WHEN TRANSFORMATION FAILS
Twelve Case Studies in the Automobile Industry

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ABSTRACT—The demise of twelve automobile brands over the past century is discussed. The companies associated with these brands attempted to transform by broadening their offerings to address a larger portion of the automobile market. A case-based approach is used to explore the detailed nature of these attempts. Due to a variety of factors, characterized in terms of four levels of explanation, these brands failed. Consequently, these companies’ attempts to transform via expanded offerings failed. These failures reflect, to a great extent, inabilities to balance the tension between differentiated offerings and economies of scale.

Keywords—Enterprise transformation, automobile industry, economy, globalization, finance, leadership

I. INTRODUCTION

Fundamental transformation of a large enterprise is very difficult. Recent data on the Fortune 500 reported in The Economist supports this assertion (Schumpeter, 2009).

In 1956-1981, an average of 24 firms dropped out of the Fortune 500 list every year. This amounts to 120% turnover in that 25-year period.

In 1982-2006, an average of 40 firms dropped out of the Fortune 500 list every year. This amount to 200% turnover in the more recent 25-year period.

Thus, successful enterprise transformation is not only very difficult; it is becoming more difficult, and the failure rate is very high.

One way to understand this phenomenon is in terms of a theory of enterprise transformation (Rouse, 2005, 2006):

Enterprise transformation is driven by experienced and/or anticipated value deficiencies that result in significantly redesigned and/or new work processes as determined by management’s decision making abilities, limitations, and inclinations, all in the context of the social networks of management in particular and the enterprise in general.

Those leaving the Fortune 500 are likely to have experienced value deficiencies, and failed to remediate these deficiencies by redesigning and/or creating new work processes to provide offerings that the marketplace valued as well as or better than their current offerings. This is a common outcome, perhaps the predominant outcome (Rouse, 1996, 2006).

The transformation framework in Figure 1 suggests how enterprises might pursue transformation (Rouse, 2006). Ends can range from redefining markets, as done by Amazon and Wal-Mart, to providing broader or new offerings, to changing perceptions of offerings, to decreasing costs of offerings. The twelve case studies discussed in this paper involve automobile companies that focused primarily on expanding their vehicle offerings, trying to emulate Alfred Sloan’s business model at General Motors.

Some of the more recent case studies also focused on the ends of reducing costs by sharing production lines, chasses, and parts. Many of these efforts resulted in undermining perceptions of vehicle offerings, effectively rendering the vehicles badges as meaningless. The overall result is twelve case studies of failure.

This paper proceeds as follows. We first provide a brief review of the evolution of the automobile industry from its founding until present time. We then present the broad context of the twelve case studies discussed in this paper. Our overall case-based methodology is then reviewed. Each case analysis is then presented and causes of failures discussed in the context of a four-level characterization of the influences of the economy, market, company, and product. Dominant causes are summarized and organizational sources of these phenomena are discussed.

Figure 1. Transformation Framework
II. AUTOMOBILE INDUSTRY

By 1898, there were 50 automobile companies. The first commercially successful American-made automobile was the three-horsepower Oldsmodel in 1901. This automobile was named after Ransom Eli Olds, a pioneer in the automobile industry. Between 1904 and 1908, 241 automobile companies went into business.

Interestingly, competition among technologies was not fully resolved at the turn of the century, as evidenced by the fact that, at that point, 40% of U.S. automobiles were powered by steam, 38% by electricity, and 22% by gasoline. Also of interest, the automobile was not an instant success in the mass market. Henry Ford produced 8 versions of his cars -- models A, B, C, F, K, N, R, S -- before he was successful with the Model T in 1908. With the Model T, the mass market could now afford to own an automobile.

James Womack, Daniel Jones, and Daniel Roos’ chronicle the subsequent development of the automobile industry in “The Machine that Changed the World” (1991). They emphasize that Ford’s success in producing a car for “everyman” was due to his transformation of manufacturing from centuries of craft production into the age of mass production. Forty years later, Eiji Toyoda and Taiichi Ohno in Japan transformed mass production into lean production.

The problem with craft production -- despite its appealing images of hand crafted quality products -- is that it costs too much. The prices of the resulting products are too high for most people to afford. By employing extreme specialization, Ford was able to substantially reduce costs and thereby enable mass markets.

A highly skilled workforce, extreme decentralization, general-purpose tools, and low production volumes characterize craft production. Since no company could exercise a monopoly over these types of resources, it was very easy to enter the automobile business in its early years. Consequently, by 1905 hundreds of companies in Western Europe and North America were producing small volumes of autos using craft techniques. The high costs of this method of production naturally resulted in high prices and an automobile market limited to the upper middle class and higher.

