CREATING EFFECTIVE & EFFICIENT OPERATING PROCEDURES

(Systems, Quality, Control)

PRESENTATION
TO
FATE FOUNDATION

BY

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CRITERIA FOR PERFORMANCE EXCELLENCE

- LEADERSHIP
- STRATEGIC PLANNING
- CUSTOMER AND MARKET FOCUS
- INFORMATION AND ANALYSIS
- HUMAN RESOURCES
- PROCESS MANAGEMENT
- BUSINESS RESULT

Performance Driven Organization Are Characterised By Above Average Results Like:

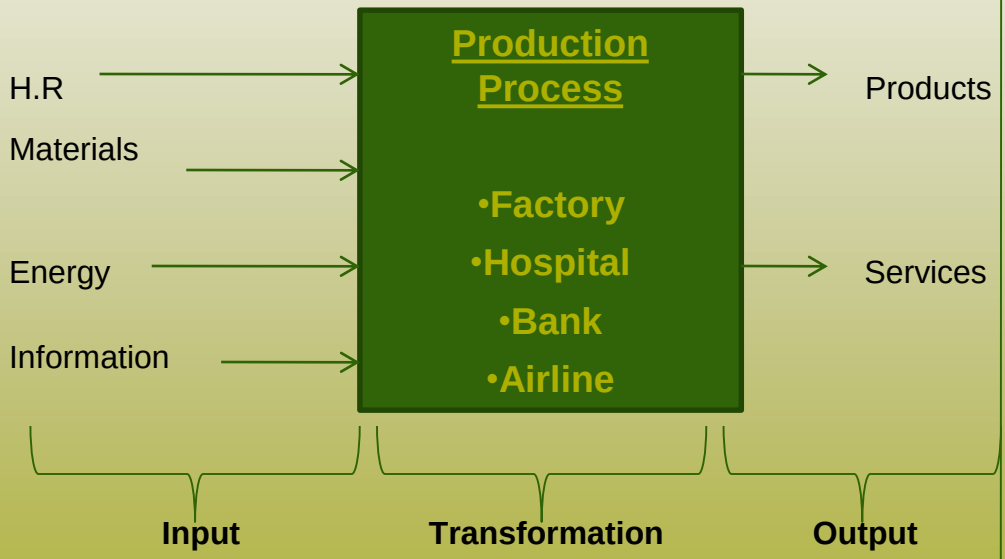
- Higher Profit
- Higher EPS
- Revenue Growth
- Return on invested capital
- Lower Production Cost
- Efficient Assets Utilization

WHAT IS OPERATIONS MANAGEMENT?

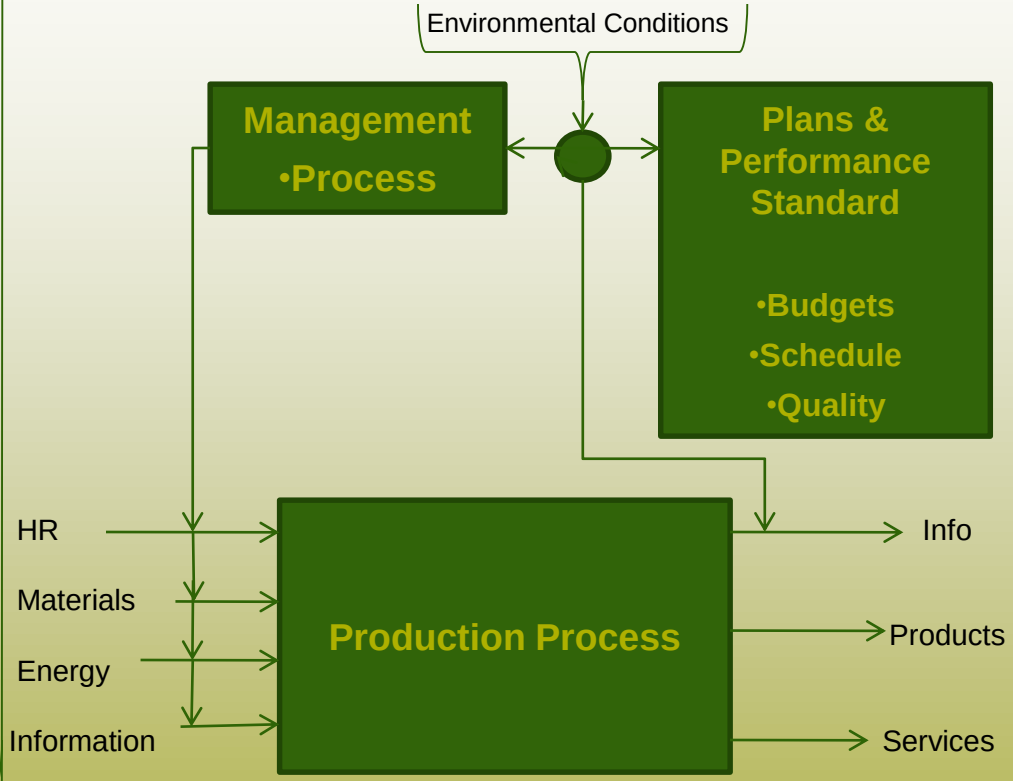
This is the field of study that focuses on the *Effective Planning*, *Scheduling* and *Control* of a Manufacturing or Service organization for efficient to achieve *PRODUCTION PROCESSES* through the deployment of concepts through:

