as he left the country we bought them both. When I informed him of this, my father was initially furious, but eventually forgave us since both acquisitions ended up being highly profitable.

As the growth of our crude oil gathering business accelerated, my father's fragile health deteriorated. In 1966 he made me president of Rock Island so that, as he put it, if something happened to him I would be in charge. In May of 1967 he had a severe heart attack and another, in November, which was fatal. We renamed Rock Island in his honor, and our company has been known as Koch Industries ever since. I was blessed to work with my father for six years until his death. He had a great influence on me and the company. He was a John Wayne-type figure, charismatic and forceful, with great integrity and humility and an insatiable thirst for knowledge. At age 32, I succeeded him as chairman and CEO.

In the years that followed, Sterling and I continued to build our crude oil gathering business. Under Sterling's leadership, it grew to become the largest crude purchaser and gatherer in the U.S. and Canada, growing in volume from 60,000 barrels per day in 1960 to more than 1 million barrels per day in 1990.

This success started with our vision, which was to provide the quickest and best service and to develop the best relations with all producers and explorers. We had a truck at a well site to move the oil as soon as the well began producing. We also developed the capability to build pipelines and to operate pipelines and trucks more economically than our competitors.

We were willing to build a pipeline into a new field without a commitment from the producers as soon as there was any indication it would be economic. Other pipeline companies typically attempted to reduce their risk by requiring a commitment, a reserve study and a fixed tariff. This delayed building the pipeline and created a burden for the producers. Our willingness to move quickly, absorb more risk and give better service enabled us to become the leading crude oil gathering company.

As our crude oil volume grew, at times it was hard to sell all the oil, so we began to build a crude oil trading capability. This was the origin of KII's trading businesses. We also began seeking other commodities for which our capabilities could create superior value.

In 1970, under the leadership of Bill Hanna (president and COO of KII from 1987 to 1999) and Bill Caffey (who became an executive vice president of KII and then of Georgia-Pacific), we moved into gas liquids gathering, fractionation and trading, eventually building it into the largest such business in the country. Using the capabilities developed in gas liquids, we then built a natural gas gathering, transportation, processing and trading business.

In turn, the gas business, together with our other relevant capabilities, enabled the creation of a nitrogen fertilizer business. Koch Nitrogen has since become a leading international fertilizer manufacturing, distributing, marketing and trading company.

One of the most significant events in the evolution of the company was our 1969 acquisition of controlling interest in the Great Northern Oil Company. This brought us back to running a refining business for the first time in nearly 20 years. In 1968, I approached Union Oil (which had acquired Pure Oil) about buying their 40 percent interest in GNOC. They responded by offering it at a price considerably above market, which I declined. Union Oil then began trying to sell its interest to independent refining companies, suggesting that prospective buyers could gain control by also acquiring J. Howard Marshall's interest.

To counter this move, I approached J. Howard with the idea of pooling our interests into a holding company, Koch

Financial Corp., which would be owned in proportion to our interests in Great Northern. I promised we would exchange J. Howard's 30 percent interest in Koch Financial for Koch Industries shares, making him a KII shareholder, when it could be done tax-efficiently. J. Howard readily agreed. His cooperation and trust enabled us to buy Union Oil's GNOC shares, and ultimately all the others, at a reasonable price.

This acquisition brought new capabilities to Koch Industries and led to many new opportunities. Thanks in large part to the leadership of Joe Moeller (president and COO of KII from 1999 to 2005, when he became CEO of Georgia-Pacific), we have grown refining 10-fold. We have also used refining as a base to enter chemicals and, more recently, fibers and polymers.

We entered the chemical business by acquiring Sun Oil's Corpus Christi refinery and chemical complex in 1981. That facility has since been expanded more than five-fold. In 1998, KII entered the fibers and polymers business by acquiring half of Hoechst's polyester business, an opportunity that arose because we were a large supplier of their principal raw material. After acquiring the other half in 2001, we went on to acquire DuPont's nylon, spandex and polyester business, INVISTA, in 2004. INVISTA is one of the world's largest integrated fiber producers with some of the most globally recognized fiber brands, such as STAINMASTER® carpet and LYCRA® spandex.

Refining also provided a base to enter the asphalt business as well as the trading and distribution of other commodities, such as petroleum coke and sulfur. We then added other solid commodities—such as pulp and paper, magnetite, coal and cement—to manufacture, distribute or trade. Koch Exploration, unlike most companies in oil and gas exploration, is also guided by a trading vision.

Over the years, we have constantly extended the list of products we trade and added to our trading capabilities. To do this, we've had to build worldwide coverage and physical assets as well as world-class market knowledge and quantitative analysis. Given our breadth of products, KII is one of the largest traders on the New York Mercantile Exchange (see Appendix A).

The quantitative and risk management capabilities we developed for commodity trading helped us build a financial trading business. Our surplus liquidity, combined with the capabilities gained from our 1992 acquisition of Chrysler's municipal leasing business, allowed us to create a separate, diversified financial business.

Thanks to my brother David's leadership, KII has grown its process equipment and engineering business more than 500-fold. David joined Koch Engineering in 1970 as a technical services manager and became president of Koch Engineering in 1979. He has greatly expanded and broadened its product lines and capabilities, transforming them into Koch Chemical Technology Group (KCTG). It is now a leader in a number of process technologies, including mass transfer, combustion, heat transfer and membrane separation.

