

Recipe IV: The Trabant Model

**Örjan Sölvell**  
**On Strategy**  
**& Competitiveness**

10 RECIPES FOR ANALYTICAL SUCCESS

## IV The Trabant Model

### *Ingredients*


- ✓ *Microeconomic drivers*
- ✓ *Automobiles*
- ✓ *Two different firm environments (separation of twins)*


In the introduction to Part II, we discussed different perspectives on competitiveness. As Michael Porter was travelling the world, he visited the various home bases of leading global firms. American industry was seen as losing competitiveness during the period, and Mike Porter was looking for a new and better model to explain the “quality of strategies” among global leaders in their respective home bases. His big contribution was to craft a conceptual model of the microeconomic drivers of competitiveness – the Diamond Model<sup>27</sup>. He argued that in order to explain the failure of GM and the success of Toyota in international markets, one cannot rely on the traditional macroeconomic drivers, including cost of capital, simple factor endowments or government subsidies (see Figure 1).

When seeking to identify which national industries are competitive, the simple economic model would use the following logic:

- Firms with the lowest *price* will win in international markets
- Lower price is based on lower *costs*

**?**

**General Motors** 

**Toyota** 


**Competitiveness: traditional explanations**

|   |  |    |
|---|--|----|
| <b>Macroeconomic conditions</b>                 |  |    |
| Capital formation/lower interest rates in Japan |  | No |
| Currency – low Yen                              |  | No |
| Taxes – lower corporate tax in Japan            |  | No |
| <b>Factor endowment</b>                         |  |    |
| Cheaper labor costs in Japan (RULC)             |  | No |
| Natural advantages                              |  | No |
| <b>Government Policy</b>                        |  |    |
| Support to auto firms                           |  | No |
| State ownership                                 |  | No |
| Favorable regulation                            |  | No |

Figure 1. Traditional Macroeconomic Explanatory Factors

**?**

**General Motors** 

**Toyota** 

**Competitiveness: Firm level explanations**

|   |               |
|---|---------------|
| Plant technology  | No            |
| Firm size, scope, experience  | No            |
| Factory organization (Kanban, Lean, waste, pragmatism, quality circles) | Yes, but why? |
| Resources/capabilities  | Yes, but why? |
| Product quality features  | Yes, but why? |
| Management models   | Yes, but why? |
| And why did GM choose a bad management model?                           |               |

Figure 2. Firm-Level Explanatory Factors

- Lower costs come from cost of *labor* (low wages), *factors* (e.g., low-cost access to natural resources) and *capital* (low interest rates) – and all of these are impacted by
- *Lax policy* (environmental standards, subsidies, low taxes, etc.), and
- *A weak exchange rate*

But in this instance, these explanatory variables did not fit the empirical reality. The Japanese automakers were not competitive due to lower wages or government subsidies. So if macroeconomic drivers, factor endowments and government policy were not well suited to explain the relative success of Toyota and relative decline of GM, maybe we should look for drivers at the firm level. Perhaps the Japanese automakers had better technology in their plants. Or perhaps it was because they were larger, more or less diversified, or more experienced in auto-making. Again, the answer to all of these queries would be ‘no’. There were no such tangible differences. For example, the large international project titled “The Future of the Automobile”<sup>28</sup> had shown that Japanese auto plants were not more sophisticated than their European and U.S. counterparts.

However, at the level of management, quality systems and factory organization, there were significant differences. In a book on the topic, LBS professor Julian Birkinshaw<sup>29</sup> pointed to the failure of GM to “reinvent itself”. GM had become stuck in an old bureaucratic model (referred to internally as the “GM System”), in which management was highly formal and procedure-driven. Policies followed strict principles, and any real respect for the customer had long since disappeared, leading to conservative designs. Costs had become high (including wages and munificent pensions driven by strong labor unions). The only really positive thing the author had to say about GM’s strategy and management was its clear vision: to always remain the number-one automaker in the world! GM had moved from controlling more than 50% of the U.S. auto market to less than 20%, and on May 31, 2009, GM went bankrupt. Today, Toyota is the number-one automotive firm.

Somehow the Japanese auto manufacturers had developed capabilities and resources far more sophisticated than their U.S. counterparts. In the 1980s, this would translate to both cost advantages (for smaller cars, on the order of 10%) and differentiation advantages (increased mileage and quality of the product). This would hold true for Toyota but also for Nissan, Honda and the others. In the 1980s, U.S. auto firms mustered a very strong lobbying force in Washington, D.C. that led to the enactment of severe trade barriers for Japanese car imports. This in turn led to the Japanese carmakers setting up plants in the U.S. and transplanting their capabilities into unknown territory in the Southeastern U.S., not Detroit.