- **Design Engineering,**
- **Industrial Engineering,**
- **Management Information Systems,**
- **Quality Management and Control,**
- **Production Management**
- **Inventory Management**
- **Financial Management/Accounting etc.**

OPERATIONS SYSTEM



An Input-Output Operations Process



Elements of Operations System

Operations Management requires appropriate policies/attributes for:

- **Good inventory control**
- **Quality and cost control**
- **Maintenance of physical and human resources and lately**
- **Good supply chain management**
- The operation function of an organization consists of all activities that are directly related to producing products or delivery services
- To ensure that their businesses run at optimum capacity, entrepreneurs typically introduce operating systems
  - These are a set of interrelated parts of an organization that must work together to achieve a common objective
  - They are made up of the following:
    > systems design
    > systems operation
- Implementation of business strategy
  - *The process by which firms create and deliver value to customers.*

- Operations Management oversees the process of inputs to outputs of greater value

OPERATIONS SYSTEM DESIGN

- **In system design, entrepreneurs make decisions concerning the following:**
  - **capacity of the system**
  - **geographic location of facilities**
  - **arrangement of departments and placement of equipment within physical structures**
  - **product and service planning**
  - **acquisition of equipment**
- **These are usually, but not always, decisions that require long term commitments**

SYSTEM OPERATIONS

- **In System operations, entrepreneurs make decisions concerning the following:**
  - **management of personnel**
  - **inventory planning and control**
  - **scheduling**
  - **project management**
  - **quality assurance**
- **Entrepreneurs must understand that system design essentially determines many of the parameters of system operation**
- **For example, costs, space, capacities, and quality are affected by design decisions**

PRODUCTION PROCESSES

- Entrepreneurs must understand that different types of production processes are appropriate for different types of products, services, customer requirements and to achieve competitive advantage
- There are different production processes and they include:
  - job shop
  - batch flows
  - cell
  - assembly line
- Entrepreneurs should base the choice of a production process on which process maximizes output and long term profitability of operations

JOB SHOP PRODUCTION

- Job shops are used to produce small batches of a number of different products or services
- Job shops are appropriate for product or service lines with high variety and relatively low volume
- To deal with highly varied mix of work, job shops usually have flexible equipment and flexible, skilled workers
- Job shops tend to have substantial levels of in-process inventories because of bottlenecks which are constantly changing as the mix of jobs change
- An example of a job shop production process is tailoring where one person measures, cuts and sews the fabric
- The disadvantage in this production process is that idle time could develop in the time between one stage to the next (e.g. cutting to sewing)

BATCH FLOW PRODUCTION

- This production process involves creating a bundle of a set number of products with high variety, although it is less than in a job shop
- Products or services require roughly the same steps and take roughly the same path through the production process
- Time for the different steps varies according to products and as the name suggests, products are produced in batches
- An example of a batch flow is food processing- a canning factory might process a variety of vegetables, one task may involve slicing carrots, the next green beans, and the next corn
- The advantage of this production process is that it allows for worker specialization and task efficiency
- The disadvantage is that costs can be incurred in the time between one step of the production process and the other as machines could be idle

ASSEMBLY LINE PRODUCTION

- This is also known as connected line and is a standardized process arranged according to a fixed sequence of assembly tasks and features a high level of division of labour
- Because each item follows the same sequence of operations, it is often possible to utilize fixed-path material handling equipment like conveyors to transport items between operations
- It requires little brain power and has low product variety
- The advantages include high task efficiency through specialization in tasks performed regularly and very small levels of idle time while work is in progress
- The disadvantage include high idle time once there is line problem as everybody working on the line would have nothing to do leading to huge cost of man hours
- An example of connected line is motor assembly line with different tasks like engine, head lamps, doors etc.

CONTINUOUS FLOW

- This production process produces high volumes of standardized products and services on a continuous basis without interruptions
- It requires fairly low worker skills because of the division of labor
- It is capital intensive and highly efficient in producing a limited variety of products or services
- Examples include production of flour, sugar, detergents, programs for mass inoculations, automatic car washes, mail service etc which require standardized methods and equipment
- The advantage is that high volumes of products or services result in low cost per unit of product or service

MEASURING PROCESS PERFORMANCE

- Having decided on their production processes, entrepreneurs must evaluate their choice based on the following considerations
  - efficiency of the production process
  - delivery time of the production process
  - capacity of the production process
  - flexibility of the production process
  - waste management capacity of the process

EFFICIENCY

The value of output vs.value of input

- Efficiency is most times used to mean cost reduction but it is also important to look at the value crated by costs of a production process relative to the costs
  - 12 output vs. 10 input $\Rightarrow$ 12/10 $\Rightarrow$ 120%
- For example, the length of time needed to bake a twenty naira loaf of bread, number of workers needed, raw material inputs and processes involved are necessary to determine the efficiency of the production system
- Entrepreneurs, when determining efficiency of a production process must consider the following:
  - the percent of time that machines are active vs. idle
  - direct labour utilization to determine how many hours of the paid work was used in the production of a particular product or service
- Efficiency vs. Effectiveness

