



The Ultimate Guide
For choosing the right
**Direct Material Sourcing &
Procurement Software**

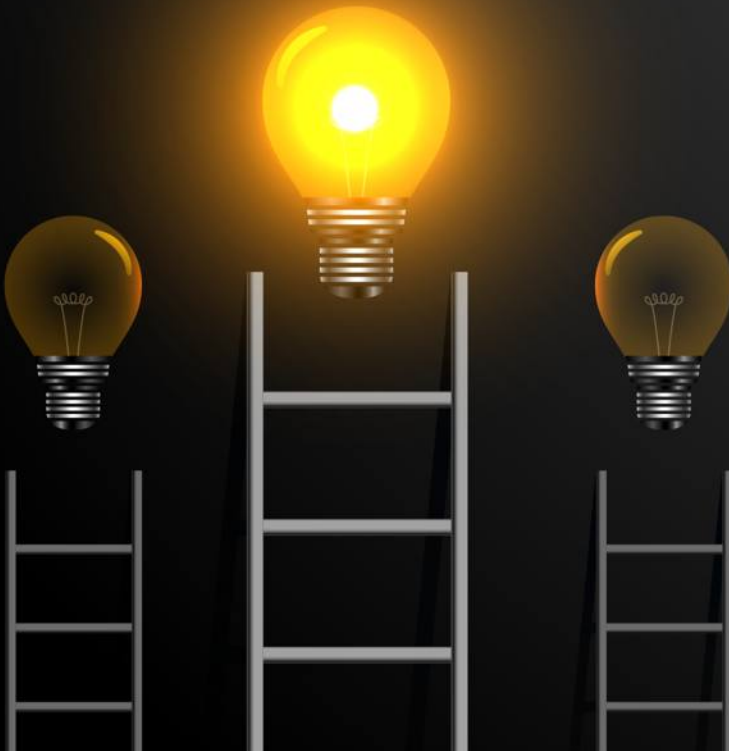


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Digitalization¹ of Direct Material Procurement Life Cycle has been a point of discussion for some time now and we realize there are not too many effective solutions available in the market. The objective of this blog is to provide a framework for IT managers in product manufacturing companies to select the right software to manage Direct Material Sourcing & Procurement. While this guide is written in the context of a sourcing/procurement software, the framework can be replicated when choosing any best-of-breed software for any other business process.

(I think we don't have to keep repeating any need or drivers for Digitalization, Digital Transformation etc. and the fact that they have accelerated in the last few years due to changes in the geopolitical situation, waves of pandemic, forest fires, unprecedented heatwaves and floods across continents, and wars... And in spite of all the gloom and doom, I personally believe we will continue to thrive).

¹Digitization is a lower denomination - Digitization happened with the start of spreadsheets, emails & ERPs

Before we start, there are three factors we need to consider at length:

1. Why are we discussing Direct Material Procurement?

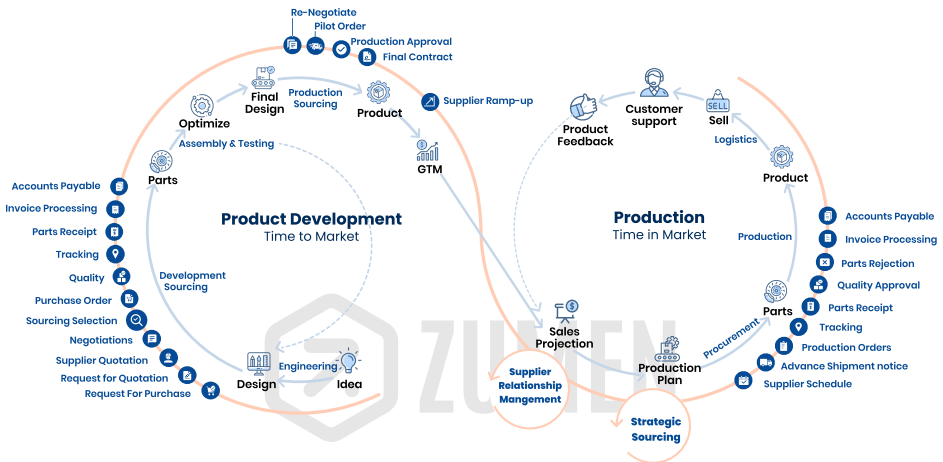
Direct Material Procurement accounts for a significant portion of the spend in product manufacturing companies. Depending on the verticalization in a company, the direct material spend would be between 50-65% of the total revenue. The cost of raw materials and parts from the suppliers that contribute 'directly' to the cost of the product are referred to as the Direct Material and their procurement is called 'Direct Material Procurement'.

