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Airlines Have Not Yet Realized the Full Benefits of New MRO Supplier Relationships

A new survey by Oliver Wyman reveals that aircraft maintenance infrastructure continues to shift toward non-airline maintenance, repair, and overhaul (MRO) providers, and the acceptance of globalization and global fulfillment networks is driving the adoption of new maintenance solutions. The study also shows a new emphasis on supplier management and exploration of risk transfer, leading to greater predictability of maintenance operations for the airlines. The survey highlights areas in which airlines and MRO providers have not yet realized the full benefits of new supplier arrangements. And it identifies useful levers for improvement, such as execution of Lean initiatives.

Oliver Wyman, in conjunction with *Aviation Week*, recently surveyed more than 100 airline and MRO executives. Respondents represented a global mix of mainline, regional, and mixed format carriers, primarily from the U.S. and Europe but including all other major geographies as well. Respondents to the survey come from all levels of management, with over half at the director level or above. Additional interviews were conducted with senior maintenance and engineering executives from both airlines and providers.

Highlights of the Study

- Most respondents anticipate increased MRO spending over the next three years.
- Approximately half the provider respondents anticipate being either a full-service integrator or a multi-platform expert by 2010.
- Respondents expect Latin America and China will win the bulk of outsourced MRO work in the immediate future.
- 65% of carriers have increased the size of their supplier management functions by 6% or more, with 31% growing the function by over 20%.
- Almost 40% of carriers expect to increase their use of arrangements transferring supply chain responsibilities and financial risk outside of their organizations.
- Airlines and MRO providers are not fully realizing the anticipated benefits of outsourcing despite the many structural changes within the supply base.
- 83% of airlines and suppliers reporting high levels of Lean implementation maturity report significant cost reductions.

Maintenance spend continues to rise despite more efficient practices; outsourcing remains a popular strategy for continued cost reduction.

Primarily because of aging aircraft and new fleet growth, 79% of respondents anticipate increased spending on MRO activities over the next three years, up from 65% in 2006, a 22% increase.

With this growth, airlines continue to rely heavily on the MRO community, with 70% of carriers reporting an increase in outsourced work. This represents a significant rise from last year, when over half of the respondents said outsourcing had peaked for the moment.

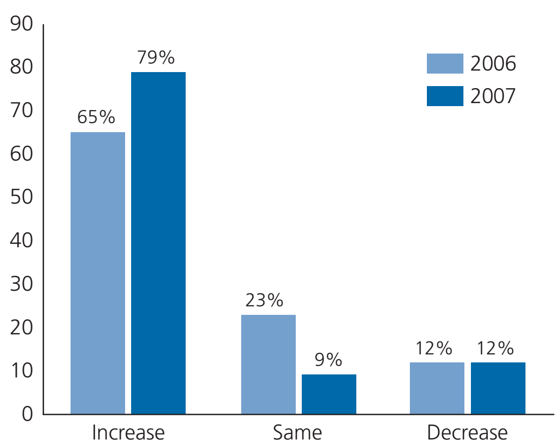
Carriers continue to explore the true competitiveness of all aspects of their internal maintenance activities, especially as they gain a broader understanding of the supplier base, experience in managing these suppliers, and the expected value of deals already in place. As a core strategy, over half of respondents indicate a strong push to outsource more non-core work and retain internal capabilities on a more limited set of maintenance activities depending on their current capabilities.

Engine, component, and airframe maintenance represent the highest levels of outsourced spend at 80%, 75%, and 66%, respectively. A robust global supply base exists for almost all engine, airframe, and component maintenance. In particular, high-quality and dependable sources have emerged in lower-cost regions as part of global fulfillment networks that provide credible low-cost options for carriers (compared with performing work internally).

