

IEI6A2 Filsafat Teknik Industri

Sistem Produksi dan Manufaktur

Team Dosen FRI

Prodi S2 Teknik Industri – Fakultas Rekayasa Industri



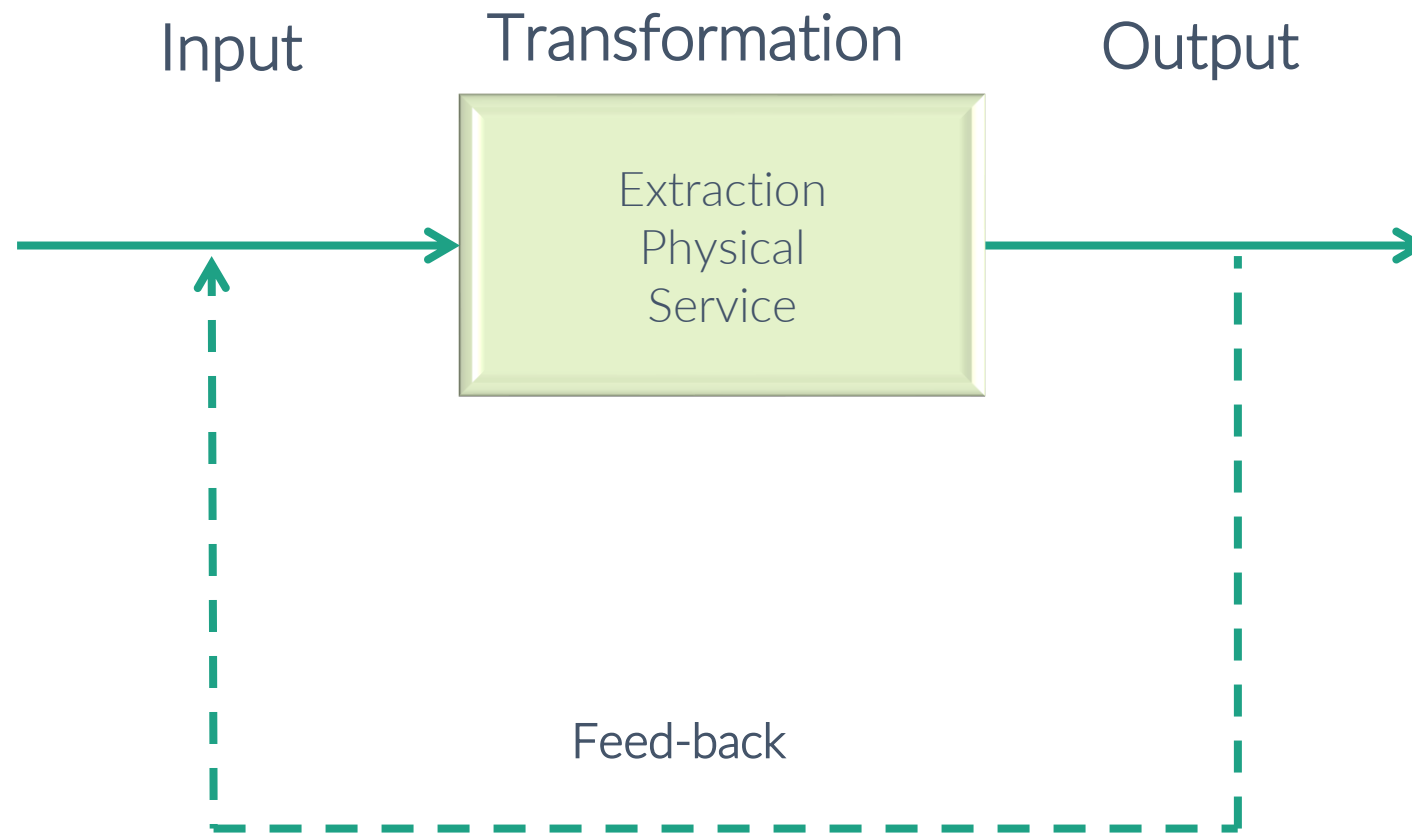
Course Learning Outcome (CLO)