DELIVERY TIME

The time from order, to market

- Speed of delivery is important and can affect revenue contribution to long term profitability of a firm
- The ability of a production process to ensure speedy delivery of a product or service will allow a business to command premium price or sell more units of products or services
- Delivery time can be measured on the basis of the lead time between order of raw material inputs and production of products or services
- Service business use queues to measure delivery time
  - > Length of queue
  - > Speed at which clients move through queue

CAPACITY

The maximum rate of output of a process

- Capacity is the maximum rate of output generated by a production process in a specified amount of time
- In determining capacity utilization, entrepreneurs must know the maximum capacity and weigh it against the following considerations:
  - the number of customers to be served
  - the number of products to be produced or services delivered
  - the number of workers needed to produce product or deliver service
  - the equipment or machinery needed for production
- Capacity is measured in units of output (or customers served) per unit of time

FLEXIBILITY

- A flexible production process has a relatively low cost for changing inputs used or output produced
- This can affect the profitability of a business enterprise through costs incurred or revenue generated through a production process
- For example if Bimbola Tiamiyu produces customized shoes and in the event of a change in demand due to seasonal fluctuations, she should be able to produce non-customized shoes without much delay to avoid losing customers who could afford to go elsewhere
- The ability to adjust output cheaply or quickly will enable a business enterprise to increase customers satisfaction or serve additional customers
- Entrepreneurs must therefore use flexible production systems to enable them adjust to customer preferences quickly

WASTE MANAGEMENT

- A production process must also be capable of eliminating waste from the system.
- There is no bye product that is a waste and entrepreneurs should ensure optimum use of available resources
- For example, people in poultry farming can convert a lot of the chicken droppings that ordinarily litter their poultry farms into food for fishes for people involved in fish farming
- These can be sold to generate revenue as well as ensuring that waste materials are minimized to avoid leakage in a production process

BOTTLENECKS

- Bottlenecks are constraints in a production process
- A bottleneck will always be the individual operation with the longest cycle time
- Cycle time is the time allowed at each work station to performs its set of tasks (for example, if a new unit of product comes out at the end of a line every two minutes, then the cycle time is two minutes)
- Bottlenecks can be identified in a production process when the following occur:
  - **there is least capacity-** output of a process is limited by the capacity of the bottleneck
  - **piled-up inventory**- inventories or waiting lines tend to accumulate when there is a bottleneck
  - **no slack**-bottlenecks tend to be busy all of the available time
  - **worker complaints**- there tends to be large numbers of worker complaints about a bottleneck
- Labor bottlenecks
  - Banks, Shops, Hospitals

ELIMINATING BOTTLENECKS

- Once entrepreneurs have identified bottlenecks in their production process, they should do the following to eliminate or alleviate the problems:
  - allocation of scarce resources to the bottleneck
  - balancing the flow of work through a process will maximize capacity
  - shift work- shift work can be introduced in a production process to maximize capacity. This is because workers who ordinarily will be idle when there is a bottleneck can be converted to shift work to take up available capacity

Some definitions of Performance Management

- “A systematic approach to improving individual and team performance in order to achieve organisational goals”

  Hendry, Bradley and Perkins (1997)

- “Performance management is a way of translating corporate goals into achievable objectives that cascade down throughout the organisation to produce optimum results”

  IRS Management Review (1996)

- “Performance management is about directing and supporting employees to work as effectively and efficiently as possible in line with the needs of the organisation”

  Walters (1995)

Our definition

- To ensure alignment between planned individual performance and the overall goals of the business so as to deliver improved results

- It is a set of core business processes that focus on improving the contribution of people to enhance business performance. It is a key management responsibility, which can only be practised by managers and individuals working together

- For a business to achieve its objectives, everyone needs to take responsibility for:
  - agreeing and achieving objectives that are aligned with those of the business
  - developing the skills that will enable them to achieve those objectives

The benefits can be substantial

… for the organisation

- Align corporate, individual & team objectives
- Improve performance
- Motivate employees
- Increase commitment
- Underpin core values
- Improve T&D
- Help develop learning organisation
- Provide continuous improvement opportunities
- Provide basis for career-planning
- Retain skilled employees
- Support culture-change