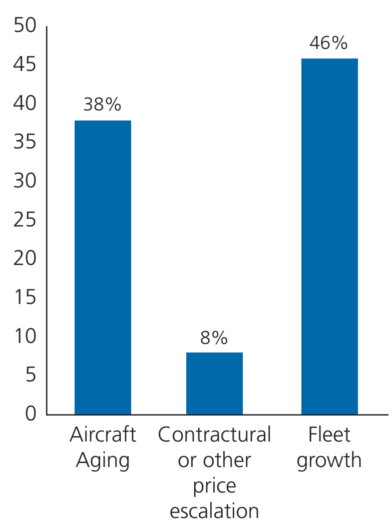
By contrast, despite having significant interest from senior executives, outsourced line maintenance remains limited. Airlines continue to view line maintenance as a core strategic activity (e.g., for on-time departures) and overwhelmingly choose to retain control of these activities. In addition, the supply base for line maintenance is not well-established, with limited global competitive options available to carriers. However, respondents still indicate a slight increase in outsourced line work expected for 2007.

A small percentage of airline respondents say their dominant strategy is to grow third-party MRO revenue. However, the overwhelming reason cited for adopting this strategy is to drive down their internal costs of maintenance (e.g., to level load production and create economies of scale). This approach may be driven more by labor strategy than by pure economic value creation.

Expected airline MRO spend trends over next three years[1]
% of respondents



Drivers of MRO spend over next tl
% of respondents



1: Includes internal and external MRO spend; today's estimate for trends over three years
Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

Carriers continue to migrate maintenance and engineering infrastructure to the MRO supply base, seeking comprehensive solutions.

As carriers increase their outsourced activities, they are migrating to broader aggregated and integrated "total care" solutions. As outsourcing evolves, airlines and MROs are taking the next logical steps. Airlines are moving support functions to the MROs where the work is completed in order to realize the anticipated savings associated with outsourced maintenance. Meanwhile, MROs are bolstering their technical infrastructure service offerings to accommodate airlines' desired shift in maintenance support functions.

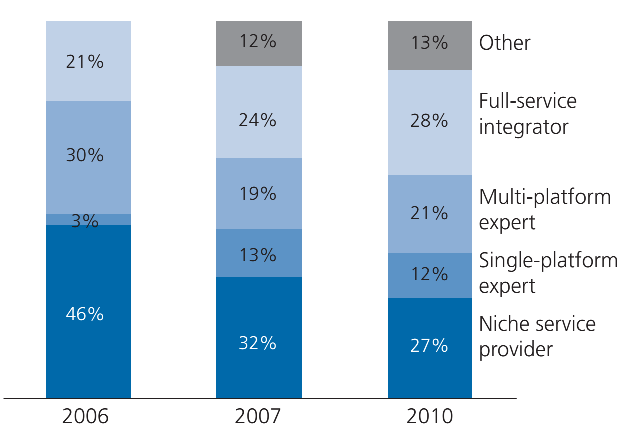
In order to better address this need, MRO suppliers are transforming themselves from niche service providers into multi-platform experts and full-service integrators. This goes beyond just the maintenance and repair functions to include engineering, program management, and other support functions and includes acquisitions, joint ventures, technology investments, and global networks.

In 2006, 46% of the MRO respondents classified themselves as niche service providers. This year, only 32% did, and in 2010, only 27% expect to be in this category. Meanwhile, almost half of respondents anticipate being either a full-service integrator or a multi-platform expert in 2010. To accomplish this, MRO providers are expanding their relationships with existing customers to capture a larger share of MRO spend; they are also building out new capabilities and bundling basic maintenance with more services and support. The head of commercial development for a global MRO provider says, "Our customers are demanding more integrated 'total care' solutions that shift risks and simplify their relationships with their primary suppliers. We are responding and so are our competitors; a core component of our strategy over the coming years is to become a total solutions provider on selected aircraft platforms."

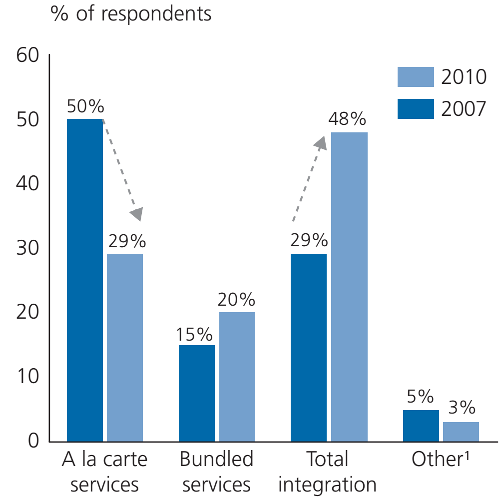
While quality, cost, and cycle time remain the most important attributes that airlines use to evaluate their suppliers, compared with 2006 survey results, airlines are placing more importance on a supplier's ability to provide ancillary services such as reliability management, materials management, and engineering support. Also in contrast to 2006, the alignment between airlines and MROs on the importance of each ancillary service is far closer, indicating a burgeoning maturation in the market.

