

MRP – the calculation that decides what a factory orders, and when

Upcoming episode

MRP explained from the ground up: why component requirements should be calculated rather than guessed, what a bill of materials is, and a full worked calculation from order to order date – gross, net and lead time offsetting.

MAIN TOPICS

- The insight the whole method rests on
- The three inputs
- The bill of materials, and what an explosion is
- A calculation from start to finish
- Working backwards from the delivery date
- Lot sizing, and why you rarely order the exact requirement
- From MRP to MRP II to ERP
- What the method cannot do

QUESTIONS THIS EPISODE ANSWERS

- What is MRP?
- What is the difference between dependent and independent demand?
- What is a bill of materials, and what does exploding it mean?
- How do you calculate what to order?
- What is lead time offsetting?
- What is the difference between MRP, MRP II and ERP?
- What are the weaknesses of MRP?

KEY POINTS

- The core insight: component requirements should be calculated, not forecast.
- MRP needs three things – a production schedule, a bill of materials and inventory records.
- Explosion means multiplying your way down the bill of materials, level by level.
- Net requirement is gross requirement minus what you already hold.
- Lead time offsetting means working backwards from the date the customer needs the goods.
- The longest path through the bill of materials decides how early you must start.
- MRP assumes fixed lead times and unlimited capacity. Both are untrue.

SOURCES AND REFERENCES

- Joseph Orlicky – Material Requirements Planning: The New Way of Life in Production and Inventory Management (1975)

- Material requirements planning – overview article
https://en.wikipedia.org/wiki/Material_requirements_planning

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