



# The Service Supply Chain in Action:

## A TSC Research Summary

The service supply chain is what makes service organizations tick, especially when we think about equipment-centric service. Without the right part, service is incomplete. Without the right part in the right hands at the right time, service is ineffective and the experience delivered to the end customer is inconsistent and incomplete. The major business objectives of service-oriented organizations are heavily impacted by the service parts business. Predictability cannot be achieved without improved parts planning. Revenue growth is heavily tied to part availability, part pricing, and part sales. Efficiency in service cannot be attained without the right parts. And when it comes to profitability, establishing the right level of inventory to meet customer needs and to ensure financial flexibility is paramount. This document highlights key takeaways from TSC's 2015 research of 125 organizations and their service supply chains. The research focuses on highlighting the current state of service supply chains, the near-term challenges; and the potential areas of innovation and change that can dramatically impact supply chains in the near future.

Before we dig too deep into the research, it is worth highlighting the areas of focus aligned with our definition of the Service Supply Chain. Simply put, in using the term Service Supply Chain, we are referring to the functions, systems, and infrastructure leveraged to ensure the back and forth movement of parts and equipment for the service business. This could include warehousing, forward logistics, returns management, depot repair, reverse logistics, inventory management, and more. Of the organizations that we polled for our 2015 service supply chain research project, 30% are managing these functions on a local basis (one to two geographies) and 70% are doing so on a more global basis. We will attempt to highlight the differences between the two groups where applicable.

### Key Takeaways:

1. Ownership of the service supply chain extends to various functions, with service, supply chain, and logistics being the most common
2. Forward thinking organizations are integrating their service parts and supply chain strategy with their overall service strategy
3. The inventory ramifications of obsolescence are a major challenge for service organizations
4. There is a push to move inventory of service parts closer to customer locations

### Key Data Points (From TSC Respondents)

1. **56%** manage service parts as a P&L.
2. **54%** indicate that fill rates are the top metric to gauge the health of their service supply chains
3. **74%** state that improved inventory management is their top focus area for the next 12 months.

### Responding Organization Statistics

Value of service parts inventory

- 1- Less than \$1m – 28%
- 2- \$1m - \$5m – 25%
- 3- More than \$5m – 47%

## CURRENT STATE OF AFFAIRS - STRUCTURE

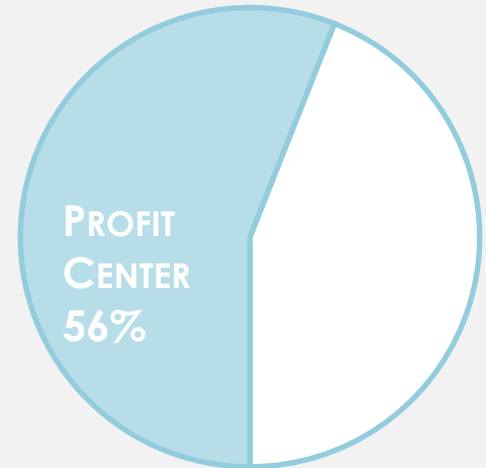
Fifty-six (56%) of organizations polled by The Service Council have a dedicated P&L for their service parts businesses. Therefore, these organizations aren't only concerned with the cost of parts management and delivery, but also with the revenue implications.

As we start looking at the ownership and responsibility of the broader service supply chain, we begin to see that most organizations have a core group of activities that are owned by the service business, whereas other activities fall under the jurisdiction of other business functions. Only 34% of organizations indicate that the entire service supply chain business is owned by service. While it is the largest represented group, it is not a majority. The next largest ownership group is the overall supply chain, with a 20% representation. If you combine the ownership of the service supply chain by the supply chain and operations functions, you get a percentage equal to the ownership by service.