…for line managers

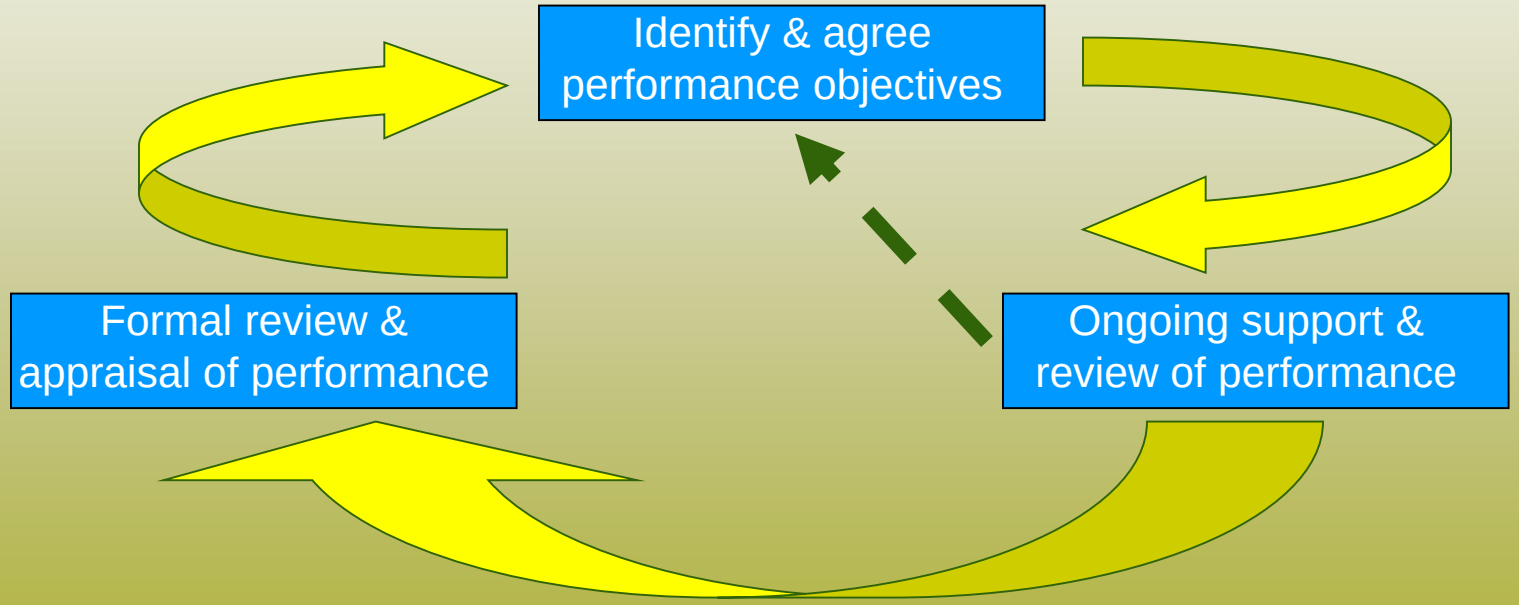
- Provide basis for clarifying expected performance & behaviour
- Improve team & individual performance
- Support leadership, motivation & teambuilding
- Provide basis for helping underperformers
- May be used to develop or coach individuals
- Relationship with team members
- Provide basis for non-financial rewards (e.g. recognition, development)

…for the individual

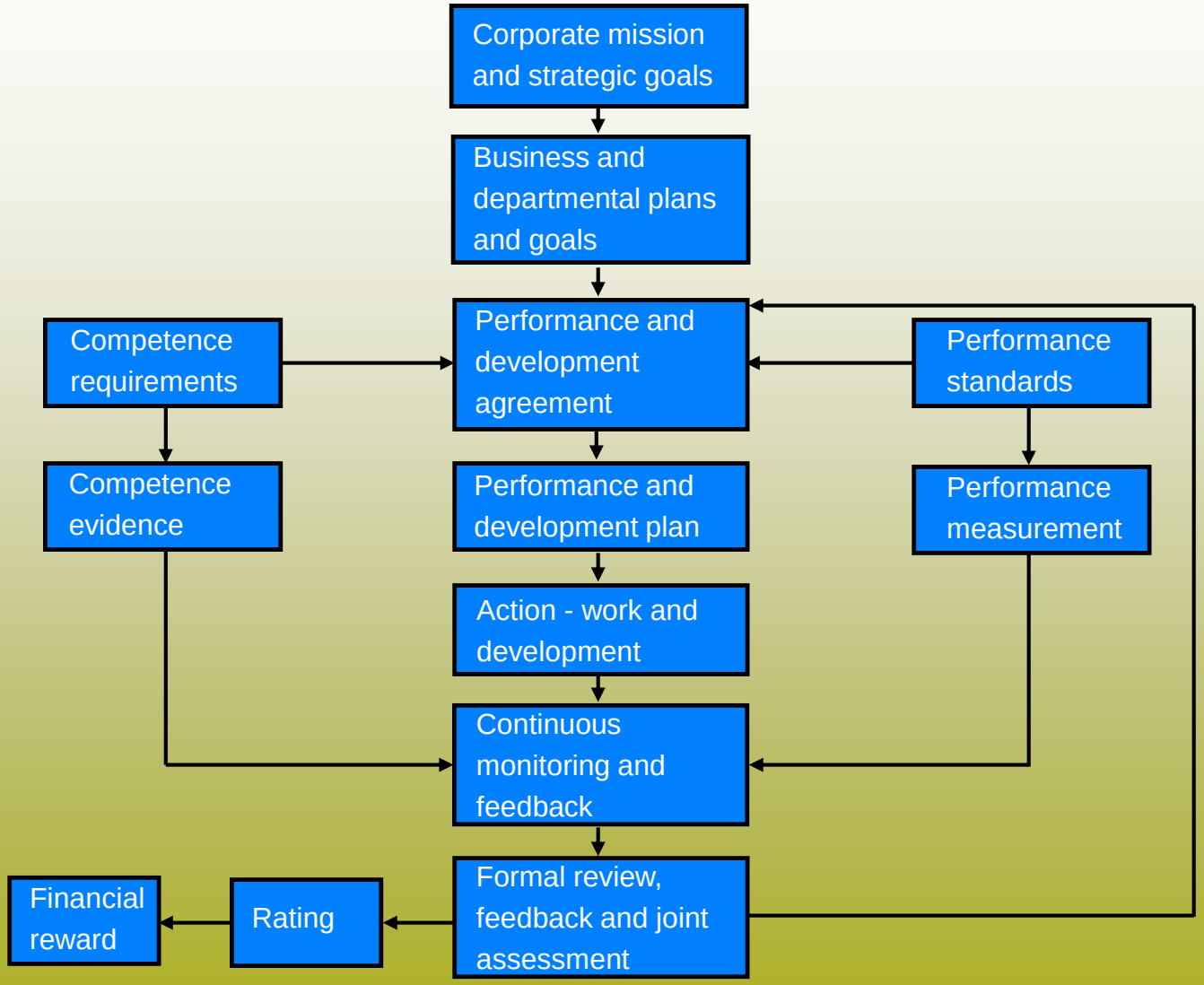
- Greater clarity of roles & objectives
- Encouragement & support to perform well
- Provision of guidance/help in developing abilities
- Relationship with their line managers
- Clarity over contribution to organisational performance
- An objective & fair basis for assessing performance