Despite this reported coordination effort, legitimate challenges in airline-MRO relationships exist. One possible explanation is that relationships created with the surge of repair work pushed out into the provider community over the last few years are still largely in the early stages. As the number of shop visits increases, providers who have not made appropriate investments in organization and infrastructure, as well as carriers who have not put enough attention on the execution and management of contracts, may begin to see more performance issues.

MRO service provider: Business designs
% of respondents



Expected changes in company revenue models
% of respondents



1: Other responses include consulting in aviation safety, programmed depot maintenance, Line, GSE, and cabin cleaning
Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

The rise of supplier management follows the wave of outsourcing.

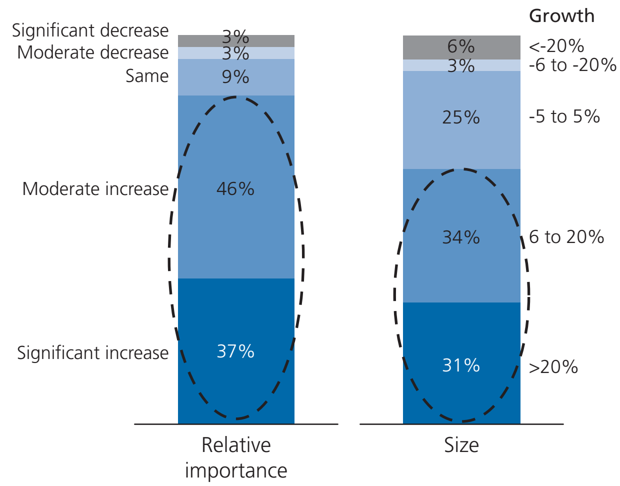
The surge of outsourcing over the past several years has created an imperative for improving how carriers manage their supply base. Approximately 30% of carriers report that outsourced maintenance deals have fallen short of anticipated benefits. The majority of carriers and suppliers lack a sophisticated, structured, and standardized approach to managing their supplier relationships.

For example, 70% of airlines and 61% of MRO providers do not have standardized performance scorecards, and 64% of airlines do not track the ongoing economic performance of their outsourced maintenance contracts. Regular, structured performance reviews, although more common across the respondent base, are only in use across roughly 60% of airlines and suppliers.

A managing director of supplier management at a major North American carrier says, “We are in the infancy of understanding how best to manage our suppliers. We are transitioning our divisional infrastructure from one that primarily oversees internal operations to one that manages a diverse supply base spread across the globe. And we are accelerating efforts to build capabilities in this area, actively recruiting talent from industries such as automotive where this function is far more mature.”

