

Operations Management

MGT355

Social, environmental and economic performance

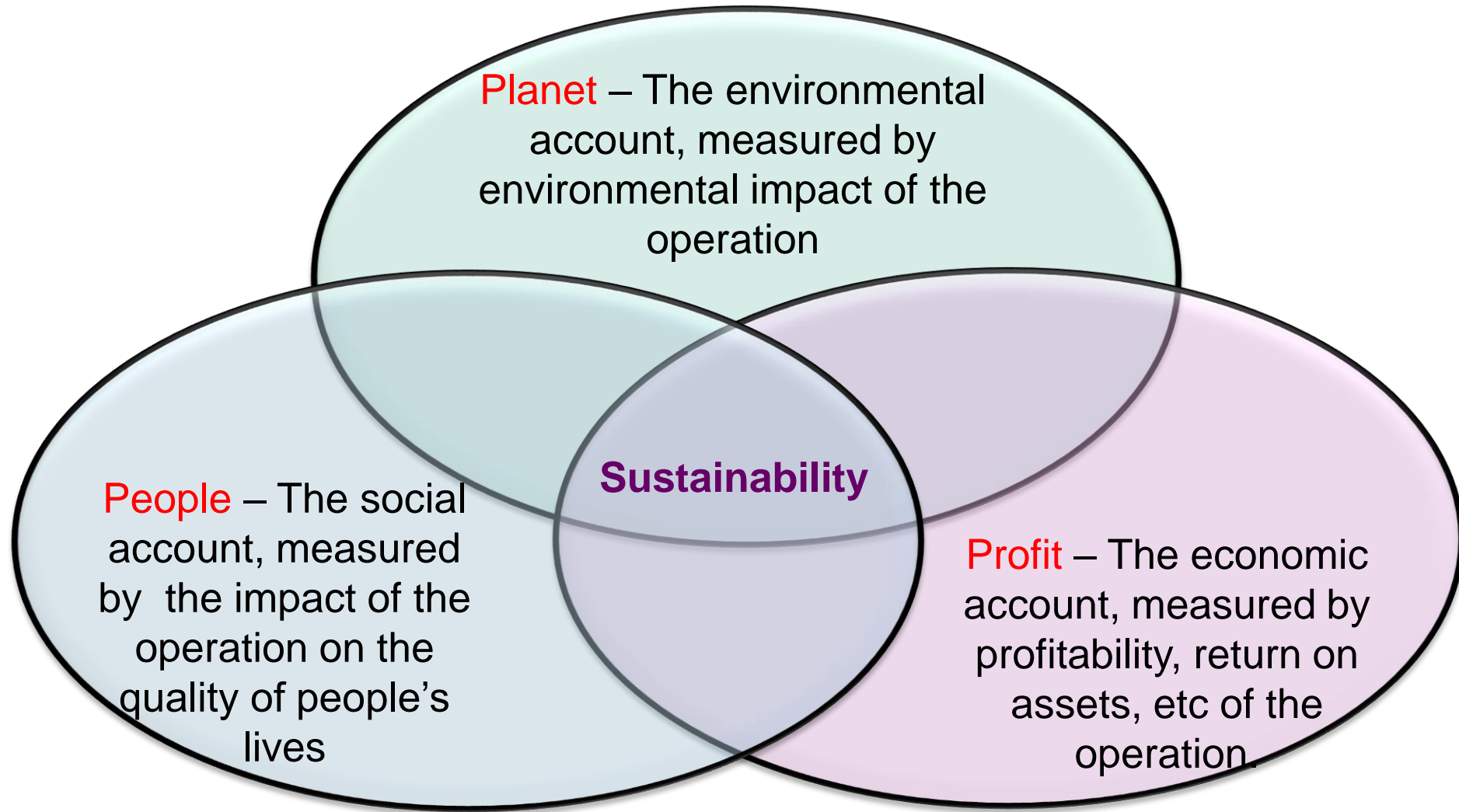


Key operations questions

- ☐ *Why is operations performance important in any organization?*
- ☐ *How should the operations function judge itself?*
- ☐ *What does top management expect from the operations function?*
- ☐ *What are the performance objectives of operations and what are the internal and external benefits which derive from excelling in each of them?*
- ☐ *How do operations performance objectives trade off against each other?*



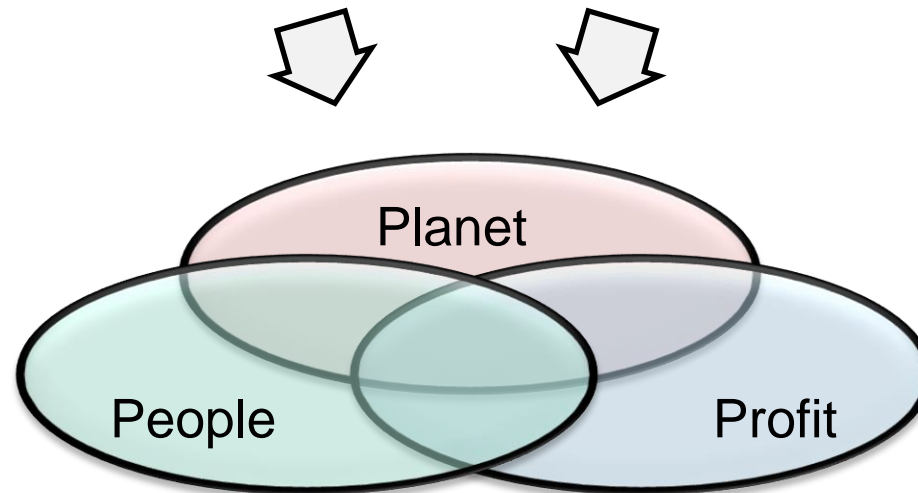
The triple bottom line



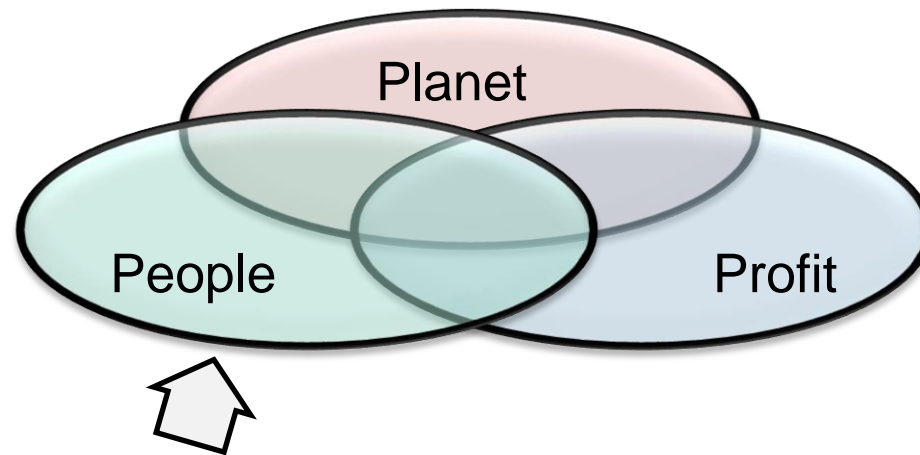
Some ways in which operations can impact each element of the triple bottom line - Planet

- Recyclability of materials, energy consumption, waste material generation
- Reducing transport-related energy
- Noise pollution, fume and emission pollution

