

History, Platforms & Mass Customization

BY JAMIE CATHERWOOD: FEBRUARY 2021



TECHNOLOGY ENABLED CUSTOMIZATION

As covered in the first installment of this three-part series on “The Road to Custom Indexing”, demand for customization and products tailored to individuals often arise when a good or service becomes abundant and commoditized. While the field of Finance and Investment is most apt for our discussion, this maxim generally holds true across all industries.

A proliferation of personalized products and services is usually facilitated by a simultaneous boom in new technologies that enable greater efficiency and customization at scale. In this post we will look at an example of customization put to work in an industry outside of finance: automobiles.

PLATFORM-BASED PRODUCTS & MASS CUSTOMIZATION: HENRY FORD



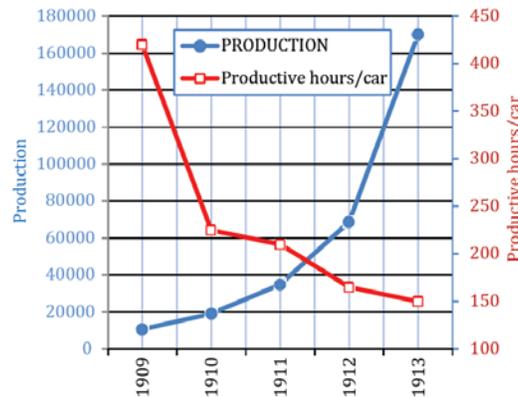
"Any customer can have a car painted any color that he wants, so long as it is black."
- Henry Ford (circa 1908)

In addition to founding the Ford Motor Company, Henry Ford is remembered for an innovation that revolutionized manufacturing: the moving assembly line. Most people, however, are unaware that Ford also championed the concept of “Mass Customization” – defined as:

“a strategy for fulfilling individual customer’s desires with maintaining mass production efficiency. Duray et al.’s claim that mass customization must include the purchaser in the design procedure.”¹

The Model T Common Platform

There is no questioning Ford’s role in revolutionizing mass production through moving assembly lines and the adoption of Frederic Taylor’s Scientific Management principles.

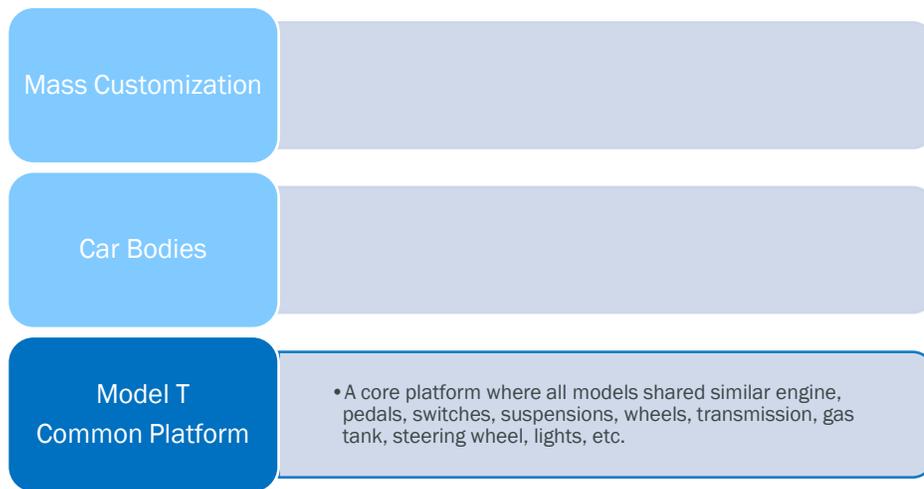


This efficiency helped drive down assembly times, and increased profit margins. This was very rewarding for investors:

Value of \$100 Invested	Incorporated	1926 Equity Value	Compounded Return
Ford	1903	\$2,750,000	56%
Studebaker	1911	\$500	12%
General Motors	1908	\$6,500	26%

Some argue that Ford’s Model T also exemplified the core traits of a “platform-based product.”

