



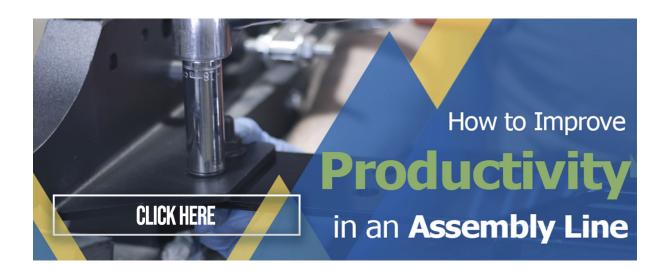
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#### **Introduction**

In today's supply chain, we all face what seems to be a never-ending list of challenges. From understanding customer demands to benchmarking against our competitors to preparing for the newest emissions standards, engine and equipment production can be difficult to manage. This does not take into account the post-pandemic world we live in where labor, space, and raw materials are in high demand with low availability. **Original equipment manufacturers (OEM)** face the challenge of optimizing their internal labor resources and physical space while needing to be flexible with production demands. Most OEM's find during their production planning that the benefits in regard to breadth of services, level of quality, and years of expertise of third-party assemblers or sub-assemblers far outweigh the cost of keeping these services in-house, leading procurement teams to find an outsourced solution to solve their problems. But how can you ensure you are getting the most from your outsourced partner?

In this guide, you will learn **how to choose the right assembly and subassembly provider and how to get the most out of the relationship**. Learn how to optimize the new business partnership to ultimately increase your company's revenue, minimize errors, cut unnecessary costs, improve product quality, enhance inventory levels, and ultimately speed your time-to-market.



#### **Choosing and Optimizing Outsourced Assembly and Subassembly Services**



# 1. Choose the Right Outsourced Assembly and Subassembly Provider Based on Your Needs and Parameters

There is not a perfect solution in outsourcing your assembly and subassembly process. Each outsourcing strategy will be different for every organization. An OEM's internal strengths and resources need to be assessed to determine the right fit. When preparing an outsourced strategy before production, a key question to ask is, "How much production should we outsource?" In addition, "Should we outsource inventory management, purchasing, or just assembly?"

The following tables will help you compare the two options - **outsource purchasing, inventory, and assembly to your contract manufacturer** OR **outsource assembly only**. Each option will have its pros and cons that will weigh differently depending on your company's situation. To help determine which solution is right for your company, you will need to **consider the type of product, phase of production, and supplier abilities**.



## Option A: Outsource Purchasing, Inventory, and Assembly

This option can be more effective and applicable than Option B if the following is true:

- Your company **product is simple** and has a stable design
- Your provider has the willingness to work with you and the ability to provide the expertise you are lacking in-house

The following table shows potential benefits and risks of outsourcing purchasing, inventory, and assembly.



#### **Option B: Outsource Assembly Only**

This option can be more effective and applicable than the Option A if the following are true:

- Your company product is highly complex
- There are **IP** or security concerns
- You are ready and confident to leverage a diverse and competitive supply chain

The following table shows potential benefits and risks of outsourcing assembly only.



#### 2. Ask Your Potential Providers Right Questions

Based on your **project objectives and expectation**, the information you need to look up may be different. Besides the basic information, such as location, company size, industry experience, and customer base, consider the following questions:

- What value-add services do they offer?
- Do they have the required certifications?
- What quality metrics can they provide?
- How does the provider match up to your KPI expectations?
- What is their continuous improvement methodology?
- How will your company's resources be redirected to their operations?
- What is their pricing structure? How does their price compare to your in-house cost?
- What is the On-Time Delivery or Just-In-Time Delivery rate?
- What are their abilities in handling the scope of work on the project:
  labor consideration, technology, infrastructure, timeliness, trouble-shooting?

#### 

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#### **Choosing and Optimizing Outsourced Assembly and Subassembly Services**

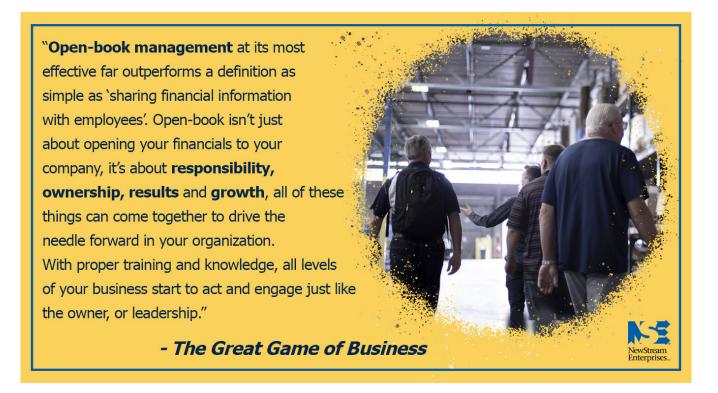


### 1. Optimize Cost-Effectiveness

To optimize cost-effectiveness, you can either **reduce costs with your current assembly provider** or **switch your outsourced assembly to a new provider.** There are several key factors to consider in choosing which option would be the best for your company:

- Cost of conversion
- Risks of change
- Resources
- Improvement to your internal process.

