North American automotive supplier supply chain performance study

Key 2013 findings from leading automotive suppliers evaluating the effectiveness and efficiency of their supply chain

In this issue

pwc

www.pwc.com/auto

Welcome

As a means of identifying and assessing supply chain strengths and challenges in the automotive market, PwC refreshed its annual study of the top 50 automotive suppliers to North American Original Equipment Manufacturers (OEMs) (ranked by sales of OEM parts).[1]

To enhance this year's study, Original Equipment Suppliers Association (OESA) provided PwC with access to their membership, gaining support of its member companies (including 53 publically traded companies). Through OESA distribution, we were able to analyze multiple supplier surveys and expand the breadth of findings presented in this paper.

PwC's study evaluates the responses of this expanded pool of players to distill their performance on supply chain planning, sourcing and delivery capabilities; compare supplier segments studied—Exterior, Interior, Body, Powertrain, Electrical, and Chassis—and identify potential for improvement. Specifically, our study provides a closer look at the ability of top suppliers to generate revenue/cash (effectiveness), as well as their capability to minimize costs (efficiency).

While our findings indicated that most suppliers perform better on effectiveness than on efficiency, it is evident that all segments can markedly improve in both areas—with Interior and Exterior Suppliers leading the way in terms of the strongest performance and revenue growth.

Our many thanks to all who participated in PwC's 2013 study. We value your time, effort and input.

Rajiv Jetli
Principal
rajiv.jetli@us.pwc.com
+1 (313) 394 3132

[1] "Top 100 NA Suppliers," Automotive News, June 17th, 2013. Top 45 included in financial analysis due to five companies being private.

Key themes: Emerging automotive supplier findings

Supply chain efficiency and effectiveness may lead to higher financial gains:

- Based on the survey results, companies that are performing well in the five core disciplines1 exhibit higher financial performance. For example, sales growth of best-in-class company (BICC) is almost 50% higher than that of non-BICCs, while BICCs have 20% higher profitability than non-BICCs.
- Interior and Exterior suppliers lead the way in revenue growth as Original Equipment Manufacturers (OEMs) continue their focus on improving interior quality and differentiating exterior styling (e.g., unique lighting options).
- All segments appear to be taking an additional focus on Cost of Goods Sold (COGS) once again, as supplier revenue growth has outpaced COGS growth from 2012 to 2013.

There is a renewed focus on cash:

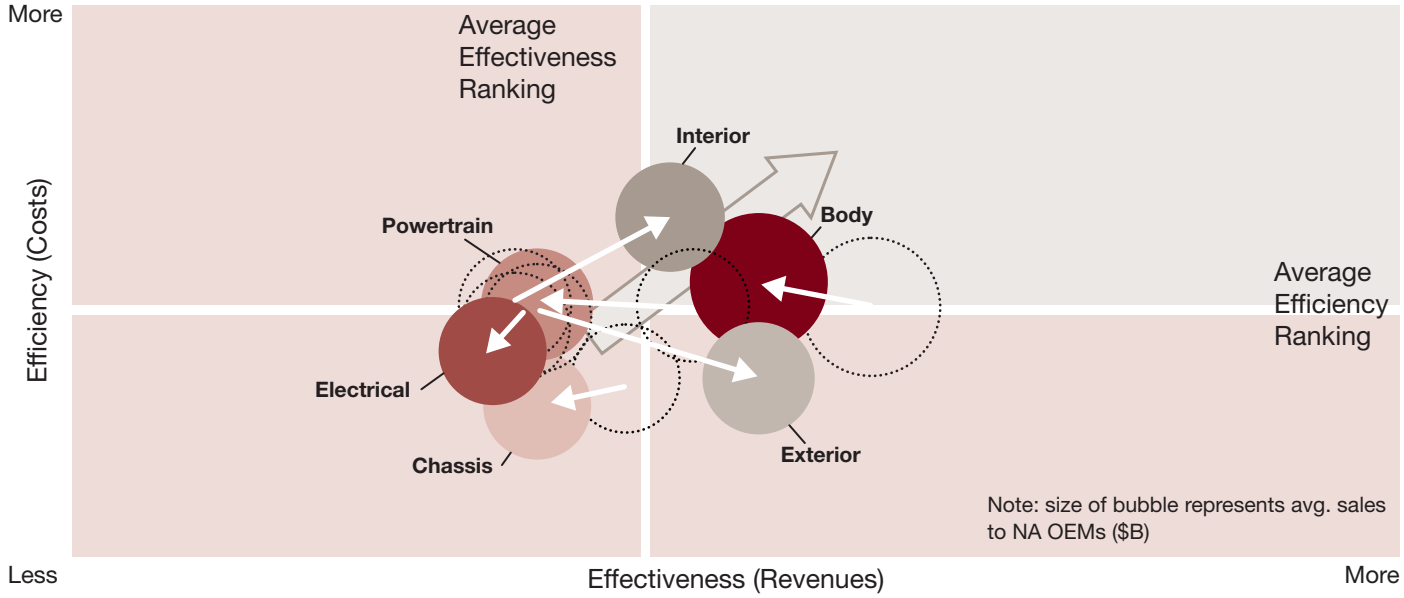
- Working-capital efficiency appears to be a common trait of profitable suppliers. Companies that achieved top quartile performance in gross profit margin delivered top quartile performance in days sales outstanding (DSO) improvements and top-quartile performance in raw material turns.
- Top Tier 1 suppliers are realizing the value of an extra few days of payables, with approximately 60% of segments increasing their payables by over two days since 2011. This could be driven by a renewed focus on cash and increased leverage through supplier consolidation.
- Segments with higher local content, such as body suppliers, appear to be achieving working-capital benefits through improved days sales outstanding (DSO) and shorter cash-to-cash cycles.

Inventory continues to be a challenge:

- Several segments—specifically interior and exterior components—have seen industry turns decline as automotive production stabilizes from the 2009–2012 growth cycle.
- Improvements in raw materials stability appear to indicate that supply is catching up with demand, allowing suppliers to stabilize their raw material inventories. Coupled with improved forecasting and demand stability, most segments are starting to see gains in controlling raw materials turns.

The majority of suppliers performed better on effectiveness (revenue) than they did on efficiency (cost)

Interior suppliers showed the greatest strides in effectiveness this year, while body suppliers slightly declined in performance. Exterior suppliers improved in effectiveness but regressed in efficiency; Powertrain, Chassis and Electrical Component supplier effectiveness declined.



Source: (1) PwC Analysis, "Top 100 NA Suppliers", Automotive News, June 17, 2013.
Notes: Rankings were developed based on weighting of the key metrics in this study. Each segment was ranked in comparison to other segments. Divisions between quadrants suggests cross-segment average. Dotted circles represent last year's study results in efficiency/effectiveness.

Methodology

In this year's study, PwC identified leaders (top 20%) and laggards (bottom 20%), and determined an effectiveness and efficiency rating for the six supplier segments studied:

1. *Exterior*
2. *Interior*
3. *Body*
4. *Powertrain*
5. *Electrical*
6. *Chassis*

Using publically available data, PwC assessed supply chain performance by aligning 17 specific metrics to planning, sourcing, and delivery performance. Rankings were then developed based on the weighting of these key metrics, to derive an efficiency and effectiveness score. The combined score determined the overall segment level ranking. Each segment was ranked in comparison to other segments. On the bubble chart, divisions between quadrants suggest the cross-segment average ranking.

Two frameworks were used to help guide the analysis. First, PwC leveraged the SCOR® reference model developed by Supply Chain Council (SCC) to group metrics into plan, source, and delivery buckets. The SCOR® model provides a unique framework that links business process, metrics, best practices and technology features.

The second framework used aligns the five core disciplines covered in PwC's recently released book on strategic supply chain management. Our industry survey composed of 33 questions that set out to assess a suppliers' supply chain capabilities. Specifically, the core disciplines PwC surveyed each supplier on were:

Core Discipline 1: View your supply chain as a strategic asset

Core Discipline 2: Develop and end-to-end process architecture

Core Discipline 3: Design your organization for performance

Core Discipline 4: Build the right collaborative model

Core Discipline 5: Use metrics to drive supply chain performance

Using these frameworks and data analysis, PwC was able to draw insights into suppliers supply chain effectiveness and efficiency.

A combination of planning, sourcing, and delivery metrics were used to establish supplier effectiveness and efficiency

17 metrics were used to determine supply chain efficiency and effectiveness. **Effectiveness Metrics:** Raw Material Stability; Days Payables Outstanding (DPO); Days of Sales Outstanding (DSO); and **Efficiency Metrics:** Cash-to-cash; and Cost of Goods Sold (COGS) Revenue.

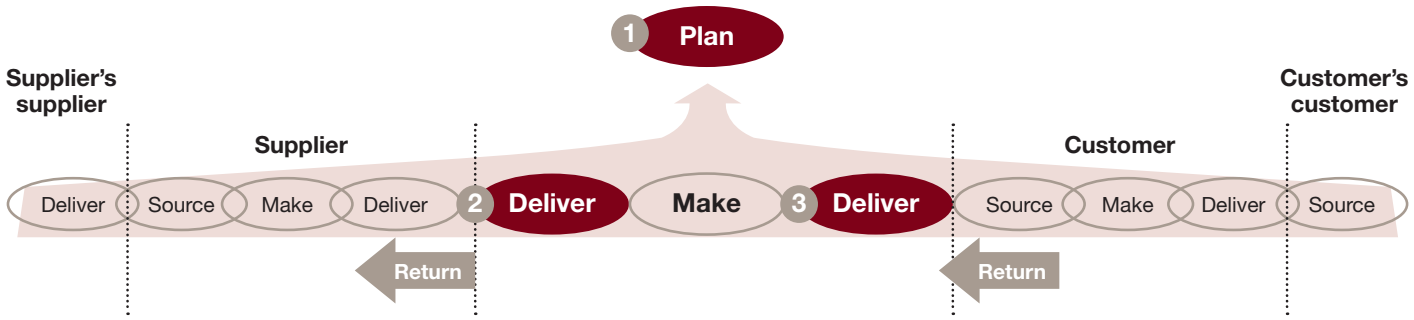
A combination of planning, sourcing, and delivery metrics used to establish supplier effectiveness and efficiency

	Planning	Sourcing	Delivery
Effectiveness Metrics (Revenue)	**Operating Cash Flows/ COGS (YoY)**	**Days Payables Outstanding (DPO)**	**Days of Sales Outstanding (DSO)**
	Revenue Growth (YoY)	**DPO Improvement (YoY)**	**DSO Improvement (YoY)**
		DPO Improvement (Rank)	DSO Improvement (Rank)
Efficiency Metrics (Cost)	**Raw Material Stability**	**Cash-to-Cash**	**SG&A (YoY)/ COGS (YoY)**
	Inventory Turns	**Gross Profit Margin**	Avg FG Inventory/ Revenue
	Inventory Turns Improvement (YoY)	**COGS (YoY)/ Revenue (YoY)**	PPE / Revenues

