



# Mining In-Channel Inventory for Service Parts Backorder Gold

A Discussion Guide to Achieving  
Responsive Backorder Management

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## EXECUTIVE SUMMARY

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Getting the right parts to the right place at the right time is no small task. Achieving this at the right level of overall cost – and level of customer service – is the real challenge. Nowhere is this more of a potentially “roll-the-dice” gamble to customer satisfaction and successful cost control than in the market-volatile arena of service parts backorder management.

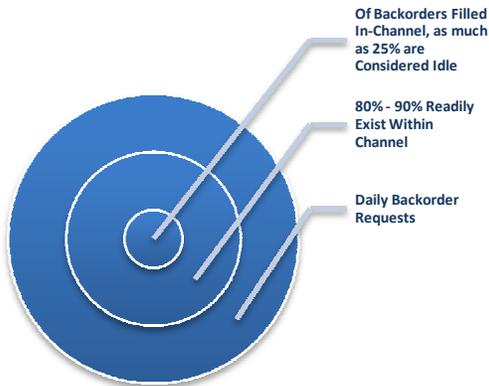
Intuitive case in point – to most consumers, an on-time part can contribute to a positive customer service experience and the likelihood of repeat service purchase behavior. Conversely, a missed, or delayed, part can result in failed customer expectations with possible rebound costs for rental or “Lemon Law” replacement vehicles.

B2B commercial vehicle segments, by contrast, are even more acutely impacted by delayed – or backordered – service parts. In these segments, vehicle downtime directly translates into lost revenue, often forcing parts personnel to sacrifice cost for fulfillment speed.

To be clear, this paper recognizes that best-in-class service parts supply chains, operating at peak efficiency, will still experience an acceptable level of 1% to 3% backorders. It also recognizes that efforts to achieve higher off-the-shelf fill rates - and reduce potential backorders - could, and would, be a cost-prohibitive initiative resulting in significantly diminished returns on profit performance, acceptable levels of carrying costs, and lean warehouse inventory control - all factors that have become increasingly important in a slowing economy.

With that said, the intent of this paper is to introduce, and discuss, market-proven technology that places the customer experience - and timely, cost-effective parts delivery - at the forefront of backorder management. Technology that can serve the customer – and the supply chain – with the automated fulfillment of the thousands of daily out-of-stock service parts requests created by even the most desirable fill rates. And still have capacity to help overcome peak backorder situations created outside a supply chain’s control.

*1% - 3% Backorder Rates can Create thousands of Daily Backordered Parts*



Coined as **Responsive Backorder Management** technology, these solutions validate what parts logistic personnel have long suspected – that 80% to 90% of a supply chain’s backordered parts-in-need, one-quarter of which are often sitting in an idle state, can be found within the in-channel inventories of a manufacturer’s franchised network of dealers/retailers.

Furthermore, mining this backorder “gold” can mean immediate substantial decreases in the average duration of a backorder– and more responsive customer service - while still maintaining the cost controls of a lean, just-in-time inventory model.

Equally compelling, these solutions challenge and help dispel the “perceived” knee-jerk notion that increased replacement levels are the fastest, short-term approach to meeting backorder demand. Instead, they help parts logistic personnel to manage and maintain more acceptable levels of capital investment while also lowering the inevitable risk of costly and painful excess inventory disposal.

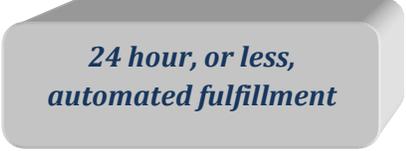
Lastly, this paper will present, and explore, case studies of Fortune 100 manufacturers who have employed **Responsive Backorder Management** technology to successfully transform their nationwide partner network into a virtual parts backorder warehouse. In so doing, these “technologically” extended service parts supply chains are realizing such sustainable competitive advantages as 24 hour, or less, backorder fulfillment; reduced shipping, labor, and vehicle rental/replacement cost; enhanced on-time service delivery; and improved customer satisfaction drivers.