mampu mengidentifikasi elemen sistem produksi

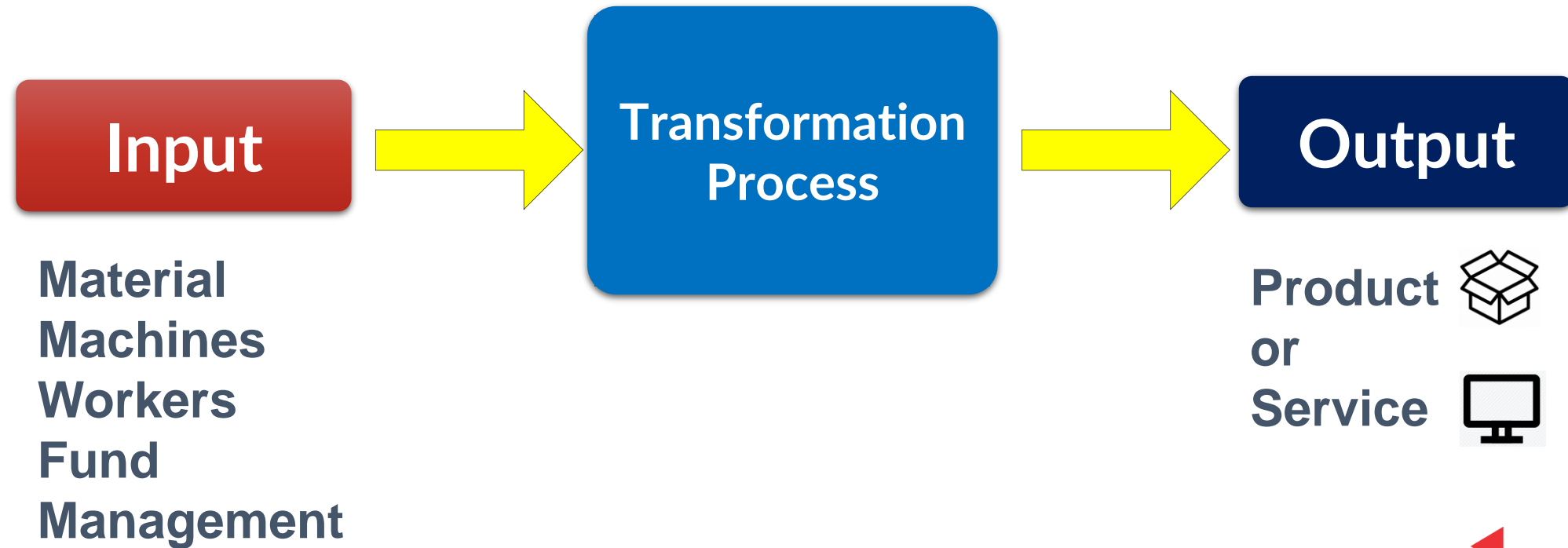
mampu mengidentifikasi komponen-komponen di dalam sistem manufaktur