*Bold indicates stronger indicators of effectiveness and efficiency performance
Source: PwC's North American Supplier Supply Chain Study, 2013

The SCOR® reference model was used to guide our analysis in Plan, Source, and Deliver capabilities

SCOR® based end-to-end model (physical, information, financial flows)



1 Plan

- Supply chain strategy and network design
- Cross-enterprise supply/demand planning
- Inventory management and schedule stability

2 Source

- Strategy procurement
- Supplier-managed inventory
- Purchased materials cost management

3 Deliver

- Demand management
- Order management and customer delivery
- Supply chain asset management

Source: PwC's North American Supplier Supply Chain Study, 2013

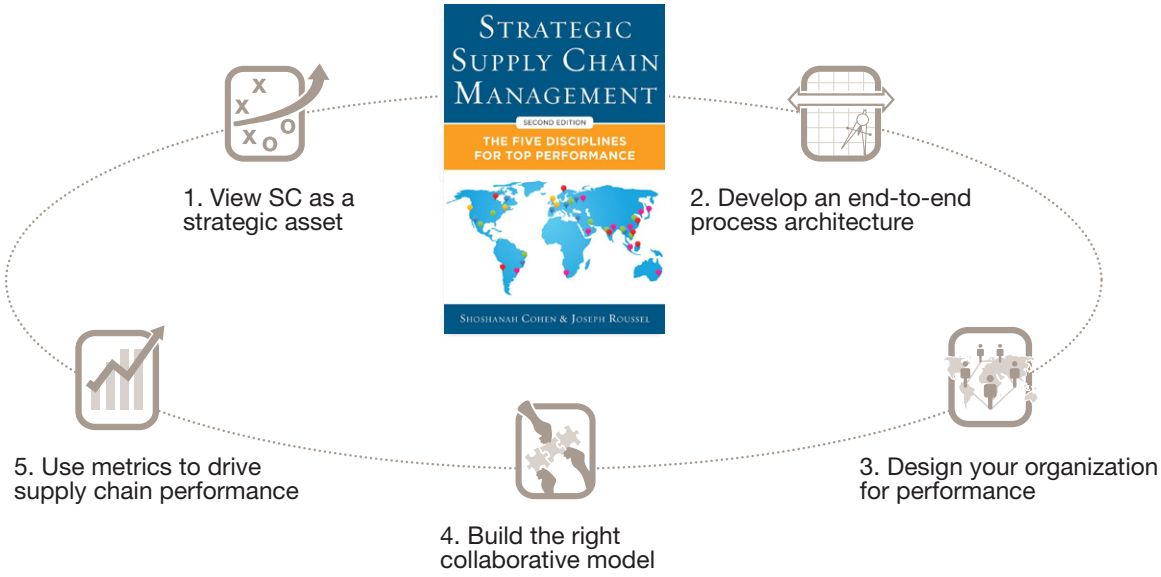
Plan (levels of aggregation and information sources): Activities that involve supply chain strategy and network design; cross-enterprise supply/demand planning; and inventory management and schedule stability.

Source (locations and products): Activities related to strategic procurement; supplier-managed inventory; and purchased-materials cost management.

Deliver (channels, inventory deployment and products): Capabilities that cover demand management; order management and customer delivery; and supply-chain asset management.

Our study focused on the five core disciplines covered in the recently released book on strategic supply chain management, co-authored by PwC

The five disciplines for top performance



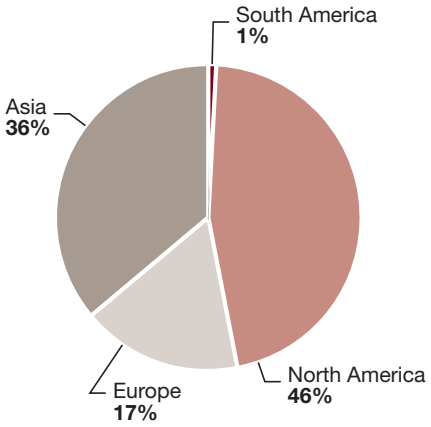
Notes: Joseph Roussel, a partner in PwC's Strategy and Operations practice, co-authored the *Strategic Supply Chain Management* book.

Scope

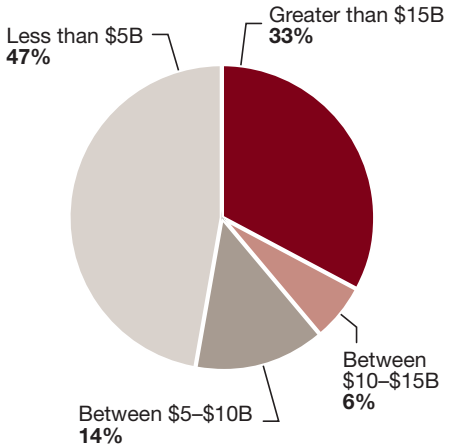
A total of 103 suppliers were studied this year, including 53 OESA public companies and the top 50 suppliers to North American OEMs ranked by OEM sales. The graphic below depicts the supplier population characteristics and demographics.

The study covers a broad range of automotive suppliers

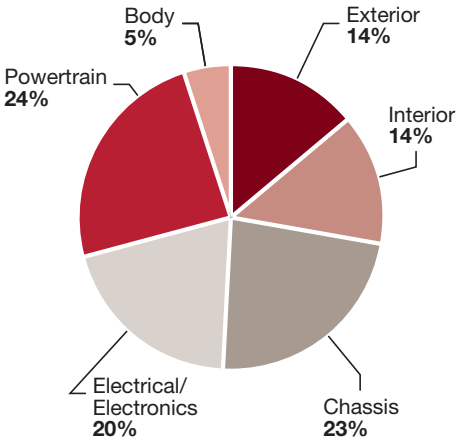
Geographic distribution (HQ location)



Company size



Sector breakout



Source: PwC's North American Supplier Supply Chain Study, 2013

Supplier population characteristics:

- **Body suppliers**—class A stamping, non-/structural stampings, frame/subframe components, body hardware
- **Chassis suppliers**—axles, exhaust, suspension, steering wheels, brakes, bearings, 4WD components, fuel tanks
- **Electrical component suppliers**—airbag/controller, antilock braking system (ABS), harnesses, heating, ventilation, and air conditioning (HVAC), entertainment, control modules, regulators
- **Interior suppliers**—seats, seat belts, interior products, instrument panels (IPs), trim, carpet, headlines, HVAC
- **Exterior suppliers**—glass, paint, body molding, fascias, lamps, mirrors, wiper systems, door handles, seals
- **Powertrain suppliers**—electric vehicle (EV) batteries/drive controls, engines, transmissions, 5C components, pistons, heads, cooling and air management, injectors, turbochargers, tubes and hoses

Segment findings—Interior suppliers now lead all segments

Interior suppliers now lead all segments, having achieved median revenue growth of 4%. The segment continues its strong performance in working capital management, as evidenced by strong performance in current year and year-over-year (YoY) improvement in inventory turns, days payables outstanding (DPO), and cash-to-cash performance. That said, below-average DSO performance indicates an opportunity still exists to further improve cash-to-cash efficiency. At the same time, strong revenue growth and above-average gross margin improvement indicate that fundamentals are on the upswing.

- ***Effectiveness:*** Interior suppliers achieved top performance in revenue growth across all segments. Demonstrating superior control of internal working capital, interior suppliers ranked tops in DPO. DSO performance was 0.6 days higher than average for all segments, indicating a slight opportunity to further improve cash-to-cash performance. Additionally, lagging performance in operating cash flow/COGS evidences underperformance in some combination of gross margin, investment (depreciation), and/or overall tax rate.
- ***Efficiency:*** Interior suppliers achieved top performance in inventory turns and in cash-to-cash cycle. YoY performance in inventory turns climbed from fourth place in 2012 to second place in 2013. Gross profit climbed from fifth to fourth place, suggesting that slight improvements in pricing or COGS have been achieved. Interior suppliers are in fourth place in YoY SG&A/YoY COGS, suggesting further improvement in SG&A costs may be warranted.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
1st	6	1 (tie)	1 (tie)	1	4	3

SC efficiency measures

Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
1st	2	1	2	2	4	3	4

Body suppliers placed second. Body segment suppliers appeared to be performing very well in both supply chain effectiveness and efficiency, having scored first in three effectiveness measures and three efficiency measures. Given that body suppliers ranked first in operating cash flows, DSO, YoY DSO improvements, raw material stability, inventory turns and cash-to-cash, it appears that working capital was a heavy focus from 2012 to 2013. Poor gross profit margins, revenue growth, and COGS growth relative to revenue growth suggests that additional efficiency and effectiveness opportunities remain.

- ***Effectiveness:*** With median revenues growth performance of 0.3% YoY, Body suppliers rank fifth in revenue growth. Leaders achieve 4% growth in revenues, while laggards shrank revenue by -4.4% revenue growth. With its leading cash-to-cash and DSO performance, it appears that Body suppliers tend to be very good at getting cash back into the company. From 2012 to 2013, Body suppliers have grown DSO performance by 3%, suggesting better payment terms and a leading focus on working capital.
- ***Efficiency:*** Body suppliers have segment-leading raw material stability—potentially enabled by high local content and a renewed focus on raw material turns and controls. They rank first in inventory turns YoY performance, having improved by 0.4%. In fact, the Body segment was the only one to improve YoY turn performance. However, of the entire population, Body suppliers saw the lowest gross profit margin in 2013. This—coupled with poor COGS performance relative to revenue growth—suggests additional efficiency improvement opportunities.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
2nd	1	5	6	4	1	1

SC efficiency measures

Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
2nd	1	3	1	1	6	4	6

Chassis suppliers came in third. Chassis suppliers ranked fourth in effectiveness and third in efficiency, with middle-of-the-road performance in all measures. Poor gross margins and COGS growth relative to revenues suggest opportunities in cost reductions and efficiency gains and/or pricing pressures from OEMs. Lagging performance in DSO, average DPO improvements, and poor inventory performance indicates that the Chassis suppliers segment requires greater focus on cash-to-cash and working capital performance.

- ***Effectiveness:*** Chassis suppliers show middle-of-the-road performance in most effectiveness measures. Poor DPO performance suggests that opportunities exist in supplier payment terms. Median revenue growth of 3.5%, coupled with poor gross profit margins, suggests payment terms could be a near-term opportunity.
- ***Efficiency:*** When compared to other segments, Chassis suppliers seem to have achieved one of the highest performances in inventory turns in 2013. However, the segment seems to be trending downward, ranking only fifth in YoY performance or 2013, and the Chassis supplier segment ranked among the lowest in gross profit margin (15.9%) relative to other segments.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
4th	4	3	5	3	3	3

SC efficiency measures

Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
3rd	3	2	5	3	5	4	2

Exterior suppliers ranked fourth. Top performance in revenue growth indicates that OEMs are placing a strong demand for innovation and differentiation on Exterior suppliers. High COGS growth relative to revenues threatens to push gross margins to below average. Low raw-material stability may evidence the need for improved planning techniques and supplier management, while low inventory turns offset good DPO and DSO performance—resulting in only a fifth place ranking in cash-to-cash cycle performance.

