

Want a production scheduling system? Here's everything you need to know

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In the decades of implementing business operating systems, or ERP, for manufacturing and engineering companies across South Africa, I am often asked about production scheduling. It is well known that [production management and scheduling](#) improves manufacturing efficiency.

For manufacturing operations that want to take their production to the next level, and who want to allocate their resources efficiently and cost-effectively to meet customer demands, production scheduling is a must-have. To do this, a production scheduling system is often required.

So, you're ready to scale? Perhaps you're tired of using excel as your manual production planning "system" and it's keeping you back. This guide will take you through everything you need to know about developing a production management and scheduling system.

Don't have time to read the whole article? No problem.

Here is a brief overview of the three steps you need to develop your own production planning and scheduling system.

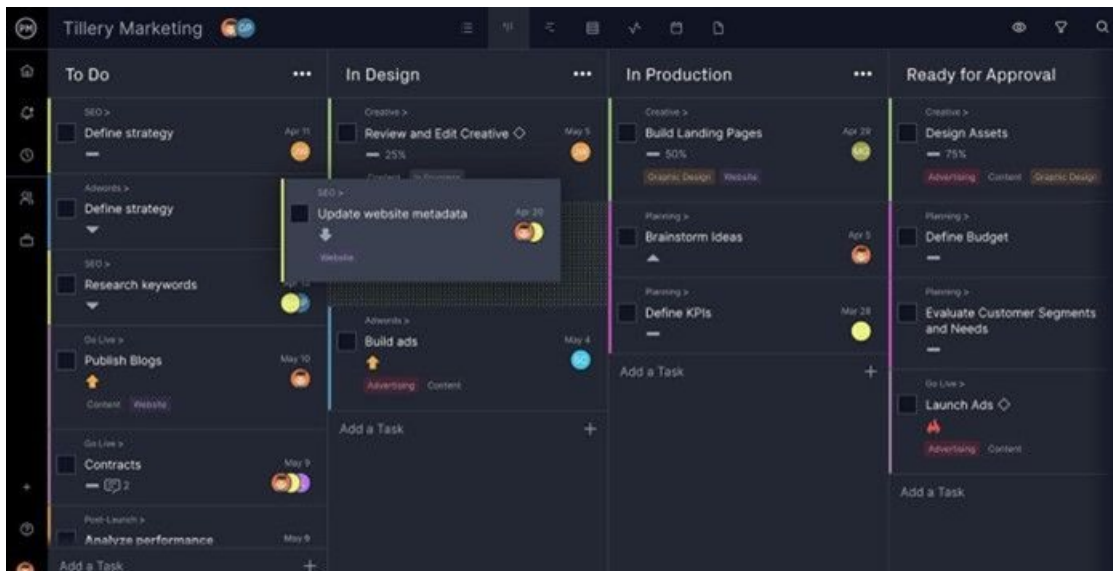
1. **First, implement a Production Management System.** Look for one that lets you manually schedule and control jobs. You cannot move to step two without this.
2. **Then, implement a tracking/timekeeping system.** Find one that allows you to measure your actual production times. This is a vital part of accurately estimating your production hours.
3. **Finally, develop a scheduling model that suits your requirements.** But, you can only do this if you are confident that your estimated production hours are accurate. Once this is in place, you can look at deploying predicted deadlines, factory loadings, what-if sandbox scenarios if you push in urgent jobs, etc.

Great! Now that you know what is needed, let's understand why you need a production management and scheduling system.

First, what is production management or production planning?

A production plan is a strategy where you allocate your raw materials, resources, and processes so that you can manufacture products on time for your customers, in the most efficient way. When done well, your production management system means zero disruptions, delays, or unnecessary stress.

In a nutshell, production management balances your production needs with your available resources as efficiently as possible.



Types of production planning

Your business and operation is unique. For this reason, there is no one-size-fits-all production plan. To get the most out of [your planning](#), identify which method is best suited to your [manufacturing process](#). Here's a quick snapshot of the different types of production planning.

1. **Job method.** The job method is the go-to when a unique production plan is required for a single manufactured product. The job method is well-suited for a product or service that requires specific customisations.
2. **Batch production method.** Here, manufacturing goods are grouped rather than being made one at a time, or through continuous production. This method of production planning works well if there is large-scale manufacturing of products.
3. **Flow method.** This method is a demand-based manufacturing model that works for continuous production. It reduces the production lead time by accelerating the production line which starts as work orders, and continues until finished goods are made.
4. **Process method.** Ideal for if your production process looks like an assembly line, with different types of machinery completing separate tasks, to put together the finished products.
5. **Mass production method.** Similar to the flow method, the process is a continuous flow of manufacturing of identical products, at a much bigger scale. This reduces production costs.

Then, what is a scheduling system?

Scheduling is a vital tool for manufacturing and engineering plants. This is where you manage, arrange, control, and optimise work, equipment, and workloads in your manufacturing process so that you maximise resources, keep customer due dates, and reduce production time and costs.

Here, you assign plant and machinery resources, delegate your people, map out production processes and procure materials. Scheduling tells the production facility when to manufacture, with which team, and on what piece of equipment.

The benefits of production scheduling

- A reduction in process change-over
- Inventory bloating is reduced and levelled
- Scheduling effort and admin is lowered
- Production efficiency is increased
- Labour load is levelled
- Accurate delivery date can be quoted
- Accurately measure utilised man/equipment hours

Bring it all together: production management and scheduling for improved efficiency

There are four stages to a master production schedule (MPS). We've touched briefly on two of them - being production planning, and scheduling. Here are the four stages together.

1. **Production planning.** In this initial stage you ensure there is sufficient raw materials, man power, and resources to produce the finished goods to schedule. It is not enough to just know numbers and measurements; you must have clarity on how each aspect of your manufacturing process works together efficiently.
2. **Routing or routing manufacturing.** This is the path, or route, that must be taken at each step of the manufacturing process, from raw materials to finished product.
3. **Production scheduling.** This is where you manage these processes to ensure they are done on time, efficiently, and within budget.
4. **Execution.** The final step is where you base your instructions or orders on the production planning, routing, and scheduling, to streamline production.

Here is how to develop a production management and scheduling system

Here are the six steps you need to create a production management scheduling system that is as robust as possible.

1. **Estimate product demand.** The best way to know what demand might look like in the future is to reference your historical data on product sales which should be available on your [ERP system](#).
2. **Access inventory.** More than just taking stock, you need to know where shortages, waste, and surplus materials are. Once again, make use of your [enterprise resource management system's](#) inventory module for this.
3. **Plan your resources.** Identify the bare minimum number of people and raw material you need to create a product. Consider the machines and systems you need to carry out your production plan.
4. **Estimate your hours accurately.** This is very important, and often overlooked. A successful production plan is impossible if you have accurately estimated the hours required for the job. Estimators do this manually. Otherwise use your [ERP system](#) for this.
5. **Monitor production.** Evaluate how your actual production is going compared to the planned production. This is an ongoing task.
6. **Reflect and adjust.** See what is working and what is not, and how changes can be introduced to improve efficiencies. This is more about learning so that you can create even better production plans next time.

So, what are you waiting for? Speak to a [trusted business operating systems partner](#) to get your production management and scheduling system up and running so that you can scale production, and be resilient for what lies ahead.

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