

# Roles of operations – essay



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Roles of Operations ? Is about altering, transporting, storing and inspecting ?

Involves planning, organising, coordinating and controlling (transformation processes to meet customer requirements) • Strategic role of operations

management – cost leadership, good/service differentiation -Bs needs to develop a CA; a common way is through cost leadership & differentiation -

Cost Leadership ? bs provides customers with BEST value for LOWEST price ?

gained by low operating costs and high volumes of no frill products ? high volumes and low margins e. g. Franklins no frill products don't focus on

packaging but the product itself. Also, budget airlines like Jetstar provide low cost flights with no frills (carry-on baggage, aim for low prices rather than

luxury) – Good/Service Differentiation ? Have a unique/differentiating

feature/speciality associated with DESIGN, TECH, FEATURES, BRAND IMAGE,

AFTERSALE CUSTOMER SERVICE ? Products aimed at non-specialist

market/niche market ? E. g Mercedes Benz, Nike or Apple ? Low volumes and high margins • Goods and/or services in different industries Hospitality

Industry: operations involves what happens between the waiter, kitchen staff and customers -School Education System: operations involves what happens

between teachers and students -Manufacturing Businesses: operation area deals with production and assembly tasks carried out by workers on factory

floor -E. g. large business O. M is over larger scope and importance than

production of g/s and can also occur overseas • Interdependence with other

key business functions -O. M flows and affects all key business functions

Each function relies on each other to achieve GOALS (therefore there must

be a specialist in each function) -E. g. \$ – collect data and analyse social

performance Human resources – provides staff and organise training

Marketing – understands limitations of O when specifying product features

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and designs Influences • Globalisation, technology, quality expectations, cost-based competition, government policies, legal regulations, environmental sustainability - Globalisation: breaking down of national barriers and the ability to trade and communicate worldwide ?

Global supply chain: international links between supplier of materials/inputs for production process in bs, E. g. Nike used ' global supply chain process' by designing shoes themselves but producing them in low wage countries with low paid workers ? Many large bs operate globally ? Key influence of globalisation is rapid communication; rapid international instant communication and rapid advances in tech ? Technology: developments including point-of-sale scans (computer scans label on clothing when purchased, message sent to warehouse indicating what they need more of) ?

What has made globalisation possible? Global bs, production, sourcing or products and value chains ? Globalisation resulted from liberalisation of markets and trade ? Factors allowing bs to produce in one country and sell to others? Free trade, ability to transfer g/s and finance ? Business seek supplies/components internationally E. g. Process help China become leading manufacturer in the world – Technology ? Strong influence on O&P. M ? New developments in: automated warehousing and reducing space for inventory storage ?

New tech allows activities in O&P to be redesigned, new processes, machines and computerised systems ? CAD (Computer-aided-design): allows engineers and designers to design, change and produce new products ? CAM (Computer-aided-manufacturing: a tech tool that allows integration between

product design and manufacturing ? However, new tech can result in loss of employees -Quality Expectations ? Gain CA through meeting customers' needs/ wants and price customers are willing to pay. This is developed through 3 ways: 1. Market Segment 2. Differences 3. Cost -Cost-based Competition ? Cost leadership strategy ? E. g.

Ryanair Airline (attracted price sensitive customers but make passengers pay for food/drink, extra leg room, only carry-on baggage) ? E. g. Australian Airline, Jetstar (implemented Ryanair's low cost operation model) - Government Policies ? Influences O & O. M (e. g. industrial relations, workplace laws and waste and environmental legislations) ? Laws that relate to operations: planning, safety, noise, working conditions ? Methods gov. use to encourage operations to be more innovative and competitive (innovative: monetary benefits – financial grants and concession) (competitive: gradual removal of tariffs, quotas, operating costs) ?

Economic growth in Australia allows Australia to “ do more with less” (increasing productivity and reducing cost of producing exports) ? E. g. Safety report: Amcor's 2009 Annual Company Report Had a committed goal “ No injuries”, listed their fatalities and goals that wanted to achieve (reporting, standards, auditing) ? Bs not only needs to be aware of laws but implement them -Legal Regulations ? Aim of gov. regulation to bs is to promote fair bs conduct ? Regulations include: OHS, trade practices and environmental and consumer protection -Environmental Sustainability Refers to the development and use of methods of production that allows resources used by producers today to still be used by future gen ? Managers are responsible to protect natural environment and ensure methods of

production incorporate sustainable resource use ? Development of tech needs to minimise harm on environment (pollution cause by machinery, especially manufacturing and removal and storage of waste) ? Consumers need to be aware of cost and disposal of excessive package (clear instructions on proper use of product and disposing of product) ?