mampu menjelaskan klasifikasi sistem manufaktur

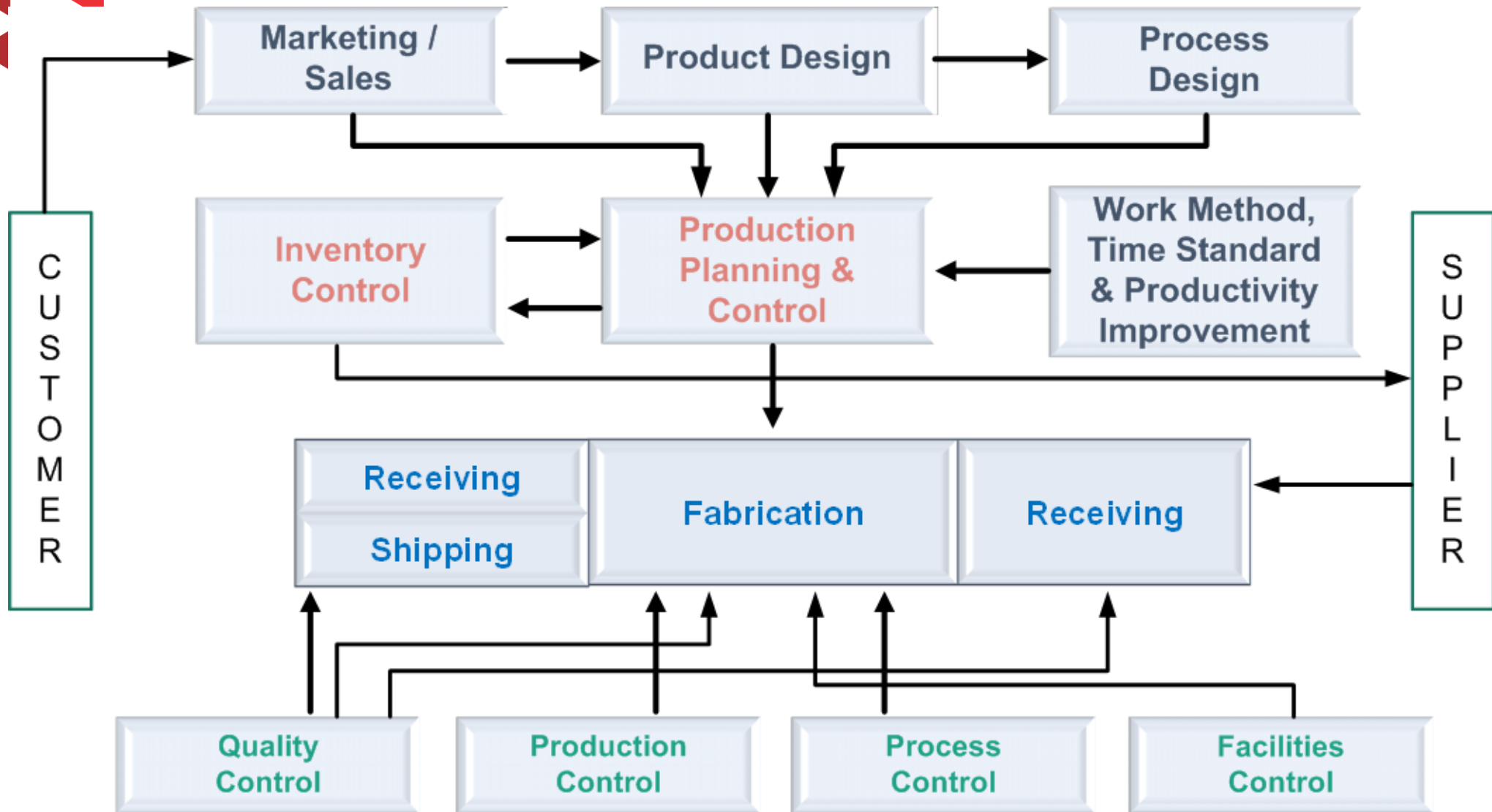
Production System



Production Process



Manufacturing Cycle



Klasifikasi Sistem Manufaktur

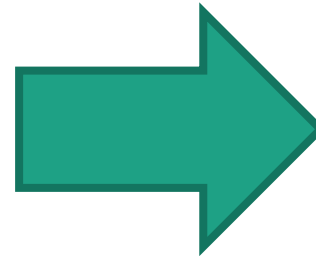
Make to Stock
(MTS)

Make to Order
(MTO)

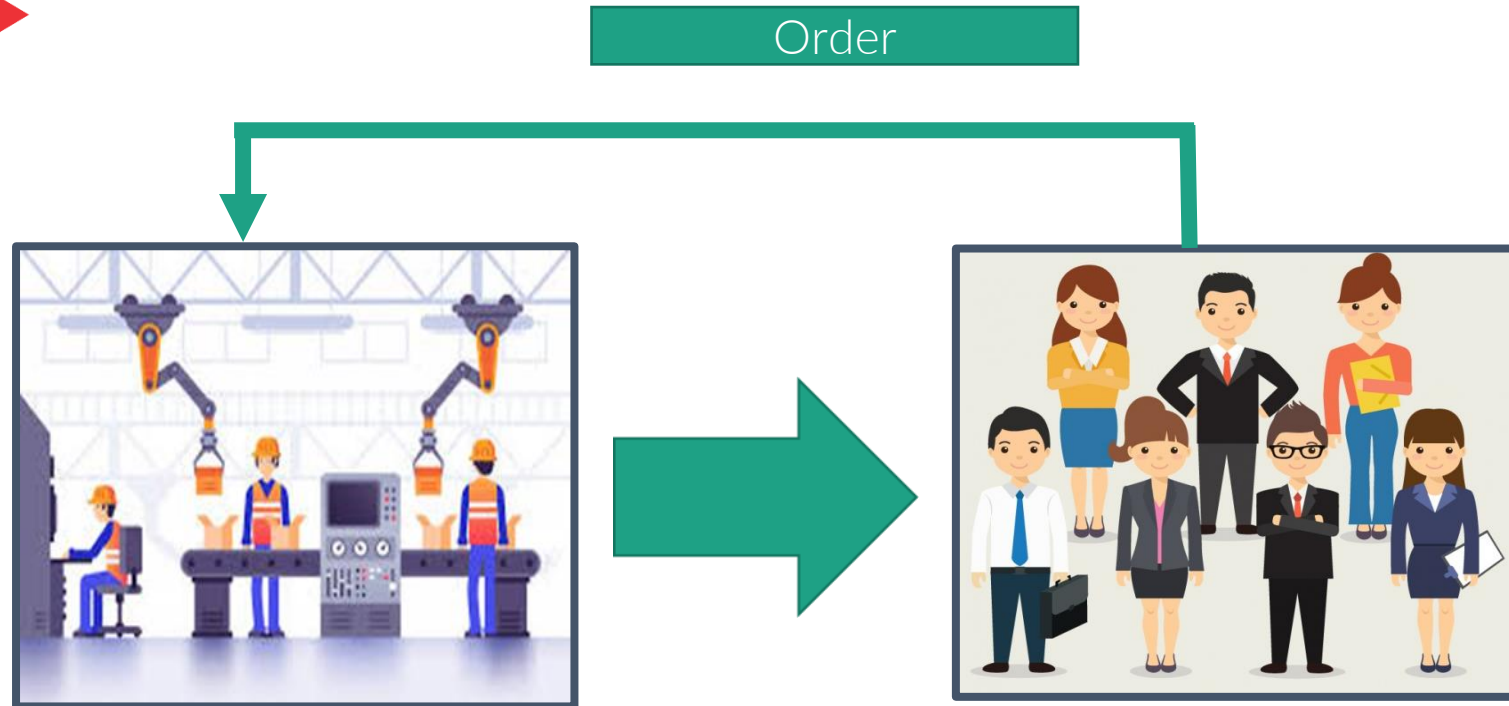
Engineering to
Order (ETO)

Assembly to Order
(ATO)