Results that have been achieved without any additional investment in “safety” stock, inventory carrying costs, parts distribution facilities, or parts handling/logistic personnel.

## DEFINING RESPONSIVE BACKORDER MANAGEMENT

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Responsive backorder management represents the “holy grail” for most parts logistic decision-makers. It is defined as the ability to electronically canvas a system-wide network of channel partner inventories to respond, source, and fill required backordered service parts requests within a 24 hour or less timeframe with minimal shipping and expediting costs, minimal premium incentives, optimized carrying costs, and transparent customer impact.



*24 hour, or less,  
automated fulfillment*

Until recently, this feat was only achievable with considerable time and dollar investments in newly architected and fully integrated, collaborative systems and processes that transcended and consolidated internal and external partner inventories. For those established service parts supply chains unable – or unwilling – to commit to this investment, parts logistic personnel have been left with limited ability to access their supply chain’s most likely stocking source of backordered parts - in-channel inventory.

## FACTORS CREATING HAVOC ON TODAY’S SERVICE PARTS SUPPLY CHAINS

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Magnifying the complexity of backorder fulfillment is that backorder situations, more often than not, are a result of external stressors that are largely outside the control of parts decision-makers.

These uncontrollable, and often unpredictable, stress points can, and do, result in staggering hidden hard and soft costs to the organization including higher inventory levels and carrying costs for “safety” stock; lengthy fulfillment delays that can extend into weeks; an unnecessary potential for costly Lemon Law violations; dedicated staff following manual processes to “chase” a single part for a single customer; unbudgeted transportation expense to cover expedited shipping; expensive and unplanned rental/replacement vehicle or product expense; possible retooling and switching costs; and unduly strained dealer/retailer/customer relationships.

Equally alarming is the fact that the following stress factors are exponentially compounding as the economy continues to weaken.

### Weakened Supplier Climate

In recent years, a multitude of economic factors have accelerated supplier/packager failures including tightened credit, weak demand, rising commodity prices, increased overseas competition, and a relentless emphasis on cost cuts.<sup>1</sup> In its wake, manufacturers and Tier 1 suppliers often must financially subsidize key suppliers to avoid crippling delays or possible retooling.

### National Recalls

Recalls are now affecting almost half of all new vehicle registrations placing intense pressure on service parts supply chains to procure significant volumes of select parts in shortened timeframes.<sup>2</sup>

### Explosion in Parts Proliferation

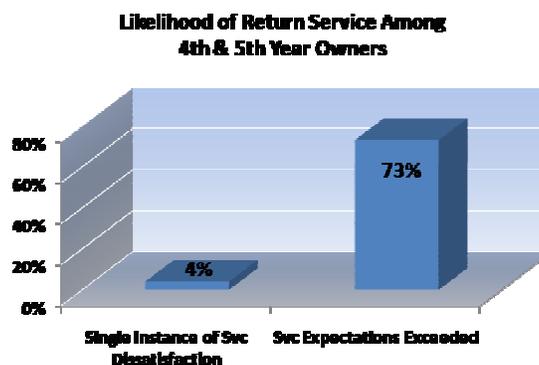
Service parts management has now become a function of shortened product lifecycles and extended service lifecycles resulting in an explosion of unique parts. In the automotive sector alone, model proliferation, with their shortened lifecycles, has increased 6.6% across all brands causing SKU growth to double in the past 10 years.<sup>3</sup> Add to this the fact that, of the 244 million vehicles in U.S. operation, 41.3% of cars and 29.5% of trucks are now older than 11 years.<sup>4</sup> In many other industries, such as commercial vehicle and heavy equipment, service lifecycles can extend to 40 plus years.

## THE NEGATIVE IMPACT OF DELAYED PARTS ON CUSTOMER SATISFACTION (CSI)

Backorder management can either become a competitive service advantage - or disadvantage - as distinguished in the eyes of the customer awaiting a replacement part.