The cycle of performance

Performance management is a process not an event, acting as a continuous cycle

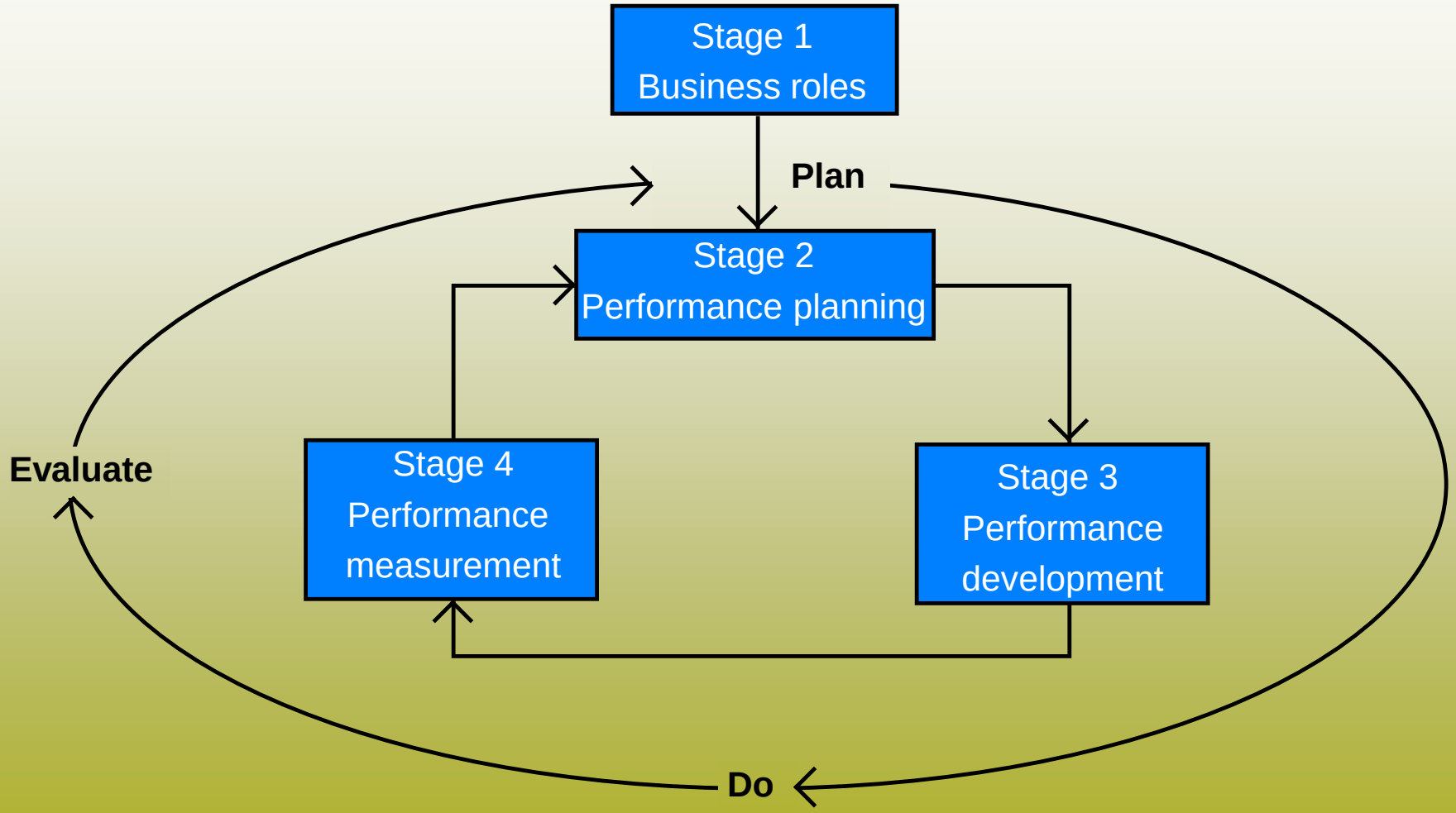


The process can be complex...