The impact of mass production can be measured in terms of the average cycle time -- the average time before a product or assembly line was ready to enter the market. Prior to Ford’s innovations (discussed below), the average cycle time was 514 minutes. With interchangeability, simplicity, and ease of attachment, the average cycle time was reduced to 2.3 minutes. In 1913, Ford added continuous flow assembly lines and the average decreased to 1.2 minutes.

Ford also perfected the interchangeability of workers. Mass production jobs were so simplified that they only required a few minutes of training. Consequently, untrained and unskilled workers could readily fill these jobs. Of course, industrial engineers had to think through how the parts would all come together and just what each assembler would do. In this way, the engineers became the “knowledge workers” and replaced the machine shop owners and factory foremen of the earlier craft era.

Henry Ford founded the Ford Motor Company in 1903 (Watts, 2006). By the spring of 1905, the company was producing 25 Model A vehicles per day and employing 300. The Ford Manufacturing Company was incorporated on November 22, 1905 to make profits on parts rather than continue to outsource parts to the Dodge Brothers. 8,423 Model N vehicles were sold in 1906-7. Ford was determined to produce a reliable, low-cost car affordable by working class people.

The Model T was announced in the autumn of 1908 and by 1920 accounted for almost half the vehicles in the US. It sold for $850 initially, but the price fell in subsequent years, e.g., $500 by 1913, when the "assembly line" was developed. Production surged from 82,000 to 189,000. It stood at 585,000 in 1916, one million in 1921 and two million in 1923. Ford succeeded at "Taylorism without Taylor."

In early 1914, Ford announced a starting wage of $5 per day, roughly double what it had been, while also reducing the workday from nine to eight hours. In 1919, Ford produced 750,000 vehicles or 40% of the American total. By 1916, the Model T was selling for $345. After 1923, sales of the Model T started to decline due to GM's new offerings.

By the mid 1920s, GM was offering yearly model changes. Chrysler completed the "Big Three" in 1925, competing with its low priced Plymouth. Ford kept cutting prices, but GM's market share increased while it was raising prices! Ford did not believe in paid advertising or selling cars on credit. He changed his mind in light of declining sales.

Ford refused to accept the idea that the Model T had run its course. Finally, in the summer of 1926, he agreed to develop a new model. Henry insisted on giving the public what he knew they needed, while his son Edsel fought to give the public what they wanted. Production of the Model T was terminated in June of 1927. After $250 million of retooling, the first Model A was produced on October 21. It ranged in price from $385 to $570. By 1933, Ford had dropped to third place among the Big Three and was hemorrhaging money. Ford introduced the V-8 in 1932. It was well received, but cars were not selling during this period.

The overall result of Ford's mass production was extreme centralization of control. His penchant for this type of control -- centralized in him -- became a limiting factor in the growth of his company. John Staudenmaier in “Henry Ford’s Big Flaw” Invention & Technology (1994), discusses the ways in which Ford's obsession with control tended to suffocate the successful company he had created. Fortunately, as is typical, the growth of this thriving industry did not depend on one person.

Alfred P. Sloan provided the next innovation. Sloan was hired by William Durant in 1923, founder of General Motors, to straighten out the enterprise that he had created by acquiring several car-manufacturing companies. Sloan added professional management to Ford’s basic concept. Professional financial and marketing specialists were added to the engineering specialists created by Ford. Sloan also standardized the internal systems and components of cars, further lowering costs. The overall result for the industry was...
a revolution in marketing and management. Sloan's hierarchy of brands was in contrast to Ford's one-size fits all philosophy. Sloan would do for mass marketing what Ford had done for mass manufacturing.

Peter Drucker (1946), in effect, memorialized Sloan in his book “The Concept of the Corporation.” He discusses the nature of capitalism, organization for production, decentralization, and the roles of management and workers. His outline of the nature of a large-scale corporation, in this case General Motors, became a model for many other large businesses in a wide variety of domains.

Ford lured people into the routine and boring jobs of mass production by high wages -- the infamous $5 per day. The nature of these jobs caused people to focus on work conditions, including seniority and job rights in the face of cyclical auto markets. As a result, they borrowed an innovation from the railroads -- job-control unionism. The combination of Ford's factory practices, Sloan's marketing and management techniques, and organized labor's control of job assignments and work tasks resulted in the final maturation of mass production.