- Obsolescence and wastage
- Environmental impact of process failures
- Recovery to minimize impact of failures

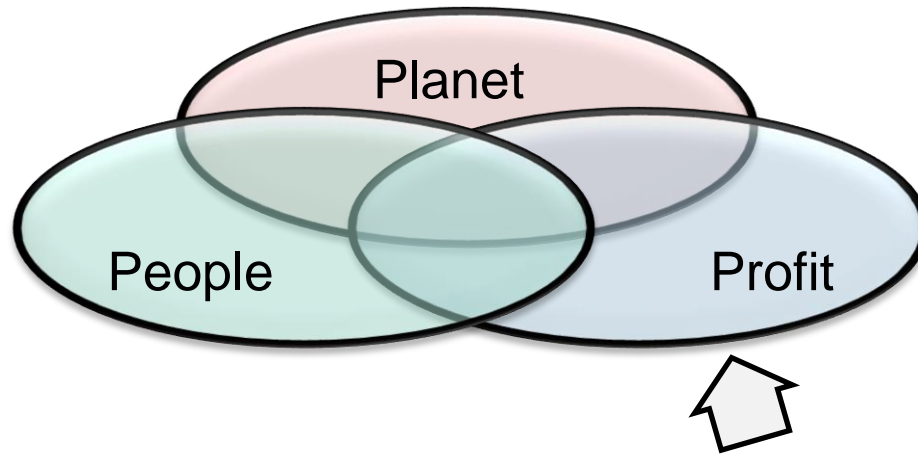


Some ways in which operations can impact each element of the triple bottom line – People



- Customer safety from products and services
- Employment impact of an operation's location
- Employment implications of outsourcing
- Repetitive or alienating work
- Staff safety and workplace stress
- Non-exploitation of developing country suppliers

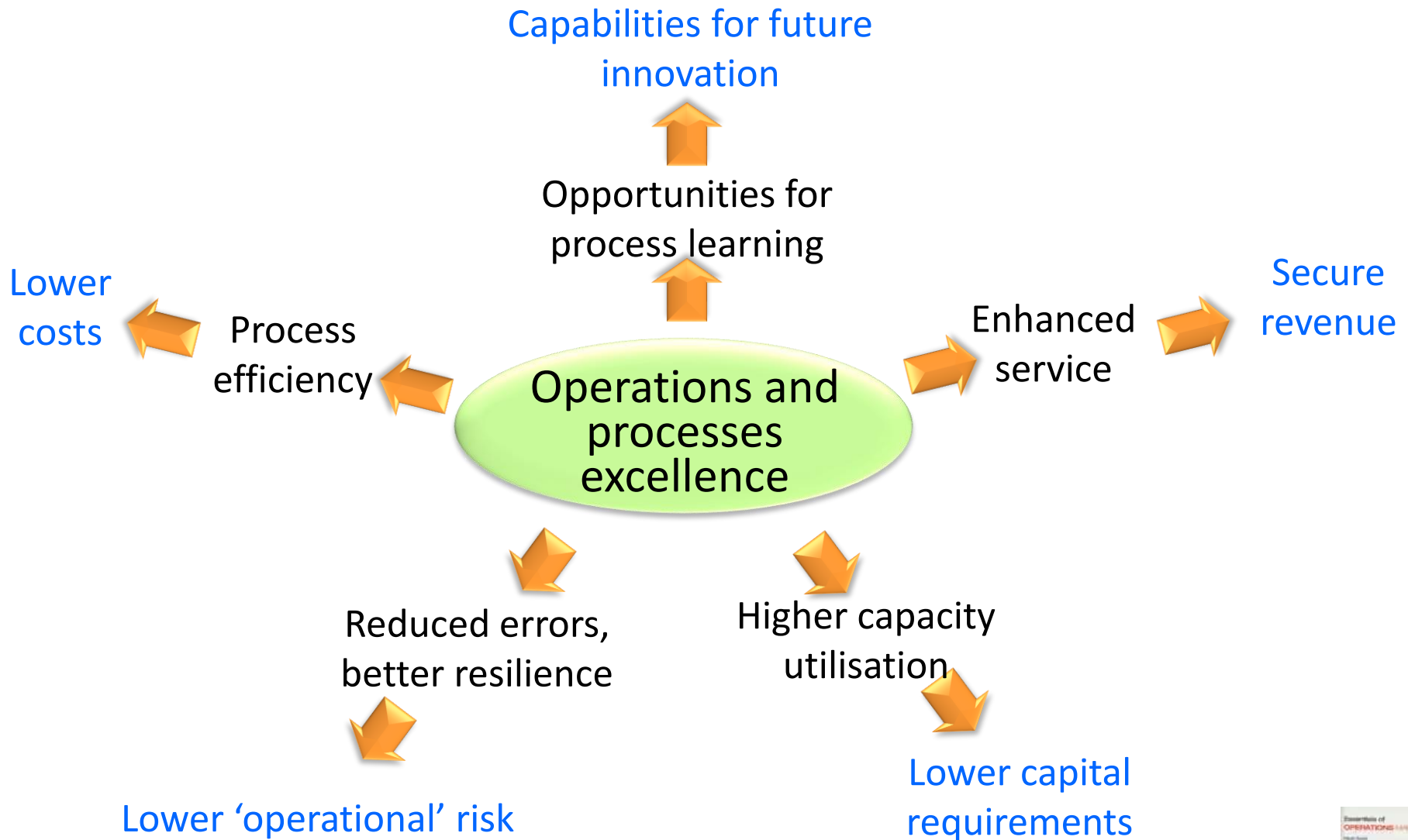
Some ways in which operations can impact each element of the triple bottom line - Profit