According to J.D. Power and their annual measurement of dealership service satisfaction, a dealership's failure to meet customer expectations has a significant negative impact on customer loyalty. Only 4% of 4<sup>th</sup> and 5<sup>th</sup> year owners who report a single instance of service dissatisfaction will return to the dealership for future service.

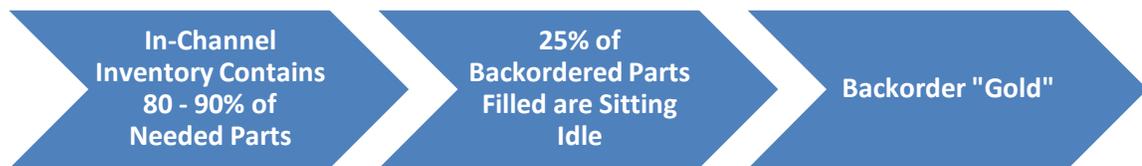
Conversely, the "likelihood to return" soars to 73% when service expectations are exceeded<sup>5</sup> – a statistic that can be positively, or negatively, influenced by the on-time delivery of service part(s). All of which aptly illustrates the ever-increasing importance time-starved consumers are



placing on prompt, convenient service – and the increased pressure on service parts supply chains to deliver.

## THE SOLUTION - TAPPING IN-CHANNEL INVENTORY

The fastest and most cost-effective solution to helping manufacturers achieve Responsive Backorder Management is to tap in-channel inventory.



Research has shown that, typically, in channel distributor inventory contains 80% to 90% of backordered-parts-in-need. What's more, the same research revealed that as much as 25% of backordered parts – that were supplied in channel – were found in an idle state sitting on distributors' shelves.

Case in point, in the automotive sector, new car franchise parts departments carry an estimated \$5.8 billion of readily available service parts.<sup>6</sup> These inventories can represent a supplemental virtual parts distribution warehouse capable of filling critical orders faster and at less cost than traditional warehouses.

Automated access to these in-channel inventories can be quickly, easily, and affordably achieved using intelligent web-based parts sourcing and referral technology that can augment, and integrate with, existing supply chain architecture to realize such benefits as:

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- ✓ *24 hour or less backorder fulfillment*
  - ✓ *Reduced warehouse inventory investment*
  - ✓ *Decreased shipping costs and fewer manually expedited orders*
  - ✓ *Lower rental/replacement product expense*
  - ✓ *Improved on-time service delivery and CSI*
  - ✓ *Elimination of costly manual, labor-intensive processes*
  - ✓ *Decreased field parts obsolescence*
  - ✓ *Reduced need for premium incentives by tapping more idle inventory*
  - ✓ *Diminished risk of costly and painful excess inventory write-downs*