Womack and his colleagues use this understanding of the emergence and maturation of mass production as a backdrop against which Japan's innovations in lean production are described. They emphasize the inability of the Japanese culture to adapt to mass production. In particular, Japanese requirements for life-long employment rendered impossible the large hirings and layoffs typical of mass production. Given that people were employed for life, it only made sense to invest in them so that they had multiple skills that would benefit the company.

Based on this point of view, the pioneering work of Taiichi Ohno at Toyota led to the paradigm of lean production. He began by experimenting with flat, team concepts. Ohno also reconsidered the supplier-assembler relationship and decided that the goals of low cost and high quality could best be achieved by a close working relationship and long-term commitment. He also developed a new way to coordinate the flow of parts within the supply system on a day-to-day basis, which is called the just-in-time system or "kanban" at Toyota. The principles of lean production were fully worked out by the 1960s. However, it took until the 1980s for the world to be at the same point in the diffusion of lean production that it was with mass production in the 1920s.

Automobiles have tended to reflect the personalities of the times, as illustrated in Paul Ingrassia’s “Engines of Change” (2012). This phenomenon can be clearly seen in Henry Ford’s ubiquitous Model T. This car was very practical. Almost everyone could afford one, and almost everyone could maintain it himself or perhaps herself (Watts, 2006). However, only the rare aficionado considered the Model T a work of art.

Perhaps the greatest American personality change can be seen between the beginning and the end of World War II. The legacy of the Great Depression was replaced by the optimism of military victory and global leadership. This can be seen in the contrast between the 1940 Ford Coupe and the 1949 Mercury Coupe. Due to the war, these cars were only six model years apart. However, utilitarianism was now balanced by styling and glamour.

A recent study contrasted the best ten cars and the worst ten cars over the last half of the twentieth century (Hanawalt & Rouse, 2010). The winners included the 1955 Chevrolet Bel Air, 1964 Pontiac GTO and 1965 (or 1964½) Ford Mustang and seven others. The losers included the 1958 Ford Edsel, 1960 Chevrolet Corvair, 1971 Ford Pinto, 1975 AMC Pacer and six others.

Statistical analyses of expert ratings of each car along numerous attributes showed that two factors clearly differentiated winners from losers. First, successful cars emerged from processes driven by projected market requirements that were accurate for when the car would make it to the market rather than when the car was first envisioned. In other words, expectations of future customer desires were on target.

Second, success was achieved by adoption and execution of development processes that resulted in the right car at the right time. Thus, the accuracy of projected customer desires was not undermined by management egos or financial dictates. In addition, there was often a champion or keeper of the vision who was able to surmount various corporate hurdles.

One might question why an automobile company would envision and create cars in any way other than in accord with these two findings. The answer is that the large successful automobile companies, basking in the post-World War II market boom, became convinced that they knew what customers wanted -- and what they would accept -- better than customers knew. It took these large insular enterprises many decades to come to terms with their misperceptions and delusions (Rouse, 1996, 1998).

III. CONTEXT OF CASE STUDIES

The twelve case studies presented in this paper address competition in the automobile industry during three interesting and quite different periods. The first period is the 1920-30s. The industry is growing rapidly. Sloan’s annual model changes and diverse offerings are challenging the competitors. The Great Depression emerges at the end of this period.

The second period is the 1950-60s. The end of World War II saw rapid growth in the automobile industry following the suspension of production of automobiles during 1943-45. The Big Three – General Motors, Ford, and Chrysler – dominated and smaller firms scurried to compete. Any good idea was rapidly copied by the Big Three, rendering success fleeting.

The third period is the 2000-10s. Globalization of the automobile industry is in full bloom. The Chevy Impala and Ford Galaxy have long been completely eclipsed by the Toyota Camry and Honda Accord as the most popular cars. Brand differentiation has disappeared, driven by relentless cost cutting as well as understanding of aerodynamics and fuel efficiency.

The Great Depression, World War II, and globalization created quite different economic climates during these three
periods. However, two central issues persisted. First, how can a company’s range of offerings appeal to both entry-level buyers and, as they succeed in life, eventual higher-end buyers? Alfred Sloan seems to have mastered this issue, but it is not as straightforward as it seems – even for Sloan.

Second, how can costs be reduced via common production lines, classes, and parts, while also retaining the distinctiveness of brands that earn customer loyalty? The Cadillac Cimarron represents the extreme of this issue, whereby GM managed to produce one of the worst cars in the past 50 years by rebadging a Chevrolet as a Cadillac with a $10,000 increased sticker price that fooled very few customers (Hanawalt & Rouse, 2010). The extreme of this practice adopted by the Big Three managed to destroy several distinctive brands, apparently not thinking that customers would notice.