- ***Effectiveness:*** Exterior suppliers tied for top performance in revenue growth across all segments. Good control of DSO and YoY DSO improvements earned them second place in these two measures. Good DPO performance achieved first place ranking, but poor improvement threatens future performance. Lagging performance in operating cash flows/COGS (YoY) and low inventory turns evidences the segment's declining ability to generate cash from operations.
- ***Efficiency:*** Top performance in YoY SG&A/YoY COGS may be driven by high COGS growth rather than good control of SG&A expenses. Low raw material stability could be driven by changing product designs, supply constraints, or volatile customer demand—indicating the need for robust and responsive planning and collaboration tools. Low inventory turns drive a long cash-to-cash cycle. If this is combined with short product life cycles, this may indicate the need for safeguards against obsolescence.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
3rd	5	1 (tie)	1 (tie)	6	2	2

SC efficiency measures

Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
5th	6	4	3	5	3	6	1

Powertrain suppliers finished in fifth place. Powertrain suppliers ranked fourth overall in efficiency measures and last in effectiveness. Poor cash-to-cash cycle performance is being driven by low inventory turns and poor performance on receivables. The segment's focus on cost control has driven it to second overall gross margin performance, while top performance in COGS growth and revenue growth indicates a continuing focus on controlling COGS. Low revenue growth and high working capital levels indicate a need to focus on cash-to-cash and working capital performance.

- ***Effectiveness:*** Across all segments, Powertrain suppliers have bottom performance in revenue growth. The segment shows slightly longer median DPO by 0.8 days, but the 80th percentile performers extend payment 8.8 days longer than other segments. There is a need to improve inventory velocity, as evidenced by poor inventory turns and poor YoY improvement. Bottom performance in DSO and YoY DSO improvement shows lack of focus or lack of leverage.
- ***Efficiency:*** Powertrain suppliers are achieving good gross margins by controlling COGS. Low inventory turnover and high DSO result in a cash-to-cash cycle that is 40% higher than the best-performing segments. Lagging performance in YoY SG&A/YoY COGS indicates that SGA costs are not being held in check as well as in other segments.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
6th	3	6	3	2	6	6

SC efficiency measures

Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
4th	4	6	4	4	2	1	5

Electric Component suppliers finished sixth. This segment is trailing the pack. That said, Electrical Component suppliers ranked first in gross profit margins, suggesting low raw-material components costs, significant low-cost labor content and lower-than-average total landed costs. Lower-than-average raw material stability could be the result of longer-than-average supply chains. Lowest performance in cash-to-cash and inventory turns suggest opportunities exist in both working capital and inventory management.

- ***Effectiveness:*** Managing free cash appears to be important, as revenue growth is below average. DSO performance ranking is among the lowest of all segments, with the band between leading performance of 51 days and lagging performance of 72 days being among the largest.
- ***Efficiency***: Inventory turns ranked low when compared across segments, and the lowest YoY improvements suggest opportunities in inventory. COGS growth relative to revenue growth appears favorable, suggesting that Electrical Component suppliers have focused on COGS control and cost reductions.

SC effectiveness measures

Overall	Operating Cash Flows/COGS (YoY)	Revenue Growth	Days Payables Outstanding (DPO)	Days Payables Outstanding (YoY)	Days of Sales Outstanding (DSO)	Days of Sales Outstanding (YoY)
5th	2	4	4	5	5	5

SC efficiency measures

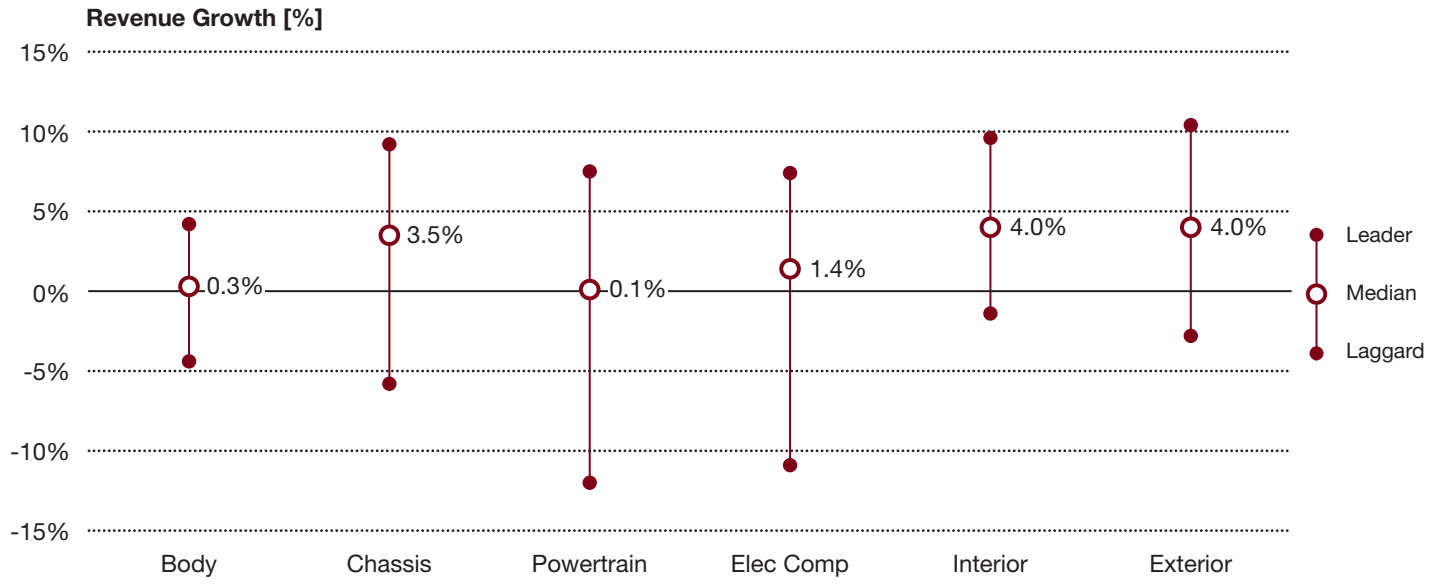
Overall	Raw Material Stability	Inventory Turns	Inventory Turns YoY	Cash-to-Cash	Gross Profit Margin	COGS Growth/ Revenue Growth	YoY SGA/ YoY COGS
6th	4	5	6	6	1	2	3

Detailed segment performance

PwC's key findings from the segment analysis include:

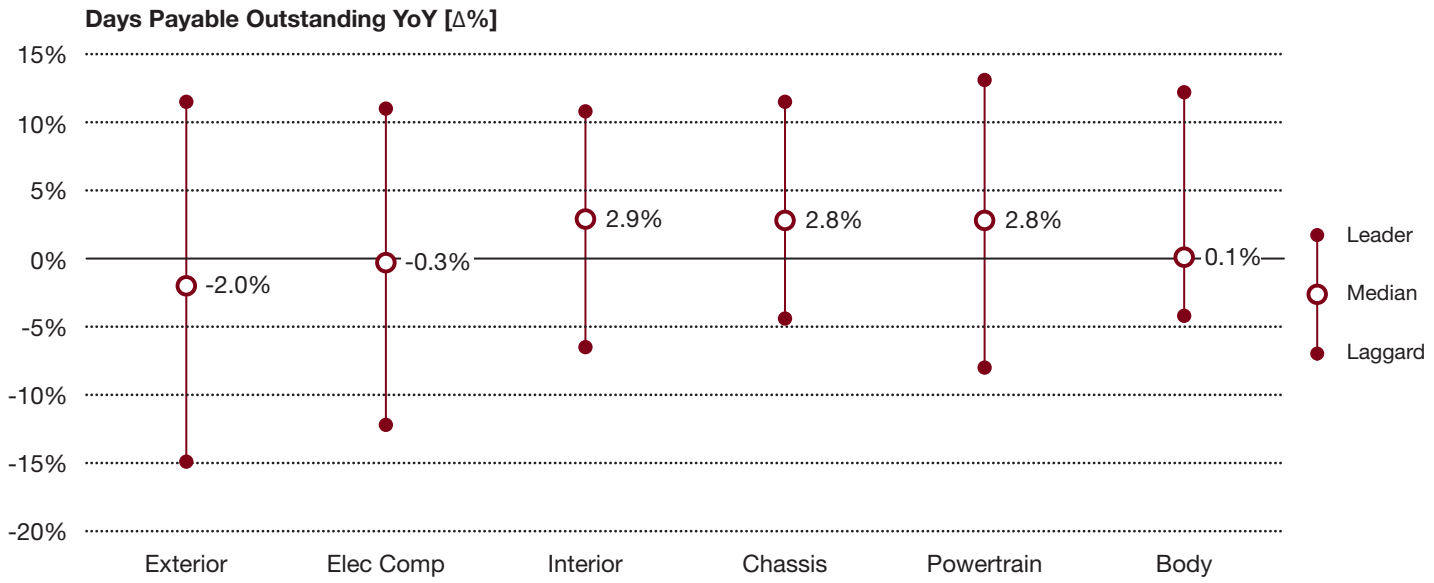
- **Revenue Growth performance:** Interior and Exterior suppliers lead the way in median revenue growth, with the largest spread seen in Powertrain. Leaders (top 80%) show 10–11% YoY performance.
- **Days Payables Outstanding (YoY) performance:** Interior suppliers had the highest median YoY performance in Days Payable Outstanding, suggest that improvements in DPO could have been a focus within the segment. Exterior suppliers had the largest spread between leaders and laggards.
- **Days Sales Outstanding (YoY) performance:** Body suppliers had the highest improvement in Days Sales Outstanding, suggesting that DSO improved by 2.7% from the previous year.
- **Inventory Turns performance:** Interior suppliers turn over inventory faster than other segments, and nearly 60% faster than Powertrain suppliers. Interior leaders turn their inventory nearly 16 times.
- **Cash-to-Cash performance:** Body suppliers had the shortest cash-to-cash cycle, while Electronic Component suppliers have the highest spread between leader and laggard performance.
- **COGS growth (YoY) relative to revenue growth (YoY):** Powertrain suppliers appear to have controlled COGS relative to revenue growth compared to other segments. Powertrain COGS grew at 90.7% of revenues, suggesting that COGS improvement initiatives or controls are becoming more important.
- **Raw Materials Stability performance:** Body suppliers had the best performance in raw material stability, indicating that the fluctuation between high and low raw material turns throughout the year is minimal when compared to the other segments. Best raw material stability performance could indicate that improved planning capabilities or better raw-material inventory supply and/or controls are in place.
- **Inventory Turns improvement (YoY):** Body suppliers were the only segment that improved inventory turns this year. All other segments saw a decline in inventory turns from last years study.

