The Ford Model T introduced in1908 is regarded as the first affordable automobile and due to the affordability, raised the standard of living of the middle class to an order of magnitude not seen since the adoption of Thomas Edison’s light bulb. The Ford Model T which won the award for the most influential car of the 20th century became the symbol for a modernized America coming into its own and dominating on the world stage. A beacon of freedom for the families, interconnectedness for the communities, and opportunity for the low skilled worker Ford Model T was all of that and more. The Model T played a pivotal role in the shaping and was revolutionary in two respects; it revolutionized the organization and structure of society, as well as the way manufacturing henceforth, was undertaken.

Pictures of the Model T by today’s standards don’t convey the durability of the Model-T. However, the Model T was an all-terrain vehicle. Weighing in between 1,200 -1,600 lbs, capable of generating 20 horse power, with a top speed of 45 miles per hour and a fuel economy of about 17 miles per gallon made the Model T the practical choice for any buyer at the time. The engine of the Model T could run on ethanol, kerosene, and gasoline. The steel of the Model T was manufactured from vanadium alloy steel imported from Peru, which was stronger and lighter than the steel used in cars that competed with the Model T for market share. The Model T had rear wheel drive which improved the overall traction of the car since the weight of the car on acceleration lurched towards the rear wheels boosting traction. The maneuverability of the Model T made the car useful for individuals that did not have high quality roads.

When the Model-T was first introduced T much of America’s roads were underdeveloped so a major concern for individuals in buying a car was the ability of the car to traverse through punishing road conditions. Moreover, many people occupation was in agriculture so in manufacturing the Model T Henry Ford made his Model-T as much tractor as it was an economy car. The Model T addressed traversing through difficult roads on by one, the rear wheel design, and two, by its suspensions which employed a semi-elliptical strut for both the front and rear axles allowing for a extensive wheel movement. The throttle of the Model T was quite different from today’s cars the Model T’s throttle was a lever on the steering wheel unlike in today’s car which is a foot pedal. As far as the aesthetics of the Model T, a famous quote from the ford company was When the Model-T was first introduced”. Paradoxically, the original color options of the Model T did not include black but were listed as green, blue, grey, and red. However, in order to cut down on manufacturing time the Model T “only in black” policy was instituted.

Primary Artifact

Henry Ford’s manufacturing techniques of the Model T changed the trajectory of billions of people’s careers. Prior to the Model-T, craft manufacturing was the status quo of the automobile industry meaning each vehicle was one of a kind, and it required a highly-skilled workforce to fulfill an order. Individuals trying to get into the automobile industry usually had connection to the industry through their family being in the trade or their family was wealthy enough to sponsor the individual apprenticeship needed for the individual to learn his craft. However, Ford, in the manufacturing of the Model T, employed unskilled labor giving a whole class of individuals the opportunity to gain a high paying job in the automobile industry, a practice that before Ford’s manufacturing techniques was the logistical suicide of the company. When Ford first started manufacturing the Model T the manufacturing process used was similar to methods used at other companies, the time to build a Model T was not significantly different, the Model T was assembled by hand, and the production output of the vehicle was low. However, as demand for the Model T rose the pre-existing manufacturing model was not going to be sufficient for Ford. Ford made significant changes to the manufacturing process by leveraging unskilled labor for the manufacturing of the Model T, incorporating assembly lines, taking advantage state-of-the-art tolerancing advancements, and employing the use of uni-focal tools.