The complement to Direct Procurement is Indirect Procurement, which caters to procurement of goods and services that are required in running a business and does not add directly to the cost of the product or service; They are averaged out. They are around 15% of the revenues; but vastly vary from company to company. You may research more for Direct vs Indirect procurement for further information.

There are literally hundreds of IT/software solutions available in the market to help companies in their business spend; but it is nearly impossible to find the right solution for direct material spend management.

2. Understanding Direct Material Procurement Lifecycle

The Direct Material Procurement lifecycle is shown in the chart below. If you'd like to know more, take a look at our handbook that explains the [direct material procurement lifecycle](#) in detail.



Direct Material Procurement Lifecycle

3. Some history and context for the Manufacturing Enterprise IT space

For a very long time, CIOs of large companies were the only ones who understood the power of information technology and championed the adoption of digital tools and technologies to drive efficiency, visibility and compliance. As a result, they had to find the

right IT implementation partners, assign people to understand the business processes and get them built from ground-up, and get business users to start using the software. Because of this approach, several IT initiatives failed in the early days.



However, in the last few decades, once the heads of business functions, particularly CFOs, understood the potential of a good software, they assigned CIOs to find a 'solution' for a specific business process. The

process then was to invite the IT vendors and service providers they were working with and ask for ideas. And as they discussed, more often than not, they came to a point where the IT Manager or ITBP (IT Business Partner) had to list down a set of requirements for the 'Project'. So, the entire initiative became an IT project, when in reality, the need was for the business function.

Then, together with the chosen IT vendor (deploying a large fleet of software engineers, business analysts and project managers), and colleagues from manufacturing, production, warehouse and procurement functions, the solutions were put in place. Several companies started providing such solutions, including the likes of IBM, ORACLE, SAP, JD Edwards, EPICOR, BAAN etc. In the process, many marginal solution providers died out or got acquired by others. Today, the leading ERP solution providers are SAP and Oracle, followed by Workday, Infor, QAD & Microsoft. Looking inside, there are three major Enterprise IT pillars that are at the core of any successful Product Manufacturing Organization.

Looking inside, there are three major Enterprise IT pillars that are at the core of any successful Product Manufacturing Organization.

3.1 Enterprise Resource Planning (ERP) solutions started as a cornerstone for the enterprise IT movement, primarily driven by the need for accountants to keep track of all the transactions across the company – purchase orders and payments.

3.1.1 As a subset of this, people realized that they had to monitor the transactions and movements of the physical items and assets as well – This led to the



evolution of **inventory management**. Some companies have more detailed **warehouse management systems**

(WMS) that work alongside their ERP system. This part of the solution is also called material management. In the case of SAP, this solution module is referred to as SAP MM.

3.1.2 Using the material management solution, CFOs and the finance folks realized that there was too much working capital locked in affecting the functioning of the business when managers ordered too many parts to ensure availability of parts to continue production. Or production and shipment suffered when managers ordered too little to keep a lower inventory level. So they realized they needed better planning.

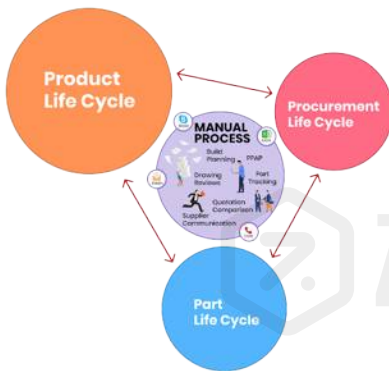


3.2 Production Planning (PP) is a very important part of the enterprise IT infrastructure because of the problem it solves: Ensuring planning is in place to make enough wholegoods to keep the revenue cycle running.

3.2.1 Meeting production requirements and feeding the revenue stream required the availability of parts from the suppliers and other internal resources at the right time. Teams had to plan for production in advance in the system (manual plans were not adequate when communicating with hundreds of suppliers). For example, in the case of SAP, the solution available for this is called SAP PP Module.

3.2.2 The extension of production planning led to breaking down the Bill of Materials (BOMs) so the plan could be made for individual parts/ items to be procured. This evolved into what is referred to as **Material Requirements Planning (MRP)**. Based on this, supplier production schedules and Purchase orders (POs) are released to the suppliers (material management).