2013 Median Revenue Growth (YoY) performance (includes Leader/Laggard[2] band)



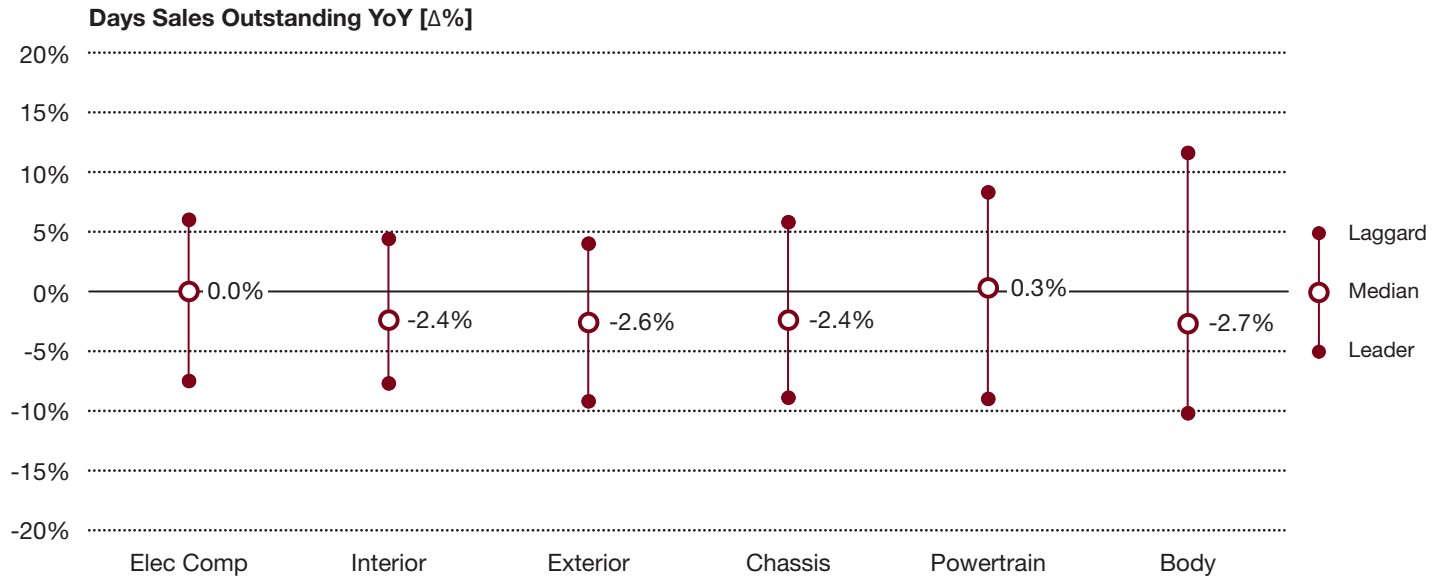
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Revenue growth:** Defined as the growth from 2012 to 2013 revenue as a percentage of 2012—**(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Days Payables Outstanding Improvement (YoY) (includes Leader/Laggard[2] band)



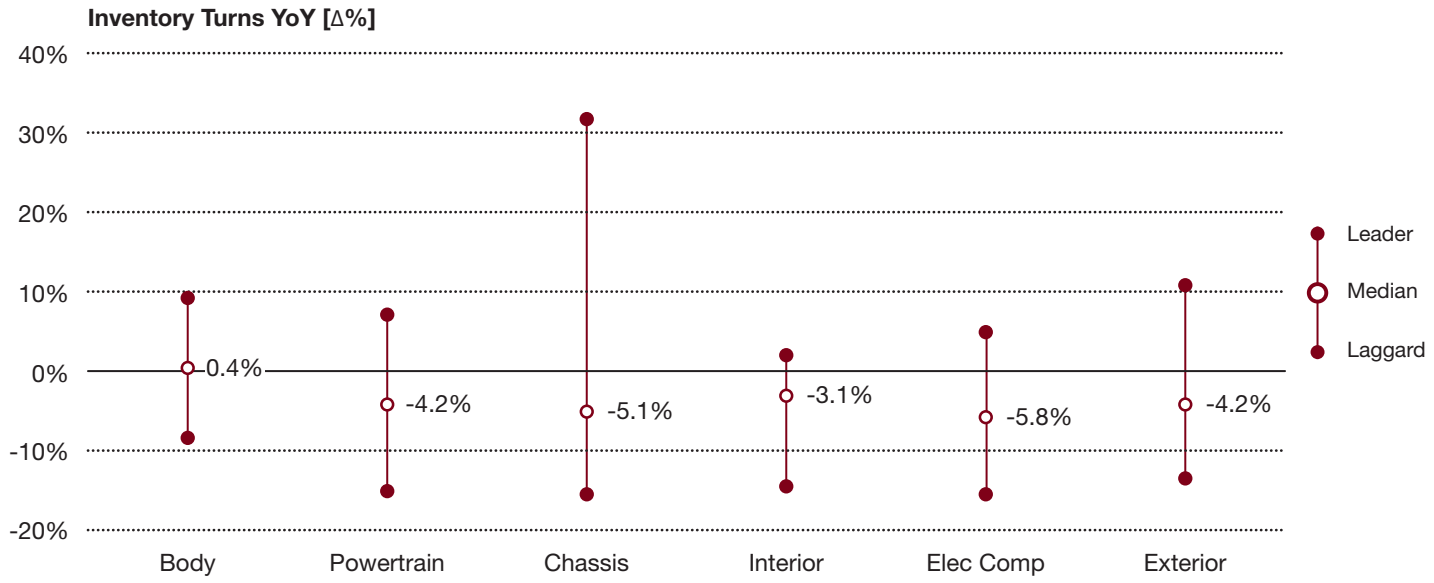
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Days Payables Outstanding Improvement (YoY):** Defined as the change in DPO from 2012 to 2013, as a percentage of 2012—**(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Days Sales Outstanding Improvement (YoY) (includes Leader/Laggard[2] band)



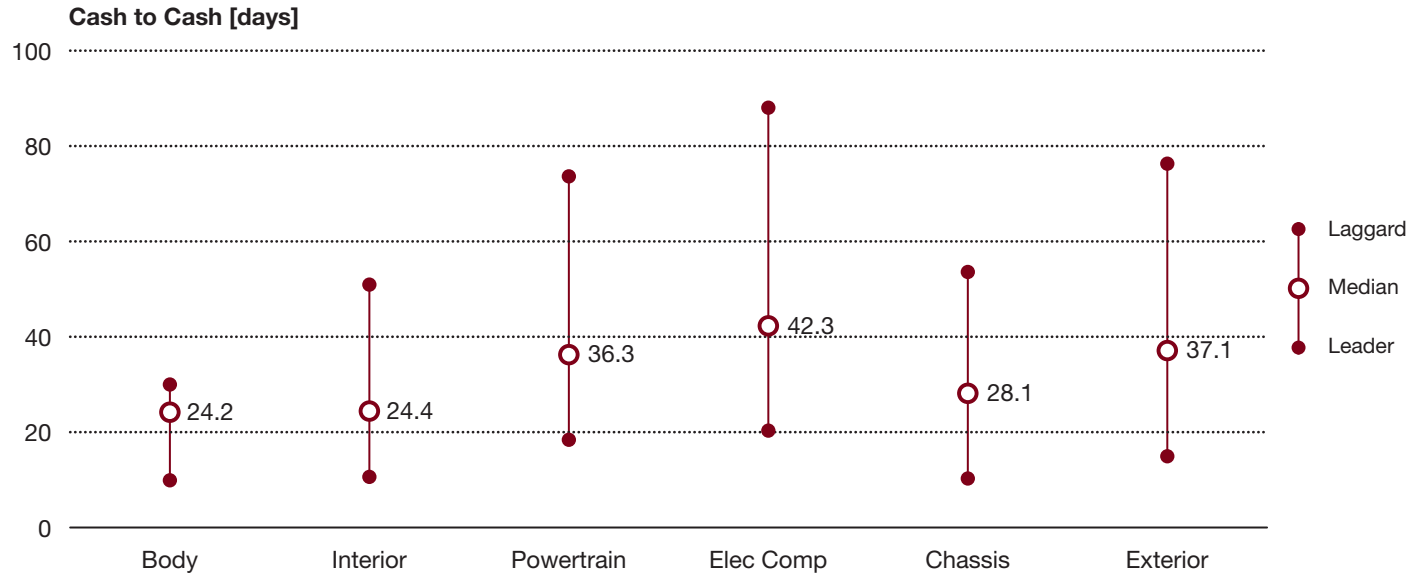
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Days Sales Outstanding Improvement (YoY):** Defined as the change in DSO from 2012 to 2013, as a percentage of 2012—**(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Inventory Turns Improvement (YoY) (includes Leader/Laggard[2] band)



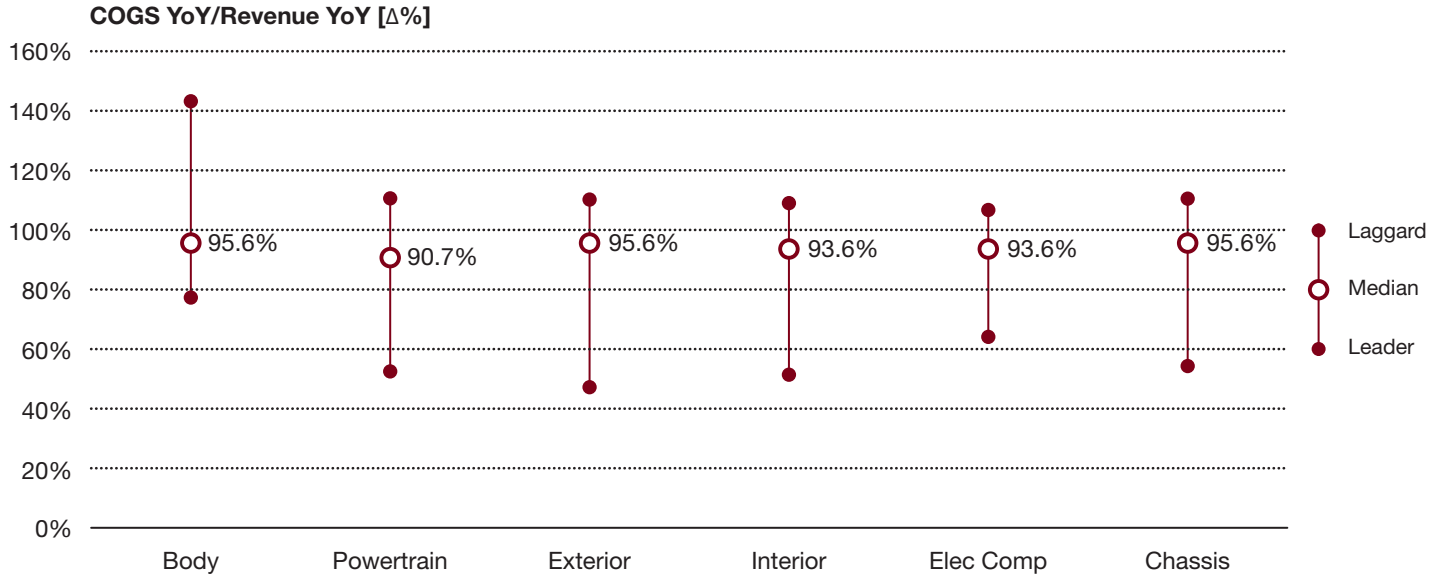
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Inventory Turns Improvement (YoY):** Defined as the change in inventory turns from 2012 to 2013, as a percentage of 2012—**(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Cash to Cash performance (includes Leader/Laggard[2] band)