## THE RESULTS – AN AVERAGE 60 MINUTE REFERRAL-TO-SHIPMENT AUTOMATED RESPONSE TIME

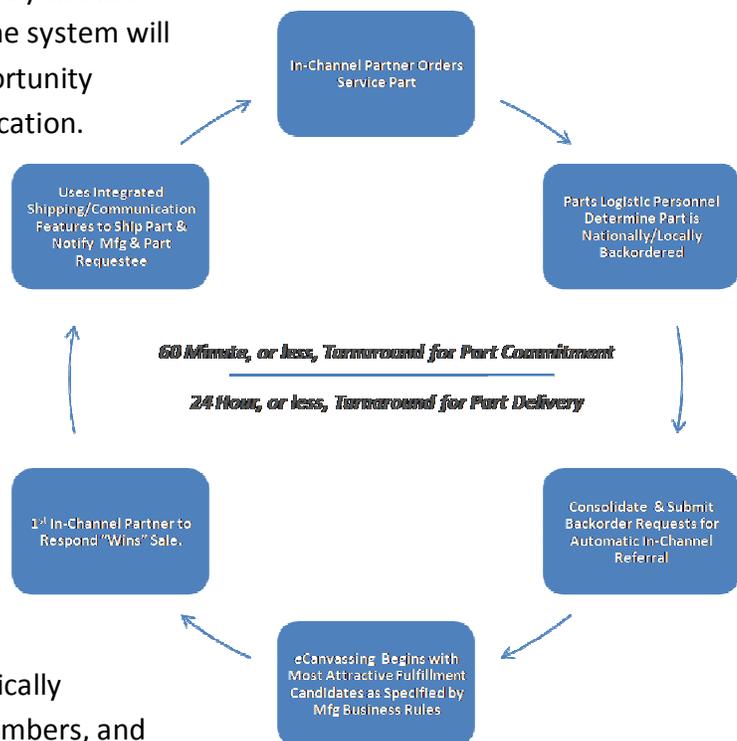
Simple in concept yet powerful in execution, Responsive Backorder Management technology easily integrates into, and streamlines, the workflows of manufacturer and dealer/retailer personnel alike. Following their daily normal routine, parts logistics personnel use in-house order fulfillment systems to identify all requested parts-in-need deemed nationally/locally out-of-stock, or emergency backordered, within traditional manufacturer inventory sources. They then consolidate all “fillable” backordered parts requests into one data file for mass electronic in-channel referral – eliminating the need for mass manual phone canvassing.

Based on manufacturer-defined business rules, online intelligence manages the referral list - by automatically qualifying and simultaneously contacting - the most attractive, in-channel candidates, in order of priority. Each candidate is electronically offered a fulfillment premium dynamically adapted to individual supplier and parts status. Based upon initial candidate response, automatic canvassing will continue, if needed – using pre-specified communication waves – until the part-in-need is secured.

Once successfully sourced, as defined by the first candidate to affirmatively respond, the system will automatically “lock” the referral opportunity eliminating the threat of source duplication.

The candidate’s affirmative response will then send simultaneous, near real-time availability and shipping confirmation alerts to parts logistic personnel and requesting in-channel partners.

Using system-integrated shipping and tracking with national overnight and LTL carriers, the fulfilling in-channel partner can now complete the transaction by automatically generating shipping labels, tacking numbers, and packing receipts providing a convenient, documented audit trail.



With one action, hundreds to thousands of pre-qualified stocking candidates are electronically contacted for the potential fulfillment of hundreds of backordered parts-in-need. And, of the backorder requests that are filled, 90% are sourced within 60 minutes, or less, of the initial request – all without manual intervention.

What’s more, since this process is not labor-dependent – it can be dynamically repeated, as often as needed – to accommodate peak and/or fluctuating backorder demands. Additionally, parts logistic personnel – who, previously, “manually” chased a single part for a single customer - can now be redirected to more revenue-generating functions.

*50% - 61% Increase in Backorder Fulfillment*

Bottom-line, participating supply chains - who have adopted Responsive Backorder Management etechnology - have seen an immediate 50% - 61% increase in backorder fulfillment, with 24 hour or less delivery of filled parts requests.

## **THE TECHNOLOGY – A CONFIGURABLE SOURCING AND ORDER REFERRAL ENGINE**

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Market-available and proven etechnology, designed to harness the power of in-channel inventories - and achieve a 60 minute automated turnaround response - consists of a configurable sourcing and parts order referral engine. Built to access and leverage a normalized, near real-time database of participating in-channel partner inventories.

Designed to automatically search and identify the most cost-effective and/or service-effective parts referral candidates, intelligent sourcing engines instantaneously canvass a system-wide network of participating in-channel partner inventories using the following proven functionality for responsive peer-to-peer fulfillment.