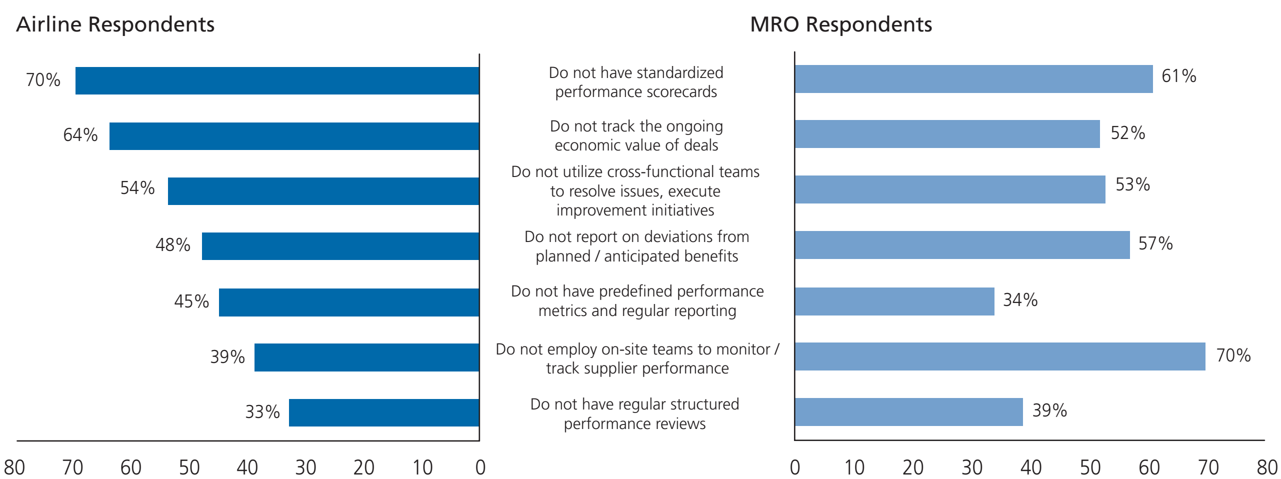
Survey results support this assertion, with 83% of airlines reporting their supplier management function has increased either moderately or significantly in importance over the past three years. Validating this increase in importance, carriers are investing in the supplier management function, increasing staffing levels focused on supplier management activities significantly. Some 65% of carriers have increased the size of their supplier management functions by 6% or more, with 31% growing the function by over 20%. Finally, as airlines continue to build strategic supplier management organizations, they look to better define responsibilities and processes, and install rigorous methodologies for measuring, evaluating, and improving supplier performance.

Supplier management function: Changes in relative importance and size over past three years
% of respondents



Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

Absence of activities to manage supplier / customer relationships
% of respondents



Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

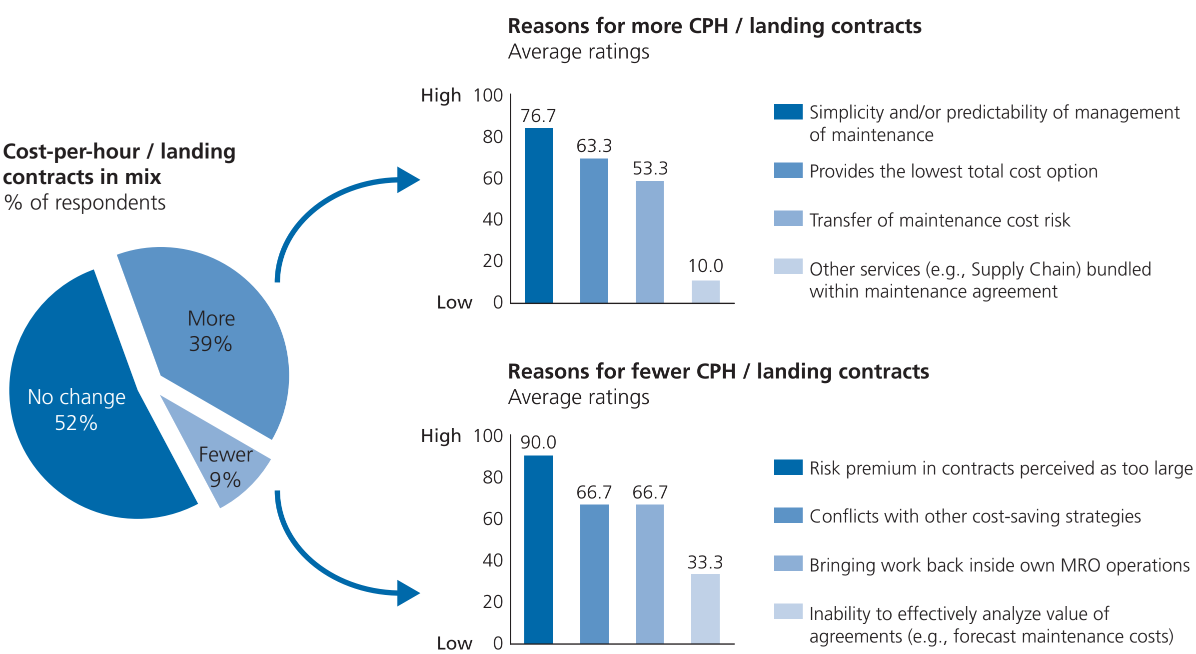
MRO providers are trying to better integrate with their airline customers and increase their overall responsiveness. In the area of dedicated on-site support personnel, 68% of provider respondents have on-site staff for total care solutions. The costs are usually built into the program and/or the customer pays directly for support. The roles that these individuals play can vary from technical support to commercial dispute resolution, order placement, inventory management, or program support. However, for those who do not provide the on-site option, no customer request for this type of support was the primary factor affecting the decision not to put staff at customer sites. A Managing Director of aftermarket services for a major engine MRO says, "Our customers are becoming far more sophisticated in how they manage their supplier relationships. We welcome these changes as they indicate to us the importance we have in our customer's success. We are an integral part of our customer's operation and understandably are managed as such."