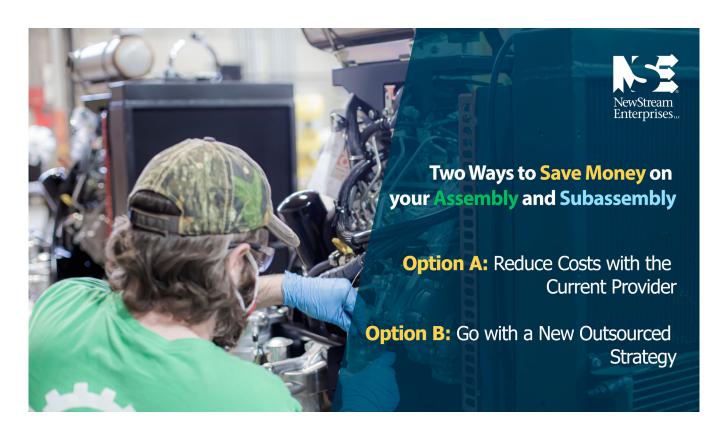
How much can the risk of change cost you? Since you've already decided to make a change in your product assembly strategy, you know that the cost of changing is less than the cost of doing nothing. Now consider the cost required to make a significant change to your assembly process. The cost of conversion will include implementation costs, potential cost of production gaps, scrap and rework errors, and overtime labor costs. Does your current supplier have the bandwidth and/or desire to help you with a cost reduction effort? Consider the supplier's availability and resources. Internal processes such as Open-Book Management (OBM), Lean, Six Sigma, 5S, total quality management (TQM) can be implemented to save money.



At NewStream Enterprises, LLC, we practice Open-Book Managment

#### 1. Optimize Cost-Effectiveness (Continued)

There are two major ways to save money on outsourcing your assembly and subassembly: **Reduce costs with the current provider** OR **go with a new outsourced strategy**. Each option has its own pros and cons. The following tables help weigh the options to figure out which one would be the better solution for your company.



#### **Option A: Reduce Costs with the Current Provider**

This option can be more effective and applicable than Option B if the following are true:

- You have a new product line that has similar assembly requirements, and all production-related issues can be identified and could be solved now
- There is an opportunity to **implement lean initiatives** through your business and your current provider
- Your current provider is willing to work with you and has the ability to cut costs
- You are mid-production and cannot afford any setbacks or delays

The following table shows potential benefits and risks of reducing costs with the current provider.

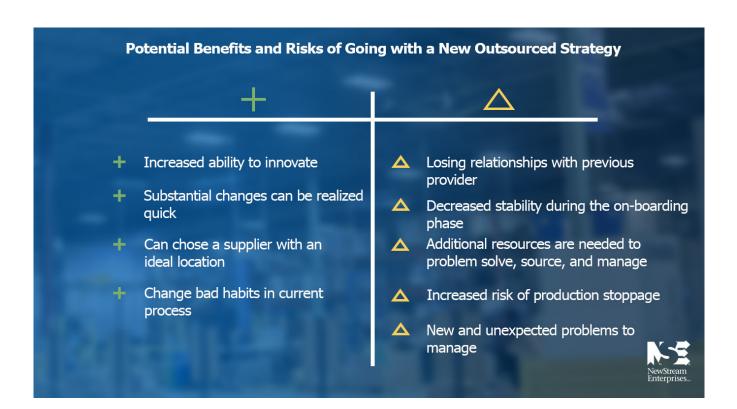


#### **Option B: Go with a New Outsourced Strategy**

This option can be more effective and applicable than Option A if the following hold true:

- Your product is highly mature and fully developed.
- Your business and product life-cycle are in a stable status
- Your current provider is not able to reduce costs
- Your team can apply new operation methods and has available resources for change management
- You understand your product thoroughly and are confident about your manufacturing processes and output

The following table shows potential benefits and risks of going with a new outsourced strategy.



### 1. Optimize Cost-Effectiveness (Continued)

Flexibility in your assembly operation can make the difference in your profit margins. Always be ready to reassess and make changes proactively instead of reactively. If you decide to move forward with your current provider, remember there is still a large gap from your current operating status to great execution.

Throughout this transition period, remember to focus on your product and end customer need in order to simplify the operation. Only add new technology and processes if needed. The ultimate goal is to speed up the process and cut costs while ensuring product quality.