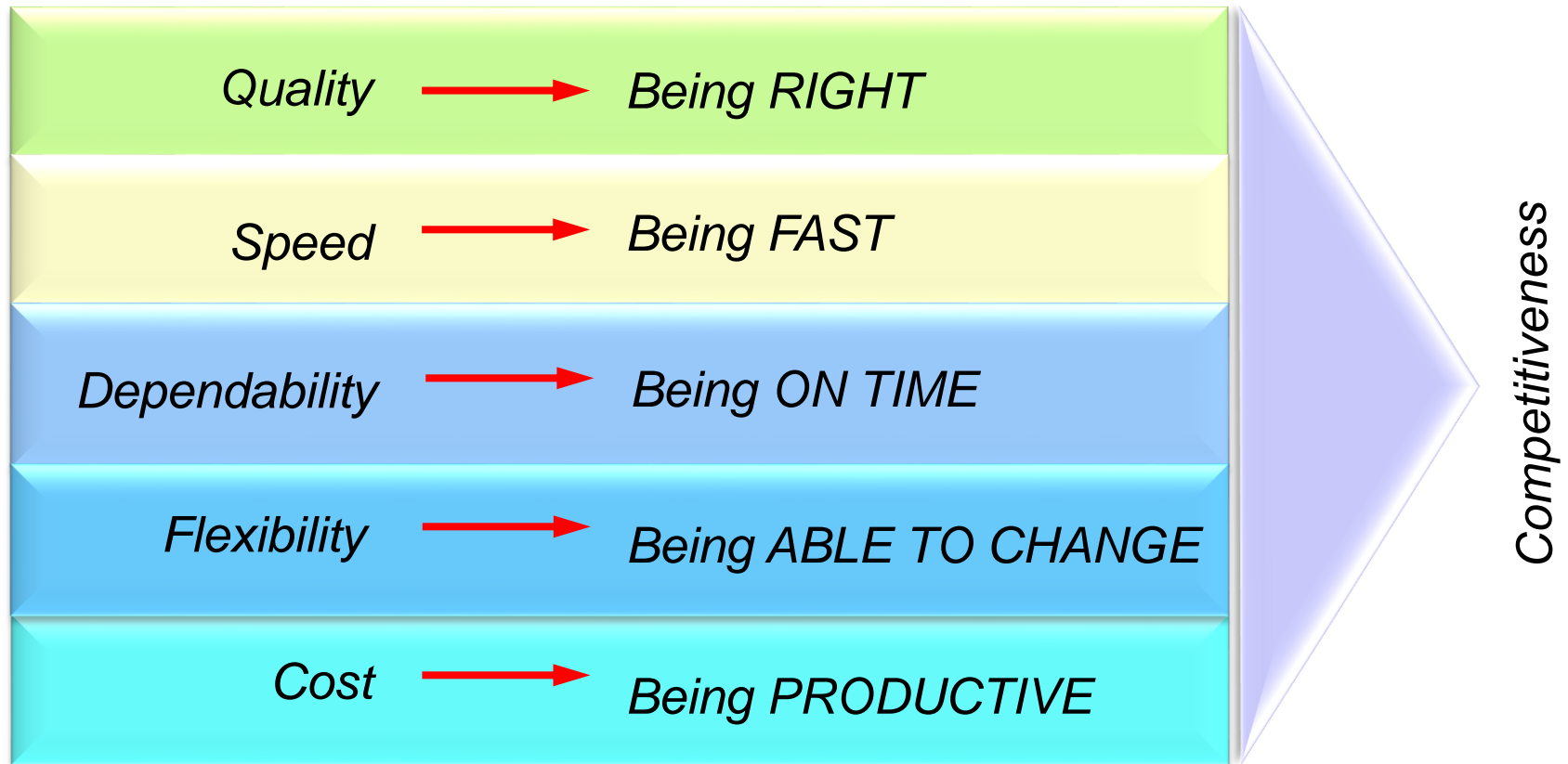
- Cost of producing products and services
- Revenue from the effects of quality, speed, dependability, and flexibility
- Effectiveness of investment in operations resources
- Risk and resilience of supply
- Building capabilities for the future



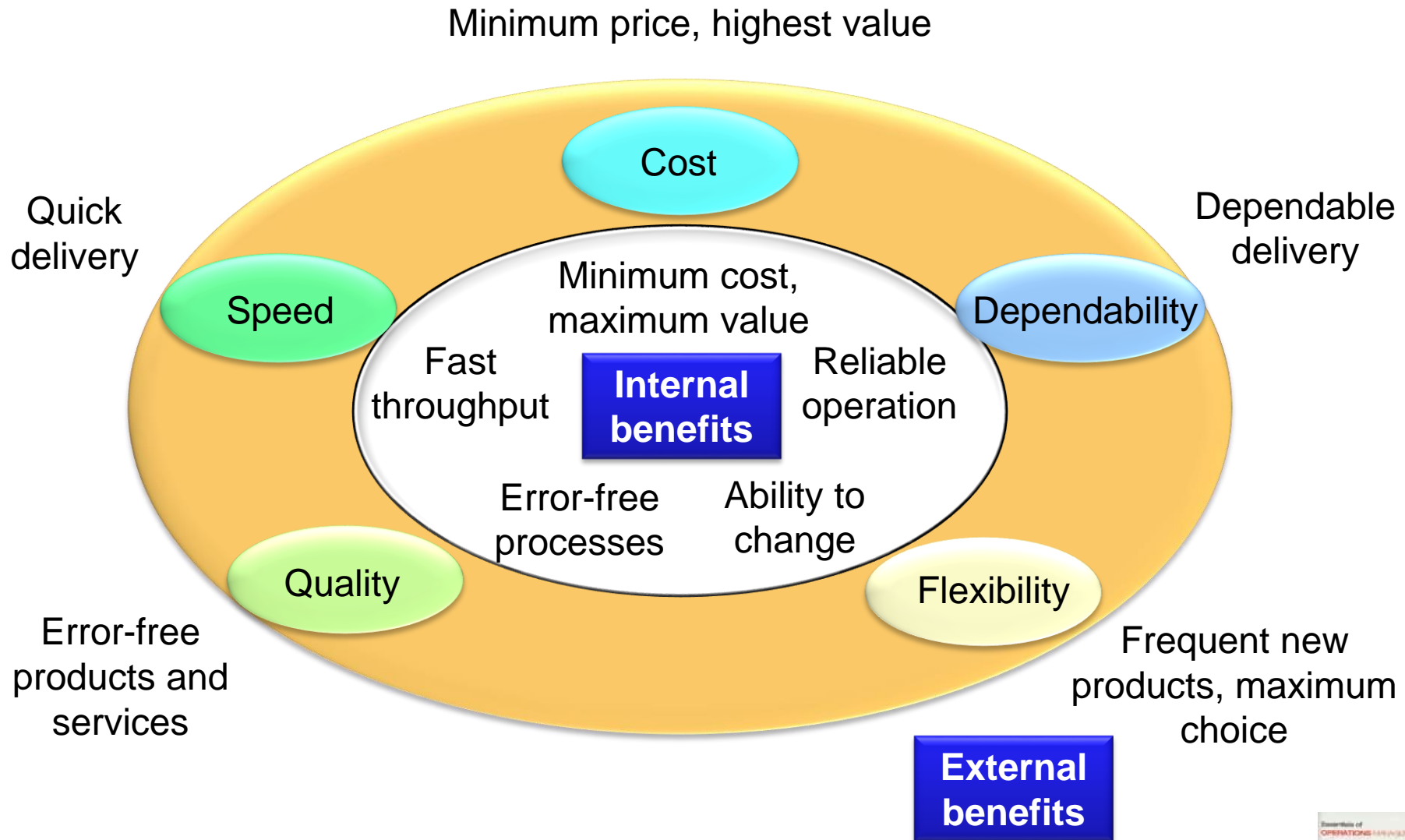
Operations and process management contribution to strategy



The five competitive objectives



The benefits of excelling at the five objectives



What does Quality mean in.....

.... a Hospital ?

- Patients receive the most appropriate treatment
- Treatment is carried out in the correct manner
- Patients are consulted and kept informed
- Staff are courteous, friendly and helpful



What does Quality mean in.....

.... an automobile plant?



- All assembly is to specification
- Product is reliable
- All parts are made to specification
- The product is attractive and blemish-free



What does Quality mean in.....

.... a bus company?

- The buses are clean and tidy
- The buses are quiet and fume-free
- The timetable is accurate and user-friendly
- Staff are courteous, friendly and helpful



What does Quality mean in.....

.... a supermarket?



