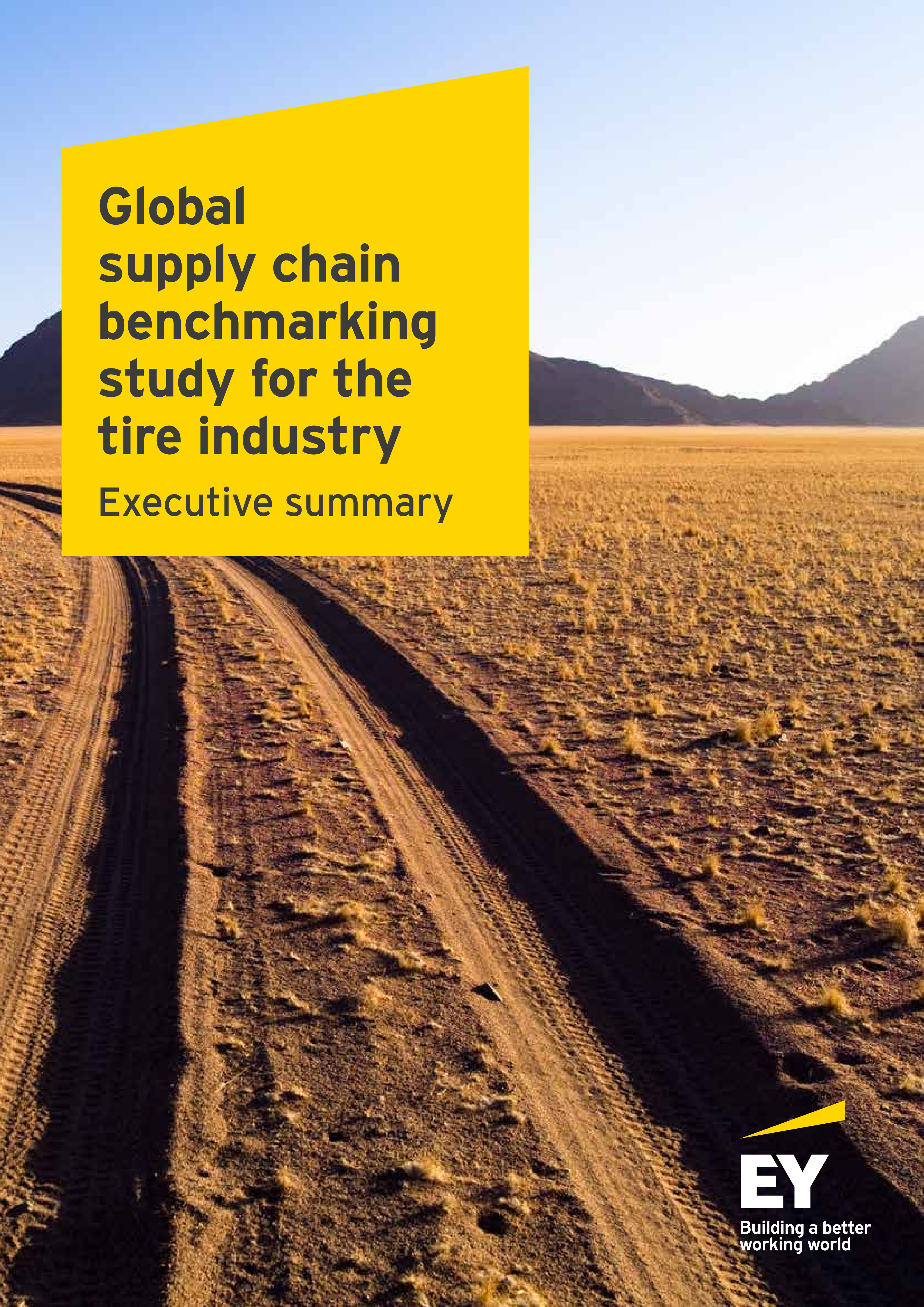


Global supply chain benchmarking study for the tire industry

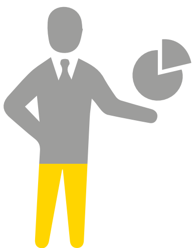
Executive summary

Building a better working world

The accelerating pace of disruption and the competitive nature of the tire industry are making it necessary for tire manufacturers to innovate constantly and operate a flexible supply chain. To achieve a breakthrough in improving performance, EY collaborated with major global tire manufacturers and conducted a study that has helped identify and address unique supply chain issues across the tire industry. The study reflected on global supply chain performance parameters across manufacturing and distribution for major tire manufacturers. It has not only allowed major players to benchmark their performance with the industry, but also helped them undertake appropriate supply chain improvement initiatives. This is an executive summary of the study that highlights the key findings from an overall tire industry perspective.

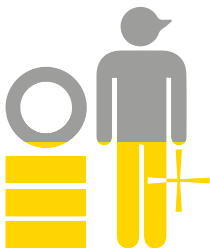
Global participants' market share

Overall participation



35%

Aggregate global market share of participants



44%

Aggregate tire sales market share of participants in the North American and European markets

Key findings from the study

1 Lower forecast accuracy, especially at distribution center levels, indicates a lack of local demand knowledge.

Historically, the industry has focused on an aggregated brand forecast accuracy as a key measure. However, to get an accurate understanding of demand, it is imperative to consider regional and local factors. Improving forecast accuracy is strategically important for tire manufacturers to make the right tires and keep a check on inventory levels.

We recommend the industry focus on:

Improved demand plan inputs into sales and operations planning (S&OP)

Incorporating demand-shaping assumptions into the process

Improving corrective actions to the S&OP process

50%

Median forecast accuracy at the location level for the passenger car and light truck replacement business

2 Lower production plan adherence also contributes to higher inventory buffers.

The industry experiences lower production plan adherence, especially across North America and the Europe Middle East and Africa (EMEA) region, resulting in overly high inventory buffers.