In each of the three periods, we focus on four brands that were withdrawn from the market. Each of these brands was intended to provide strategic advantage to the company and thereby transform their competitive position. In all cases – twelve in total – the transformation failed. In many cases the company disappeared along with the brand. In other cases, the company continued, hobbled for some time by squandered resources.

IV. METHODOLOGY

This research involved analysis of both data and case studies. Data included sales volumes, vehicle costs, etc. Case studies were drawn from two sources. First, there is a rich literature on the history on the automobile industry including, for example, “The People’s Tycoon” (Watt, 2006), “The Machine That Changed the World” (Womack, et al., 2007), and “Engines of Change” (Ingrassia, 2012). Second, and significantly more important to this study, were newspaper archives, particularly the New York Times, the contents of which dates from 1851.

By using the production volume data for those twelve different car brands, four heat maps (Figures 2.1-2.4) were created to show the trend of overall automobile production and historical events that influenced the automobile market in the three time periods of interest. By analyzing production trends, the influences of these events can be seen. The volatility of production volumes can be explained, to an extent, by external events, but by no means completely.

As elaborated below, we found four levels of explanations for these twelve failures – economy, market, company and car. Explanations specific to companies and cars were derived, for the most part, from the New York Times archives. We identified 89 articles that reported on the failure of one or more of the twelve automobiles. Thus, there was an average of a bit over seven articles per vehicle.

V. CASE ANALYSES

Our analyses determined why those brands attempted to transform their offerings during each of the time periods of interest and how they failed to achieve success. Firstly, production volume data are used to show the time period when a company had sales problem. A four-level characterization of factors that influence success or failure is introduced to provide an integrated view of the causes of failure. Finally, the transformation framework is used to provide deeper explanations of failures and within the company level.

A. PRODUCTION VOLUMES

Production data are portrayed in Figure 2 as a heat map to enable comparisons among different brands. Data were compiled for all twelve car brands as well as overall automobile production in the American market. The data for the twelve car brands were separated into the three time periods of interest, 1930s, 1960s, and 2000s. The purpose of using annual data is to more clearly show impacts of historical events and compare production volumes across different car brands.

Four heat maps are shown in Figures 2.1 to 2.4. Figure 2.1 shows overall annual production together with production volumes for the twelve brands. Figure 2.2 shows data for the four brands withdrawn from the market around the 1930s. Figure 2.3 shows data for the four brands abandoned around the 1960s. Finally, Figure 2.4 shows production volumes for the four brands that ceased production around the 2000s. The darker color denotes higher production volumes. You cannot compare the production levels across different figures because they have different production baselines. However, you can compare production units by darkness in any single figure. Some data points could not be found here, such as data for a few years for Duesenberg, few years for Cord, some early years for Pierce-Arrow, sales data in U.S. market before 1913, and data for U.S. market between 1963 and 1967. Fortunately, this had very limited impact on our analyses, results and conclusions.
1) Cars Withdrawn in the 1930s

At the end of 1920’s, the most significant management strategy came from GM’s Alfred Sloan. He found gaps among GM’s offerings, so GM offered Pontiac, La Salle and other companion marques to broaden its market offerings from five to ten brands. In order to compete with this strategy, some auto makers also introduced new brands to broaden the market addressed. For example, Chrysler debuted DeSoto in 1927 and Plymouth in 1928. The increasing diversity of vehicles appeared to quickly increase customers’ willingness to buy vehicles. However, the stock market crash induced the Great Depression, which was the most important economic event in 1930s. For our twelve car brands, only Plymouth had increasing sales during the Depression (Figure 2.4 1929-1933). The U.S. auto market seriously declined due to the shrinking financial market and customer purchasing power (Figure 2.1 1929-1933). Sales of most brands were severely influenced and dropped dramatically. Sales of Duesenberg, Cord, Pierce-Arrow, and La Salle suffered. The factories of Cord and Duesenberg were closed after Auburn’s financial collapse in 1937 (Figure 2.2 1937). Pierce-Arrow had consolidated with Studebaker in 1928, but sales of Pierce-Arrow were hurt by the bad economic situation and Studebaker’s poor production skills (Figure 2.2 1928-1933). In 1938, Pierce-Arrow’s properties were sold at action. Sales of La Salle grew sluggishly after the economy began to recover in 1933 (Figure 2.2 1933-1938). La Salle was abandoned in 1940 because it had become a direct competitor of Cadillac and failed to compete with non-GM brands. Although the four car brands of interest in this period had different reasons for failing, their financial situations were all weakened by the Depression (Figure 2.1 1929-1933). After 1933, the economy began to recover and the auto market again grew, gradually increasing until the 1937 recession (Figure 2.1 1934-1937). After 1938, sales in the American auto market continued to increase again until America entered World War II (Figure 2.1 1939-1941).