Make to Stock (MTS)

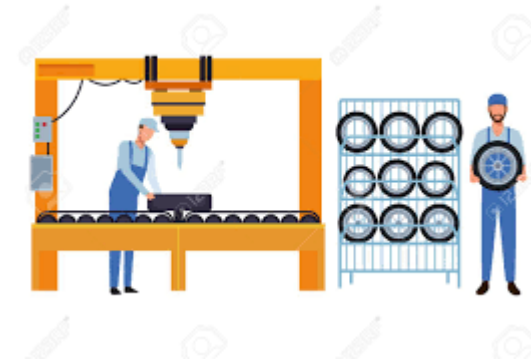


Make to Order (MTO)



Engineering to Order (ETO)

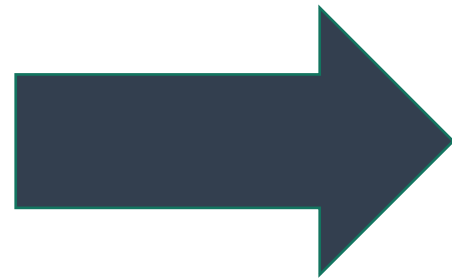
starting with development designing



Assembly to Order (ATO)



Customer's
Orders



Assembling after receiving a customer's orders





Manufacture

Manufacturing

CIRP (International Conference on Production Engineering), 1983:

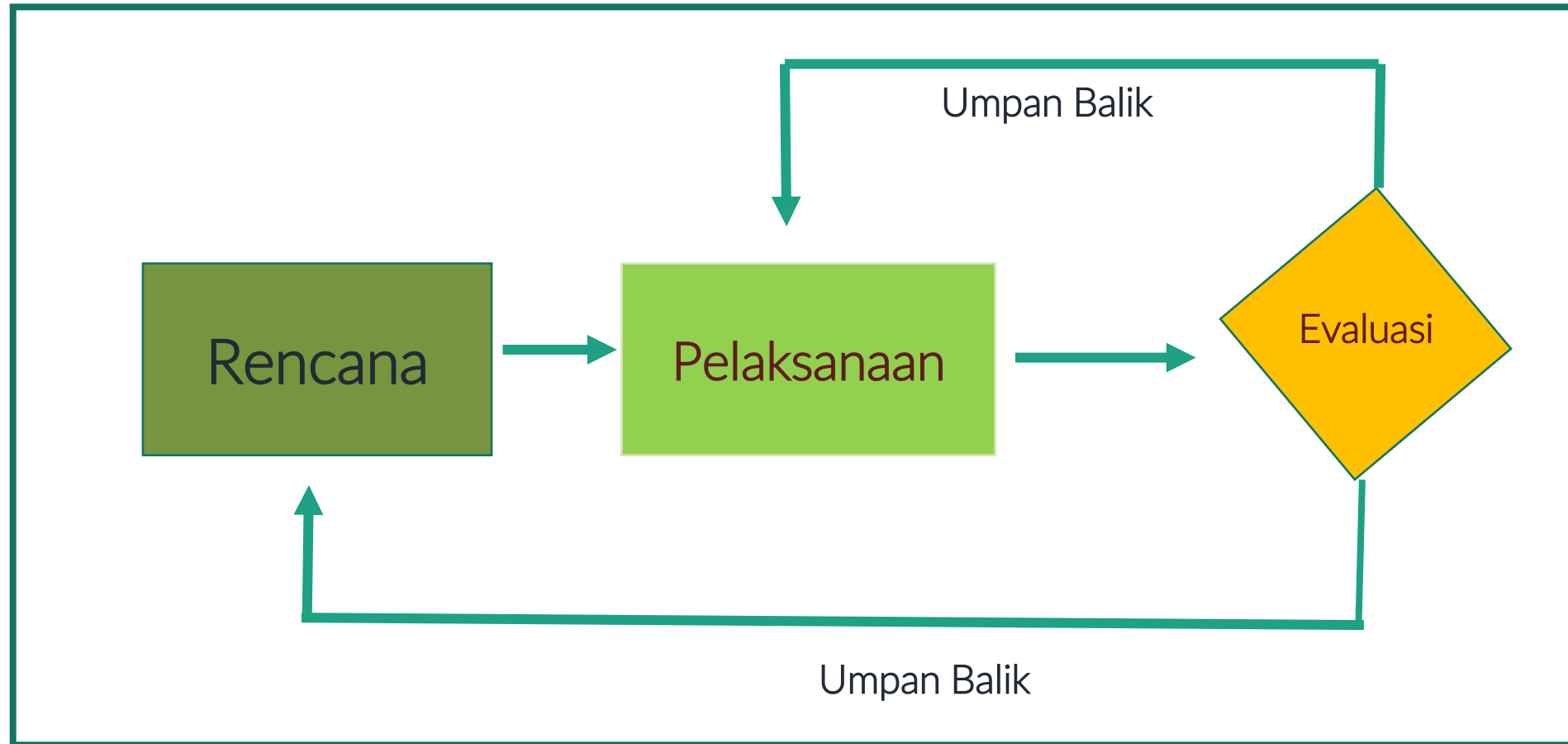
- **A Series of interrelated activities and operations involving the design, materials selection, planning, manufacturing production, quality assurance, management and marketing of products of the manufacturing industries.**

The Expert of Manufacturing

Menurut para ahli, definisi industri manufaktur adalah industri yang kegiatan utamanya adalah mengubah bahan baku, komponen, atau bagian lainnya menjadi barang jadi yang memenuhi standar spesifikasi. Industri manufaktur pada umumnya mampu memproduksi dalam skala besar.