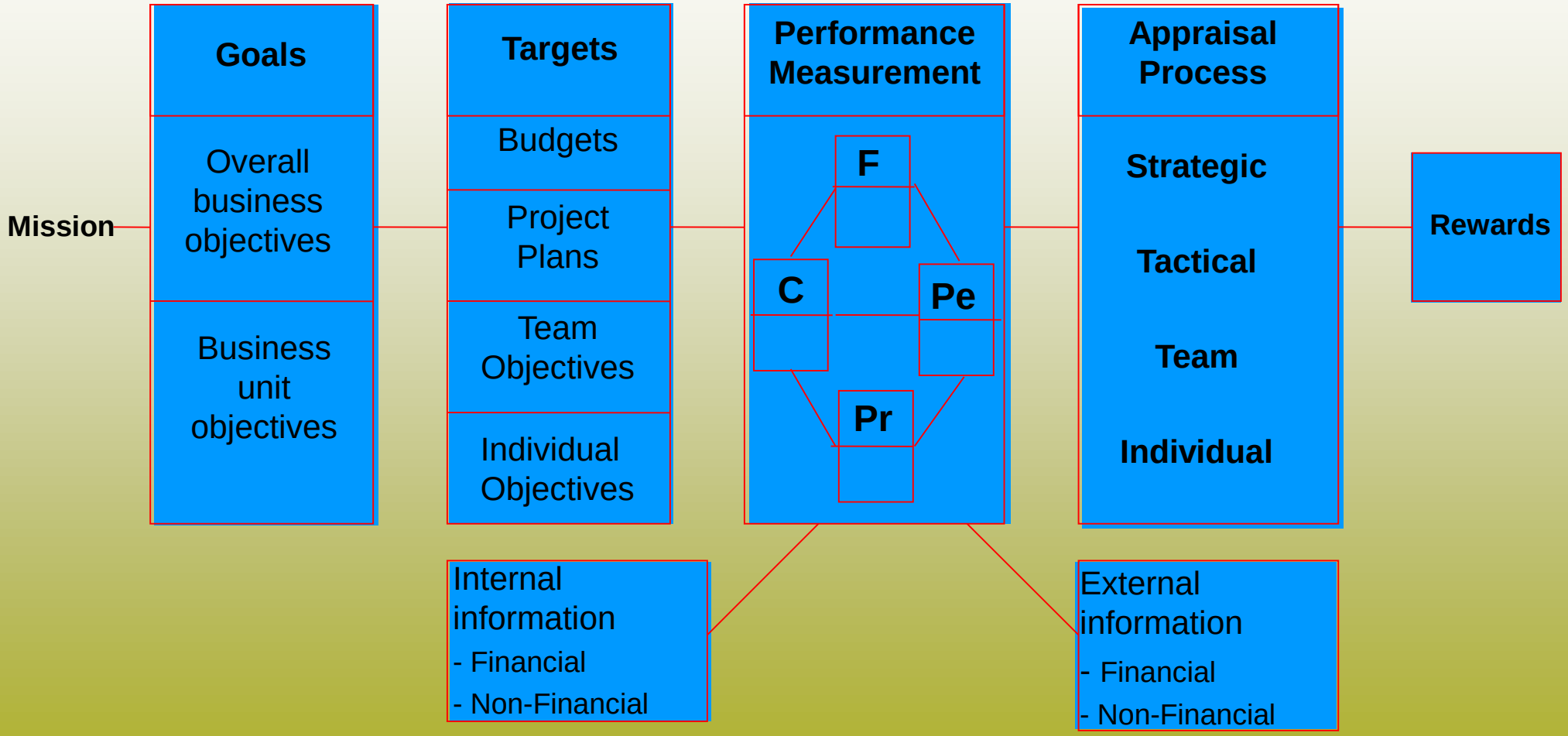


…or simple

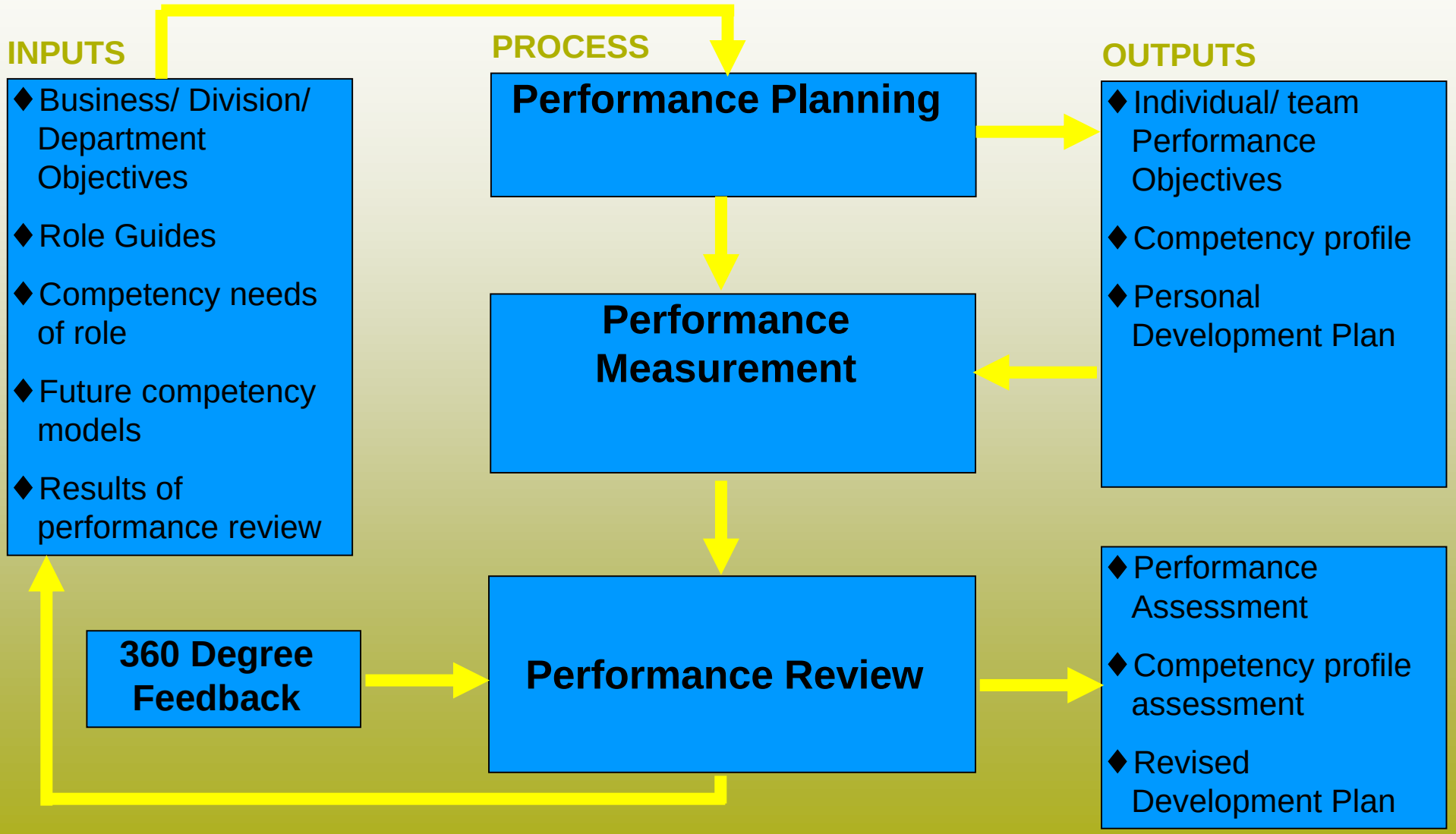
Zeneca Model



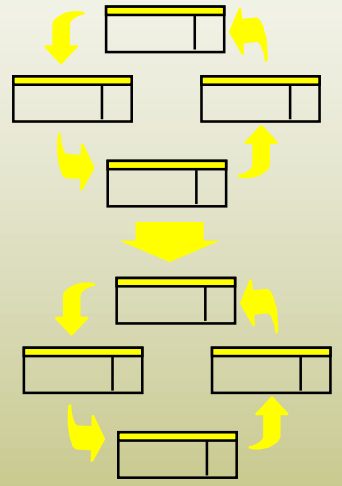
Using the balanced scorecard



Typical methodology

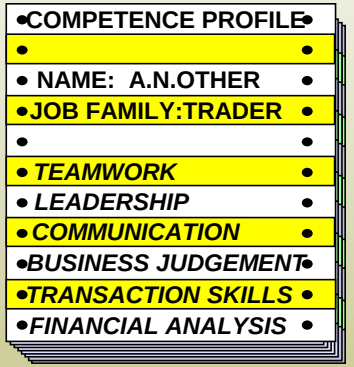


Integrated approach

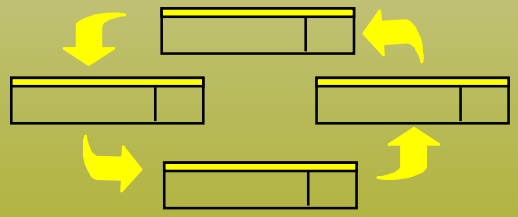


Balanced Scorecards

An integration of business & personal performance



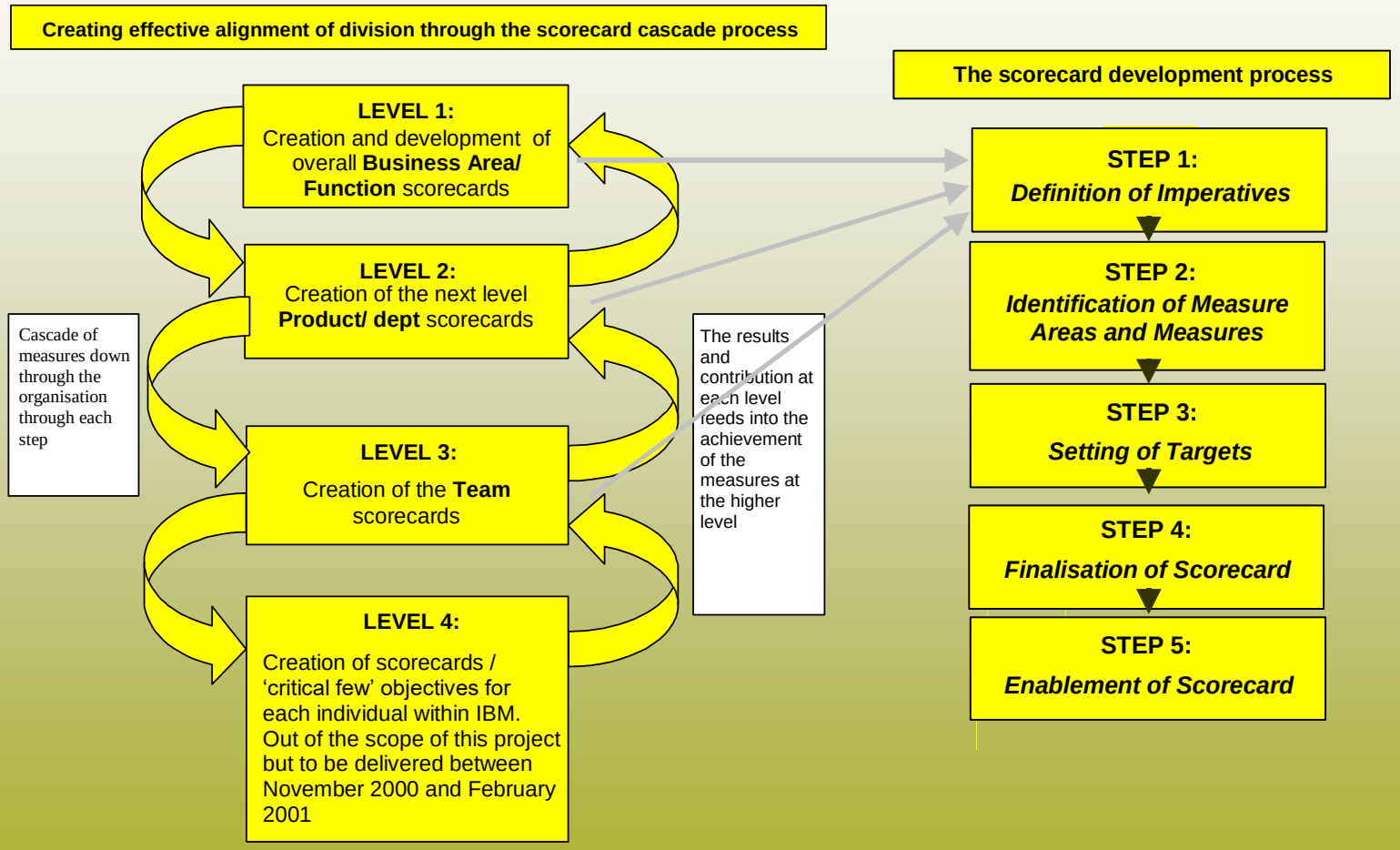
Job Family Competencies



Personal Year Plans

Integrated approach

Example - Financial Services company



Current developments

Developments in the last decade

From	To
Seen as a system - everyone follows the same path	Seen as a performance process - *this is to enhance performance*
Focus on appraisal - something done to individuals by line managers	Focus on joint review - this is shared by the line manager and the individual
Measure outputs only - what you physically produced was seen as being all that mattered	Outputs & inputs important - what you 'add' is just as important as what you produce
Ratings used a great deal	Less reliance on ratings
Directive - top-down approach only & no feedback loop	Supportive - this is to add development & performance not to control you
Monolithic - 'one size fits all'/ no flexibility to change if it is not appropriate	Flexible - 'fit for purpose'/ tailored to needs
Owned by HR	Owned by users - line managers and staff

Future challenges

- Need for managerial focus and sponsorship
- Need to ensure that it is not over-engineered/ too bureaucratic
- A need to define what is meant by performance and understand how performance management processes will enhance performance
- Performance management for teams is a growing need
- Move HR out of the process - needs to be owned by the users
- Need for involvement and communication
- Need for thorough and all-round training
- Easy to design, tough to implement
- Creating a high performance culture

Three questions before you start

- Do you have a clear understanding of what is meant by “performance” and what you want the system to achieve ?
- Do you understand what you need to do to develop and embed a performance culture in the organization and what are the implications ?
- Do you know what part you want individuals to play in the process and how they will benefit ?

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