2) Cars Withdrawn in the 1960s

American automakers did not produce any civilian vehicles during 1943-45. After this period, the auto market became a sellers’ market. Sales escalated from 1946 to 1950 (Figure 2.1 1946-1950). During the 1950s, sales fluctuated due to customer demand, material shortages and recessions (Figure 2.1 1950-1958). In this period, small producers started to struggle to compete with the Big Three. After the Big Three started a sales war in 1953, they attained much greater market shares and began to domain the American automobile market. Mercury, Pontiac, Oldsmobile, and Plymouth had much higher sales units due to the Big Three’s marketing power and the growth of modern automobile market (Figure 2.1). Smaller manufactures tried to combine with each other to survive, but nothing seemed to work. They had too small a market share and financial power to stop the Big Three’s quick adoption of any innovations of the smaller players. Packard merged with Studebaker in 1954, but the resulting poor quality caused sales to drop quickly (Figure 2.3 1955-1958). The Packard factory closed just four years later. An important event during this period was the 1957 recession (Figure 2.1 1957-1958). DeSoto was seriously hurt by this recession, plus Chrysler’s careless market positioning of DeSoto. This brand’s sales quickly shrank (Figure 2.3 1957-1961). American Motors Corporation was formed by Nash-Kelvinator and Hudson Motor Car Company in 1954, in hopes of improving competitiveness. To compete with the Big Three, AMC reproduced Rambler in 1958. Rambler led the compact car production until the end of 1950s. Even after the Big Three entered the compact car market in 1960, Rambler maintained good sales (Figure 2.3 1959-1969). However, Rambler’s management decided to downsize market offerings in 1969. Studebaker’s compact Lark failed to contend with the
Big Three’s compact models and lost market share only one year after its introduction (Figure 2.3 1960-1966). This reduced the competitiveness of Studebaker and intensified its bad financial situation. The American factory of Studebaker was closed in 1963 due to long-term financial problems and failing competition with the Big Three. Three years later, its Canadian factory was closed too. Under the economic pressures and the Big Three’s dominance, many brands ceased production in 1960s.

3) Cars Withdrawn in the 2000s

Rapid expansion of the interstate highway system and equally rapid suburbanization beginning toward the end of the 1950s greatly expanded the America auto market. Innovations such as American muscle cars helped Pontiac, Oldsmobile, and Plymouth to achieve great sales records from the middle 1960’s until the first oil crisis in 1973 (Figure 2.4 1964-1973). With the oil crisis of 1974, American automakers began to reduce production of high fuel consumption models. The market for cheaper and lower consumption models increased. When German and Japanese brands succeeded in these markets, the seeds of globalization were sown.

The Big Three focused on reducing costs by sharing almost everything across brands. Badge identities became greatly diluted. Plymouth’s appeal declined due to identity dilution (Figure 2.4 1974-2001). Due to Oldsmobile’s innovation reputation, it still had great sales from 1970s to 1980s (Figure 2.4 1974-1990), despite the badge dilution. Pontiac’s sale volumes depended on its performance car image beginning in the middle 1960’s (Figure 2.4). Mercury had a fuzzy identity from the beginning. Its sales were steady after World War II, but were influenced by a few recessions before 2000 (Figure 2.4).

The Big Three started to massively rebrand so that the identities of brands virtually disappeared. The American automobile industry had its highest production volumes from the 1960s to 1980s, but started to dramatically lose market shares after 1990 (Figure 2.1 1990). The Big Three shared too many parts to reduce costs and failed to achieve good car quality to compete with Japanese and European manufacturers, while also losing brand identities and confusing customers. The burst of the Internet bubble in 2000 (Figure 2.1 2000) resulted in a depressed auto market (Figure 2.1 2001-2006). American automakers were under enormous financial pressures. Chrysler abandoned Plymouth in 2001. GM closed Oldsmobile’s factory in 2004. The 2007 financial crisis (Figure 2.1 2008-2010) exacerbated their financial problems. Consequently, Pontiac and Mercury production stopped in 2008 and 2011, respectively.