### **Tailored, Dynamically Flexible Business Rules**

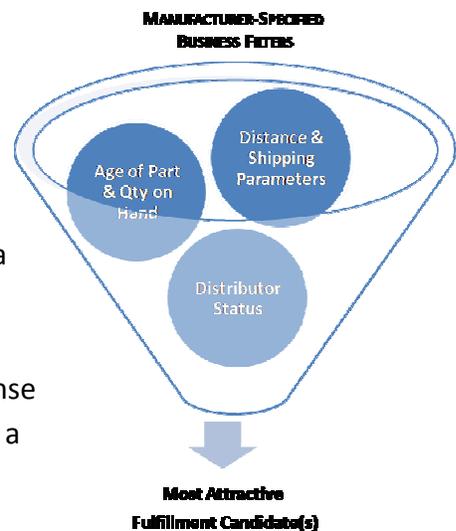
Essential to supply chain flexibility is the ability for manufacturers to tailor customizable service parts fulfillment rules that cost-effectively align customer satisfaction goals with overall profit performance. For example, parts logistic personnel must be able to define customized ranking variables that can classify desirable candidates based on likelihood

to “sell”, speed of fulfillment, and/or shipment cost. Such tiered candidate variables could, and should, include:

- ✚ *Distance from in-channel partner-in-need*
- ✚ *Shipping speed, method, and potential cost, i.e. same-day partner delivery or overnight carrier*
- ✚ *Preferred status based on program participation, overall inventory size, sales volume, or any other user-specified criteria*
- ✚ *Available quantity on hand*
- ✚ *Age of inventoried part to indicate status, i.e. idle, active*

Even more essential, is the ability for these business rules to dynamically conform based on pre-determined variables of candidate status and/or response. For example, manufacturers can determine the size of the initial candidate pool, and all subsequent pools, while also controlling the rate at which each referral expands to additional candidates.

Case in point, preferred candidates – who have committed to same day dealer delivery - can be granted exclusive referral access for a set period of time before expanding to a second wave of candidates. Or, each subsequent wave can automatically initiate and expand based on a pool’s referral decline; aggregate failure to respond within a pre-set response timeframe; or even an individual candidate’s cancellation of a previously-confirmed part fulfillment.



Progressive supply chains are also setting dynamic business rules for maximum and minimum referral incentives that can vary by circumstance, such as the age of the part. For instance, manufacturers have typically offered standardized parts premium incentives – regardless of inventory age - to help motivate in-channel stocking partners fill backorder requests.

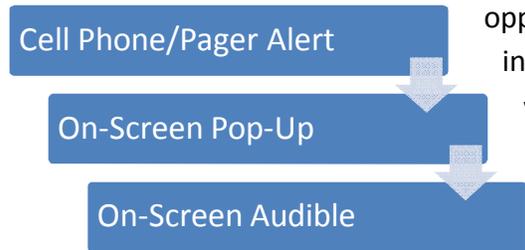
With Responsive Backorder Management etechnology, parts personnel can now incorporate inventory age, when available, into their pre-defined business rules thus automatically lowering incentives – by referral candidate - for parts considered idle. Supply chains – across all levels - receive a four-fold bonus of quickly meeting the part(s) need of a valued customer; lowering overall part(s) procurement costs; increasing in-channel sales of an otherwise idle part; and eliminating a potential part return.

*Lower Premium Incentives  
by Factoring Part Age into  
Search Criteria*

### Seamless Workflow Integration

Regardless of the numerous “points of pain” a Responsive Backorder Management technology solution might solve, it must first accommodate the human element by seamlessly integrating with existing workflows. While this critical success factor applies across all levels of a service parts supply chain from parts logistic management to requesting in-channel partner to supplying in-channel partner, significant transaction management workflow ease and convenience must exist to effectively reach and motivate supplying in-channel partners.

For instance, it is essential to incorporate referral notification convenience for both mobile and stationary referral candidate pools to alert their attention to potential sales



opportunities. Use of pager and cell-phone alerts in addition to email notifications with audible, visual on-screen indicators are vital to immediately - and persuasively - capturing the attention of multi-tasking retail parts personnel.