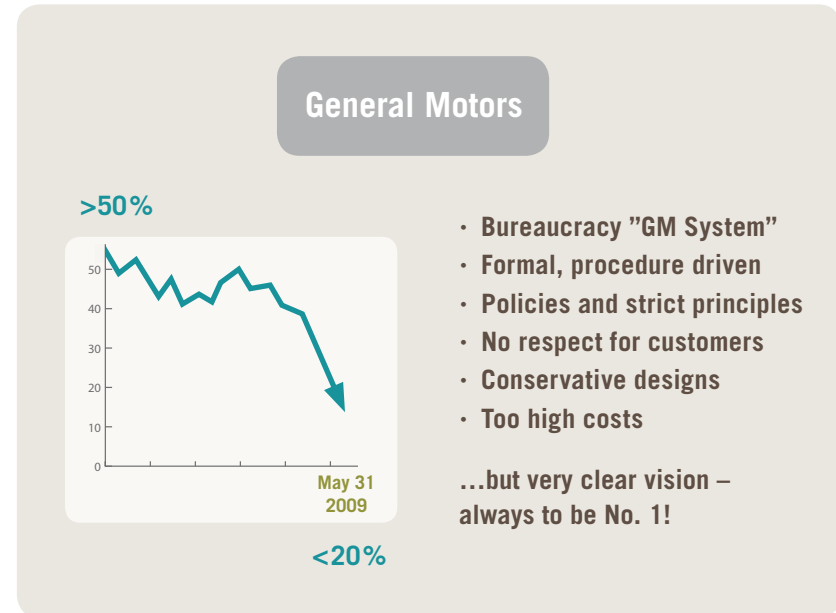


Figure 3. GM’s Declining Market Share in the U.S. Market and Collapse

So the question remains: how did these firms develop such innovative capabilities and ultimately achieve success in international markets? In order to figure this out, we will take a look at the extreme case of automobile manufacturing in East Germany (DDR) and West Germany between 1945 and 1990, which has led to the name of this recipe, The Trabant Model.

## The Trabant

Let us go back in history for a while. Before World War II, there were a large number of automotive firms in Germany. Four of the leading automakers: Horch, Audi (both of which were started by the entrepreneur August Horch), DKW and Wanderer merged in 1932. The company was renamed Auto Union, and the new logo with four overlapping rings, representing the four makes, was born.

After the war, the different plants and other corporate units were split into an eastern and a western part. The eastern plants were concentrated in and around Zwickau, which became the new hub for car production in the German Democratic Republic. The Auto Union mark with the four rings disappeared, and the East German cars were made under the IFA brand (later Trabant); the West German cars were made under the brand of DKW (one of the brands involved in the 1932 merger).

The cars looked identical during the first years of their manufacture, with production being based on the same blueprints and tools as during the war. After several years, both automakers tried to produce cars for export. DKW experienced difficulties in upgrading its models and ultimately was taken over, first by Daimler-Benz in 1958, and then by VW in 1965 (which is still the owner today). The same year, the company changed its brand to Audi and introduced a modern four-stroke engine; DKW had only offered two-stroke engines. Audi slowly made gains in terms of quality and reputation, and new models with new features were introduced. In 1990, the company began to offer four-wheel drive and engines with more than 200 horsepower; gradually, the company began to catch up with domestic rivals such

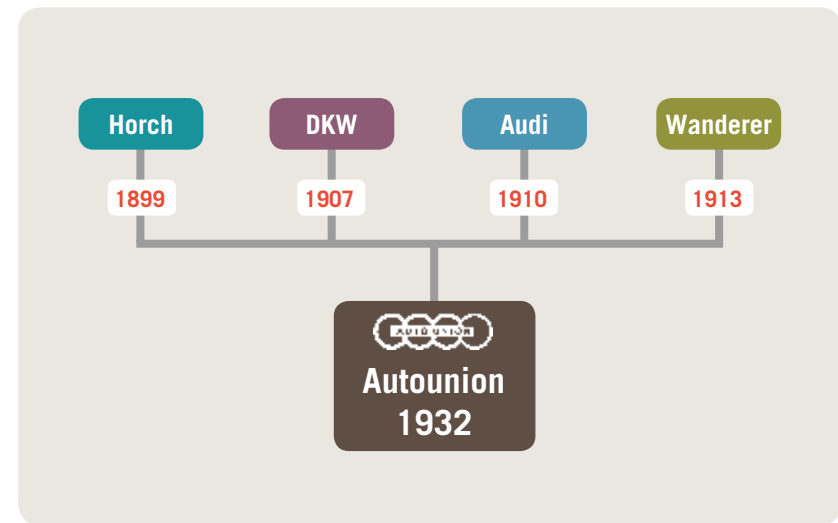


Figure 4. Auto Union: A Merger of Four German Automakers

as BMW. The Trabant, on the other hand, still retained its 1950s-era design all the way into the 1980s. Needless to say, the Trabant only offered a two-stroke engine. A widely despised needle device, which was placed into the gasoline tank to measure the tank level, was finally replaced by an indicator on the dashboard. In 1990, Trabant offered a 23 horsepower engine with a maximum speed of less than 100 km/h.