Possible reasons for lower production plan adherence

Prioritization of lower-running stock keeping units (SKUs) among an already large number of SKUs

Original equipment downstream impacting schedule adherence for replacement SKUs

93.2%

Median production plan adherence for the passenger and light truck segment

3 Despite high inventory levels and logistics costs, the industry witnesses relatively higher order cycle time.

Apart from the supply and demand variation, longer production runs are resulting in higher inventory levels for the industry. Given this, the industry has a longer order cycle time than expected.

This is indicative of planning complexity, long changeover times on equipment and lack of flexibility at key plants.

51 days

Median finished goods inventory days for the passenger car and light truck replacement business

7.7 days

Median order cycle time for the passenger car and light truck replacement business

4 A large number of SKUs represent variability and complexity of demand.

The top industry quartile illustrates the future direction of the industry with higher SKUs available. Given this complexity, manufacturing more of the right SKUs will become increasingly difficult, as tire manufacturers will need to manage supply chains that are distinct from one another. Also, leveraging green tires to a greater degree will become more important to keep inventory levels manageable. Thus, a manufacturing strategy that includes agile plants is needed to succeed in a more complex future.

271

Top quartile for the number of SKUs representing **80%** of the total volume in the passenger and light truck tire segment

5 High logistics costs reflect the industry's complex distribution strategy.

A highly complex distribution strategy and lower truck utilization rates are likely causes of high transportation costs in the replacement segment, especially in the EMEA region. Also, a lower distribution center level forecast accuracy for the industry is another likely cost driver, as it leads to higher inventory rebalancing costs. There is a clear need to optimize supply chains through digitized asset tracking and logistics process optimization.

