

Pertemuan 8

PERENCANAAN & PENGENDALIAN PRODUKSI

TIN 4113

- **Outline:**

- Master Production Scheduling: Metode Disagregasi

- **Referensi:**

- Smith, Spencer B., *Computer-Based Production and Inventory Control*, Prentice-Hall, 1989.

Master Production Scheduling

- **Metode Disagregasi:**

- Metode Heuristic
- Metode Linear Programming
- Metode Family Setup

Master Production Scheduling Metode Heuristic

- **Objective:**

- Obtain a good, although not necessarily optimal, solution with a reasonable amount of computation

- **Goals:**

- Satisfy all forecast sales without shortages
- Meet the inventory targets
- Operate within the planned available manhours
- Level weekly manhours required within each month

Master Production Scheduling Metode Heuristic

- **Contoh:**

Production Plan			
	July	August	Total
Starting inventory (\$)	8,800	33,800	
Sales forecast (\$)	153,000	195,000	348,000
Production plan (\$)	178,000	180,000	358,000
Ending inventory (\$)	33,800	18,800	
Work hours	6,342	6,413	12,755
Average work hours/week	1,586	1,603	

Sales Forecast in Units											
Product	July					August					GT
	1	2	3	4	Tot	1	2	3	4	Tot	
A	100	150	200	160	610	140	100	80	60	380	990
B	100	100	100	100	400	100	100	100	100	400	800
C	120	60	20	40	240	80	120	140	160	500	740

Master Production Scheduling Metode Heuristic

- **Contoh:**

Costs, Manhours, and Starting inventories				
Product	Unit Cost (\$)	Manhours/unit	Starting Inventory	
			Unit	Dollars
A	100	4	30	3,000
B	80	5	10	800
C	250	6	20	5,000
Total				8,800

Sales Forecast in Dollars and Manhours						
Product	Sales Forecast (\$)			Sales Forecast, Manhours		
	July	August	Total	July	August	Total
A	61,000	38,000	99,000	2,440	1,520	3,960
B	32,000	32,000	64,000	2,000	2,000	4,000
C	60,000	125,000	185,000	1,440	3,000	4,440
Total	153,000	195,000	348,000	5,880	6,520	12,400

Master Production Scheduling

- Contoh: **Metode Heuristic**

Production										
Product	July					August				
	1	2	3	4	Tot	1	2	3	4	Tot
A	70	150	200	320	740	0	80	80	95	255
B	90	212	188	0	490	238	78	5	0	321
C	169	14	0	77	260	40	120	181	175	516
Manhours	1,744	1,744	1,740	1,742	6,970	1,430	1,430	1,431	1,430	5,721
Dollars					178,200					180,180

Ending Inventories										
Product	July					August				
	10	1	2	3	4	1	2	3	4	
A	30	0	0	0	160	20	0	0	0	21
B	10	0	112	200	100	238	216	121	35	
C	20	69	23	3	40	0	0	41	56	
Dollars					33,820					18,900

Master Production Scheduling

Linear Programming

- Digunakan pada perusahaan2 dengan karakteristik produk yang berbeda profit tiap unit
- Objective:
 - Profit optimal tanpa melanggar batasan kapasitas

Master Production Scheduling

Family Setup

- Digunakan pada perusahaan yang dalam satu line produksinya terdiri atas beberapa product family yang terdiri dari beberapa item
- Memiliki biaya setup yang signifikan pada perubahan product family, tetapi biaya setup antar item dapat diabaikan
- Langkah2:
 - Menentukan product family mana yang akan diproduksi
 - Menentukan jumlah item per product family

Pertemuan 9 - Persiapan

- **Materi**
 - Material Requirement Planning

SAMPAI JUMPA MINGGU DEPAN