- The store is clean and tidy
- Décor is appropriate and attractive
- Goods are in good condition
- Staff are courteous, friendly and helpful



Two common meanings of “Quality”

Quality as the *specification* of
a product or service

e.g. Lower Hurst Farm
produces organic meat raised
exclusively on its own farm

Quality as the *conformance*
with which the product or
service is produced

e.g. Quick service restaurants
like McDonalds may buy less
expensive meat, but its
conformance must be high



External and internal benefits of conformance quality

Irrespective of a product or service's specification quality, producing it so it conforms to its specification consistently brings benefits to any operation

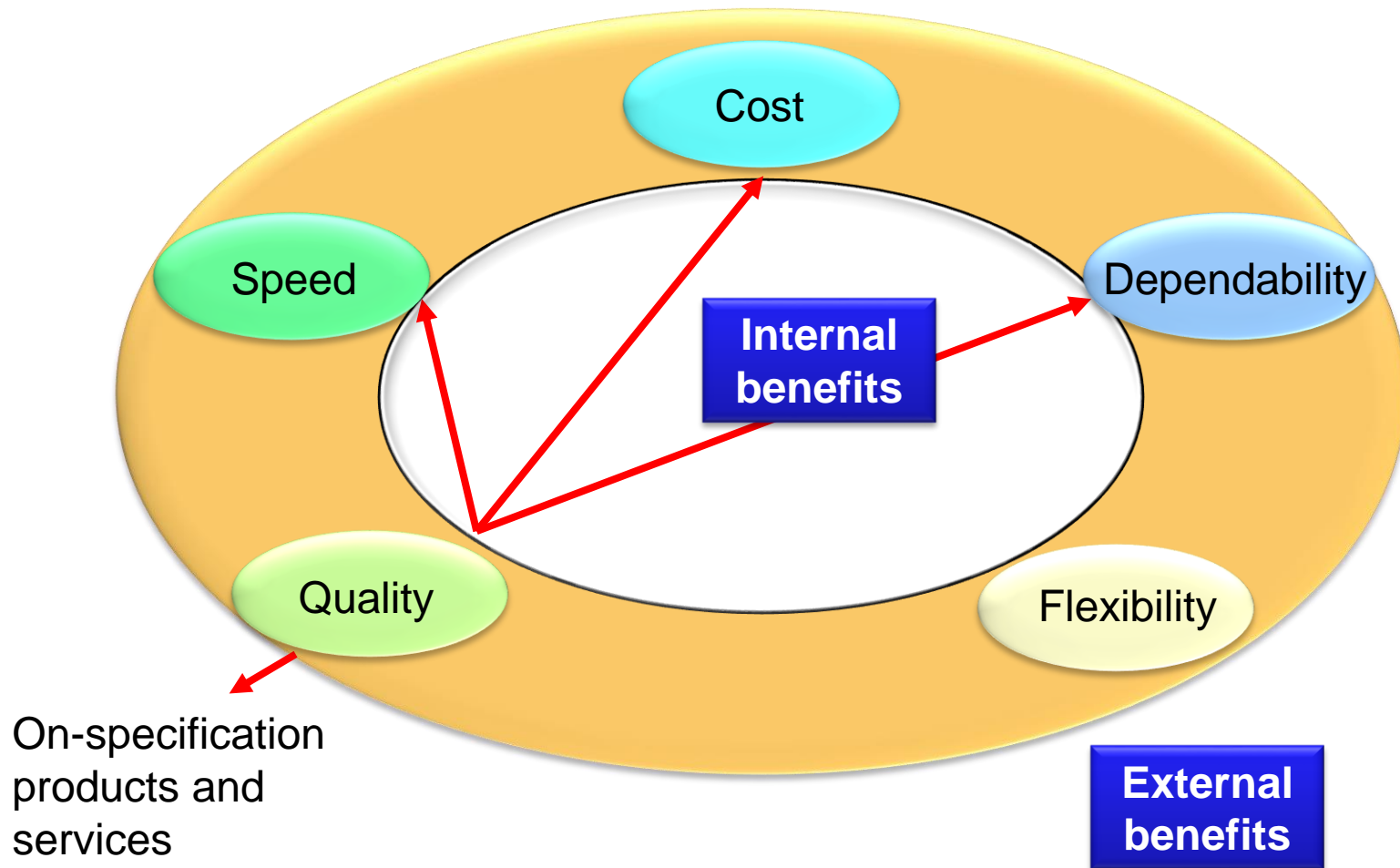
Externally -- it enhances the product or service in the market, or at least avoids customer complaints

Internally -- it brings other benefits to the operation

- It prevents errors slowing down throughput speed
- It prevents errors causing internal unreliability and low dependability
- It prevents errors causing wasted time and effort, therefore saving cost



External and internal benefits of conformance quality



What does Speed mean in.....

.... a Hospital ?

- The time between requiring treatment and receiving treatment is kept to a minimum
- The time for test results, X-rays, etc. to be returned is kept to a minimum



What does Speed mean in.....

.... an automobile plant?



- Time between dealers requesting a vehicle of a particular specification and receiving it is minimized
- Time to deliver spares to service centres minimized



What does Speed mean in.....

.... a bus company?

- The time between customer setting out on the journey and reaching his or her destination is kept to a minimum



What does Speed mean in.....

.... a supermarket?



- The time for the total transaction of going to the supermarket, making the purchases and returning minimized
- The immediate availability of goods



External and internal benefits of speed

Speed again has different interpretations externally and internally

Externally – it means the elapsed time between a customer asking for a product or service and getting it (in a satisfactory condition)

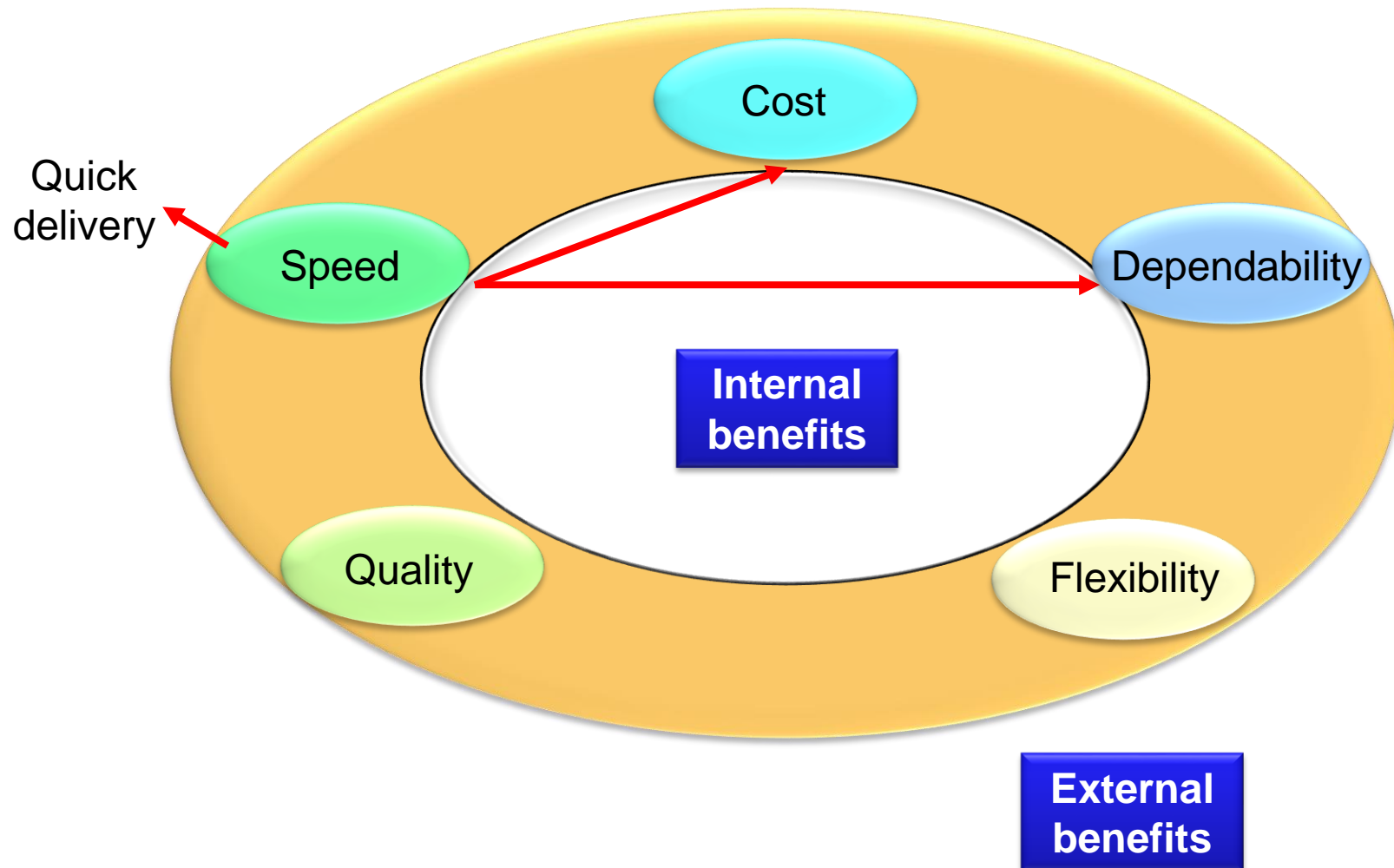
It often enhances the value of the product or service to customers