Siklus Perencanaan dan Pengendalian



Production Planning



Merupakan rencana penentuan output produksi dengan memperhatikan permintaan konsumen dan sumber daya yang dimiliki untuk horizon waktu perencanaan tertentu.

Production Planning



Tingkat
Produksi

Tingkat
Tenaga Kerja



Tingkat
Persediaan



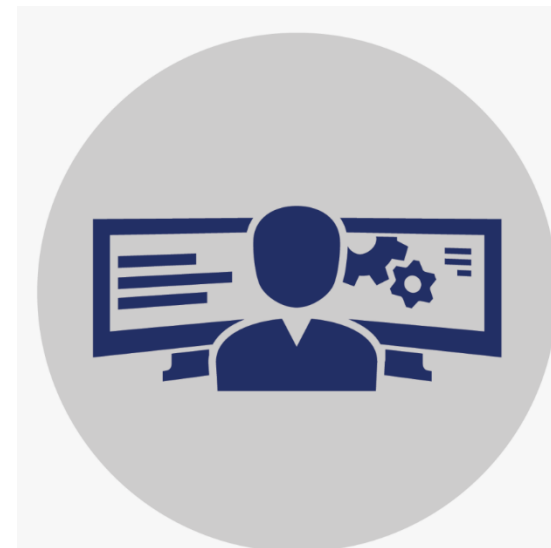
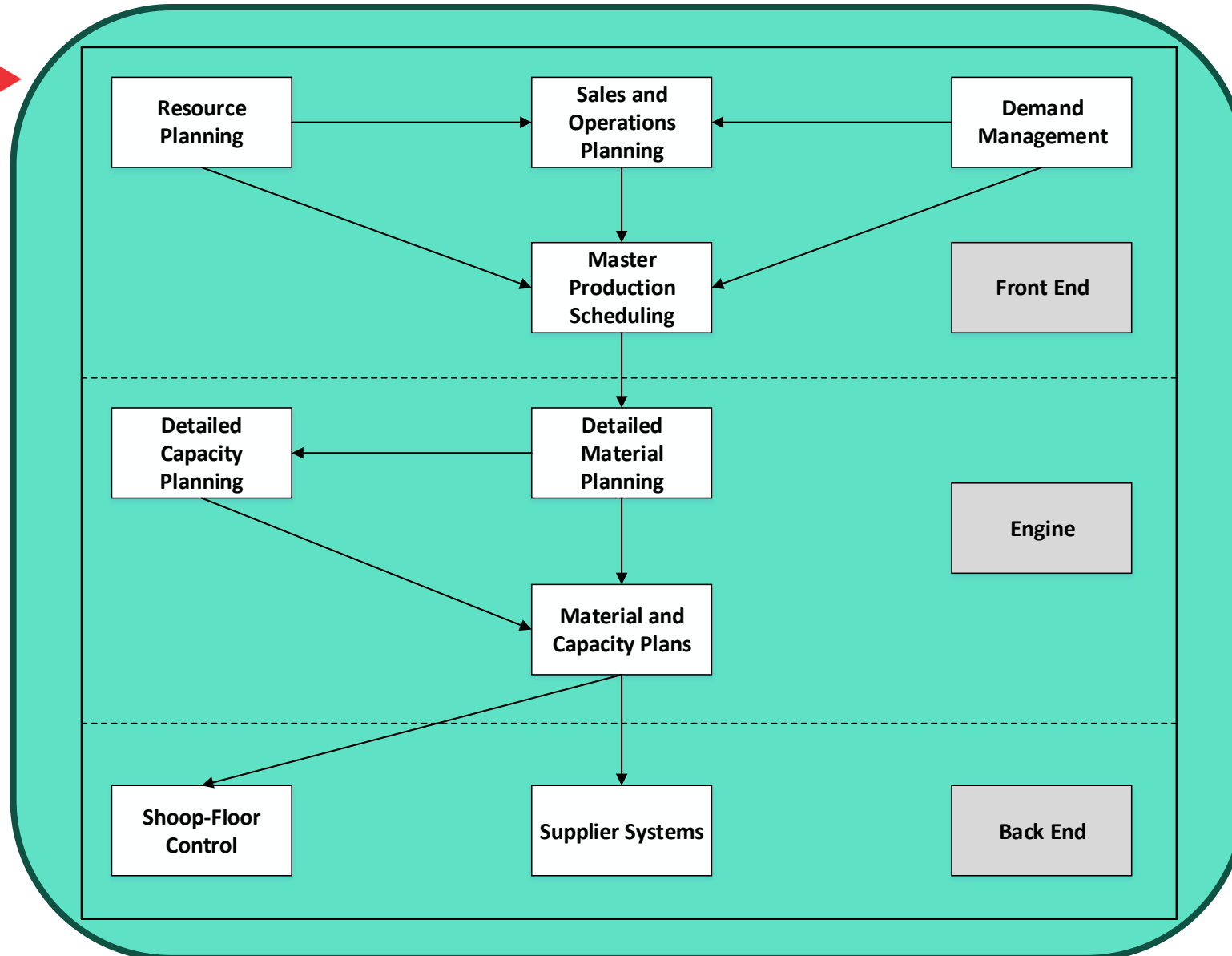
Manufacturing Planning & Control System