E. g. Bosch Drills parts are many of fully recyclable parts ? Societal impacts of being environmentally- friendly: positive attitude and support from society and good corporate citizenship •Corporate Social Responsibility -The difference between legal compliance and ethical responsibility -

Environmental sustainability and social responsibility ? Extends bs objectives from profit to ' service to the community and society' ? Large bs embrace CSR through releasing annual reports to the public and aware of environmental footprint ? E. g. safeguarding environment (restricting GHG emissions) Help community through community initiatives (donation to third world countries and disaster victims) Ethical behaviour and fair conduct (annual reports with relevant and truthful info, equal opportunity, rewarding performance) ? Successful managers pursue profit and CSR (contribute to public positively, high reputation with stakeholders, profitable & responsible, must imply as it may seem as a marketing tool) ? Triple Bottom Line: deals with Profit, Community (social justice) and Environment (help, sustainable development) ? E. g. factories produce a lot of chemical and wastes, therefore operations are the solution to minimise emissions! -The difference between legal compliance and ethical responsibility ? Legal compliance: following and regulating laws ? Ethics: obligation for people to act in a way that is morally right (it should be transparent to everyone to see what you

are doing e. g. shareholders and employees) ? Ethical responsibility includes disclosing info to stakeholders about decisions about bs, O. Mangers follow rules and codes and conducts, principles that reflect objectives (doesn't harm environment and is positive) ?

Ethical behaviour and responsibility: goes beyond laws and legislations and requires OM to do acts of goodness ? If bs breaches laws they will face punishments (fines, imprisonment and loss of reputation) -Environmental sustainability and social responsibility ? Social responsibility: aiming to improve environmental outcome of bs ? Bs have moved/moving to Triple Bottom Line by reducing environmental footprint, improving the environment and contribute positively to society (use of natural resources, waste disposal system, potential pollution hazards, production is safe) ?

Gov aims to set reduction targets and encourage bs and community to change production and living practices to contribute long term (e. g. reducing GHG emissions) ? How are bs being ES & SR? (reduce impact on environment, monitor use of resources, potential pollution hazards, waste disposal systems, gov. have ways to reduce emissions) ? E. g. Amcor's Sustainability Agenda and Annual Company Report (Environment – Environ Action and Amcor's Targets (GHG reductions and waste land reductions) and Incidents (spills) Operation Processes •Inputs -Transformed resources (materials, info and customers) Transforming resources (human resources and facilities) ? Parts needed to produce a finished product -Transformed resources (materials, info and customers) ? The inputs such as raw materials used to produce a finished product/service ? Materials ? everything you need to product a finished product result ? includes raw materials ? some large bs

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have specialist managers in controlling resources, from initial purchasing stage to final distribution stage, therefore purchasing, transporting and storage needs to be carefully managed ? Information ? Research phase: gathering information about consumer tastes (CA) ?

Bs need to produce what is in demand in most cost efficient way ? Info needed on: customer trends, new tech methods, relevant laws, competitors, financial data, stock and inventory levels and feedback ? Info sources can be external (gov reports, trade journals, market research) or internal (bs company reports, data on sale figures and work performance and projections) ? Ideal management info system: collect relevant info, sort into structure, interpret & analyse info, summarise and synthesise info and distribute at right time and form ? Info needs to be efficiently stored and readily accessible ? Customers Vital input for successful bs ? Changed in a different way (e. g. hairdresser changes look and feel, while airlines change location of customer) ? Bs faced with 2 alternatives (customer-based marketing or product-based marketing) ? Impact of customer influences whether O. M produces customised p/s (altered to fit specific needs of person e. g. iPhone cases) or standardised models -Transforming resources (human resources, facilities) ? The transformation of inputs and the process to produce the finishing product ? Human Resources ? Staff, hiring and firing ? Are vital inputs, especially in non-manufacturing processes ?