When the Model T first started production 1908 11 cars were produced in the first month. By 1910 12,000 Model T would be produced. The exponential growth started with the use of assembly lines. Ford broke down the building of a car into small subsets and divided the steps among the workers enabling anyone to come in, train for a small amount of time and yet be extremely effective in the completion of a Model T. The small subset of work allotted to the worker enabled the worker to become extremely proficient in completing their specific task making workers extremely valuable yet replaceable. Next, because of advancement in technologies that could guarantee the tolerances in parts defective parts were rare. In turn, not as much custom changes were needed to be implemented by skilled workers who had the know-how on how to fix defective parts. Finally, the manufacturing efficiency of the Model T was greatly increased by the utilization of uni-focal tools which are capital equipment that are built for one task. Through the implementation of the manufacturing changes listed Ford was able to cut the manufacturing time of the Model T from 12.5 hours in 1908 to 93 mins by 1914. By 1925 Ford was manufacturing 10,000 cars a day with a whopping 2 million annually. Manufacturing of this complexity and magnitude had never been seen before that the term mass production has been forever pinned to the Model T manufacturing process. Ford’s techniques to produce the Model-T worked so well, companies from all over the world came to tour his factories and integrated the knowledge gained to their manufacturing processes, changing the way mass production was accomplished at scale.

Ford perfected his manufacturing process of the Model T to such a degree the assembly workers were disenchanted with the simplicity of the work. Work that once to a lot of skill and was rewarding to see a hard day’s efforts come to fruition was cut down to mundane chores. Consequently, workers started to quite Ford’s company experienced turn over rates to the tune of 370 percent. In order bolster workers sentiment and increase productivity Ford instituted his famous five dollar a day policy for his assembly workers in order to ameliorate the monotonous actives of assembly-line work. Adjusted for inflation the pay was equivalent to $15.70 an hour. The pay increase was twice the rate of similar jobs and started of mania. Men came from all over the world to work for Ford. Critics debate exactly what Ford’s intentions were in instituting the five-dollar policy but what is certain is the results. When Ford initially started, the time it would take for a worker to repeat one task was 115 mins. Ford optimized the assembly line process to the point where workers had one-minute repetition cycles for the task at hand. Due to workers immigrated from all over the world to work at Ford’s factory. Highland Park, Michigan, became the first city to be entirely dependent on one industry.

However, some workers at Ford did not see Ford as the benevolent industrialist but a profit chasing robber baron that pushed his workers to the brink and fired them when they couldn’t keep up. Workers at Ford complained of improper treatment from the foremans and unreasonably long hours. A movement from the workers to form a union was met with ire by Ford opposed collectivism. As leverage in negations the newly formed union launched an unexpected strike shutting down the factory which produced upwards of 10,000 Model T a day which naturally pulled Ford to the negotiating table. The labor model set by the workers of Ford, rounds of striking followed by negations, will be followed during the labor movement that swept the country at the time.

The Model-T helped boost the nation's entire economy. Steel, glass, rubber fabric, and gasoline were all needed for the successful production of vehicles. Gas stations, auto mechanics, road-side diners, and motels all became increasingly common. Industries were made to in tandem to the Model T to retro-fit the car for different purposes. Because of the durability of the car it was retrofitted for farming applications as well as snow conditions. Plows were attached to the Model-T and was used to till fields. In fact, Henry Ford considered the universality of the car in the initial scope of the Model T. Ford was quoted as saying to his wife he wanted to build a machine to do the work of the horse. The model-T was a catalyst for the national highway system with a range of 155 miles Model T opened a vibrant transportation between cities and states.

Model-T shifted transportation dependency away from railroads. People took themselves where they needed to go. Families could take day trips to nearby towns as well to other states. Towns along the railway lines began to decrease in size, whereas towns along the highways began to blossom. Schools began to consolidate because children could be bused in from surrounding areas. The size of the average community began to spread out in what is now called the urban sprawl. Improved living conditions was also an effect of the Model-T due to the elimination of horse manure on the roads.

Ford’s Model-T was revolutionary in many respects. The Model-T facilitated the interconnectivity of the nation, effectively producing for families and business more prosperity and saving time. The Model T also ushered in a new age of manufacturing. The manufacturing achievement were reached through means of a break through use of the moving assembly line, advancement in tolerancing and use of unifocal capital equipment. Arguably on of the greatest achievements of the 20th century the Model T is the symbol of American modernism.

Unifocal machines

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