Align risk to the entity best able to manage it.

As carriers look for ways to simplify the management of their outsourced work, they are continuing to migrate away from time-and-materials style deals and toward cost-per-hour/cycle and fixed-price agreements. Arrangements that transfer and align supply chain and financial risk outside of the carrier's organization are increasingly popular. Outside of engine maintenance, where half of agreements are structured as cost-per-hour, fixed-price contract structures were the most popular. Components deals were almost as likely to be cost-per-hour/cycle arrangements as to be fixed-cost.

Almost 40% of carriers expect to increase their usage of cost-per-unit agreements over the next three years, which is consistent with 2006 responses. Several reasons are cited as key considerations when choosing a cost-per-unit structure, with predictability of maintenance operations and risk alignment cited as primary reasons. Many of these carriers also feel that these types of arrangements provide them with a more optimal total cost solution while transferring appropriate cost risks to the provider.

Of the 9% of carriers expecting to reduce the number of "cost per" deals (down from 17% in 2006), the primary reason cited is that the risk premium incorporated into the per-unit rate is perceived to be too high. Despite the general acceptance and use of these types of financial structures, "cost per" deals can be challenging to execute. They are generally long term and complex to evaluate. Carriers also say that "cost per" deals at times conflict with other cost-saving strategies such as use of repair development, PMA, and DER.



Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

Cost-per-unit deals are challenging to value, primarily because of the difficulty of effectively pricing risk over an extended period of time. Carriers are often challenged by accurately forecasting event costs over an extended time and tend to be very conservative in their estimates. Looking back on several deals Oliver Wyman has helped clients execute, often clients have under-priced the risk premium in their own analysis and in fact are realizing greater value than anticipated.

Carriers need to critically analyze historical data and use rigorous forecasting techniques when evaluating cost-per-unit opportunities. They should also ensure that the deal structure effectively aligns risks by studying alternative trade-offs between operational and financial variables. Meanwhile, providers must ensure they are customizing the services bundle to meet customer needs while being able to execute operationally for these integrated solutions. MROs must also master turning detailed data into information to accurately price and manage these contractual arrangements.

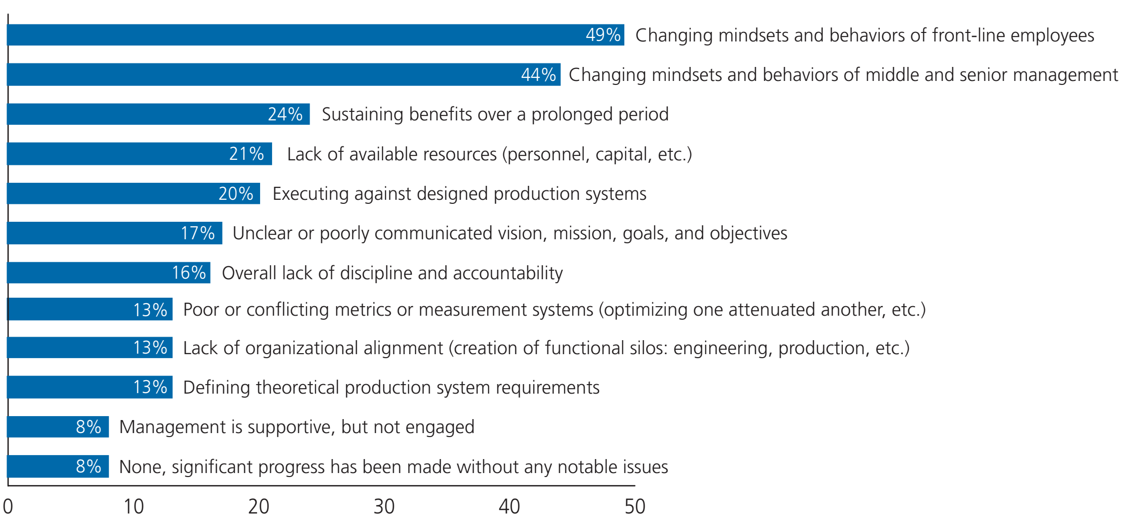
Airlines and MROs can capture additional value.