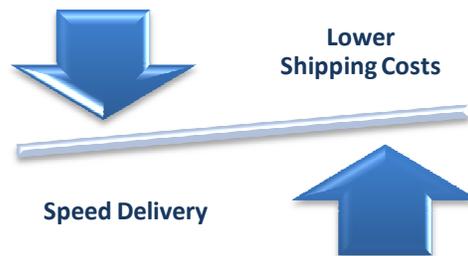
As added motivation for candidate pool participation, the technology must also allow single-step response for referral acceptance/decline; an automated, simultaneous update to the requesting in-channel partner; real-time prevention of fulfillment duplication; and, if needed, cancellation of a previous parts referral acceptance. Integrated shipping and label generation/packing slip tools are also a must-have for easy management and tracking of overnight carriers.

## Multi-Tiered Referral, Initiation & Management Reporting

Whereas seamless workflow integration is vital to in-channel transaction management, multi-tiered referral, initiation, and reporting can be equally as important to corporate parts decision-makers chartered with Responsive Backorder Management.

More specifically, multi-tiered referral must allow supply chains to set pre-defined business rules with custom notation fields that can customize, or tier, the referral handling of backordered parts by status and/or situation. For example, nationally backordered parts could be directed to, first, source locally to minimize shipping costs and speed delivery. If unfilled, the referral process would then dynamically expand nationwide balancing the increased likelihood of procurement against higher shipping costs.

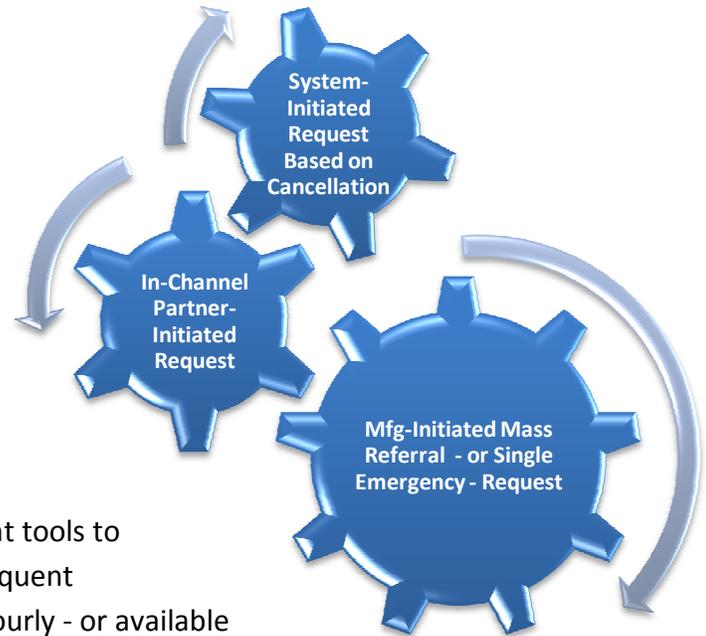
On the other hand, a part that is out-of-stock only at the requesting partner's facing warehouse could be, first, sourced locally in an effort to again lower shipping costs and speed delivery. If unfilled, this referral could, instead, be directed to an alternate stocking warehouse trading off increased shipping costs with the savings in premium incentives.



Conversely, supply chain efficiency, flexibility, and response are predicated on the ability to initiate system-wide parts referral and sourcing from any level within the supply chain, such as:

- ✓ To meet aggregate backorder demands, corporate parts personnel can create and submit (FTP) daily mass referral data file(s) gleaned from the supply chain's order fulfillment system. Each file should be capable of containing an unlimited number of parts referrals.
- ✓ To address unexpected situations, corporate parts personnel, using a real-time, web-based management dashboard, should also be able to manually stop and/or change a part(s) referral for expedited sourcing.