3.3 Product Lifecycle Management (PLM): It is easy to observe from 3.1 and 3.2 that the focus has always been on material transaction and protecting the revenue stream (production & delivery). As Computer Aided Engineering and Computer Aided Manufacturing evolved, the industry started becoming ambitious and wanted to bring a 'product_inclusive' and a product driven business process approach. This led to the creation of a software category called product life cycle management (PLM).



3.3.1 Although PLMs started with the aim of covering all aspects of the product life cycle, in reality, they had significant scope of work within the engineering realm and the best they could do was reach up to managing product configurations (engineering BOM).

3.3.2 For them to venture into functional areas like purchasing and manufacturing to cover business processes remained a non-starter. However, there has been significant acceleration, say in the last 5 years, to break the barriers and extend to business functions beyond engineering; one such area is supplier collaboration. However, stretching PLM to include all relevant business functions still is improbable. Now, PLM solution providers

like Siemens (Teamcenter & Digital Factory), PTC (Windchill & IIOT) and Dassault Systemes (Enovia & 3DS) focus primarily on Digital Threads and IOT (Internet of Things).

So the conclusion is that the majority of the enterprise systems focus on transactions. And PLM systems focus on engineering and the product. For this reason, ERPs and PLMs are poor choices when considering a solution to help in **Direct Material Sourcing & Procurement**. In most cases, when someone claims their ERP has coverage of Direct Spend, it means they monitor only the transactions. Specifically, when it comes to Direct Spend, ERPs allow users to release a purchase order (PO), receive materials against the PO and release a payment. But it does not cover any of the steps involved in arriving at a PO or receipt of materials. The Direct Material Procurement Lifecycle handbook that I referred to earlier contains a detailed description of the steps involved.

The Direct Material Procurement Lifecycle

consists of two phases: Source-to-Contract & Procure-to-Pay. However, people refer to the solutions in a number of ways; some of



the common terms used are listed below. I guess they give a name that is closest to their biggest concern/solution they seek. In this list of terms the industry uses, you would also see some links to relevant discussions and blogs you may come across to think through these terms in depth.

1. Direct Material Purchasing
2. Direct Material Sourcing Software (Direct Material Sourcing Solution)
3. Direct Material Procurement
4. Direct Material Procurement Lifecycle Management
5. Direct Material Strategic Sourcing
6. New Product Development Software
7. Sourcing Solution for New Product Development (NPD)
8. Procurement Digitalization/ Procurement Digitization
9. Procurement Transformation
10. Procurement Technology
11. Source to Pay (Source-to-Pay, S2P)
12. Source to Contract (Source-to-Contract, S2C)
13. Procure to Pay (Procure-to-Pay, P2P)
14. Procurement Platform/ Procurement Software/ Procurement Solution
15. Sourcing Platform/ Sourcing Software/ Sourcing Solution
16. Supplier Relationship Management Software (SRM)
17. eProcurement for Direct Materials
18. eSourcing for Direct Materials
19. Supplier Portal or Supplier Management Portal
20. New Supplier Discovery Tool

There are multiple solutions available in the industry but one needs to review in depth how each one of them works and what their strengths are. Here are some of the solutions available in the procure-to-pay space:

- Ariba by SAP
- COUPA
- Jaggaer
- iValua
- GEP
- ZYCUS

While these are some of the popular Procurement solutions that come out in our research, the direct material capability widely varies from almost none to some level of coverage; even when actively pushing for Direct Material capabilities, they cater predominantly to Indirect Procurement, Spend Management and Automation of invoice processing.

Since procurement is a very broad category, there are a few hundred different solutions available, most of which are created from a pure software engineering perspective. These tend to be very generic approaches to purchasing - highly specialized and item-centric (part life cycle) direct material sourcing and procurement process is something beyond their imagination. While trying to understand the depth of Direct Material capability, one of the clues to look for is the origin story of such solutions.

For example, Zumen was built exclusively for product manufacturing companies to manage their sourcing process whereas most solutions in the market started as a generic business spend solution. Zumen believes that a product team's experience as a user in the industry has a direct correlation to how relevant and comprehensive an application or software is in that industry or market (Check out the Zumen story here).

When Specialists, Business Partners and Managers in IT are tasked with finding a sourcing and procurement solution for their Direct Materials, consider these three critical items:

1. Shortlist of Direct Material Sourcing & Procurement Software.
2. Processes from the Direct Material Procurement Lifecycle that need to be addressed.
3. List of specific actions to be taken at every stage of the procurement lifecycle.