#### 2. Optimize Multiple Product Lines

If your company has different product lines that need outsourced assembly or sub-assembly services, you may be asking yourself the following question: "Should we utilize one provider to optimize costs and reduce complexity? Or should we use different providers to get the best of each?" There are several key factors in this decision-making process. You will need to consider:

- Financial impacts
- Timeline constraints
- Organizational priorities
- Providers' abilities
- Risks and rewards

Initially, it is important to review your company's available resources. Do you have the labor and/or cash to manage multiple providers for different product lines? Will this increase in responsibilities overload your team? Additionally, consider your organizational priorities. Would you rather optimize your production for the performance or for cost? What is your overall budget and desired output for your providers? After having a solid idea of your needs and a clear picture of your situation, you need to look at the providers' abilities to evaluate if they are capable of providing you the services that satisfy your expectations. In addition, identify both the benefits and possible risks for each option.

There are two main ways to optimize your outsourced assembly and sub-assembly for multiple product lines: **Keep your current assembly and sub-assembly provider to optimize costs** OR **distribute each product line with the best assembly and sub-assembly provider possible.** Each option has its own pros and cons. The following tables help weigh the options to figure out which one would be the better solution for your company.



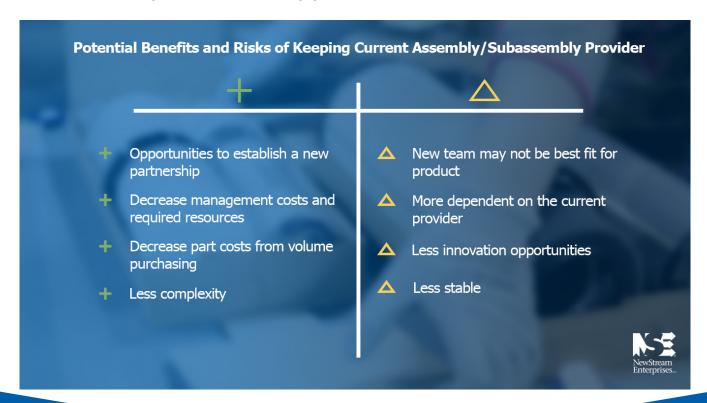
Two Ways to Optimize Assembly and Subassembly for Multiple Product Lines

### Option A: Keeping Your Current Assembly and Sub-Assembly Provider to Optimize Costs

This option can be more effective and applicable than Option B if the following are true:

- You have **high volume but low-complexity products** sharing similar raw materials and procedures
- Your company does **not have all necessary resources to manage a new provider**
- Your current provider is willing to help you, and they have the ability to carry out the new solutions
- You have **back-up plans** in case something unexpectedly happens to your current provider

The following table shows potential benefits and risks of keeping your current assembly and subassembly provider.



# Option B: Have Different Assembly and Sub-Assembly Providers for Different Product Lines to Get the Most out of Each Provider

This option can be more effective and applicable than the other if:

- There are many differences within your assembly and subassembly processes, such as product lines and breadth of component mix
- Your current assembly provider does not meet your quality expectations for all product lines
- Your team has the ability to manage and look over multiple providers' processes
- Your **customers require very high-quality products** that need more extensive processes

The following table shows potential benefits and risks of having different assembly and subassembly providers for different product lines



## 3. Focus on the best solution for your product, not the lowest price

The ultimate goal of outsourcing your assembly and sub-assembly process is to enhance the production output and the product quality beyond that which your team is capable. This is especially true with OEM products that require inventory management, product lifecycle management, understanding product requirements, and supplier management all while establishing consistent quality assurance protocols.

To reduce stress in your assembly operation, experts in outsourced assembly and sub-assembly often include additional value-added services that can solve multiple problems you face. Nowadays, in order to be competitive in the marketplace, you not only need to have a great price but offer the best quality and customer experience.

When evaluating assembly service providers, it's not just about the price comparison, you need to find the best solution for your product with a provider whom you trust. If an assembly and sub-assembly provider offers services at a lower price range yet cannot provide what you need, it will actually cost you in the long run.



### 4. Do not Hesitate to Voice Problems and Concerns

Entering any business relationship will inherently come with risks, especially during the transitionary period. Because the implications of a long-term partnership can be far-reaching and changing contracts can be time-intensive and expensive, it is important to raise any concerns early on in the process. In doing so, any problematic situations or conflicts can be addressed properly, and a resolution should be found before the contract is signed.

Remember, it is not the problem itself, but how your assembly partner reacts to it that will build a confident working relationship. Good business partnerships are based on trust and commitment towards a shared vision. Starting off on the right foot makes it more likely that this partnership will develop into a mutually beneficial situation for the long-term.