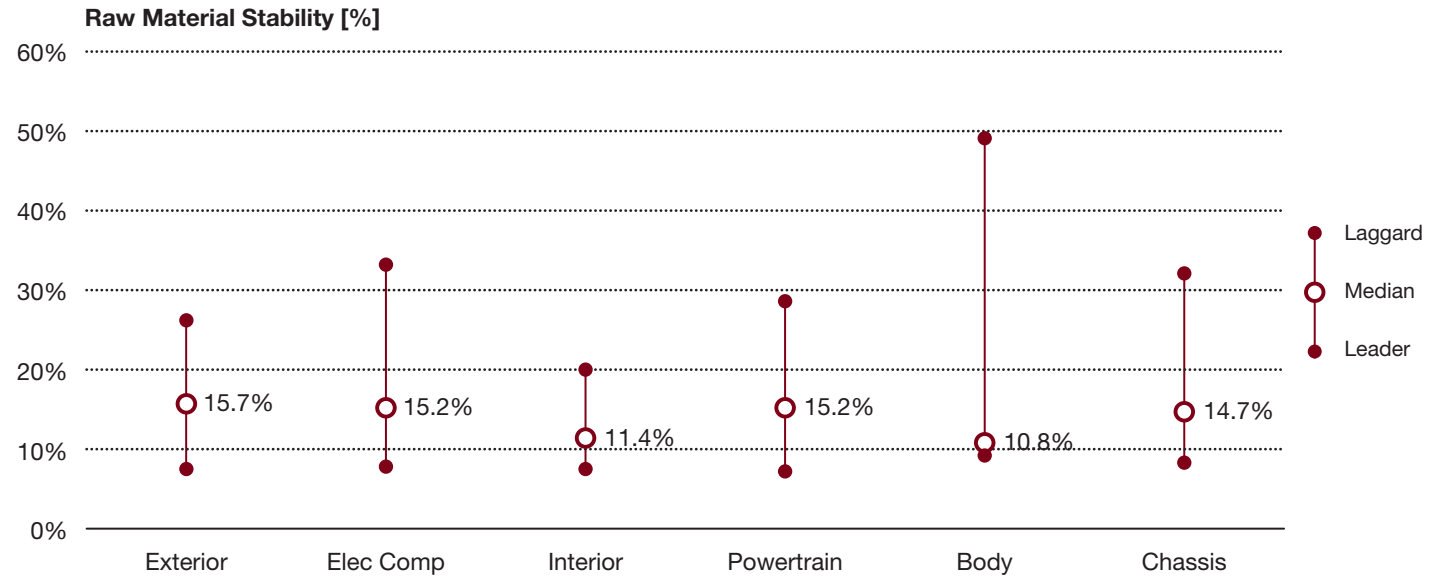
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Cash to Cash:** The time it takes for cash to flow back into a company after it has been spent for raw materials—calculated as (inventory days of supply + days sales outstanding—days payable outstanding). **(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median COGS Growth (YoY) relative to Revenue Growth (YoY) (includes Leader/Laggard[2] band)



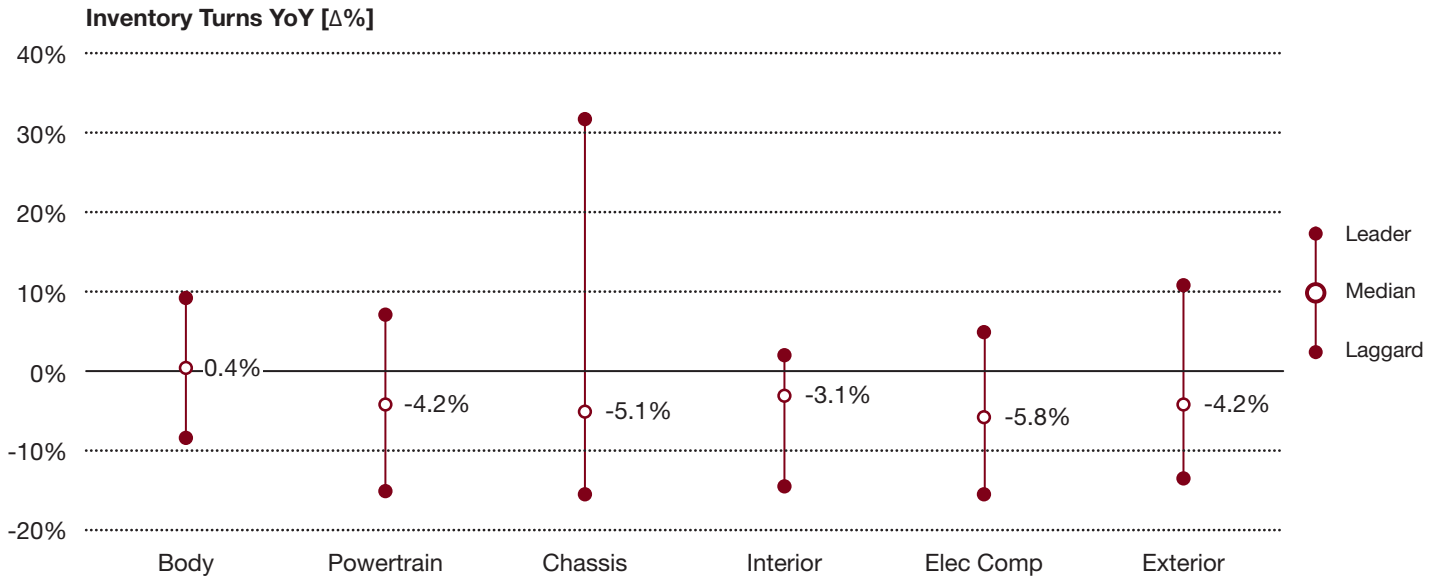
Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) COGS improvement (YoY) relative to revenue growth (YoY):** The ratio of COGS growth from 2012 to 2013 to revenue growth from 2012 to 2013.
(2) Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Raw Materials Stability performance (includes Leader/Laggard[2] band)



Source: Public data from CapIQ, PwC Analysis.
Notes: (**1) Raw Material Stability:** Defined as the Max Quarterly Raw Material Turns minus the Quarterly Min in a given year divided by the average Quarterly turns for the year. **(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

2013 Median Inventory Turns Improvement (YoY) (includes Leader/Laggard[2] band)



Source: Public data from CapIQ, PwC Analysis.
Notes: **(1) Inventory Turns Improvement (YoY):** Defined as the change in inventory turns from 2012 to 2013, as a percentage of 2012—**(2)** Leaders defined as top 80th percentile, laggards as bottom 20th percentile.

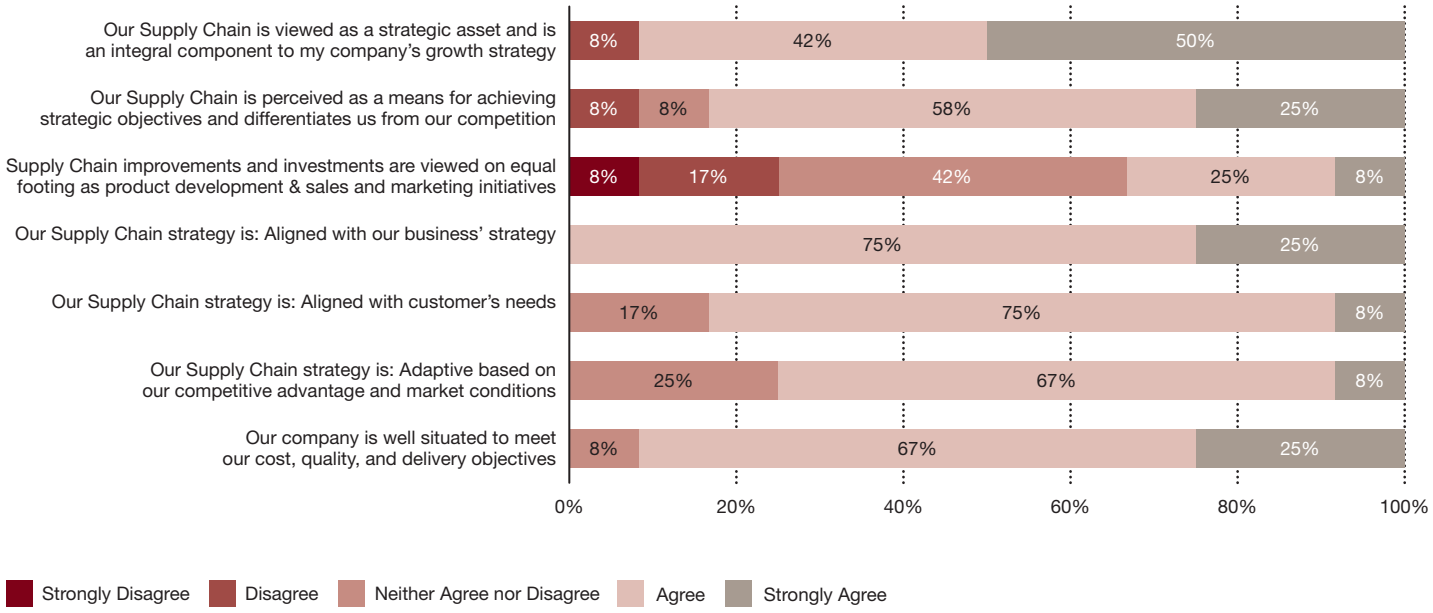
Detailed survey findings

As a result of the participation of OESA members, we were able to expand the distribution of our survey, which went out to a broad range of key automotive executives across the six segments.

The initial responses helped shed light on how participants view the five key core disciplines for achieving top supply chain performance. It is our belief that strong performance in these five core disciplines will further drive supply chain efficiency and effectiveness.