“Each Model T model was built on the same platform, with a deep level of customization: the body was specific to each model... principles for mass customization by developing a core platform with a high level of production while outsourcing tailored products to specialized companies.”²



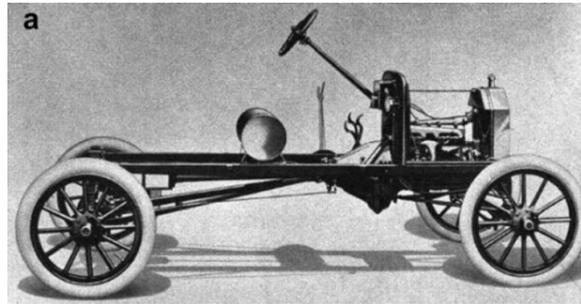
¹ Tomac, N., Radonja, R., i Bonato, J. (2019). 'Analysis of Henry Ford’s Contribution to Production and Management', Pomorstvo, 33(1), pg. 33-45

² Fabrice Alizon, Steven Shooter, Timothy Simpson, “Henry Ford and the Model T: Lessons for Product Platforming and Mass Customization”, Design Studies, Vol. 30 (2009)

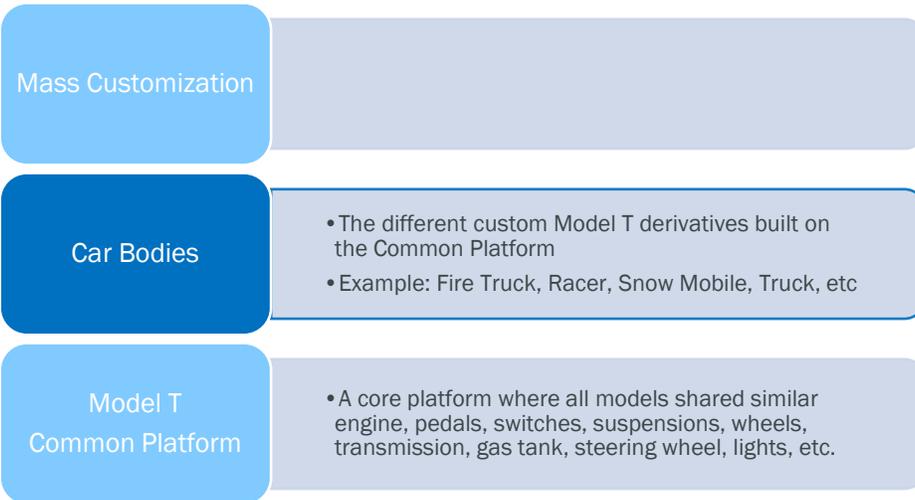
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In short, all the Model T's shared a common core platform: engine, pedals, switches, suspensions, wheels, transmission, gas tank, steering wheel, lights, etc. (shown below).³



Car “Bodies” Built on the Common Platform



Although these minor details may seem trivial, their implications were anything but. The images below illustrate the importance of this common platform approach for producing Model Ts. While these are all clearly different vehicles, they were all *variations* of automobile *bodies* built upon the Model T common *platform* (pictured above).⁴



Fire truck [15]



Snow mobile [16]



Racer [17]



Woody wagon [14]



Truck w/chain hoist [14]



Tractor [14]

Figure 3 Various Specific Vehicles which were based on the Common platform [14], [15], [16], [17]

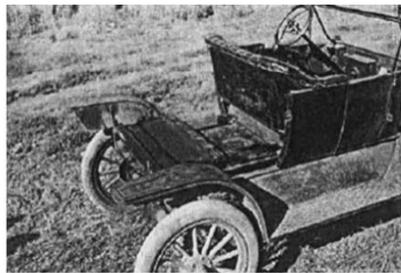
³ Ibid.

⁴ Ibid.