- ✓ To meet individual in-channel emergency needs, an in-channel buying partner – already aware of the backorder status of a part-in-need – should have the flexibility to bypass the order process and, instead, initiate a parts referral for a more immediate response.
- ✓ The technology, itself - using closed-loop monitoring of changes in order fulfillment status - should also be capable of automatically re-initiating a previously-accepted parts referral that has been cancelled.



Parts logistic decision-makers also require easily accessible, on-demand reporting and management tools to stay abreast of referral statuses. For instance, frequent system-generated updates - typically published hourly - or available on-demand are essential for an aggregate “progress report” on all in-channel referral activity.

Access to real-time information, using management dashboards, is even more critical for informed decision-making and finger-on-the-pulse responsiveness. Dashboard consoles should provide multiple views into referral activity including a daily snapshot of system-wide activity, search capabilities by specific referral, and aggregate activity levels by in-channel partner.

Parts logistics personnel should also have the ability to use this dashboard to manage in-play referral activity, such as cancelling an open referral that remains unfilled. Or, changing in-channel partner status - based on user activity level and response behavior - to either preference, or suspend, additional referral fulfillment by candidate.

## **REALIZING RESPONSIVE BACKORDER MANAGEMENT – THE TOOLS AT WORK**

Using intelligent esourcing and referral engines, several Fortune 100 manufacturers have already realized the benefits of electronically mining in-channel inventories for backorder “gold”. The profiles on the following pages chronicle their success.

## Backorder Fulfillment Cycle Time Decreases from 14 Days to 24 Hours

**THE CHALLENGE** A Fortune 100 manufacturer - within the automotive industry - operated at peak efficiency with a 97% off-the-shelf service parts fill rate, yielding an “acceptable” 3% backorder rate.

While minimal and acceptable, the 3% backorder rate translated into an average daily influx of 800 unique backorder and emergency service parts requests.

Average cycle time for backorder fulfillment was 14 calendar days.

Successful backorder fill rates hovered at 31%.

While parts personnel were unable to calculate aggregate rental car and expedited shipping expense based on delayed parts delivery, they conservatively estimated the potential for annual expenditures in excess of \$6 million.

**BACKORDER APPROACH** A full-time staff was chartered with manually sourcing, one by one, each backorder request using phone and email canvassing tools.

Requests were prioritized with potential Lemon Law violations receiving highest priority.

Complicating the task was zero visibility into in-channel inventories.

**RE-ENGINEERED RESULTS** By implementing Responsive Backorder Management etechnolgy:

- ✓ Average cycle time for backorder fulfillment plunged from 14 days to 24 hours resulting in a 1300% decline in average wait time.
- ✓ Potential rental car expense was also estimated to decline accordingly at an average of \$455 per day, per off-road vehicle.
- ✓ Backorder fill rate - within less than 30 days - increased from an average of 31% to 54% for “fillable” parts, yielding an immediate 74% improvement in backorder response – or an additional 48,000 customers served each year with next day, or less, parts turnaround.
- ✓ Ready on-time service delivery scores – a cornerstone of Customer Service Satisfaction - measured a full 1% higher for participating dealers.
- ✓ Full-time staff was redirected to higher ROI activities.

**Emergency Backorder Fill Rate Increases 50%**

**THE CHALLENGE** A Fortune 100 manufacturer – also within the automotive industry - operated at peak efficiency with a 98% off-the-shelf service parts fill rate, yielding an “acceptable” 2% backorder rate.

This backorder rate created a monthly average of over 100,000 requested parts-in-need.

Backorder fill rates peaked in the low 20% - 30% range with less than 2% of in-channel retailers participating in backorder fulfillment programs.

While average cycle time was already an impressive 24 hour turnaround for those backorders that were filled, 70% - 80% of backorder requests well exceeded this timeframe.

**BACKORDER APPROACH** Backordered parts-in-need were advertised daily using a phone-in switchboard. While clever in concept, participating dealers had to interrupt normal workflow to proactively dial in - using antiquated and expensive dialers - to learn which parts were in demand.