B. FOUR LEVELS OF EXPLANATION

The failure of each of the twelve brands was defined by the decline in sales volume and the eventual ceasing of production. Analyses of reports from the New York Times archive, as well as other online resources, enabled identifying the extent to which the factors in Figure 3 influenced the failures of these twelve brands. Attempts to transform can be thwarted by the overall economy, the market in which the company operates, the company itself, and the product or service being offered – in this case, an automobile.

The economy is the highest-level explanation. The economy directly impacts the strength of the automobile market. At this level, war is an influencing due to the redirecting of manufacturing capacities. Globalization is another economy-level influence, resulting in increased competition and perhaps increased speed of technological updates. Obviously, financial market crises such as the Depression have a critical impact on a company’s survival. Energy market crises also changed technology trends and presented new challenges for automakers.
The auto market is the environment of all automakers. Competitors are separated into two groups here, external and internal. External competitors are those that do not have financial relationships with each other. Internal competitors belong to the same overall company. Auto-market saturation and market declines are considered here in that they lead to the decline of revenues and profits, and consequently cause financial problems.

The company level is the most significant element of this four-level characterization. A company’s behavior directly affects its future in that it makes decisions about how the company will compete within the market environment and what kind of cars it will produce in the future. The influence of leadership in terms of strategy changes is powerful because it determines the next steps of a company. These decisions might include stopping production of a brand gradually or immediately. Poor management decisions can have many negative impacts, such as loss of dealers, late delivery, quality decline, revenue and profit decline, and even curtailed production. A company’s financial problems can cause severe consequence because everything in a company depends on the capital and cash flow.

Rebadged -- and even de-badged -- brands are due to improper management. The rebadged or de-badged brands resulted in huge quality problems and similarity of models, which substantially diminished every model’s competitiveness. For the car level of explanation, badging issues are very important. Yet, this factor is idiosyncratic because the kind of cars that will be produced is under control of a company’s management. Cars cannot control themselves; they are just the victims of management. At the same time, the car level is very important because it is the crucial connection between customers and companies. A car’s price, design, and quality directly determine whether a customer will chose it.

These four levels of Figure 3, and their subcategories within each level, provide headings for the columns in Table 1. This table summarizes the factors that influenced the failure of each transformation initiative. Our case-based approach did not allow accurate measurement of the influence of each factor. However, the historical patterns did allow for qualitative assessment of which factors were more important than others.

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**TABLE I.**

**EXPLANATION OF EACH TRANSFORMATION FAILURE**

In Table 1 there are three time periods, each of which include four different brands. Some factors, such as war, had an influence in a particular period. Others factors had an influence on all of periods. The number of factors having influence was accumulated for every brand and every different period. Finally, those influence numbers were added together in the last row to show the integral influence. For example, if a factor influences all four brands during one period, the influence factor was counted 4. If twelve brands in three different periods were all influenced by one factor, that influence factor was counted 12. Those frequencies of influence factors were attached to those factors (as #N) in the next paragraphs.

Analyzing the influence factors in Table 1, some patterns can be identified. Consider the 1930’s section of Table 1. There are some factors that had pervasive influence. They are financial market crisis (#4), improper management (#4), external competitors (#3), market decline (#3) and financial problems (#3).

The financial market crisis relates to the Great Depression, which led to the overall downturn of auto markets. Because of the economy’s problems, improper management led to more serious consequences than other times. Management tried to increase profits by introducing new lower-priced models, broadening market offerings or merging with other companies. However, market share was very fragile due to the limited
purchasing capacities of customers. The auto market at this time had many competitors. The intensified competition resulted in decreasing profits. If a company over-committed its capital and created a bad financial situation, it could not overcome this difficulty when the macro economy had such huge problems. All in all, the failing pattern for 1930’s was improper strategies that led to failed responses to massive changes of market situations.

The American auto market endured the Depression and World War II, to encounter huge pent up demand after the war. The 1957 recession had a significant impact on some automakers, but generally the economy was not the central reason for failing auto brands after 1960. From the 1960s section of Table 1, it can be seen that external competitors (#4), leadership change (#4) and improper management (#4) become the major reasons for brand failures.

After 1953, smaller automobile companies were under enormous market pressures from the Big Three. They tried to change leaders or directly merge with each other to improve their competitiveness. However, considering the intensity of the market share competition, any careless market decision could lead to failure against the Big Three. Small producer’s market shares steadily decreased. The pattern of 1960’s was rapidly expanding dominant companies controlling most of the market. Decreasing market shares caused smaller automakers to lose revenue, profits and competitiveness. Eroding profits and leadership changes became a positive feedback loop. Frequently changing leaders had very short-term perspectives. This led small producers into a negative spiral. In general, the smaller companies did not successfully compete with the Big Three’s expansion.