US$472

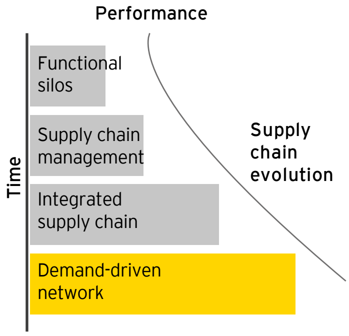
Median logistics costs per ton sold for the truck and bus replacement segment

The supply chain of today needs to be fundamentally reinvented around a demand-driven network philosophy

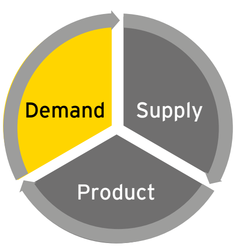
It is clear that tire manufacturers' supply chain faces unique challenges because of differentiated characteristics of the industry. The study reveals multiple gaps across the tire industry supply chain, including poor visibility and forecasting mechanisms, leading to inadequate inventory management. We observe an inherent complexity in the SKU mix (larger rim sizes and demand for feature-rich tires) and distribution resulting in higher costs. Also, as tire manufacturers expand globally across emerging regions like Asia, leveraging market-leading supply chain practices can become an essential enabler for an optimal supply chain.

As tire manufacturers face unique supply chain challenges across various regions and market segments, the traditional approach of one-size-fits-all does not work. The supply chain needs to be highly responsive to local demand, and maintain a balance of agility and cost at the same time. EY helps clients reinvent their supply chain and operations to unlock the full value from strategic assets, and ultimately drive competitive advantage. We achieve this by bringing a unique set of deep analytical, operational, change management and financial skills, supported by exclusive alliances that provide the best operational excellence know-how.

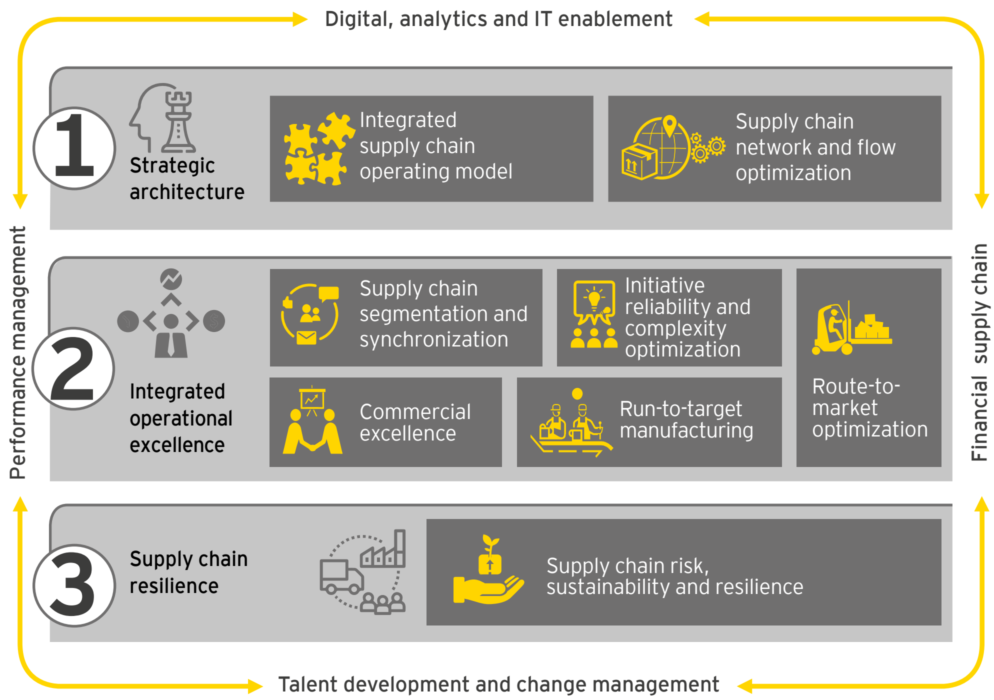
Traditional supply chains are no longer fit for purpose.



A new **DRN** is emerging.



EY's demand response network (DRN) supply chain reinvention transformation framework



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ED None.