The function-specific ownership of the service supply chain gets clearer as we dig into specific disciplines. E.g. Parts planning is most likely to be owned by the service business, as reported by 40% of respondents. However, an area such as procurement and supplier management is much more likely to fall under supply chain, as reported by 45% of respondents. Inventory management, as a discipline, draws an even split between those who claim ownership by service or by the supply chain group. In certain areas such as end-of-life parts management, parts documentation, and parts introduction, manufacturing and product design see levels of ownership comparable to those of the service business.

Why does this all matter? As service organizations are becoming more important and being treated as independent business units, the ownership of logistics and inventory functions specific to service parts will move towards service businesses. These have typically been held by the overall supply chain. There will continue to be overlap between the two groups but the development of service strategy around predictability or outcome-based delivery models

## Chart 1: Parts P&L



Percentage of Respondents Reported. TSC Data 2015

Not everyone runs their parts business as P&L. In fact, only a few more than 50% actually have profit and loss objectives for their parts businesses. The proportion reflected in Chart 1 above is similar for manufacturers and independent service providers (no manufacturing).

## Chart 2: Who Owns Service Supply Chain?

Stakeholders	Percentage of Respondents
Service Leadership	34%
Supply Chain	19%
Operations	14%

Average Rank. TSC Data 2015

Various pieces of service parts and supply chain management fall under different groups. For instance:

- Parts planning
  - o Owned by service (40%)
  - o Owned by supply chain (32%)
- Parts procurement and partner management
  - o Owned by supply chain (45%)
  - o Owned by service (23%)
- Inventory management
  - o Owned by supply chain (36%)
  - o Owned by service (36%)

in the absence of a parts strategy is incomplete. A large proportion of organizations have realized this as:

- 65% indicate that parts strategy is integrated into overall service strategy
- 69% indicate that they have a dedicated parts planners, independent of production planners
- 60% have dedicated rules and processes focused on service parts vs. production parts

Therefore, while there is a greater level of service-orientation for parts disciplines, the formal ownership transformation has yet to take place.

### CURRENT STATE OF AFFAIRS – BUSINESS CHALLENGES

Chart 3 highlights the top challenges currently being faced in the management of service supply chain. These are consistent for those running managing their operations on a global or on a more local scale.

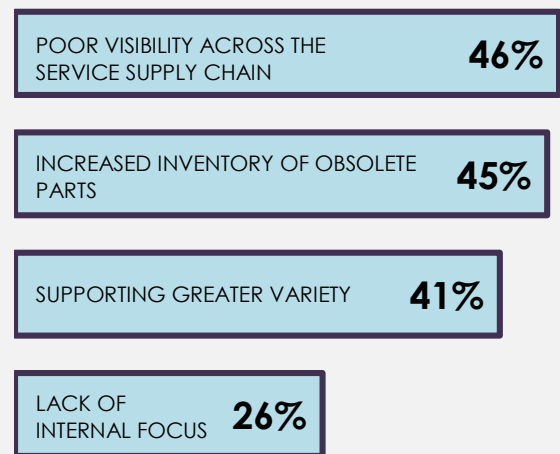
The top three challenges are significantly more concerning to respondents as compared to a long list of other challenges. Lets discuss some of the concerns tied to the top three:

**Obsolescence.** There are two primary areas of concern here, one supplier-related and the other customer-related. As products reach end-of-life and end-of-service it is seldom that all customers instantly go down the path of upgrade or replacement. Even though communication protocols might be in place, customers quite often look to extend the life of their assets. Therefore, manufacturers are faced with the challenge of managing an inventory of parts for products that they don't want to service or cannot service profitably. In addition, these manufacturers have to continue to find suppliers for these parts, which becomes extremely challenging on a global scale.

**Part Varieties.** Obsolescence also plays a role in increasing the types of parts that need to be supported. As products age and are replaced by newer versions, it becomes exceedingly hard for organizations to manage all the associated inventory.