Here are best practices in shortlisting and finding the right direct material procurement software:

- a. Perform a high-level screening
- b. [Ask for a demo](#)
- c. Challenge them with a complex use-case
- d. Review their product roadmap
- e. Make a detailed feature-level map
- f. Calculate the Return on Investment
- g. Consultative Approach

a. Perform a high-level screening:

You can actually screen the front-runners very quickly at a very high level. Here's a list of functional modules that are part of the Direct Material Procurement lifecycle that can be checked almost immediately.

Functions	Time-to-Value in weeks			
	Zumen	Solution 1	Solution 2	Solution 3
RFX Process	0	?	?	?
Fetching item/part/product details from engineering systems (PLM)	0	?	?	?
Quotation Processing	0	?	?	?
Supplier Negotiations	0	?	?	?
(Strategic) Sourcing	0	?	?	?
Production Part Approval Process	0	?	?	?
Quality Assurance/ Supplier Quality Engineering (SQE)	0	?	?	?
Managing Item/Part Revisions	0	?	?	?
Drafting POs for release in ERP	0	?	?	?
Item/Part Development Tracking	0	?	?	?
Item/Part Receipt Status	0	?	?	?
Supplier Contracts	0	?	?	?
Supplier Relationship Management	0	?	?	?
Invoice Processing	0	?	?	?

At this point, the moment ‘customization’ discussions start, one has to remember that the tool is not a direct fit. The best of breed solutions have capabilities that are in-built that could be ‘Configured’. Since, we are talking about capabilities, it is worth

mentioning that Zumen has a strong capability in Indirect Procurement as well: Budgeting, Sourcing & Spend Management.

Here's are 10 reasons why customizing a solution for your needs is not a good IT approach:

- 1. Force-Fitting:** *When customizing, you are force-fitting a solution that is not suitable for your needs.*
- 2. Future built on old systems:** *Most ERPs were built in the past decades and using old technologies; Industry is awash with information and case studies of how older solutions have not been able to scale or solve some use cases. A lot of times, when the solution customization team reaches this point, they provide a compromise solution that may not be fully in line with the productivity expected at the beginning of the project. For example, availability of APIs, ease of integrations, inability to migrate to cloud, or simply, the software not able to work fast enough.*
- 3. High Future Development Cost:** *When force-fitting a solution, you are setting yourself up for more problems in future as every change/new requirement will need to be developed at a significant cost; i.e. the lifetime cost of the solution is bound to be multiple times higher than using a best-of-breed procurement software.*
- 4. High User Testing Cost:** *When assigning specialists from your organization to help in building solutions, your business suffers. Losing Productivity during development time in terms of testing the solution is well known. How are these costs factored in your solution cost?*
- 5. High Support & Maintenance Cost:** *With the development of a tailor made solution, the companies lock themselves with a very limited testing within the context of the project that eventually require a constant support in terms of bug discovery and correction, exceptions and system downtimes (unlike in the best-of-breed solutions, where hundreds of manual and automated regressions have been completed).*

6. Poor Requirements Definition: Another critical but often overlooked concern that is a common reason for the failure of these solutions is that a process expert in a business function may be excellent at their job but may be poor in explaining to others, let alone conceptualizing a software solution for company-wide use. (How often do we find great players in football/soccer or any other sport that perform as poor coaches or vice-versa where poor players end up being great coaches?)

7. Poor User Training & Adoption: Custom built software usually come with ad hoc training manuals and poorly coordinated training sessions, primarily because the focus remains the development activity to meet the business requirements. To add to that:

- a. training materials and sessions are driven by the project owners and the business analysts.
- b. user experience and software design are almost always ignored, also leading to poor adoption.

8. Using existing knowledge: When dealing with a solution provider, almost always, you would be required to assign specialists from your business to 'educate' their business analysts – Are you as an organization improving your competence and capabilities or are you spending energy and resources in training someone? A Solution development approach, even when working with a large service provider, will only use the knowledge available within the team.

9. Missing Industry Best Practices: Developing a solution based on the knowledge and experience of a few specialists within your organization will limit the capabilities of the system – whereas using a best-of-breed solution for a specific business process will ensure you get the advantage of learning from across the world globally.