Core Discipline 1: Viewing the organization's supply chain as a strategic asset

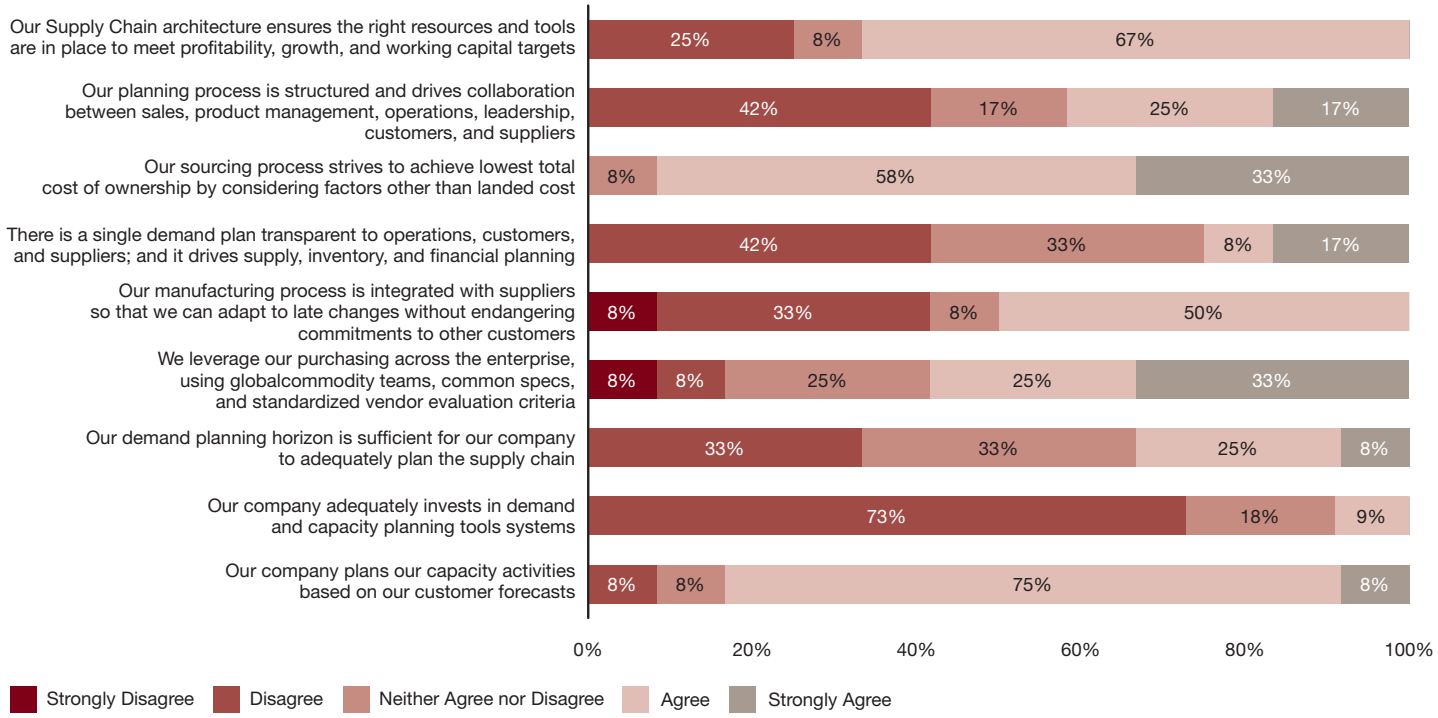
Although, virtually all respondents agreed/strongly agreed their supply chain strategy is aligned with the business strategy, 33% agreed/strongly agreed that investments in supply chain are not given the same importance as those for other business functions.



Source: PwC's North American Supplier Supply Chain Study, 2013

Core Discipline 2: Developing an end-to-end process architecture

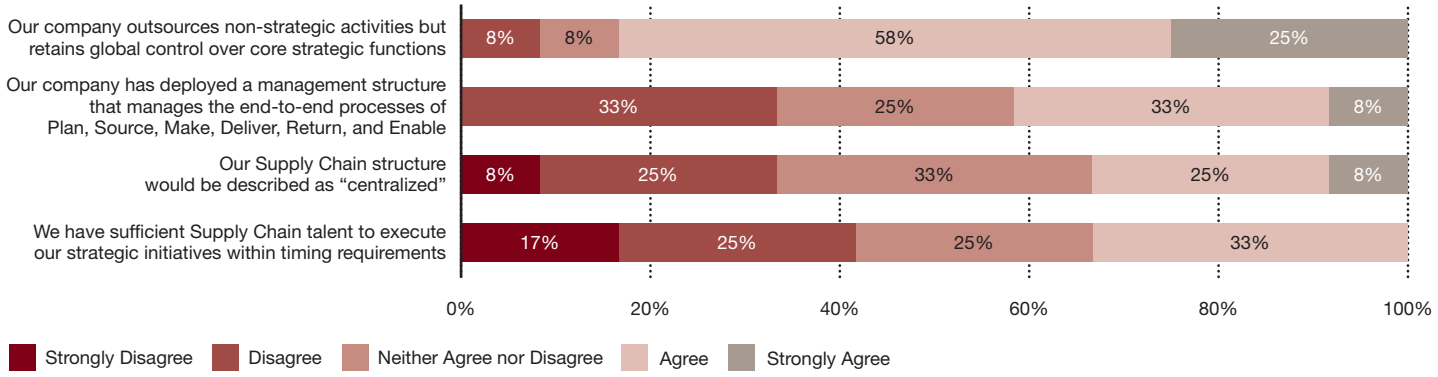
73% of survey responses strongly agreed there is an inadequate investment in demand and capacity tools, potentially leading to a lack of a clear transparent planning process.



Source: 2013 Supplier Supply Chain Performance Study—PwC and OESA Survey Responses

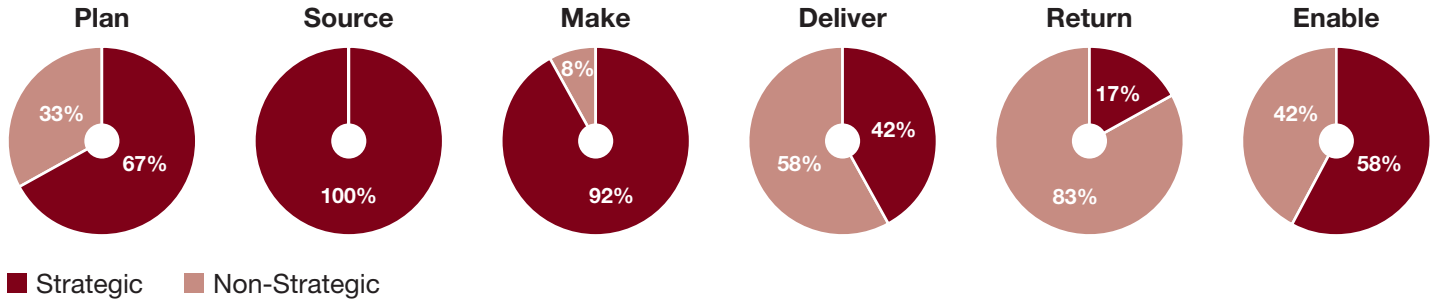
Core Discipline 3: Designing the supply chain for performance

When it comes to having the right supply chain talent in place, 42% of respondents disagreed/strongly disagreed that their companies have the right resources, while 33% said that their organization did not have a management structure that manages the end-to-end process.



Source: PwC's North American Supplier Supply Chain Study, 2013

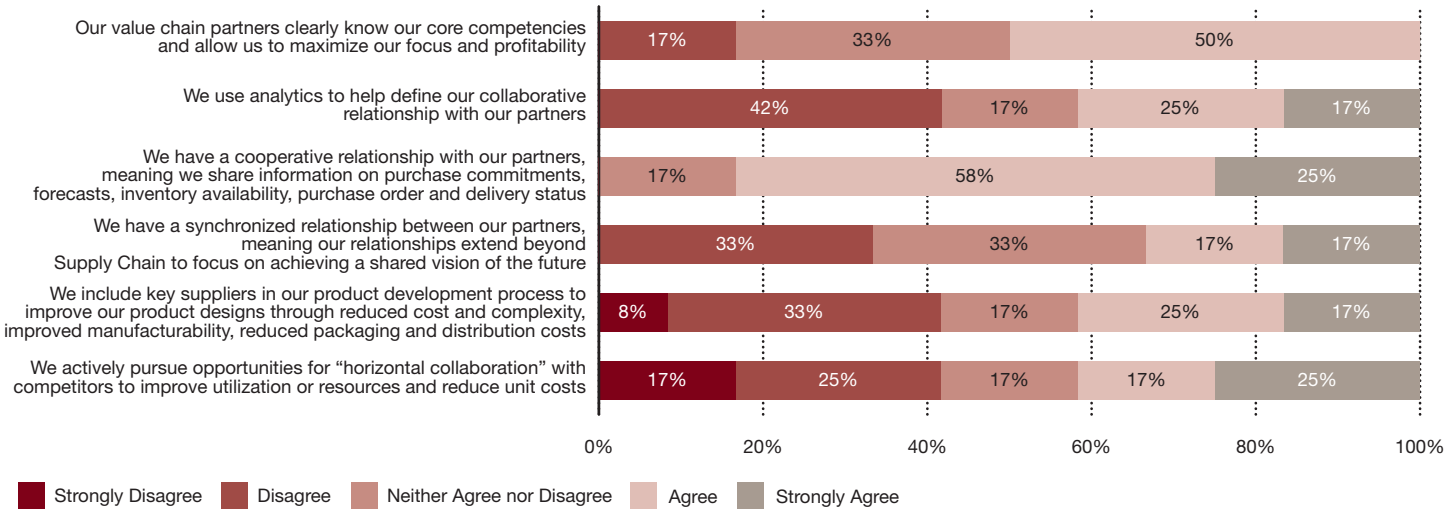
For respondents, most supply chain functions are classified as strategic



