



weave

Consulting-Outsourcing-Capability Building

FOOTWEAR PLANNING

Solving production planning constraints in the footwear industry



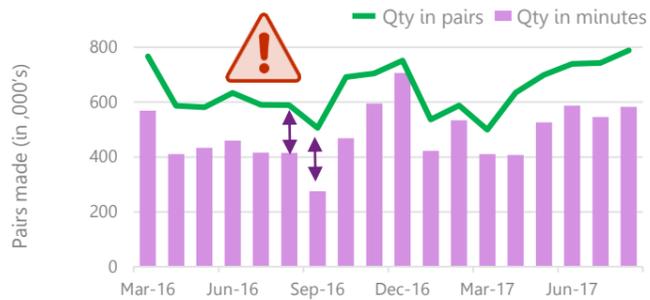
Standard planning approaches cause delays and bottlenecks in footwear production due to complexity of supply chains

Methodologies seen do not take into account...



Production is measured in units or pairs

Quantity planned in production minutes vs in pairs

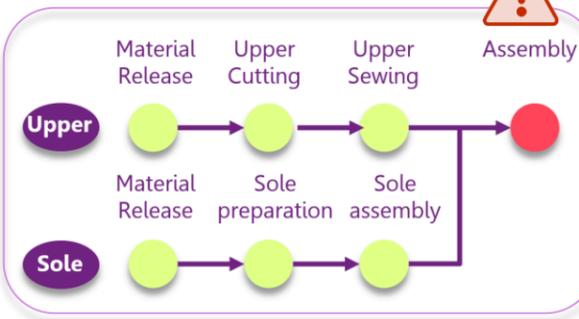


~14% gap exists in output between quantity planned in pairs and minutes



Plans focus on the assembly process

Upper and sole process flow



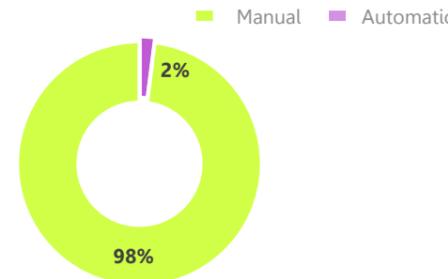
Upper and soles quantities need to align before assembly starts

... And do not consider the unique characteristics of footwear production



Upper production processes are labor intensive

Manual vs automatic processes in upper production

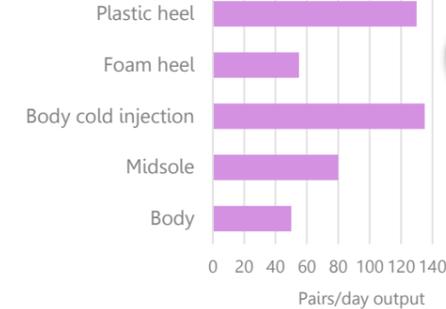


Upper production capacity is determined by labor



Sole molds dictate production bottlenecks

Pairs/day output of sole molds



Low mold output results in production constraints

Footwear manufacturing requires advanced planning processes

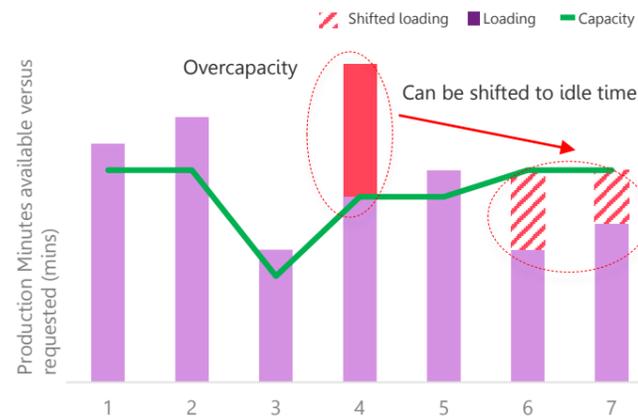


These planning complexities lead to real impact on business operations



Peaks and valleys occur in production due to methodology and seasonality

Unbalanced production adds cost to product FOB



Mismanaged peaks and valleys lead to overtime during peaks and idle time during valleys