The dominance of the Big Three continued for decades. However, from the 2000s section of Table 1, one can clearly see that the situation became increasingly complex. Many factors played very important roles, such as globalization (#4), energy market crisis (#4), external competitor (#4), internal competitor (#4), leader strategy change (#4), improper management (#4), financial problem (#4), rebadged production (#4), and quality (#4).

The world was dramatically changed by globalization, which emerged in the 1980s. The American auto market became increasingly diverse due to challenges from foreign competitors, such as the Japanese and European automakers. Globalization also sped up the pace of technology development. Energy markets created more pressure on technologies associated with fuel efficiency. External competitors caused customers to place greater emphasis on vehicle quality standards.

All those factors acutely increased industry standards and management difficulties. Producers had to improve quality while also reducing prices. The efficiency of enterprise operations became much more important, along with increasing quality standards. The Big Three tried to use platform-based production to reduce manufacturing costs. However, they went too far and GM’s offerings, for example, all started to look alike, in effect resulting in rebadging or debadging.

The loss of vehicle identities caused increased internal competition. Failures to meet sales targets resulted in frequent leadership changes that undermined longer-term perspectives. Although American automakers attempted to learn new management and production methods to increase profits, the perennial failure to meet targets made the situation difficult to change. During the 2000s the Big Three each discontinued brands. GM withdrew two brands. The 2007 financial crisis resulted in bankruptcy for GM and Chrysler, while Ford had tightened its belt earlier. After that, they gradually adjusted strategies while the economy revived. Nevertheless, the essential problems associated with the management of these three companies remain works in progress.

### C. TRANSFORMATION FAILURES

Table 2 explains these twelve case studies of failure based on the transformation framework in Figure 1. The brands withdrawn during the 1930s represent failures of these companies to adopt Sloan’s tiered brands model. Indeed, the failure of La Salle reflects GM’s over-extension of the model from five to ten brands. Too much of a good thing did not work.