Front End

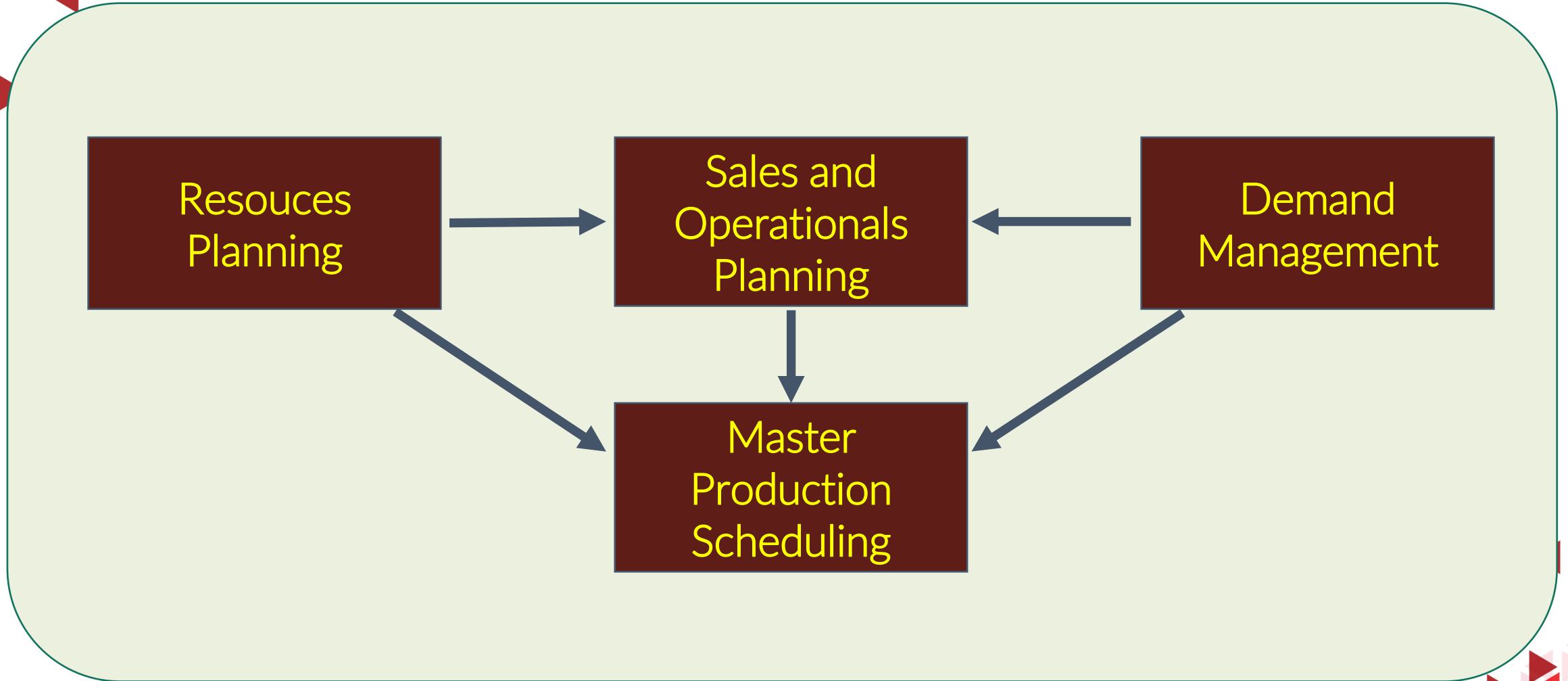
Engine

Back End

Manufacturing Planning & Control System



FRONT END



ENGINE

Detailed Capacity
Planning

Detailed Material
Planning

Material and
Capacity Plans



BACK END

Shop-Floor
System



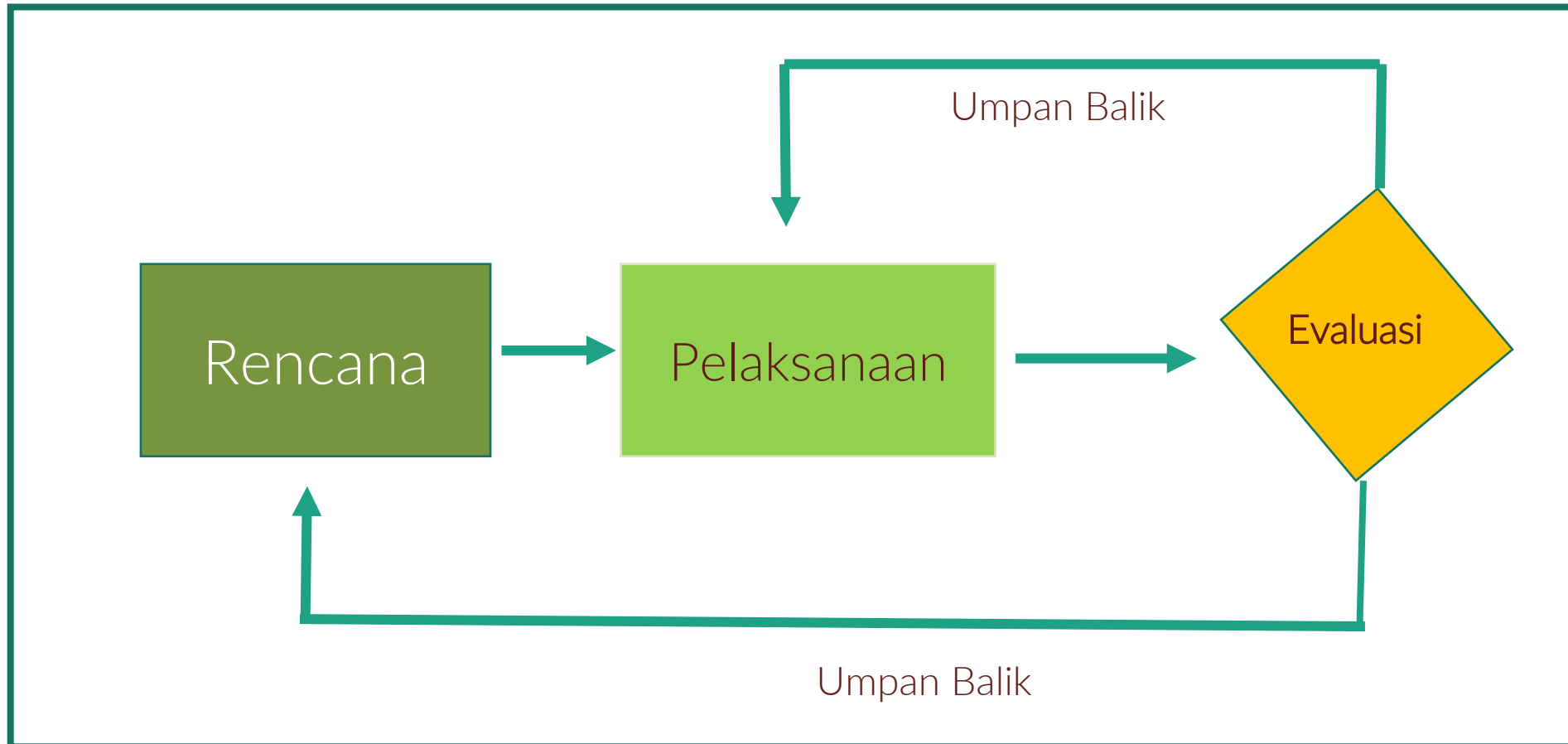
BACK END

Shop-Floor
System

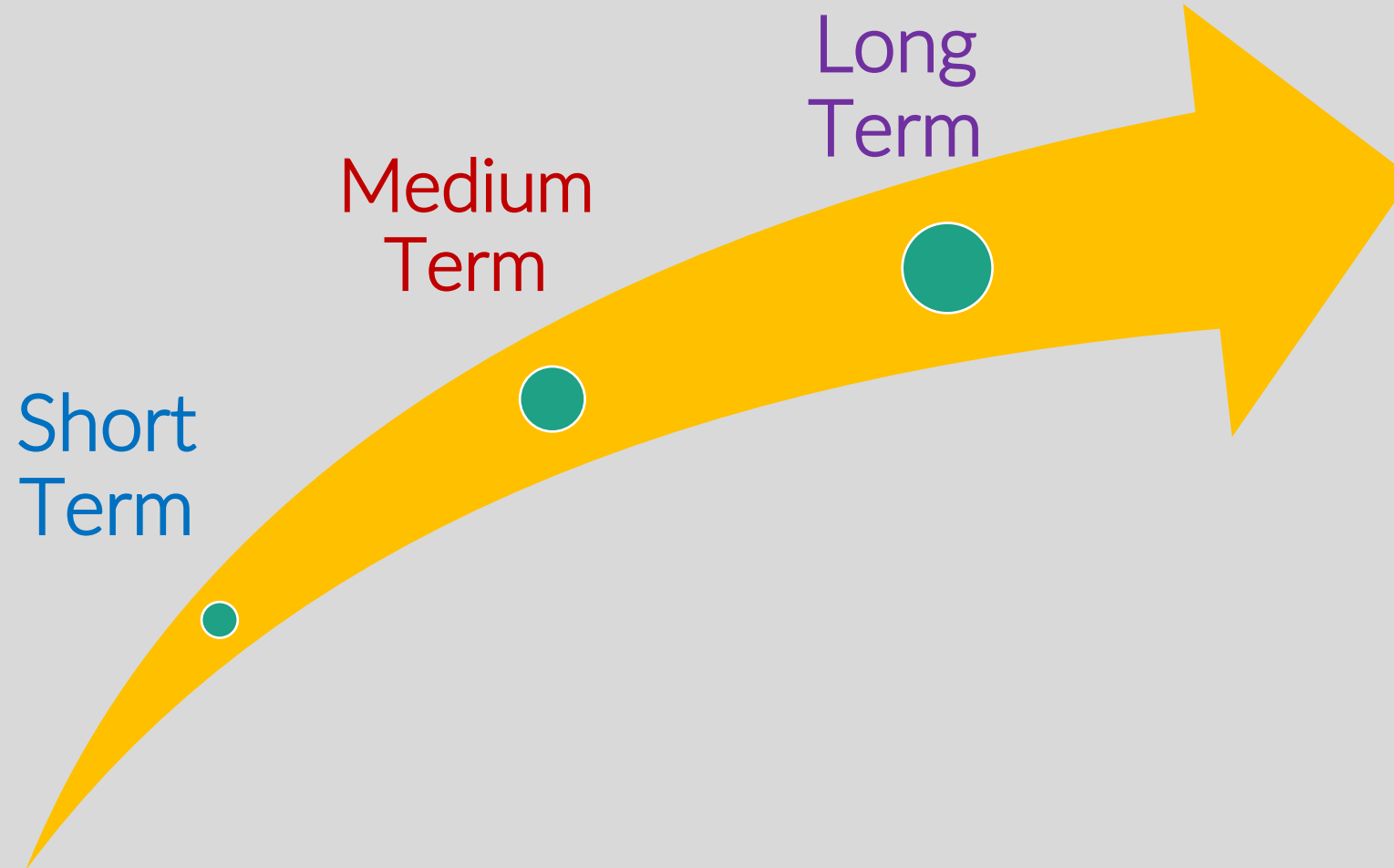
Supplier System



Siklus Perencanaan dan Pengendalian



JENIS PERENCANAAN PRODUKSI

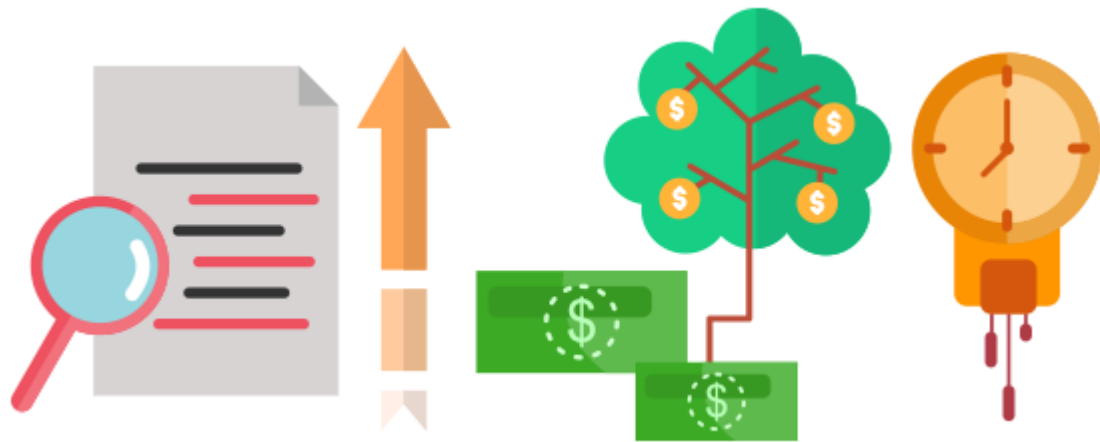


SHORT TERM

This plan is an operational plan made by **the manager's level down** and is an operational translation of **the medium-term plan**. Therefore, in terms of timeframe, it is clear that it will be **very short**, even up to the **daily period**.



MEDIUM TERM



Medium-term planning has a shorter time span **than long-term** planning and is tactical. This plan is made by **middle management** and contains a **description of the long-term planning** made by top management into tactical planning.

LONG TERM

This type of planning has a time span of at **least one year, usually five years** or more and is strategic. This plan is made by **top management** aimed at determining the position of the company in **the future** in order to anticipate the **development** of the future business environment.



Table 3-1

Characteristic of different production systems

Characteristic	Production System		
	Job Shop	Batch	Batch
Production Quantity	Low	High	Higher
Production Rate	Low	High	Higher
Workforce Skill	Very high	High	Low
Equipment	General-purpose	General-purpose	Special-purpose
Tooling	General-purpose	High	Higher
Plant layout	Functional (process)	Functional or group technology	Line (product)
Degree of automation	Low	High	Higher