In 2001 we began building our Business Development Group, improving the capability to explore other industries for opportunities that fit our capabilities. We had previously identified forest products as one of those industries, and in 2004, Business Development facilitated the acquisition of two small forest products businesses. After unsuccessfully pursuing a number of related businesses, we succeeded in acquiring industry leader Georgia-Pacific (GP) in 2005. This $21 billion acquisition is KII's largest to-date. It provides Koch Industries with a significant growth platform in the forest and consumer products industries. Georgia-Pacific is the world's largest tissue supplier, with many leading North American consumer product brands, such as Quilted Northern®, Angel Soft®, Brawny® and Dixie®. GP is also a leader in other segments of the forest products industry, particularly building products and packaging, with prominent brands such as Dens® wallboard and Plytanium® plywood.

KII's growth over the years was made possible by the fact that J. Howard and his son, Pierce, David Koch and I shared a vision of building a large, entrepreneurial company that generated superior returns. In our view, this required running it as a meritocracy, with positions, authorities and compensation—including that of shareholders—set according to proven ability and actual contributions. This vision also required that the company reinvest most of its earnings. Thus, shareholders had to be willing to forgo larger dividends in the short term to enable the growth that would lead to much greater dividends over the long term. Embracing this vision required both trust and a low time preference.

Today, Koch Industries consists of ten major business groups (see Appendix B) plus the Matador Cattle Co. and a ventures group, Koch Genesis. Matador is the tenth-largest cow/calf operation in the U.S. Koch Genesis is focused on acquiring technologies and technology companies that can significantly enhance our existing businesses.

This brief company history may leave the impression that our experience has been one of ever-improving results, with one success after another, each building on the one before. Nothing could be further from the truth. Progress, whether in business, an economy or science, comes through experimentation and failure. Given that a market economy is an experimental discovery process, business failures are inevitable and any attempt to eliminate them only ensures overall failure. The key is to recognize when we are experimenting and limit the bet accordingly.

Koch companies have suffered when we forgot we were experimenting and made bets as if we knew what we were doing. One of the most extreme cases was our overblown petroleum and tanker trading in the early 1970s. When the Arab oil cutback hit in 1973 and 1974, we were caught with positions beyond our capability to handle, leaving us with large losses. That was certainly a great learning experience, but I'm not sure I could stand that much learning again.

Another experiment that got out of control was our attempt to apply our core capabilities model to agriculture. Here, we jumped immediately from theory to full-scale application, neglecting to apply our experimental discovery model. We were going to produce superior steaks to sell at premium prices, revolutionize milling and baking, convert garbage into animal feed (with what we wrongly thought was great technology) and bring about several other breakthroughs in agriculture. Alas, none of this came to pass and we again suffered sizeable losses.

These weren't KII's only business failures (see Appendix C). There have been a number of others. It is worth noting, however, that many of the businesses we have exited were not failures. They were successes, but had simply reached a point in their life cycle where they no longer provided a core capability or served as a platform for growth. As such, they became more valuable to someone else.

Business failures weren't the only obstacles KII faced. We also encountered partner issues and decades-long lawsuits similar to what my father endured. I believe most of our partner problems were driven by a conflict in visions.

KII's lawsuits spilled into the public arena, amplifying the negative effect of increased regulation, politicization and litigation. They stimulated an onslaught of government investigations and media attacks in the 1980s and 1990s. To survive, we decided we must build a world-class public sector capability, which we did, under the leadership of Rich Fink. This was done by applying the five dimensions of MBM in legal, government and community relations, communications and compliance.

Our Public Sector Capability brought about a retooling of almost every aspect of Koch Industries, including employee selection, development and compensation; the businesses we enter and exit; selection of business leaders; information systems; and ongoing, intensive employee education and training. As a corporation, we not only had to be committed to conducting "all affairs lawfully and with integrity," we had to develop systems to ensure that every employee was committed to—and able to fully comply with—this primary Guiding Principle.

Given all the complex, confusing and ever-changing government mandates, it took years and repeated setbacks to build an effective compliance program. We improved, but we weren't where we needed to be. It required a monumental undertaking to integrate compliance into every aspect of the company. Today, KII's compliance program covers 20 compliance areas, from antitrust to environment to safety. It involves selection, deselection, training, systems, self-assessments, audits, legal integration and even exiting certain businesses. Making it truly effective required broadening our view of who should be held responsible.

As we became much more effective in compliance and defending ourselves, our growth rate accelerated again. I believe our ability to maintain that growth rate will be a direct function of the rate at which we improve our ability to apply MBM. Today, we are generating many more innovations and opportunities—both large and small, internally and externally—than ever before. But we do not intend to rest on our laurels. Every day we are striving to better apply MBM to make Koch Industries an even more exciting, fulfilling place to work.

Doing that—better applying MBM—requires a deep understanding of the dimensions of MBM. Even more, it requires ensuring that all dimensions are in harmony and reinforce each other. The remainder of this book addresses these dimensions and how the Science of Human Action was used to develop them.