The system was also continuously updated throughout the day as new backorder requests were received. This practice, again while clever in practice, required retail-oriented parts personnel to dial back in frequently on the “gamble” they may have a requested part.

Given the cumbersome nature of the system and its “hit-or-miss” sales opportunities, only 100 dealers nationwide participated. Consequently, backorder parts requests remain unfilled and customer vehicles, awaiting part(s), languished

**RE-ENGINEERED RESULTS**

- ✓ By implementing Responsive Backorder Management etechnolgy:
- ✓ Over 3000 dealers are now participating filling, on average, 37,000 backordered parts per month while enhancing the service experience – and likelihood for repeat service - of 37,000 in-store customers.
- ✓ Reasons cited for increased participation is system ease, workflow integration, and valid pre-qualified sales opportunities based on available dealer stock.
- ✓ As a result, backorder fill rate increased 50% within a month of system implementation.
- ✓ Average cycle time for backorder fulfillment also improved 12 to 24 hours with 100% of “fillable” orders filled next day, and better than 10% filled same-day.

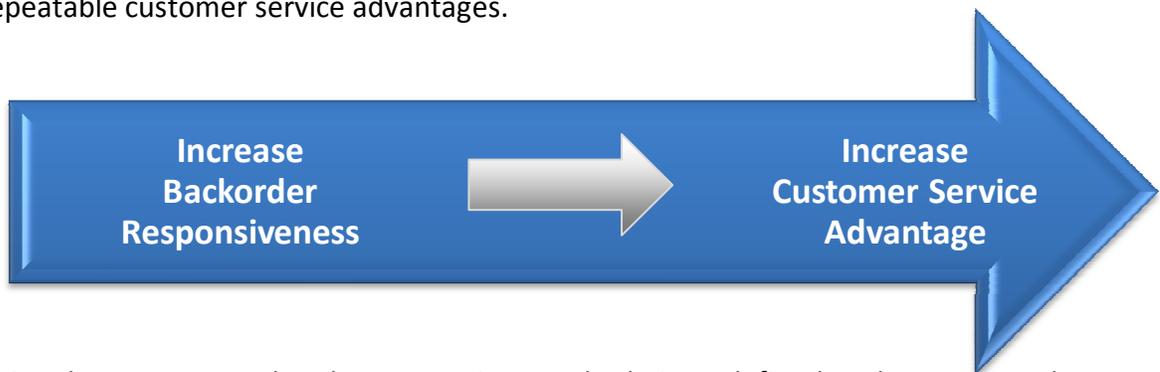
## CHOOSING RESPONSIVE BACKORDER MANAGEMENT

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Let's return to the opening statement of this paper:

*Getting the right parts to the right place at the right time is no small task.  
Achieving this at the right level of overall cost – and level of customer service –  
is the real challenge.*

Market-ready *etools* *do* exist that can help service parts supply chains tame each component of the backorder challenge - and transform them - into sustainable, repeatable customer service advantages.



Using these automated tools, progressive supply chains – defined as those who place customer response first – *can* now cost-effectively leverage their largest, most available backorder source . . . In-channel inventory.

## ABOUT THE AUTHOR

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**Ted Fellowes** has more than 25 years of technology experience in service parts supply chain management, organization, and research. An accomplished and published scholar, Mr. Fellowes served as President of Fellowes Research Group, Inc. from 2000 - 2003 specializing in global automotive studies. Highly regarded for his astute and insightful analysis, Mr. Fellowes has also worked extensively in B2B original equipment parts ecommerce serving as Senior Vice President & General Manager for ProQuest Global Automotive. While at ProQuest, Mr. Fellowes helped launch OEConnection, the now recognized industry leader in the online procurement and analysis of original equipment parts and replacement tires. Today, he serves as the company's Vice President of Supply Chain Solutions and is responsible for this division's product, sales, and marketing activities.

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