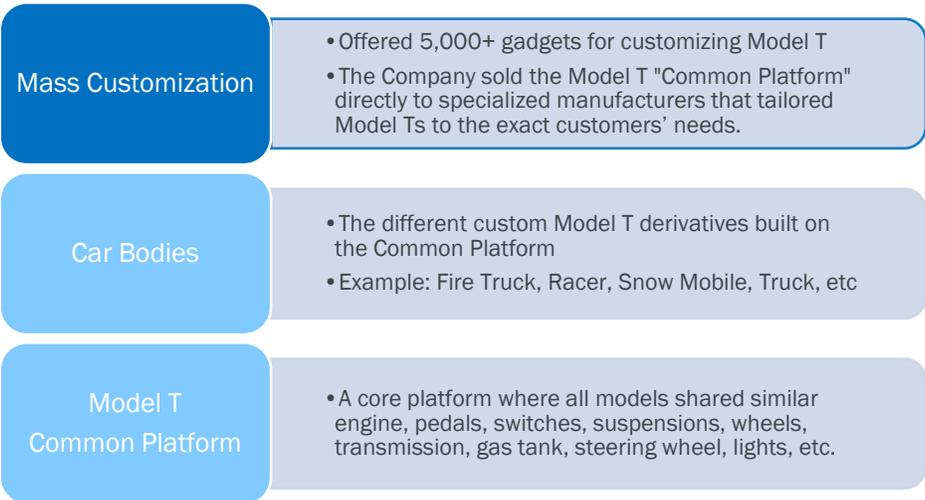
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This is further exhibited in the progression below, which shows how a Ford Touring 4-seat car became a truck by removing the back of the car and replacing this section with a platform bed.



Henry Ford's Mass Customization



Ford's common platform approach would be instrumental in the development of Mass Customization as it facilitated an easy customization process that was built upon a core foundation (the Model T platform). The Ford Motor Company spurred mass customization in two ways. First through offering customers 5,000 gadgets and accessories to choose from for customizing their vehicle in the same way that car companies offer different "accessory packages" today.



The additional – and more interesting – method of customization that Ford facilitated was offering the platform as a *product* to other specialized manufacturers, who could utilize their unique skillsets to customize automobiles to their client’s exact needs:

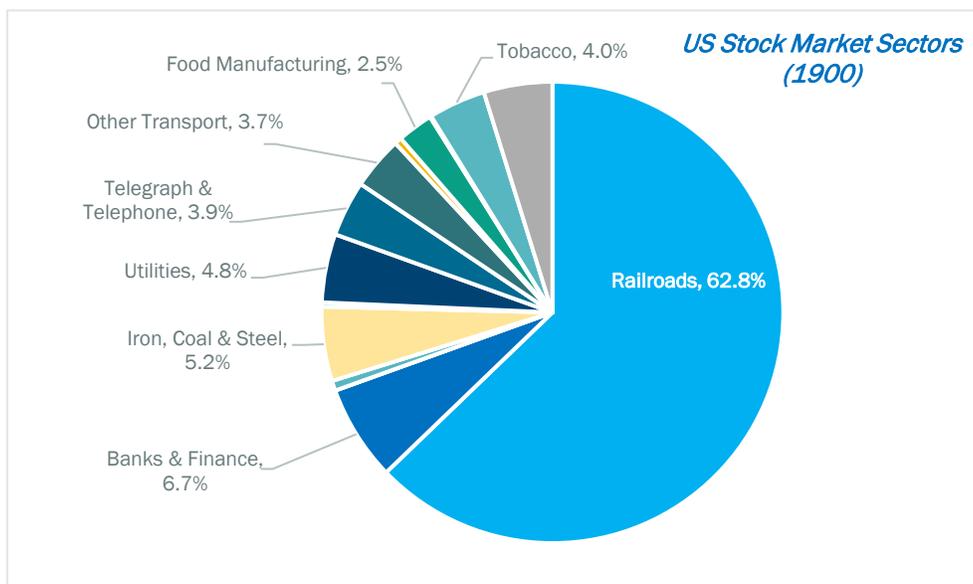
“The second way to offer variety was to sell the common platform directly. The customization was realized by Ford but mainly by specialized companies tailoring it to exact customers’ needs. This action ensured that mass production and mass customization generated thousands of unique vehicles during the lifecycle of the Model T...”