- Forward logistics
  - o Owned by service (37%)
  - o Owned by supply chain (30%)
- Reverse logistics
  - o Owned by service (45%)
  - o Owner by supply chain (29%)
- Parts documentation
  - o Owned by service (47%)
  - o Owned by manufacturing/product (27%)

### Chart 3: Major Service Supply Chain Headaches



Percentage of Respondents Reported. TSC Data 2015

### Insight: Dealing with Obsolescence

In October 2015, TSC hosted an IdeaShare workshop featuring 8 member organizations on the topic of innovation in the service supply chain. Obsolescence was a major topic of debate. Strategies leveraged by participating organizations:

- Consistent communication to customers on end-of-life and end-of-support dates
- Internal communication with sales and account regarding true lifecycle cost of supporting products.
- Price increase for support of parts after end-of-life
- Use of 3D printing technology (self-installed or with partners) to develop parts on-demand

In addition, organizations have been under pressure to continually evolve and innovate in order to drive newer revenue opportunities. These opportunities often touch upon increasing part sales, increasing consumable sales, and or offering support for multi-vendor services. These new revenue streams can also impact the scale of part numbers that need to be tracked, supported, and managed.

**Visibility.** Forty-seven percent (47%) of respondents to TSC's research manage more than \$5m dollars in parts inventory. For those organizations with global service operations, 56% manage more than \$5b in part inventories. To take any steps to enhance part management and achieve the outcome of lower inventories or higher fill rates, organizations have to take steps to enhance visibility into parts across the supply chain. This becomes exceedingly difficult when parts are strewn around warehouses, repair centers, technician vans, customers' sites, and more. Add in the layer of parts managed by third-party partners and you develop an enormous task to attain and maintain visibility into your service parts.

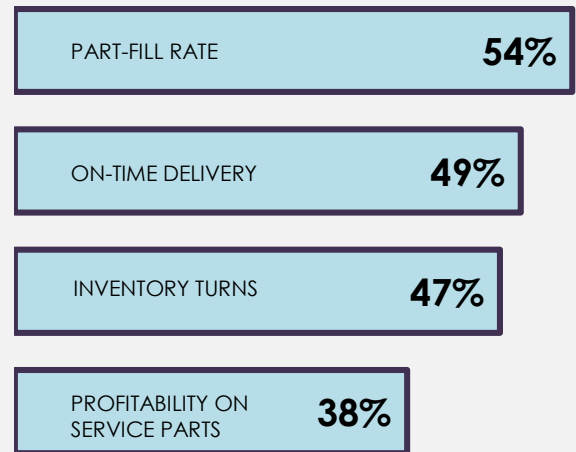
In addition to the top three challenges, the following are trouble areas impacting service businesses.

- Lack of internal focus on the growth of service parts
- Dealing with margin erosion
- Large inventory of unreturned parts
- Poor metrics to measure the health of parts business
- Poor integration of service parts with the overall service business

### CURRENT ASSESSMENT – METRICS

As seen in the bullets above, organizations still struggle with developing the right metrics to measure the health of their parts businesses. This extends through the entire service supply chain. Chart 4 highlights the top metrics as selected by those responding to TSC's research effort. For most subgroups analyzed (large vs. small, global vs. local) the major focus metrics seem to be the same. One interesting exception is the focus on first-time fix.

### Chart 4: Top Metrics Measured



Percentage of Respondents Reported. TSC Data 2015

The other top metrics measured to gauge the health of the parts business include:

- First-time fix (38% of respondents)
- Cost of inventory (37% of respondents)
- Service part revenues (30% of respondents)
- Stock outs (26% of respondents)

While organizations were asked to prioritize their top metrics for the chart above, we were surprised that quality-related metrics weren't ranked higher.

Only 6% ranked part quality and early field failure as a critical metric. While the service provider might not be the manufacturer of the service part, better intelligence around part quality and failure can help the service organization shape its partnership and supplier strategy. Quality data might also serve as a key input in the development of a predictive service or preventive maintenance plan. Finally, better access to quality data may also prompt the development of training services aimed at the asset operator if user error is determined to be the cause of excessive wear and tear.