Source: PwC's North American Supplier Supply Chain Study, 2013

Core Discipline 4: Building the right collaborative model

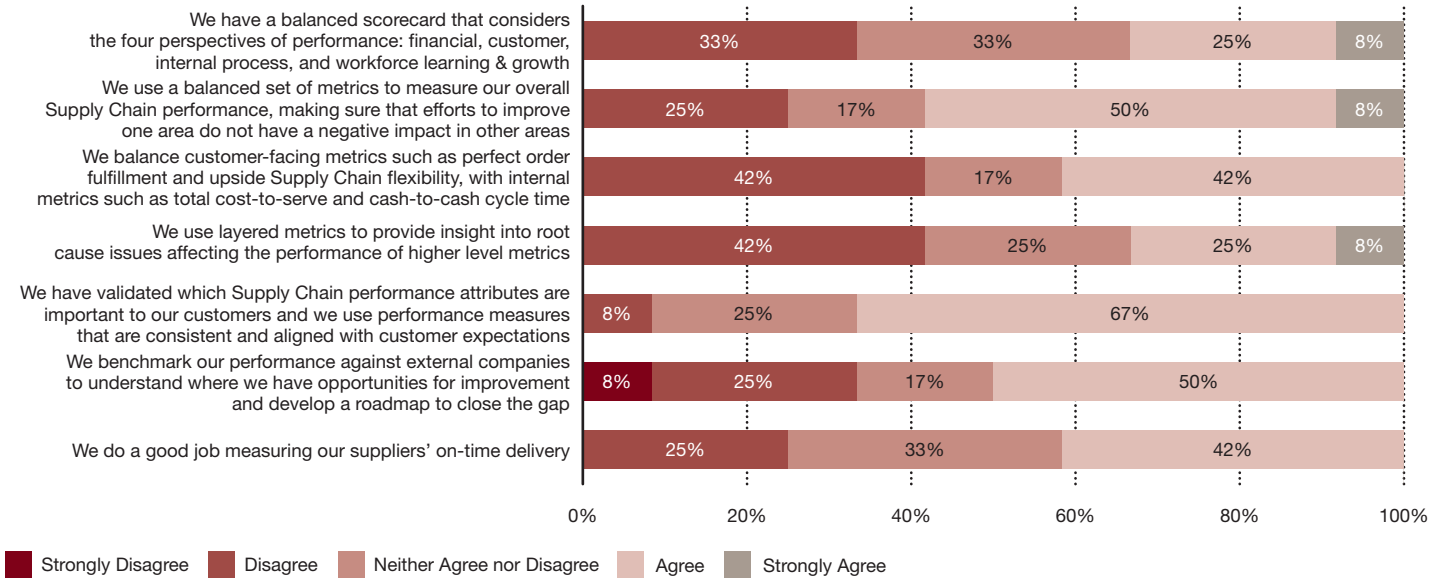
Over 40% of respondents agreed/strongly agreed that their companies should pursue opportunities to better utilize resources and improve unit costs through horizontal collaboration, i.e., sharing supply chain assets for mutual benefits.



Source: PwC's North American Supplier Supply Chain Study, 2013

Core Discipline 5: Using metrics to drive supply chain performance

As for metrics, 25%–42% of respondents agreed that their companies could do a better job in terms of both internal and customer-facing supply chain metrics.

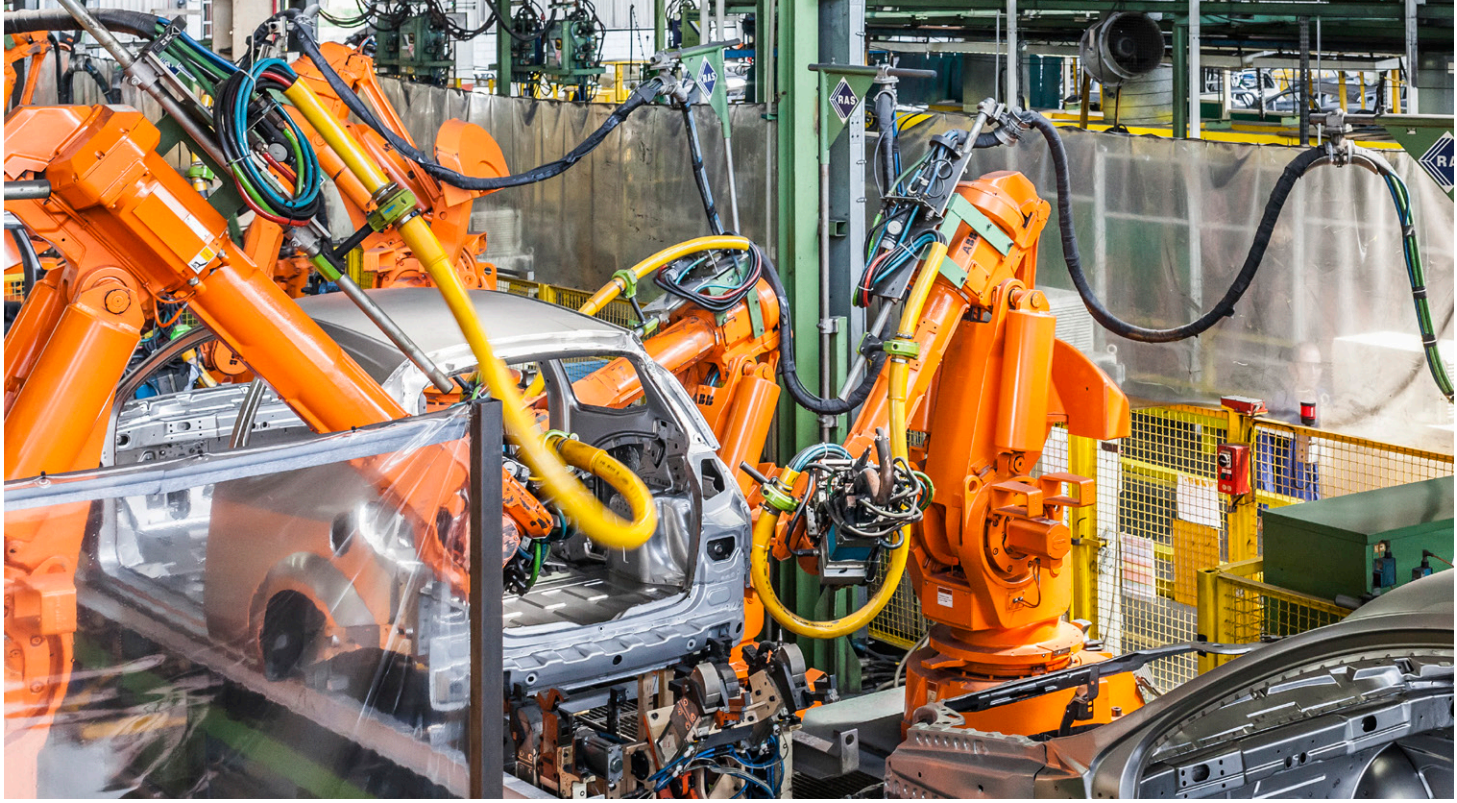


Source: PwC's North American Supplier Supply Chain Study, 2013

After conducting extensive research, PwC has concluded that supply chains can be a strategic asset used to drive financial performance—and this conclusion spans across all industries. Yet we see that supply chains are under-valued by many companies. Across industries, only 45% of companies view their supply chain as a strategic asset, and only 9% say that their supply chain is helping them to outperform their peers.[1]

For automotive suppliers, making improvements in these five core disciplines is likely to positively impact the organization's performance within the segments and across the industry as a whole. Indeed, it is the key to gaining a competitive edge—thereby fueling current and future financial well-being.

[1] Source: PwC's 2013 Global Supply Chain Survey, Base 12.



Implications and recommendations

Clearly, the global supply chain network is intricate. That said, when a supplier's in-house and external supply chain specialists collaborate to identify issues and then plan and implement solutions designed to improve overall performance, a supplier can reap significant efficiency and effectiveness benefits. To that end, there are five implications to consider:

High supply chain costs. Poor improvements in raw-material turns and YoY COGS could lead in turn to poor forecast accuracy, increased expediting costs, higher inventory holding costs, reduced operations productivity and high supply chain costs.

Inventory above entitlement. Suppliers with poor inventory turns tie up scarce working capital for longer than necessary, thereby limiting their ability to employ short-term capital for future investments and carry inventory above the required entitlement.

Lack of customer responsiveness. Poor planning and efficiency performance suggests limited opportunities for securing a competitive advantage through shared cost savings, customer incentives, and on-time delivery.

Limited supply chain flexibility. Slower inventory performance, coupled with minimal reductions in COGS relative to revenue growth, suggests limited flexibility of a supply chain to react to increases in customer demand or significant changes in market conditions.

Looking ahead

We have observed several emerging global megatrends that are collectively impacting automotive companies the world over—creating a "perfect storm" that will undoubtedly influence the future of the industry. Following is a "big-picture" view of these megatrends, along with their potential implications on the automotive supply chain. With these megatrends in mind, it is even more paramount that suppliers continue to focus on improving supply chain efficiency and effectiveness.

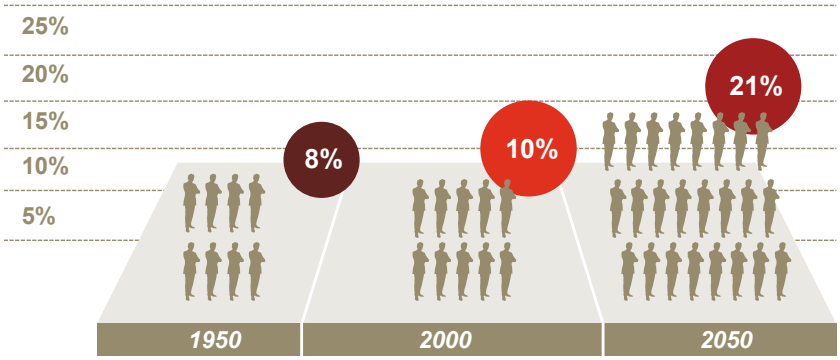
Demographics shifts

Recent surges in population are expected to slow, except Africa where growth remains prolific. Median age by region continues to rise allowing for more drivers. Income equality has grown in over 75% of Organization for Economic Co-operation and Development (OECD) countries, including many emerging markets.

Supply chain implications

- To adapt to changes and expectations of younger customers, agile and responsive supply chains will likely be required.
- Aging populations in developed economies may shift customer needs and preferences in vehicle attributes, placing a premium on accessibility features and less on traditional performance features.

Proportion of the world population aged 60 years or more



Source: UN report, "World Population Ageing" (1950–2050) http://www.un.org/esa/population/publications/worldageing19502050/

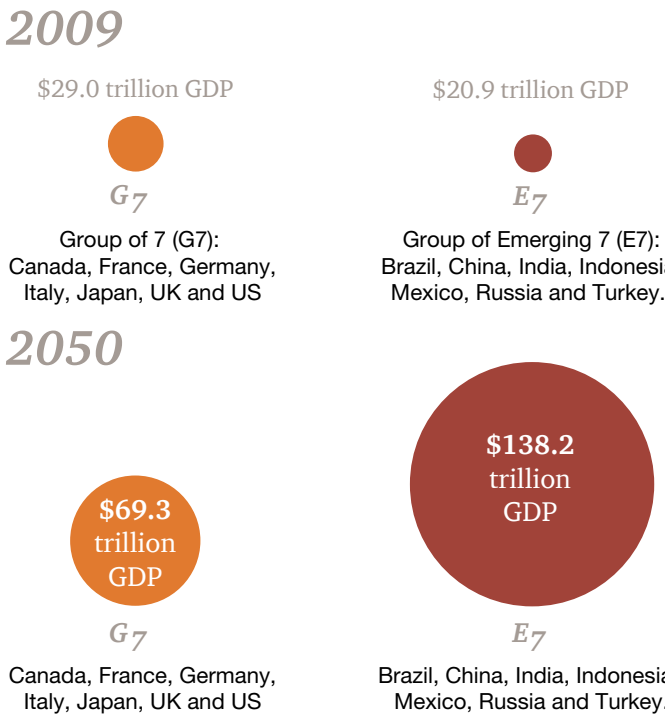
Shifts in economic power

Western economic dominance is a relatively recent phenomenon, and we are now seeing a rebalancing of global economies. This realignment is triggering the transition of growth countries from centers of production to consumption-oriented economies.