Internally -- it brings other benefits to the operation

- It helps to overcome internal problems by maintaining dependability
- It reduces the need to manage transformed resources as they pass through the operation, therefore saving cost



External and internal benefits of speed



What does Dependability mean in.....

.... a Hospital ?

- Proportion of appointments that are cancelled kept to a minimum
- Keeping appointment times
- Test results, X-rays, etc. returned as promised



What does Dependability mean in.....

.... an automobile plant?



- On-time delivery of vehicles to dealers
- On-time delivery of spares to service centres



What does Dependability mean in.....

.... a bus company?

- Keeping to the published timetable at all points on the route
- Constant availability of seats for passengers



What does Dependability mean in.....

.... a supermarket?



- Predictable opening hours
- Proportion of goods out of stock kept to a minimum
- Keeping to reasonable queuing times
- Constant availability of parking



External and internal benefits of Dependability

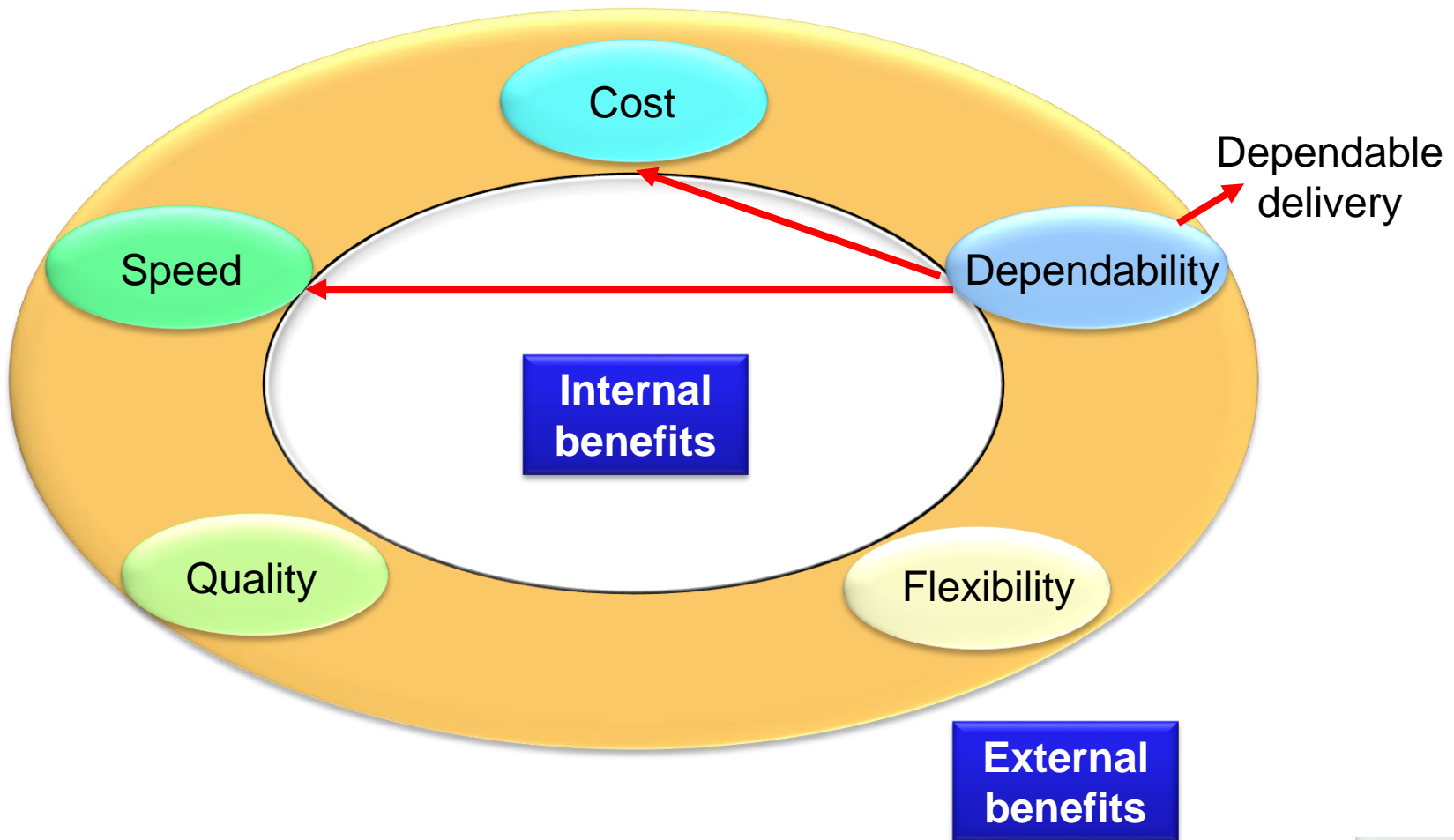
Externally -- it enhances the product or service in the market, or at least avoids customer complaints

Internally -- it brings other benefits to the operation

- It prevents late delivery slowing down throughput speed
- It prevents lateness causing disruption and wasted time and effort, therefore saving cost



External and internal benefits of dependability



Flexibility – What does it mean?

Flexibility has several distinct meanings but is always associated with an operation's *ability to change*

Change what ?

- The products and services it brings to the market – *Product/service flexibility*
- The mix of products and services it produces at any one time – *Mix flexibility*
- The volume of products and services it produces – *Volume flexibility*
- The delivery time of its products and services – *Delivery flexibility*



What does Flexibility mean in.....

.... a Hospital ?

- Introducing new treatments
- A wide range of treatments
- The ability to adjust the number of patients treated
- The ability to reschedule appointments



What does Flexibility mean in.....