Despite all the structural changes within the supply base, airlines and MROs are not fully realizing the anticipated benefits of outsourcing and are accelerating their efforts to improve costs utilizing several mechanisms.

First, there is a growing acceptance of globalization and global fulfillment networks to take advantage of more competitive labor options. The global supply base is expanding, providing increasing access to low-cost, highly skilled labor. Additionally, the perceived "quality gap" of MRO providers in low-cost regions has narrowed or disappeared, driving rapid growth in these regions. According to survey respondents, Latin America and China are expected to be the biggest winners of outsourced MRO work over the next three years, specifically in airframe, components, and modifications. Airlines are also looking at India, the Middle East, and other Asian locations for new outsourcing alternatives that they are not using today. MROs are anticipating their expansion primarily into India, China, and Latin America. The key for North America-based providers will be increased efficiency and the ability to harvest value from Lean programs.

Second, there are additional new savings opportunities associated with material procurement. Airlines are further reducing their overall material costs by continuing to drive increased PMA parts development across all major categories. Alternative part strategies are being actively employed at many carriers, and even OEMs are turning this threat into an opportunity. PMA parts are most prevalent in interiors, airframe, and non-rotating engine categories, at 17%, 13%, and 13% of total parts spend, respectively. These

Perceived barriers to Lean implementation[1]
% of respondents indicating this issue as an implementation barrier



1: Only includes airline and supplier respondents who report doing Lean
Source: Oliver Wyman / *Aviation Week & Space Technology* MRO Study

categories, along with rotating engine parts, are expected to increase an additional 6-7% by 2010. Similarly, MROs want to capitalize on PMA opportunities. Some 24% already procure PMAs, while 34% are active in the development of PMA parts.

Lean continues to be a key improvement lever. The airline and supplier respondents that have undertaken a Lean journey are seeing levels of operational and financial improvement that correspond with their degree of implementation maturity. Of the airlines and suppliers reporting a high level of Lean maturity, 83% report significant cost reductions. Interestingly, supplier respondents are 1.5 times more likely to report an advanced level of Lean achievement than airline respondents. Correspondingly, suppliers' more-extensive adoption of Lean is yielding greater levels of improvement to inventory, labor productivity, on-time delivery, rework, and capacity compared with airlines. (Despite the advantages to the implementation of Lean, 31% of airlines and 19% of suppliers are not pursuing Lean today).

Changing the mindset of front-line employees, as well as that of middle and senior management, and engaging them in the Lean journey, are seen as the primary challenges facing Lean implementation. The place to start is redefining the roles of middle management, moving from enforcer to enabler and thereby linking the front line to the senior executive suite. This ensures the entire organization is aligned for success.

Oliver Wyman's survey findings show a shift in attitude toward the future of aircraft maintenance, as well as new evidence around the changing supplier management infrastructure. Regardless of what happens with airline consolidation, change will be driven by the emerging global networks and new competition from globalization. Many MRO providers are already evaluating consolidation and partnership opportunities. Independent providers will find themselves increasingly isolated, making it harder to secure new deals, while providers that develop integrated solutions will win by meeting evolving customer needs. This will create alternatives for MRO providers to better compete with OEM offerings.

Airlines, meanwhile, need to harness the power in global fulfillment networks and lower-cost regions. Investment to instill and foster critical supply management capabilities will help them to improve management of this evolving and expanding supply base. Better alignment of risks will improve operational and financial results of outsourcing agreements, increasing overall value creation for the carrier community.

Oliver Wyman

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