10. Low ROI: Solution developed for a specific company's use will be paid back through the company's internal productivity improvements only and this may not be a wise investment choice when compared to a best-of-breed solution that can be configured within a few weeks and priced in terms of the optimal ROI; cost is recovered from multiple companies instead of just one.

b. Ask for a demo:

After 20 years of IT revolution, technology advancements and millions of best-of-breed solutions available, if a company is required to spend millions of dollars in customizing a software that was created decades ago, it sure does sound like a trap. Sourcing and Procurement have been a very core part of the product manufacturing industry for a very long time; while each company handles exceptions differently in their own way, experienced professionals would agree that the basic process is pretty much the same. Unfortunately, a lot of convoluted steps were introduced due to the limitations of their ERP systems in covering the procurement process adequately. However, with a smart tool, one would realize that the tool can be configured pretty quickly to suit their company's process. Here are a few simple steps to see if IT managers are starting with the right solution:

- A. ask to see a working demo of the software
- B. evaluate the software together with the procurement team and the procurement manager
- C. Does that cover at least 85% of the required process right out of the box?

c. Challenge them with a complex use-case:

To turn up the heat a bit, ask for a really challenging and complex process and its exceptions and see how quickly and convincingly the vendor comes up with a solution concept.

d. Review their product roadmap:

When choosing a direct material procurement solution for an enterprise, it is critical to choose a partner who has deep expertise in this area and has a definite product roadmap.

- A. And asking to see some feature designs in the roadmap will be a great way to understand how serious the software vendor is in terms of continuous improvement of the product.
- B. Does the solution/sourcing platform have more features than you currently need? This may seem a bit counterintuitive but here's why this is critical:
 - a. Do they have depth beyond your current requirements
 - As you are a growing company, your needs and process complexities will increase - if they are equipped to handle those today, you are in safe hands.
 - b. At the same time, do they understand that their advanced features may not be required on day-one if you are early in terms of requirements?
 - c. Moreover, do the additional features seem relevant?
We've seen that features are tightly connected in case of a best of breed software vendor. It does not make sense to have features that are loosely connected or disjointed and fall under different functional areas. If that is the case, you can be almost certain that you are dealing with a generic solution developer.

e. Make a detailed feature-level map:

After screening for high-level functional modules, IT managers also take a look at a more detailed list of capabilities within each functional module to ensure the solution is the best fit for the organization and their internal processes and practices. Refer to the downloaded **Vendor Evaluation sheet for Direct Material Procurement Software** list for your reference.

f. Calculate Return on Investment:



Return on Investment in a Direct Material [Source-to-pay software](#) comes from efficiency improvements and direct value from across the organization. Some of the ROI opportunities are listed below. Each company can conduct a detailed analysis of the impact from each of these areas, in line with their own processes and practices.

In some cases, it is important to notice that the problems may be hidden due to over allocation of resources.

1. Better Gross Margin through
 - a. Complete Direct Material Cost Management
2. Better Variable Costs (Better Capacity utilization in the operations through)
 - a. Advanced Parts Tracking
 - b. Better Supplier Management – Performance Tracking and Strategic Resourcing
 - c. Avoiding Expensive Mistakes – Structured Work Flows and Controls on Decisions
3. Higher Productivity through
 - a. Advanced Parts Tracking – Lower Cost of Supply Chain Management
 - b. All information in one place – Lower Cost of Procurement
 - c. Elimination of Repetitive Manual Tasks – Better team Morale
4. Higher Product Revenues by
 - a. 25% Faster Time-to-Market and smoother GTM
5. Finally, an even more direct savings comes from the elimination of manual lead times in every step of the Procurement Lifecycle.
 - a. The table below shows a high level lead time reduction for guidance.
 - b. Cycle time in hours for 50 parts with 5 suppliers in the bid process.
 - c. With Zumen, the cycle time is in hours after 3 months of proficiency in using Zumen, for the same 50 parts with 5 suppliers.

Few of the many challenging steps in sourcing process	Without Zumen- Cycle time in hrs	With Zumen- Cycle time in hrs
RFP	2	0.08
RFQ	16	1
Quote comparison	8	0.75
Supplier negotiation & Decision	7	0.75
PO Release	2	0.75
Invoice Processing	32	4
Parts Receipt Status Update	4	0
Build Readiness Status Update	8	0
Accounts payable and spend management	80	16
Project Status Tracker	16	0
Total Duration in Hrs (per day - 8 hrs)	175	23.33
Total Saving in manual lead time (hrs)		151(87%)

g. Consultative Approach

Last but not least, the depth of their technical knowledge and drive for solving problems would be evident from their consultative approach.

We hope this guide will help the IT managers in Product Manufacturing Companies in choosing [the best procurement software](#) for their direct materials management. Feel free to contact demo@zumen.com or sales@zumen.com if you need any help in going through this process.



To know more, feel free to reach out to
demo@zumen.com or sales@zumen.com
if you need any help.



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