Three of brands withdrawn in the 1960s represent failures to compete with the Big Three. The DeSoto failure reflects Chrysler’s poor management of its tiered brands. Careful management of brand identities and pricing are critical to the success of the tiered model. It was during this period that well-positioned vehicles such as the 1955 Chevrolet, 1964 Pontiac GTO, and 1965 Mustang, all with distinctive styling and/or performance characteristics, were enormous successes. The four brands withdrawn in the 2000s all succumbed to similar problems. To compete with the attractive prices of imports, especially from Japan, the Big Three adopted the platform model with a vengeance. The GM-10, one of Hanawalt and Rous’s (2010) worst ten cars, shared so many aspects across Chevrolet, Pontiac, Oldsmobile, and Buick that these four brands were virtually identical -- and uncompetitive with the Ford Taurus. The loss of badge identity, combined with poor quality compared to the imports, led to steadily declining competitiveness for the Big Three.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Why Attempted</th>
<th>What Attempted</th>
<th>How Attempted</th>
<th>Causes of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duesenberg</td>
<td>Needed to increase sales to make company viable</td>
<td>Transform from technology-driven to market-driven company; move away from focus on racing</td>
<td>Acquired by Auburn to increase offerings; increased chassis price despite Depression; attempted to update technology</td>
<td>Duesenberg visionary dies; brother wants to return to racing; Auburn company’s financial collapse</td>
</tr>
<tr>
<td>Brand</td>
<td>Intention</td>
<td>Approach</td>
<td>Result</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Cord</td>
<td>Wanted to fill gap in their market offerings</td>
<td>Broaden range of offerings to take advantage of price gap in market</td>
<td>Create lower priced luxury car; still expensive during Depression; invested in creating market enthusiasm for car</td>
<td>Poor transmission design delays delivery by six months after debut; Auburn company’s financial collapse</td>
</tr>
<tr>
<td>Pierce-Arrow</td>
<td>Needed to increase sales to make company viable</td>
<td>Broader range of offerings to take advantage of price gap in market</td>
<td>Acquired by Studebaker to increase range of offerings; continued to sell luxury car during the Depression</td>
<td>Lack of low-priced Pierce-Arrow during Depression; poor quality cars produced by Studebaker; bad investments dilute capital</td>
</tr>
<tr>
<td>La Salle</td>
<td>Wanted to fill gap in their market offerings</td>
<td>Broader range of offerings to take advantage of price gap in market</td>
<td>Create lower priced luxury car; still expensive during Depression; offer better standard features than the more expensive Cadillac</td>
<td>La Salle directly competes with Cadillac, but not with Packard; sales of Cadillac suffer; company decided to withdraw La Salle</td>
</tr>
<tr>
<td>Packard</td>
<td>Needed to increase sales during depression.</td>
<td>Broader range of offerings to take advantage of price gap in market</td>
<td>Produce low and middle level models; abandon high end model; merge with Studebaker</td>
<td>Abandoned upscale model; brand identity lost; competition from Big Three</td>
</tr>
<tr>
<td>DeSoto</td>
<td>Wanted to fill gap in their market offerings</td>
<td>Broader range of offerings to take advantage of price gap in market</td>
<td>Separated DeSoto dealership from Plymouth without attention to overlap of price ranges with other company brands</td>
<td>Management’s decision to provide overlapping brands; subsidiary brands directly compete with each other (Chrysler-Dodge-DeSoto); sales drop 70%</td>
</tr>
<tr>
<td>Studebaker</td>
<td>Wanted to increase sales to restore profitability</td>
<td>Restore sales and profits by providing small car offering; a niche market at that time</td>
<td>Merged with Pierce-Arrow and then Packard; partnered with Curtis Wright who gained control; focused on compact car offerings (Lark)</td>
<td>Offers not competitive other than Lark; competition from Big Three hurt Lark; lack of capital situation; frequent management changes</td>
</tr>
<tr>
<td>Rambler</td>
<td>Wanted to re-enter small car market to increase sales and profitability</td>
<td>Grow by revitalizing small car offering; a niche market at that time</td>
<td>Tried to compete with Big Three; phased out mid and high priced models to focus on low end; low end Rambler’s market position faded over time</td>
<td>Range of market offerings became too narrow; management’s decision to intentionally downsize</td>
</tr>
<tr>
<td>Plymouth</td>
<td>Reduce costs to compete with global manufacturers</td>
<td>Share original parts and production lines to decrease production costs and improve price competitiveness</td>
<td>Shared too many parts; badge diluted by mother company’s brands and also with other companies’ brands</td>
<td>Lost brand identity; poor quality control; mother company’s bad financial situation; intentional downsizing</td>
</tr>
<tr>
<td>Oldsmobile</td>
<td>Reduce costs to compete with global manufacturers</td>
<td>Share original parts and production lines to decrease production costs and improve price competitiveness</td>
<td>Shared too many parts; badge diluted by mother company’s brands and also with other companies’ brands; lost position as innovation platform within the company</td>
<td>Lost brand identity; poor quality control; mother company’s bad financial situation; intentional downsizing</td>
</tr>
<tr>
<td>Pontiac</td>
<td>Reduce costs to compete with global manufacturers</td>
<td>Share original parts and production lines to decrease production costs and improve price competitiveness</td>
<td>Shared too many parts; badge diluted by mother company’s brands and also with other companies’ brands; diluted image as performance car</td>
<td>Lost brand identity; poor quality control; mother company’s bad financial situation; government pressure during economic crisis</td>
</tr>
<tr>
<td>Mercury</td>
<td>Reduce costs to compete with global manufacturers</td>
<td>Share original parts and production lines to decrease production costs and improve price competitiveness</td>
<td>Shared too many parts; badge diluted by mother company’s brands and also with other companies’ brands</td>
<td>Lost brand identity; poor quality control; poor sales; mother company’s financial situation during economic crisis</td>
</tr>
</tbody>
</table>

TABLE II.
INTENTIONS, APPROACHES, AND FAILURES
VI. CONCLUSIONS

This paper has discussed the demise of twelve automobile brands over the past century. The companies associated with these brands attempted to broaden their offerings to address a larger portion of the automobile market. Due to a variety of factors, characterized in terms of four levels of explanation, these brands failed. These companies tried to transform via expanded offerings and these transformations failed.

To a great extent, these failures represent inabilities to balance the tension between differentiated offerings and economies of scale. Profit margins are better when customers find brand identities appealing and the function and features associated with those identities worth the increased price. On the other hand, as the Model T exemplifies, making all cars identical results in the lowest material and production costs.

Alfred Sloan was a master at managing this balance, although he did manage to briefly overdo differentiation. More recently, however, GM as well as Ford and Chrysler lost this skill. The hubris to offer the market completely undifferentiated, poor quality vehicles clearly reflects a classic strategic delusion (Rouse, 1998). The mindset, gained during the heydays of the 1950s through 1980s, led these companies to fail to identify their true strategic positions (Rouse, 1996). enormous amounts and good will and money were squandered in the process.

REFERENCES