Organizations with a lower dollar value inventory under management are much more focused on prioritizing first-time fix vs. those with larger inventories. Fifty-six percent (56%) of those with less than \$1b in inventories rate first-time fix as vital parts metric compared to 23% of those with \$1b or more in inventory. Part of this can be attributed to the scale of business and the struggle in containing costs for larger organizations. However, this can also be a characteristic of smaller organizations taking greater steps to integrate the service supply chain into the focus of the broader service organization. As a result, these organizations understand and prioritize the impact of one area of the business (service parts) on other customer-facing aspects of the business (field service). Our field service research has indicated that the unavailability of the appropriate part is the primary reason for reduced first-time fix rates. Our parts research shows that 26% of unsuccessful field service visits are due to improper access to parts. When considering the cost of service across the entire organization, a higher first-time fix can be quite significant.

For the top metrics identified, here are the average performance results and major steps taken to improve results.

**Part-Fill Rate.** Part-fill rate can be measured at several points in the supply chain; central stock, service vans, customer sites. In our surveying and analysis it is measured as fill rate out of van stock. The average fill rate from TSC's 2015 research was 82%, which is higher than what we have seen in previous years. Organizations with larger part inventories (88%), or those operating on a global scale (87%), saw higher performance results in fill rates compared to those with smaller operations.

Over the previous three years, 53% of organizations have been successful in increasing fill rates, while 31% have kept them constant. For those that have seen improvement, the following activities or strategies have been 'extremely' important:

## Chart 5: Part Fill Rate

Respondents	Average Result
All	82%
Global organizations	87%
Organizations with \$1m+ in part inventories	88%
Manufacturers only	86%
Service providers only	74%

TSC Data 2015

A increasing number of organizations are also beginning to measure fill rate at the customer level. These organizations are pairing fill rate calculations with on-time delivery to truly gauge the impact of the supply chain on customer experience.

## Chart 6: Margins on Service Parts

Respondents	Average Result
All	38%
Global organizations	45%
Organizations with \$1m+ in part inventories	41%
Manufacturers only	42%
Service providers only	41%

Percentage of Respondents. TSC Data 2015

There are two sides to the margin discussion and most organizations have made a strategic attempt at improving both cost and revenue. Only 18% of those driving an improvement in margins experienced it solely on the revenue side. Similarly only 21% of those with improvements saw it primarily due to better cost control. Most organizations experiencing improvements (61%) saw improvements in both revenue and cost over the previous three years.

- Greater focus on parts planning
- Better performance management of partners
- Increased visibility across the entire supply chain

**Margins.** For those participating in TSC's research, the average margin on service parts was approximately 38%. This number features prominently as 38% of organizations have been successful in improving the margins on their service parts over the previous three years. Nearly 50% have seen their margins stay constant. For those seeing improvement, most have had a dual focus on improving both parts revenues and parts cost. Success in improving parts revenues can be tied to:

- Visibility into part-specific revenue metrics
- Increased focus on planning and forecasting
- Service organization accountability for parts revenue
- Dedicated commercial leadership for service parts

When it comes to the cost of service parts, the following areas were found to be extremely important to those organizations who were successful in reducing cost:

- Increased focus on planning
- Service organization accountability for cost of parts business
- Increased use of inventory optimization tools

**Inventory Turns.** On average, organizations were turning service parts inventory 4.4 times a year. In the medical industry turns were less frequent at approximately 3.6, while in industrial manufacturing organizations were turning their inventory 4.8 times a year. Forty-seven percent (47%) of organizations experienced an improvement in turns over the previous three years and these organizations attributed this to:

- Increased focus on planning
- Better visibility into forecasted demand
- Increased visibility into inventories across the service supply chain