Excess WIP & delays are caused by mismatch of uppers and soles

RM readiness tracking for upper & sole

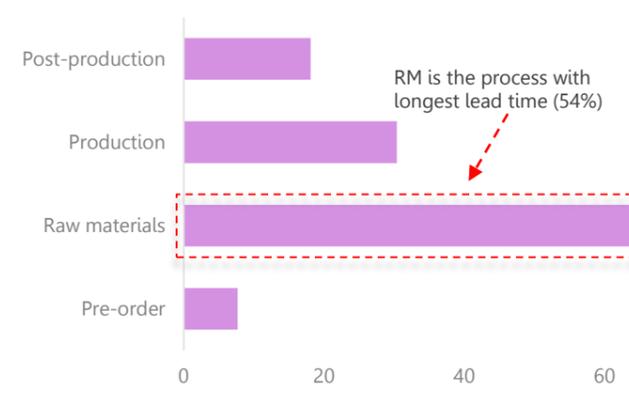
PO number	Model	Order qty	Upper		Sole	
			RM read	Qty read	RM read	Qty read
4508486719	8351037	20	Yes	19	No	0
4508469917	8351037	80	Yes	70	Yes	80
4508351240	8351038	2052	Yes	2052	Yes	2000
4508351243	8351038	558	No	0	Yes	558
4508351246	8351038	576	Yes	567	Yes	567
4508469919	8351039	172	No	0	No	0
4508469920	8351050	78	Yes	78	No	0
4508	Late readiness of sole creates delay even when upper is ready				Yes	46
4508					Yes	27
4508351250	8351038	162	No	0	Yes	162

Mismatch of components leads to waiting for other components to complete production



Long RM lead time requires advanced planning techniques

Average lead time by processes



Long lead times amplify planning problems complicating corrective actions



Production backlogs are caused by not considering the sole mold productivity in planning

Days of backlog of size distribution



Molds constraints result in production backlogs and lead to delays in manufacturing

4 steps are required to plan to maximize your output

1 Organize Assembly

- Plan in production minutes, accounting for each product grouping, complexity and learning curve

2 Monitor & sign off Readiness

- Monitor for materials and parts pre-assembly readiness
- Measure KPI's critical to success (i.e. WIP, inline tracking, Upper & Sole lateness)

3 Plan output & calculate WIP

- Calculate and set the TAKT time
- Set targets for the WIP needed to balance customer service levels and working capital

4 Identify downstream bottlenecks

- Deep dive into processes to highlight the constraint drivers for each process in uppers and soles

OBSERVATIONS

IMPACT

SOLUTIONS

Strengthen your S&OP with a tiered capacity model

1 Organize Assembly

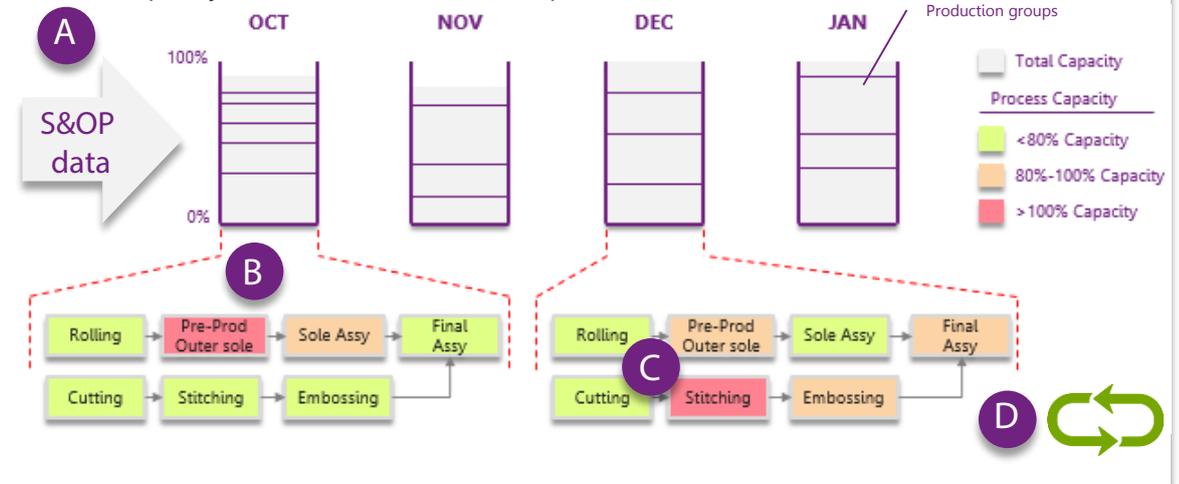
2 Monitor & sign off Readiness

3 Plan output & calculate WIP

4 Identify downstream bottlenecks

DELIVER IMPACT

Forecast capacity constraints at overall and process level



- A** Start with forecast data from a robust S&OP process, break the work load into production groups, confidence level and then into product buckets
- B** Identify all the processes for each model and establish capacity of each process step based on machine constraints
- C** Compare the capacity of the production buckets against the capacity of each of the process to highlight areas of over-capacity
- D** Iterate with the orders to generate scenario's for management to discuss. Decisions are made on either order of priorities or equipment utilization to optimize output.

Planning footwear production is complex due to the inherent characteristics of footwear construction and production set up. Leverage our planning methodologies and tools to optimize output, minimize machine downtime and minimize staff costs. What are you doing to optimize your production?

To learn more about planning solutions for your supply chain, please contact us at Weave:



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