.... an automobile plant?



- The introduction of new models
- A wide range of options
- The ability to adjust the number of vehicles manufactured
- The ability to reschedule manufacturing priorities



What does Flexibility mean in.....

.... a bus company?

- The introduction of new routes and excursions
- A large number of locations served
- The ability to adjust the frequency of services
- The ability to reschedule trips



What does Flexibility mean in.....

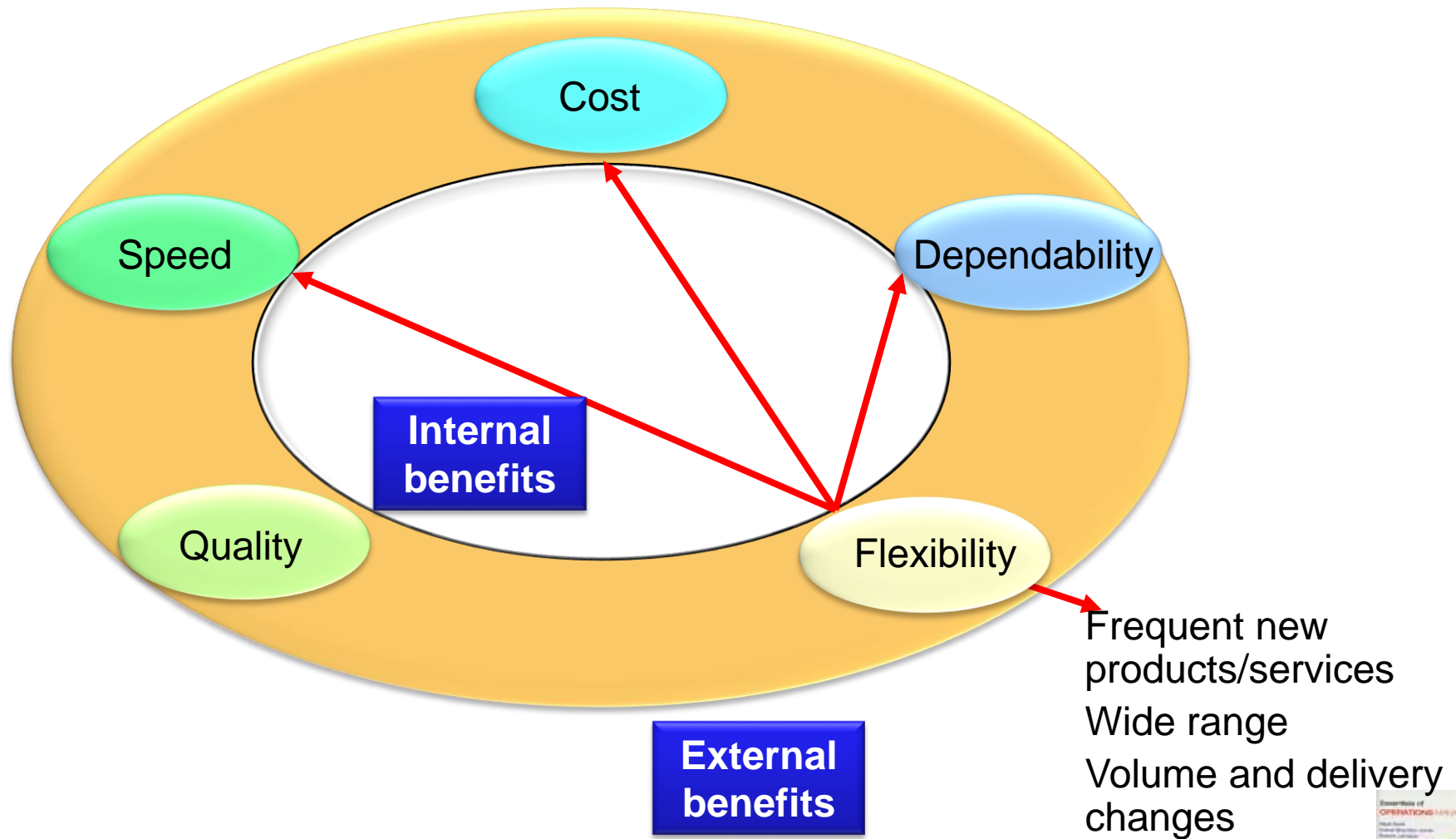
.... a supermarket?



- The introduction of new goods
- A wide range of goods stocked
- The ability to adjust the number of customers served
- The ability to get out-of-stock items



External and internal benefits of flexibility



Cost

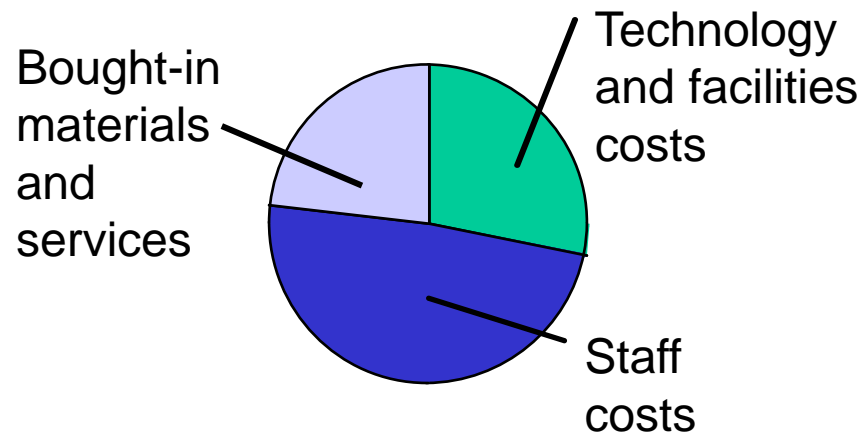
The cost of producing products and services is obviously influenced by many factors such as input costs, but two important sets are.....

- The 4 V's
 - volume
 - variety
 - variation
 - visibility
- The internal performance of the operation at
 - quality
 - speed
 - dependability
 - flexibility



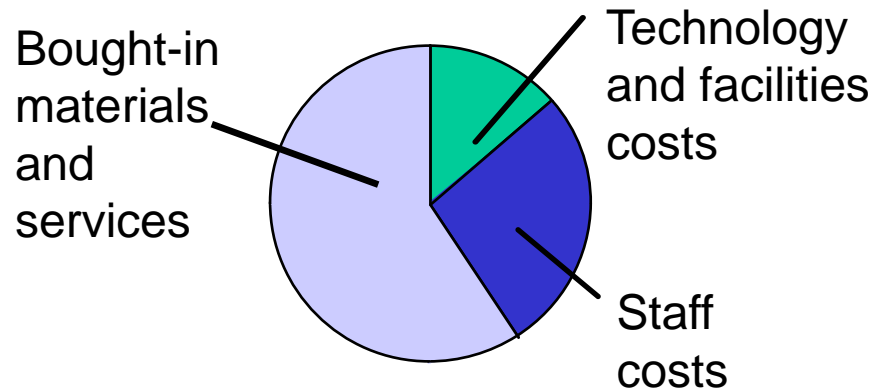
What does Cost mean in.....

.... a Hospital ?



