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Mass Production and Vertical Integration at Ford in the 1920s

The Ford Motor Company was founded in June 1903 with $28,000 in capital contributed by 12 investors. In addition to Henry Ford, the investor group included brothers John and Horace Dodge, who would later found the Dodge Brothers Motor Vehicle Company.

At the turn of the century, the automobile industry was just transitioning out of its period of invention and into one of rapid expansion.[1] There were hundreds of firms in the United States, most following craft production techniques where teams of two to three men assembled each car from standard industrial components that were purchased from other companies.

Between 1903 and 1907, Ford introduced a variety of models, ranging from the Model A (1903) through the Model S (1907). Most years, production was between 500 and 1,000 vehicles.[2] While its cars were well received, Ford was only one of hundreds of small producers. The company's fortunes changed in 1908 when it introduced the Model T. The Model T was considered the first widely affordable automobile and demand grew rapidly. In 1909, its first full year of production, 18,000 were manufactured. By 1912, production reached 170,211 units and production bottlenecks were making it difficult to keep up with demand.

Throughout this period, Henry Ford was experimenting with the techniques of mass production—including labor specialization and use of component subassemblies to facilitate final production. In 1913, the firm introduced the world's first moving assembly line, which reduced assembly time from 12.5 hours to 2.7 hours. Subsequent innovations would further reduce this time to only 1 hour 33 minutes.[3]

These innovations unleashed a surge of production, with sales growing to 501,462 in 1915 and more than a million in 1920. In 1920, more than half of all automobiles in the United States were Model Ts.

Ford introduced a range of other innovations in the 1910s as well. Because the work was monotonous, employee turnover had risen to more than 100%. Ford responded by introducing his famous "$5 a day" plan—which doubled daily pay, cut shifts to eight hours, and reduced the workweek from six days to five. Employee turnover plunged, productivity soared, and the cost per vehicle plummeted.[4]

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