Jiao and Tseng define mass customization as a strategy for offering individual customer’s needs yet maintaining near mass production efficiency. **We consider what Henry Ford did, by manufacturing a core product and tailoring each product through specialized manufacturers, fit the definition of Jiao and Tseng.** This approach also matches Duray’s assertion that *mass customization must involve the customer in the design process.* Finally, Ford’s approach also matches Pine’s definition who declares that *a platform can facilitate addressing different market niches through derivative products...*

This approach, to sell the platform as a product, was possible because of the separation between the common underbody (platform) and the derivative bodies (hats). Mass customization was also possible because this platform was significant and sufficient by itself being the entire underbody. As a result, the platform was already almost a car, which needed to be body-customized.”

MASS CUSTOMIZATION IN THE AGE OF INFORMATION: CUSTOM INDEXING

In 1900 – just eight years before the launch of Henry Ford’s Model T – the US stock market was dominated by industrial sectors like Railroads, which comprised 63% of the market.⁵



Today, the market is obviously quite different. Sectors that did not even exist 100 years ago, like Information Technology, now represent almost 30% of the market (as measured by the Russell 3000). Despite clear differences in the types of companies operating in each respective period, there are similarities in how they leveraged technology and innovative platforms to produce goods and services at a greater scale, more efficiently, and increasingly customized.

⁵ Triumph of the Optimists

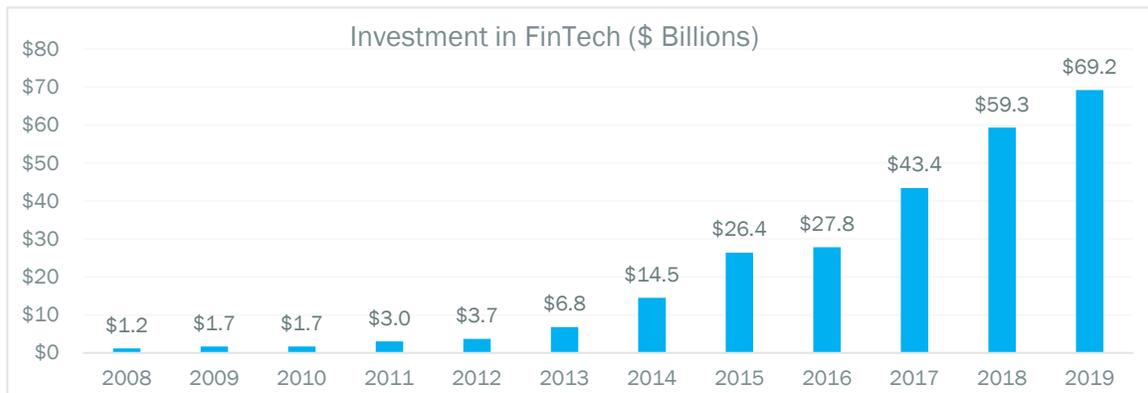
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The Rise of Financial Technology

Over the last three decades there has been an incredible boom in technology and software powered by a range of innovations like the internet, cloud computing, e-commerce, smart phones, social media, and more. While these innovations have largely occurred within sectors like Information Technology, the experience of recent years has demonstrated that we are following the trajectory of previous [“technological revolutions”](#) in which these previously sector-siloed innovations are diffused across the economy into sectors like Financials (enter FinTech).

Coupled with advancements within the financial industry – introduction of ETFs, online brokerages, and commissions-free trading – there are thousands of FinTech companies trying to combine the innovations in Tech and Financials into powerful new products. A recent report by Deloitte on investment in the FinTech space highlights this trend:

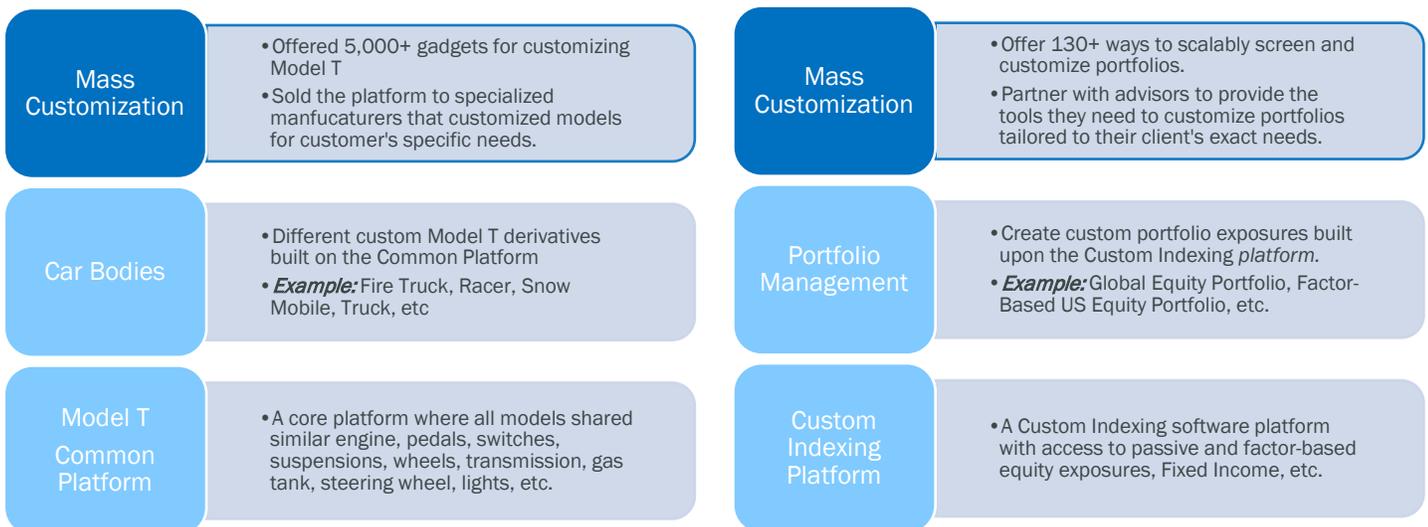


As market access becomes cheaper and easier than ever with the rise of mobile applications and fee compression in passive ETFs, market beta has quickly been commoditized. **History demonstrates that commoditization tends to increase demand for customization.** All consumers and investors are unique individuals, so how does it make sense that we would all invest our money in the same ETF with a singular objective?

Most of us yearn for customization in other aspects of life, like when purchasing an automobile (whether it be a Ford Model T or a Tesla Model Y), and innovations in financial software are finally enabling that same level of granular customization within the asset management industry.

Custom Indexing: A Platform for Mass Customization

Referring back to the Model T common platform, we can compare the similarities between Henry Ford’s platform for mass customization and the modern example of Custom Indexing:



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CONCLUSION

In the early 20th century, innovations like the moving assembly line championed by Henry Ford altered the manufacturing process forever by introducing the concept of mass production. Along with new technologies and a management philosophy increasingly dominated by science and efficiency (i.e., Frederic Taylor's Scientific Management principles), new products like the automobile were produced efficiently at scale.

Although he is often incorrectly remembered for his "have it in black" quote, Henry Ford pioneered mass customization at a magnitude never seen before. Once again leveraging technology and a platform-based approach that allowed for *customization* built on top of *common platforms*, the Ford Motor Company was able to offer customized vehicles in a scalable way because the underlying platform of each vehicle remained the same.

In an age when passive beta and market access is cheaper and easier than ever, paired with rapid innovations in software and technology, the stage was set for forward-thinking asset managers to build platform-based products enabling mass customization.

As an experienced quantitative asset manager that has invested client money for decades leveraging cutting-edge technology, we at OSAM built a Custom Indexing platform that provided our own "Model T platform" (passive / factor-based exposure, innovative technology and software, investment expertise) for advisors to manage portfolios *built* upon this underlying platform. From there, 130+ additional customizations can be incorporated to tailor portfolios to each client's exact needs. Through software and technology, this is all done at scale.

Henry Ford's Model T had one of the longest production runs of any car in history, and its legacy lives on today. Time will tell if this era of innovation in finance and technology is remembered similarly in the annals of history, but OSAM is proud to provide mass customization in portfolio management through our Custom Indexing platform: [Canvas](#)[®].

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- **Composite Performance Summary**

For the full composite performance summary of this strategy, please follow this link: <http://www.osam.com>

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