Supply chain implications

- As vehicle demand shifts to ascending economies, infrastructure improvements will be required to optimize flow of resources and products in order to achieve a more localized (and nationalistic) supply chain.
- Given the global shift of design-and-build to ascending economies, the center of the industry could move to Asia. (Approximately 18% of global vehicle sales now take place in North America, versus Asia, where over 50% occur.)
- As market growth concentrates in developing markets, new competition will continue to surface. Cost pressures will likely drive innovative solutions that do not follow the patterns established by the "traditional" auto suppliers.

Gross Domestic Product (GDP) of G7 and E7 countries at $US Purchasing Power Parity (PPP)



Source: PwC Analysis

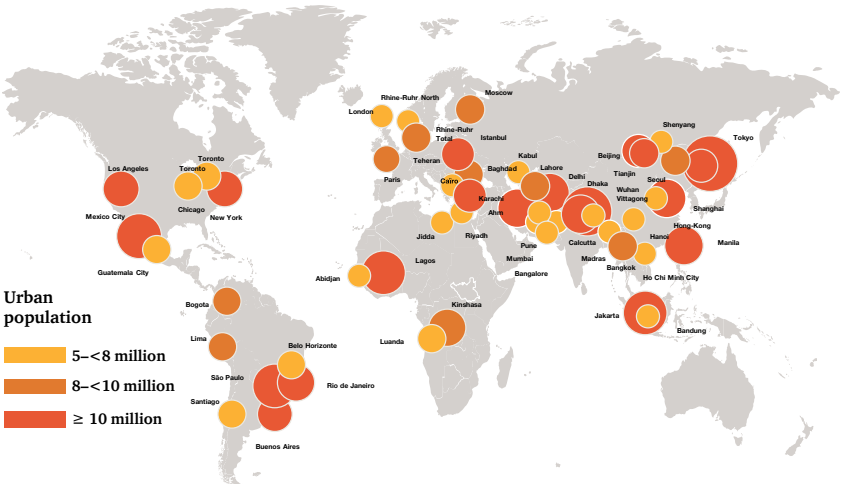
Accelerating urbanization

Currently, 50% of the world's population lives in cities; by 2030, the UN projects that 4.9 billion people will be urban dwellers. By 2015, the United Nations (UN) estimates that there will be 22 mega-cities (populations over 10 million), with 17 located in developing economies. Infrastructure will be strained, where new cities will rise rapidly and require investments to accommodate growth.

Supply chain implications

- Increasing concentration of populations will increase the focus on pollution and clean-vehicle technologies.

2015: Global megacities



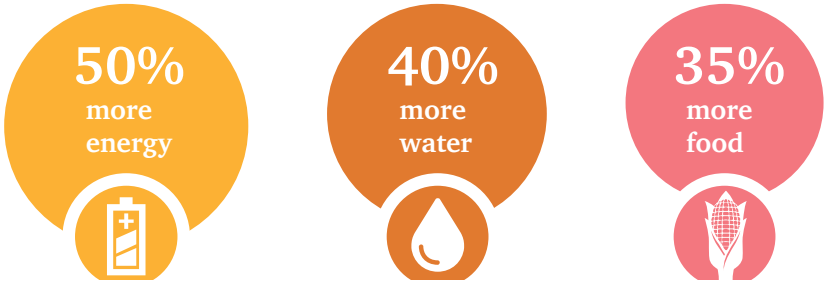
Source: UN Department of Economic and Social Affairs

- Car-sharing models and growing demand for mass transit will place additional pressure on aftermarket and service supply chains, forcing supply chains to adopt more service-orientated structures and direct-ship capabilities.
- Ever-growing urban areas and/or mega-cities demand robust supply chains. The strength and resilience of supply chains will be tested regarding their ability to sustain vehicle assembly plants and suppliers located in ever-growing urban areas and/or mega-cities. Infrastructure will become more congested, driving a greater need for supply-chain efficiency and effectiveness.

Climate change and resource scarcity

Demand for energy is forecasted to increase by as much as 50% by 2030, and water withdrawals by 40%. The impact of this could make traditional methods of manufacturing and commerce difficult or even impossible in some places. Sustainable solutions will become at odds with the need for resources to drive growth.

With a population of 8.3 billion people by 2030, we'll need...



Source: National Intelligence Council's report. "Global Trends 2030: Alternative Worlds" (December 2012) http://www.dni.gov/files/documents/GlobalTrends_2030.pdf

Supply chain implications

- Climate concerns and resource scarcity will continue to push the envelope in terms of alternative fuels, more efficient propulsion systems, and supplier footprint considerations.
- The focus on recyclability and the maturation of the automotive reverse supply chain at the end of vehicle life will likely accelerate, along with global expansion of the existing European End of Life Vehicles Directive, which stipulates that 95% of a vehicle (by weight) shall be reused/recycled, including energy recaptured from incineration of some materials.
- Use of recycled materials (e.g. plastics) used to manufacture interior upholstery and other automotive components will increase and present additional supply chain challenges.

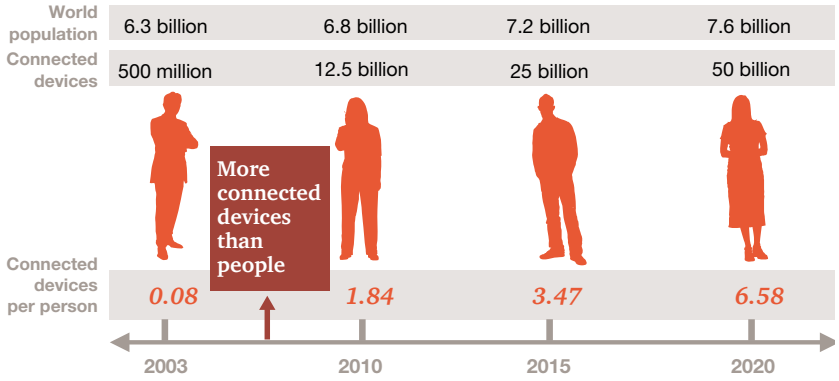
Technological breakthroughs

Entirely new industries are being created, which could have a significant impact on the size and shape of the manufacturing and high-tech sectors. The internet, mobile devices, "big data," cloud computing and other breakthroughs will continue to change our world, and companies are grappling with how these factors will affect the consumer experience—and the business models supporting them.

Supply chain implications

- Scalability of new technologies will become increasingly important, driving the need for revolutionary new ideas to be quickly spread and adopted throughout the supply chain.
- Mass customization and 3-D printing capabilities could continue to shorten development cycle times.

The rise of the 'Internet of Things'



Source: Cisco's Internet Business Solutions Group (IBSG) http://share.cisco.com/internet-of-things.html

Each of these global megatrends, along with its corresponding implications, has the potential to drive supply chain activity for segment participants worldwide. To stay ahead of the pace of change and remain relevant in today's ultra-competitive market, an automotive suppliers' joint team of supply chain specialists should revisit the organization's supply chain strategy to determine what it will take to anticipate and effectively respond to changes on the horizon. In all likelihood, the strategies emerging from these collaborative sessions will have a significant bearing on the supplier's performance ranking and financial well-being over the long term.

Gearing up for the future

The big question: How well is your organization's supply chain performing?

Drawing on study participants' responses, we've distilled some key questions that organizations should be asking themselves—and answering—as they move forward on the road to the future.

- Do we view our supply chain as a strategic business asset that it is integral to our future growth?
- Is our supply chain strategy aligned with our overall business strategy and our customer's needs? If not, then why not? And what are we doing about it?
- Are we tuned in to the strengths and weaknesses of our supply chain? Do we have a solid understanding of our company's performance relative to that of our competition?
- We live in volatile times. Is our supply chain flexible? Does it serve as a strong foundation on which to build for the future as the environment, marketplace, and our own business goals continue to shift over time?
- Is our organization well positioned to meet our cost, quality and delivery objectives? If not, what needs to change?
- Do we operate within a collaborative culture that supports firm-wide sharing of ideas for improving supply chain performance today and sustaining it tomorrow?
- Is our in-house talent capable of navigating the supply chain maze, or should we turn to external specialists who are involved day in and day out—not just in the world of effective supply chain management, but also in the issues and challenges of the automotive world?

And, perhaps the biggest question of all—Where do we begin? How do we collaborate across the company and around the world to agree on the right strategy, processes, tools and technology to further drive supply chain effectiveness and efficiency? And once we know where we're going, how do we implement, monitor and measure success to keep our newly tuned-up supply chain fueled for the future?

Contact us

Should you have questions or comments about our study, or to explore supply chain issues and solutions specific to your organization, please contact any of these PwC professionals:

Rajiv Jetli
Principal
rajiv.jetli@us.pwc.com
+1 (313) 394 3132

Dietmar Ostermann
Global Automotive Advisory Leader
dietmar.ostermann@us.pwc.com
+1 (313) 394 3220

Kevin S. Burns
Director
kevin.s.burns@us.pwc.com
+1 (214) 754 7557

Michael Shaublin
Director
michael.j.schaublin@us.pwc.com
+1 (248) 894 4212

Brian D. Decker
US Automotive Advisory Leader
brian.d.decker@us.pwc.com
+1 (313) 394 6263

Acknowledgements

Our special thanks to these publication contributors: Ramesh Avula, Akshay A. Baliga, Aditya Mangal, and Carlos D. Thimann.

Additional publications of interest

- CEO Survey: Automotive Summary
- Consolidation in the Global Automotive Supply Industry 2013
- PwC's Autofacts Analyst Note

About PwC's Global Automotive Management Consulting Practice

PwC's global automotive practice leverages its extensive experience in the industry to help companies solve complex business challenges with efficiency and quality. One of PwC's global automotive practice's key competitive advantages is Autofacts®, a team of automotive industry specialists dedicated to ongoing analysis of segment trends. Autofacts provides our team of more than 4,800 automotive professionals and our clients with data and analysis to assess implications, make recommendations, and support decisions to compete in the global marketplace.

PwC's automotive management consulting practice is creating a competitive advantage for its clients by changing the way companies operate. PwC's management consultants work with senior automotive executives to help develop and implement innovative operational strategies that deliver breakthrough results. The practice is a leader in operational strategy, supply chain, product development, strategic sourcing, and manufacturing. PwC has automotive resources in every automotive market around the world. For more information, visit www.pwc.com.

DT-14-0102

All dollar amounts are expressed in US dollars, unless otherwise noted.