So why would auto manufacturers in East and West Germany build such different cars, one highly competitive in world markets and one highly uncompetitive outside the Eastern bloc? The answer, I suggest, is not that Herr Schmidt in East Germany was less educated than Herr Schmidt in West Germany. Instead, it was about the different environments that shaped the two firms over the span of four or five decades. In fact, we have a sort of natural experiment here where we split a single firm and place its component parts in two different environment, similar to traditional studies of separated twins. And there

are many such twin examples<sup>30</sup>. Take another carmaker; Wartburg (established 1898 in Eisenach), which had been acquired by BMW, was also split. BMW in East Germany was directed by the government to build larger cars, while Trabant had a monopoly on the production of smaller cars. At first these cars were sold under the brand of BMW, but after a fight with BMW in West Germany, the East German company changed its name to EMW in 1952 (and later brought back the old Wartburg brand). In the early 1950s, families in Sweden could choose between the somewhat more expensive BMW and the somewhat less expensive EMW, both of which were basically the same car.

To really get a grip on the two contexts of the “twins”, we would need to undertake a detailed analysis of the macro- and microeconomic environments. Without going into fine detail, we can use Porter’s Diamond Model (microeconomic environment) and compare their degrees of rivalry, demand sophistication, factor specialization and level of sophistication and the cluster environment. A summary is shown in the figure above. No matter how hard the management of Trabant tried to build a better and more competitive car, the market and institutional environment would not allow it. Just to take one example, management had the idea of replacing the weak gasoline engine with a diesel engine. There was a very successful manufacturer of small diesel engines in East Germany. However, politicians and bureaucrats in East Berlin thought that those diesel engines should be exported to bring in hard currency instead of being used in the Trabant. Again and again, initiatives proposed by DDR firms would be killed by politicians and public officials in planning bureaus.

For someone flying at 10,000 meters above Germany at the time, it would be difficult to discern any difference between the east and the west, both of which were home to steel plants, auto plants, railways linking suppliers and buyers, and Herr Schmidt going to work. But once you disembark from the plane and begin to compare national institutions and regulations, the quality of the Diamonds and clusters, and the incentives driving individual entrepreneurship and innovation, you would see large differences, just as the researchers found in the 1980s when they compared Toyota with GM.

