



Benchmarking in the automobile industry

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Benchmarking involves a structured comparison between similar products, services or processes on some dimensions of performance. For example, it can be used to compare the availability and delivery of features in a product and in this form often provides the basis of consumer tests and reviews. These look at products and services and provide recommendations based on which is best or some form of ranking amongst competitors.

It is particularly useful when comparing not only performance but also practice – in other words what do the different organizations do to enable that performance to be delivered? And applied in this way it is a powerful tool in process innovation since studying how the 'best' achieve their performance can provide powerful clues for changing the way processes operate. Process benchmarking of this kind can operate at several levels:

- Between similar processes in the same factory or service branch
- Between different factories or service branches
- Between different competing organizations
- Between different sectors using the same process

Whilst it offers a significant learning opportunity benchmarking between competing organizations is harder than the other three because competitors do not want to disclose their process information since it is a source of competitive advantage to them. So benchmarking of this kind often involves a third party who can collect the data, make the comparison and provide feedback but all on a confidential basis.

A good example of this was the Automobile Industry Benchmarking Study at the heart of a long-running programme organized by MIT with other academic partners around the world called 'The future of the automobile'. This programme was co-funded by most of the major auto industry players and explored a variety of aspects of the industry including product design and innovation, service delivery, retailing and supply chain management. Its results appeared in many books and articles and over a sustained period of time provided a powerful stimulus for change in the industry. The benchmarking study was the most influential, giving birth to the concept of 'lean' thinking which revolutionized first car making and then other manufacturing before diffusing into services and the public sector. The original study was published in 1991 under the title 'The machine that changed the world'.¹

• ¹ Roos, Daniel, Ph.D.; Womack, James P., Ph.D.; Jones, Daniel T.: *The Machine That Changed the World : The Story of Lean Production*, Harper Perennial (November 1991), [ISBN 0060974176](#), [ISBN 978-0060974176](#)

The project involved a systematic benchmarking study of 68 car assembly plants around the world using a standard structured framework to ensure direct comparisons were made. Researchers from the various university teams looked in detail at all aspects of productivity and compared performance factors like labour hours to produce a car, number of defects per car, inventory levels per car, space utilization, etc. Their findings were significant and challenging for the industry.

“... our findings were eye-opening. The Japanese plants require one-half the effort of the American luxury-car plants, half the effort of the best European plant, a quarter of the effort of the average European plant, and one-sixth the effort of the worst European luxury car producer. At the same time, the Japanese plant greatly exceeds the quality level of all plants except one in Europe - and this European plant required four times the effort of the Japanese plant to assemble a comparable product...” (Womack et al., 1991).

This massive difference in performance provided a powerful incentive for the lower-performing firms to explore *how* the best plants were able to deliver these different productivity levels. Various studies began to focus on trying to understand the process innovations involved and gradually it became clear that the differences were not down to levels of automation or other physical investments but rather in the underlying organization and management of production. The successful plants had an integrated philosophy backed up by an extensive toolkit of approaches which focused on eliminating or reducing waste in all areas and activities. They achieved this through a mixture of team working and employee involvement in innovation.

This focus on waste and its reduction led the researchers to think of the successful systems as being ‘lean’ – rather like an athlete who carries not extra weight or fat and is therefore able to perform better. The term stuck and became a label for an approach which has had enormous impact on process innovation around the world.

Benchmarking remains an important tool within this framework and continues to provide the motivation for change in many sectors. A good example can be found in the case of South Africa where the approach has been used to enable innovation in automotive, chemicals, textiles and clothing and other sectors – see here for more details.

<http://www.bmanalysts.com/site/>

More information on lean thinking and its component tools can be found in the Portal – [click here](#) to find more about:

- Value stream analysis
- Process mapping
- Continuous improvement toolkit
- Benchmarking

And other useful links are:

<http://www.leanenterprise.org.uk/>

<https://www.leanuk.org/>