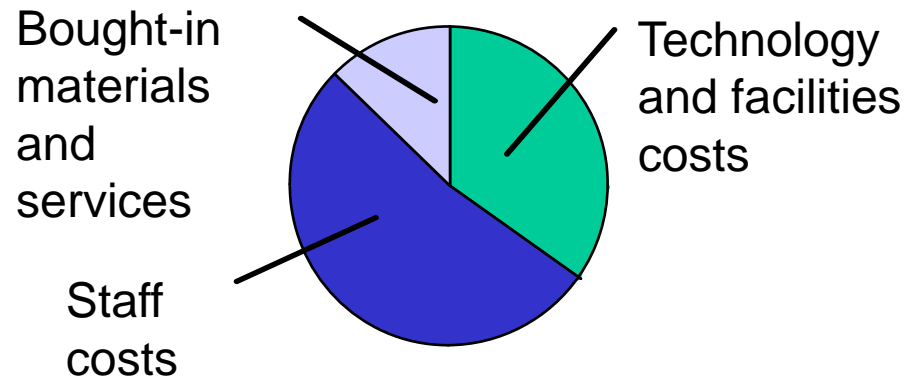
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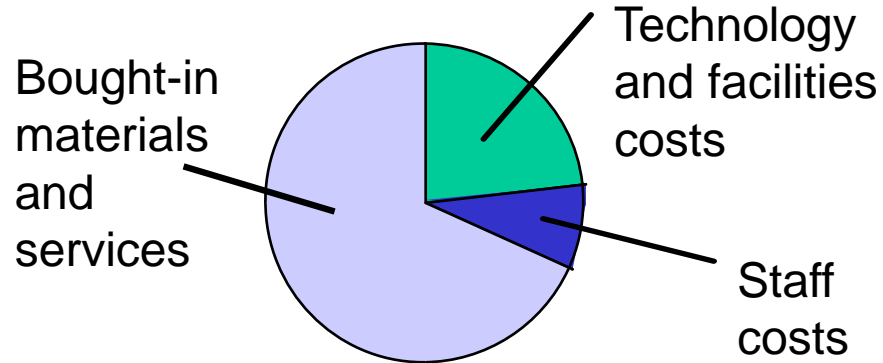
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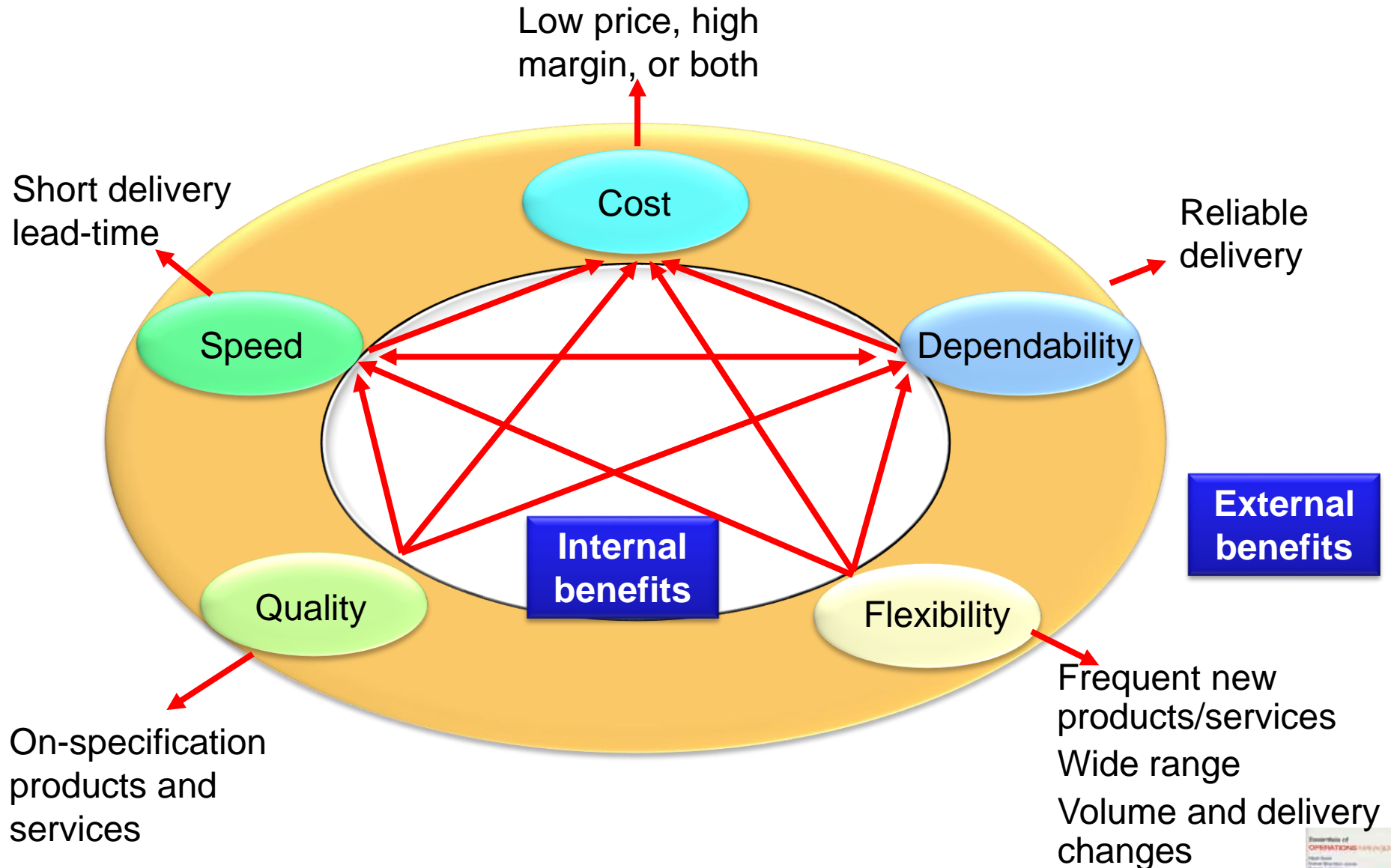


What does Cost mean in.....

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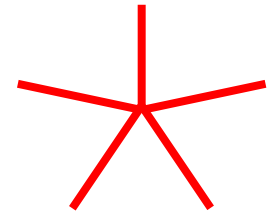