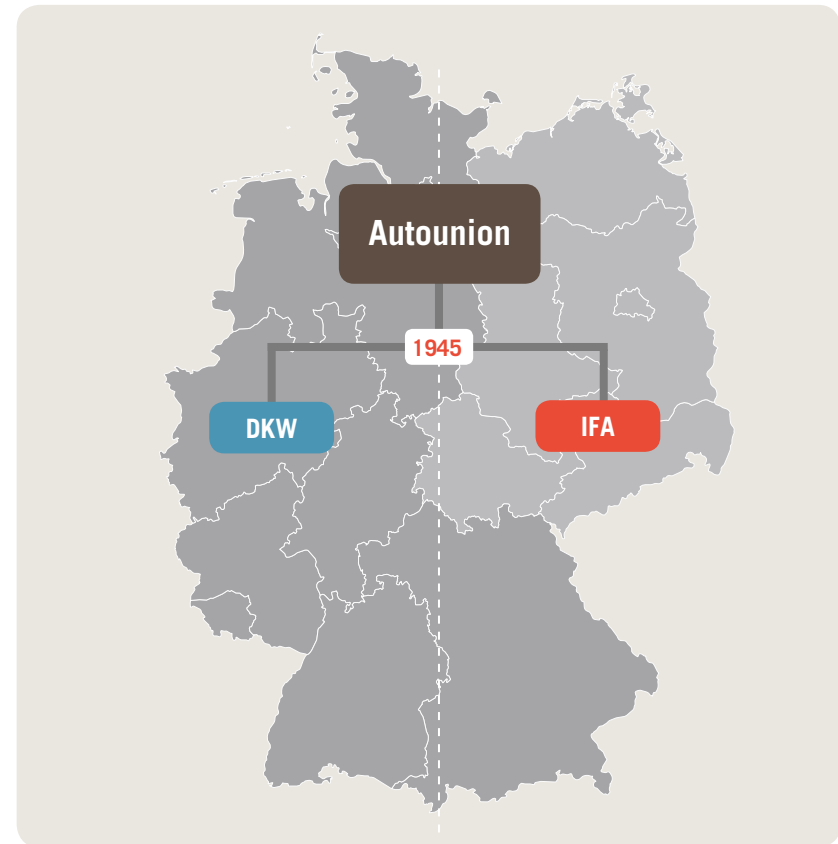


Figure 5. Auto Union Split in 1945

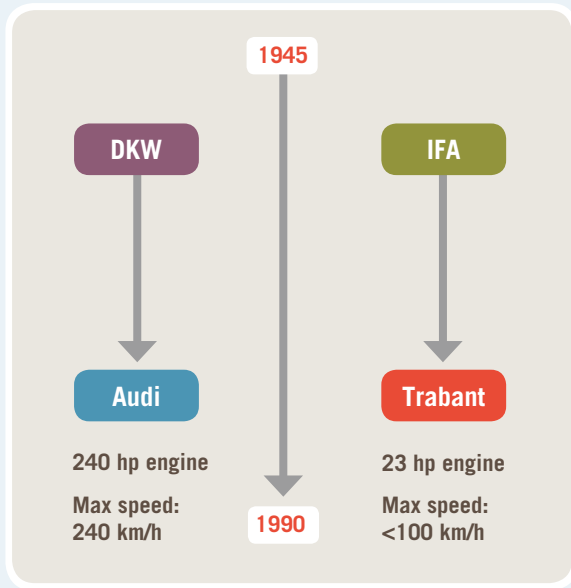


Figure 6. Automotive Evolution in East and West Germany, 1945–1990

*Your own notes:*

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

*Your own notes:*

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

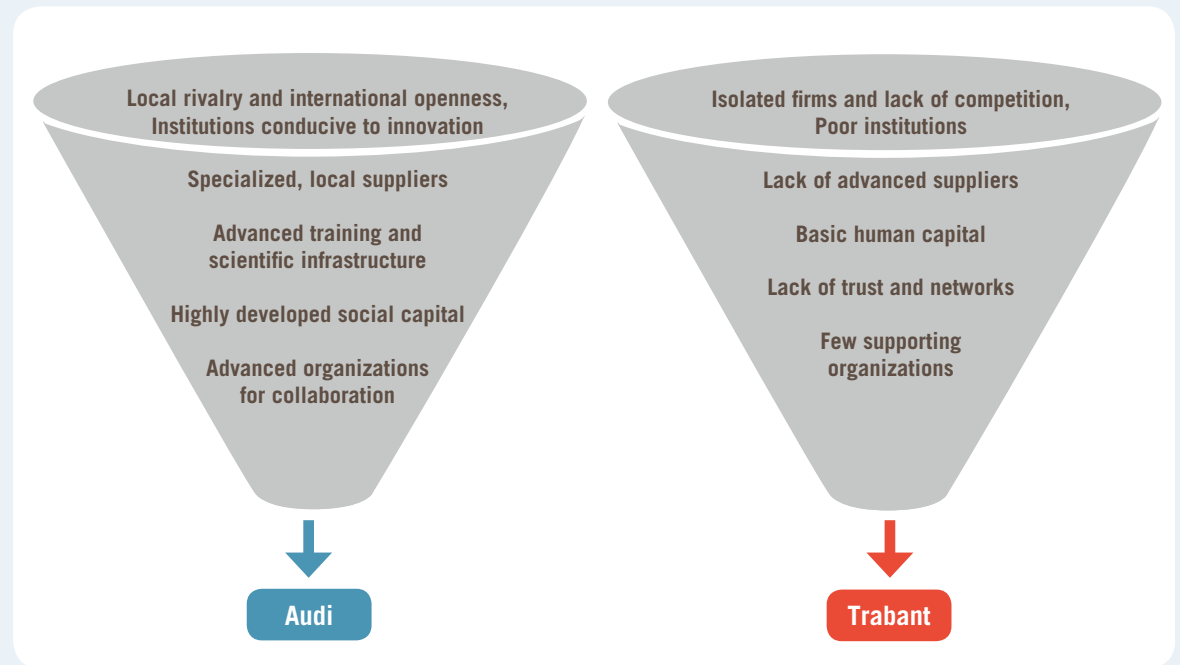


Figure 7. Two Different Environments Shaping the Two Automakers