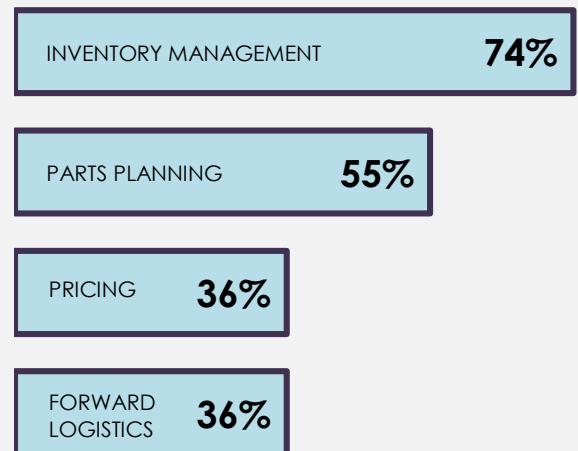
## Chart 7: Inventory Turns on Service Parts

Respondent	Average Result
All	4.4
Global organizations	4.1
Organizations with \$1m+ in part inventories	4.5
Manufacturers only	4.1
Service providers only	5.2

TSC Data 2015

Most organizations have a separate set of metrics and performance standards vis-à-vis mission-critical parts.

## Chart 8: Focus Areas for Next 12 Months



Percentage of Respondents. TSC Data 2015

One of the areas of inventory focus that will come to the forefront in the next three years will be the reliance on stocking locations closer to the customer. The following areas are locations where organizations would like to increase inventory levels:

- Customers sites
- Supplier warehouses
- Service vans (own or partner)

Conversely, the following are areas where organizations would like to decrease inventory levels over the coming three years:

- Own warehouses
- Own manufacturing facilities

## WHAT'S NEXT?

Improved inventory management is identified as the top area of focus for the next 12 months (Chart 8). This takes us all the way back to the beginning of this research summary in describing challenges for the service supply chain. Organizations are attempting to achieve a balance between the reduction and elimination of inventory levels, especially when it comes to obsolete parts, and acquiring the necessary flexibility to successfully manage and support a wider inventory of service parts. This battle for balance is seen in the desire of organizations to reduce the inventory held in their own warehouses and manufacturing facilities, and to increase the levels of inventory in locations closer to the customer. As seen earlier, thirty to forty percent of organizations indicate their interest in increasing inventory levels at forward stocking locations over the course of the next three years. While this increases responsiveness, it does place added strain on the ability of the organization to develop visibility into inventory across the entire service supply chain.

As we look out over the next 12 months, we also see a greater focus on parts planning. This seems reasonable given the attribution given to parts planning for improved performance in key metrics. In planning, there are several models and philosophies such as lean, consumption-driven or customer-driven parts planning, and the control tower, that are gaining traction especially when it comes to attaining the balance and responsiveness described above. Regardless of philosophy used, we find that the top performing organizations, when it comes to fill rates and margins, have the following support areas in place to support their parts and parts planning initiatives:

- **41%** indicate that service has ownership of the service supply chain (28% of all others) and 60% manage service parts as a P&L.
- **91%** integrate parts strategy into overall service strategy (56% of all others)
- **61%** indicate that service has ownership of parts planning (29% of all others)
- **86%** have dedicated parts planners for service parts vs. production parts (69% of all others)
- **82%** consider parts cost and inventory levels in lifecycle management decisions (69% of others)
- **64%** segment parts tied to pricing and inventory (proprietary, specialized, commercial) (51% of all others)
- **59%** have dedicated analytics to study part performance (50% of all others)

## SUMMARY:

While not typically considered the most glamorous area of service operations, the service supply chain continues to receive a lot of focus, especially given its impact on key service business objectives. As a result, transformation is being sought with the aid of:

- A dedicated strategy and team
- An investment in process change
- An Investment in intelligence/analytical tools

Forward thinking parts leaders aren't only looking for improvements in part-specific metrics with these resources. They are also tracking the impact of their supply chains on customer satisfaction and success.

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