External and internal benefits of performance objectives

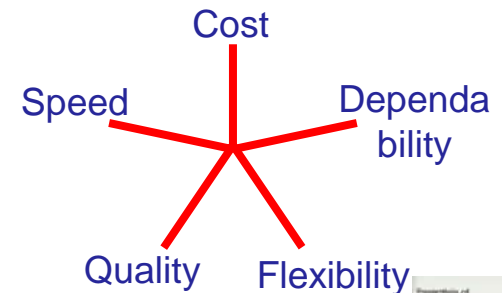


Polar diagrams

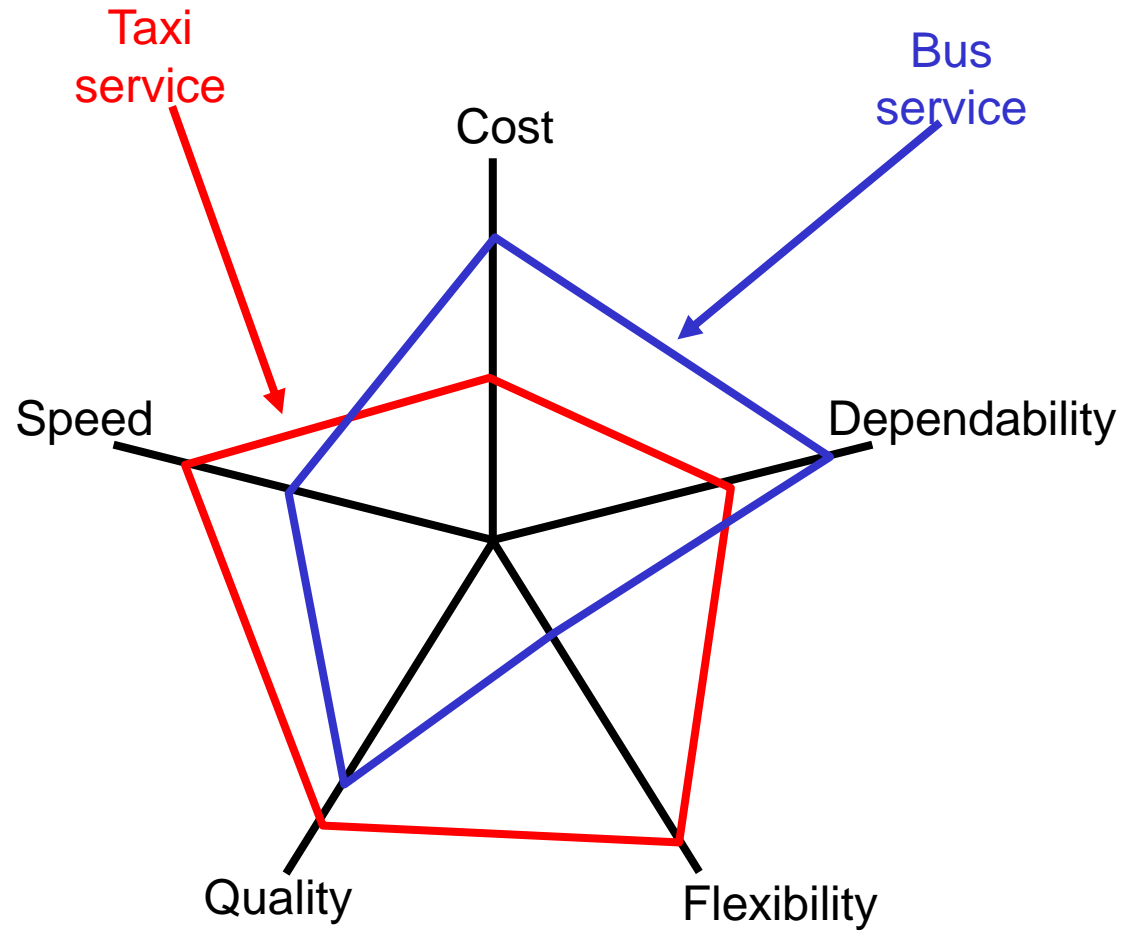
- Polar diagrams are used to indicate the relative importance of each performance objective to an operation or process



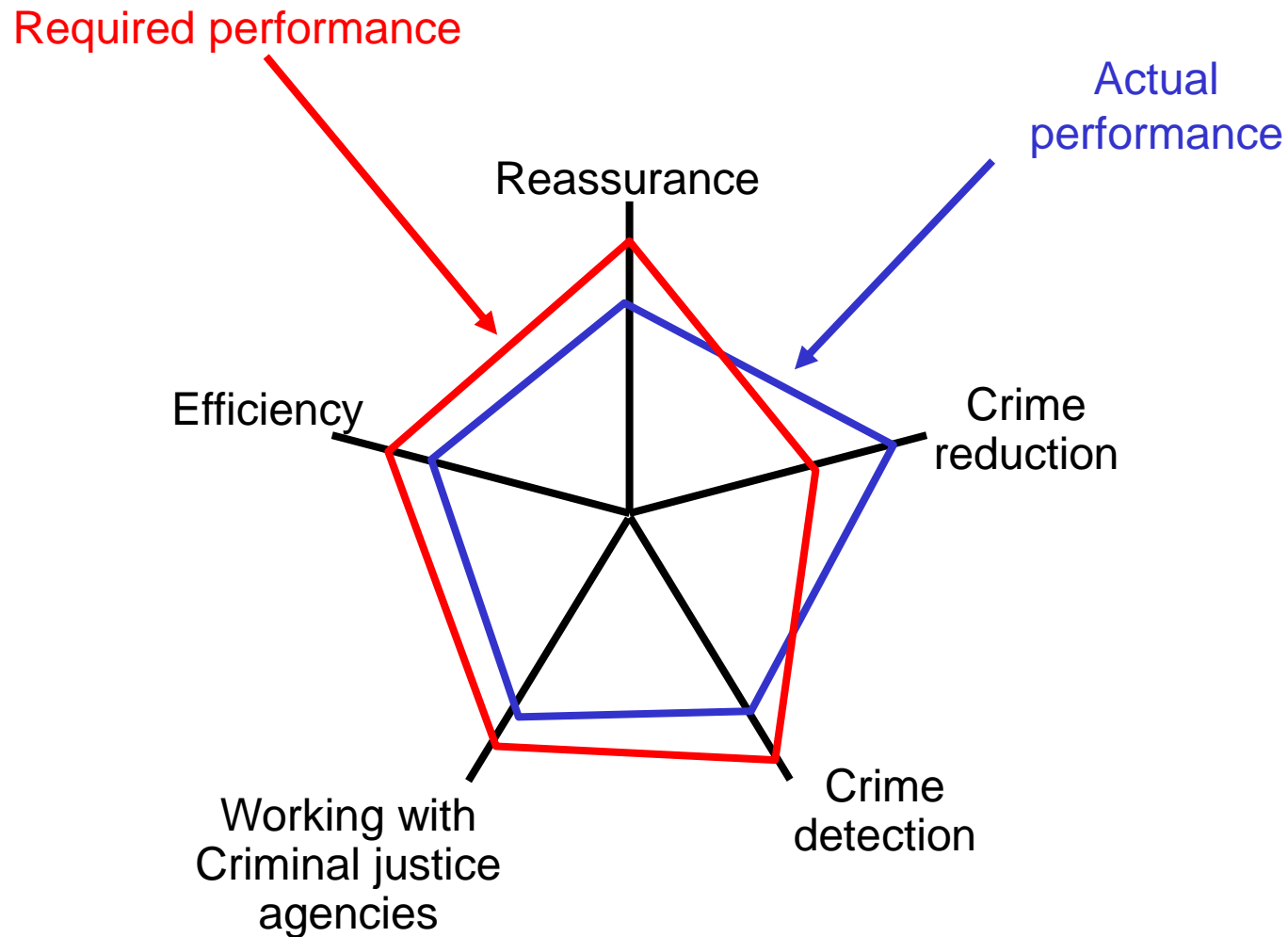
- They can also be used to indicate the difference between different products and services produced by an operation or process



Polar diagrams for a taxi service versus a bus service



Polar diagrams for a proposed police performance method



Trade-offs

- *“Do you want it good, or do you want it Tuesday?”*
- *“No such thing as a free lunch.”*
- *“You can’t have an aircraft which flies at the speed of sound, carries 400 passengers and lands on an aircraft carrier. Operations are just the same.” (Skinner)*
- *“Trade-offs in operations are the way we are willing to sacrifice one performance objective to achieve excellence in another.”*