Range from untrained to highly skilled ? O. M, job design (important as it influences work methods and impacts work measurement system – jobs need to be designed in a way that workers feel satisfied to motivate employees to accomplish goals using their skills/abilities) and job

specification ? Good job design: skill variety, task identity, task importance  
 autonomy and feedback (clearly know what they are doing, importance of  
 job, skills and experience, age and training) Transforming Resources School  
 Airline Soft Drink Manufacturer Human Resources Teachers Pilot Chemist and  
 food tech

Admin Staff Flight Attendants Scientists engineers IT Consultants Engineers ?  
 Facilities ? Place where components are assembled, where “ magic happens”  
 ? Buildings, land, equipment and tech used in bs in O ? Facilities used to  
 generate profit ? Quality and nature of facilities affect capacity of process,  
 transform resources and competitive p/s, productivity ? Where you work  
 affects how well you do your job ? O. Managers make decisions on location of  
 facilities, design and layout and process layout within facilities are organised,  
 near supplies, space, near cost labour, process, products? Fixed position  
 layouts: were p/s constructed/delivered to one place (e. g. buildings under  
 construction) Transforming Resources School Airline Soft Drink Manufacturer  
 Facilities Buildings Aircraft Mixing Vats Libraries Terminals Warehouses  
 Classroom Computerised Booking Systems Labelling Machine • Transformation  
 Processes -Influences of volume, variety, variation in demand and visibility  
 (customer contact) ? Volumes: amount of p/s produced, specialisation is  
 easier to achieve ? E. g. flowchart of volumes of operations comparing  
 restaurant (low volume – 5 star restaurant and high volume – fast food  
 restaurants) ?

Variety: the different types of p/s ? E. g. flowchart of different of variety of  
 operations: low variety – standardised in car factory with small model and  
 high variety – financial advice) ? Variation in demand: demand for p/s,



storage and inventory may be necessary ? E. g. flowchart of differences of variation of operations in food staples: low variation – staples such as bread and milk and high variation – ice-cream factory ? Visibility: customer contact through relationship marketing enabling greater demand and smoother production ? E. g. lowchart of the difference of the visibility of operations on customer service: low customer visibility – online Uni course and high customer visibility – restaurant -Sequencing and scheduling – Gantt Charts, critical path analysis ? Major tasks of O. Managers is to allocate resources efficiently ? Key process in O. M in production planning (general plans and detail activities undertaken in P. P) ? Gantt Charts ? Bar graph with time on horizontal axis and the activities to be scheduled on the vertical axis ? Bar shows output, both planned and actual over period of time ?

Illustrates when tasks are supposed to be completed and compares with actual progress of each task ? Sometimes overlaps and needs to be finished before completing another task ? A specific scheduling cart that sets out the sequence of events and time needed for all activities involved in a project ? Critical path analysis ? Scheduling took used in O involves series of repeated tasks ? Flow diagram shows the interrelationships of tasks ? All tasks need to be completed for project to be finished ? Critical path time period predicts the longest path taken to complete whole project Technology, task design and process layout ? Every bs uses some form of tech to transform inputs into outputs ? To reach bs objectives bs combines various patterns of equipment, materials, knowledge and skilled human input ? Type and amount of tech used in P & O. P & systems influenced: oType of p/s being produced oAvailability of capital/cost oPrevailing tech oKnowledge & skill of

management and staff ? Type and application of tech affects task design of P. P, design, layout of production facilities and O and tasks undertaken in O.

Monitoring, controlling and improvement ? Process of observing and measuring production and operations performance against standards and then dealing with unacceptable variations to bring about improvements ?

Data is then used to monitor production and operations ? Where operations and production are below standards and expectation, new production and operation plans need to be improved ? Monitoring and controlling ?

Investigate aspects of g/s produced (product) and the way g/s are produced (process) ? Standards of performance established internally and externally ?

External standards from industry and gov ? Control and improvement ?

Takes place all over levels of production, operations and management ?

Lower levels (close examination of production levels and inventory managements) and higher levels (information collected and examined) ?

Corrective action is final step in control process ? Features of different types of control determines by timing ? If problem can be predicted it can be prevented (observed while happening can prevent further problems from happening) ? How to measure output according to product and service

Product quality aspects Service quality aspects Flexibility: meets operating specifications over time Timeline: performance in promised period of time, customer provided with service Aesthetics: how product looks and feels Convenience: accessibility to customers Performance operating characteristics: works correctly Completeness: fully serviced as required Features: important special characteristic; special features work correctly Accuracy: performed correctly each time Types of Controls Type

Characteristics Examples Prevention Forecasts from plans before Cash forecasts

Feedback (observed after happening) Identifies expected outcomes and quality standards Financial results, product quality • Outputs ? Goal of O. P is to produce physical p/s that satisfy customers which give outputs CA over competitors ? CA gained over quality and price ? Manufacturing (goods that meet needs of consumers) and non-manufacturing outputs (services, hospitals and education for example) differ -Customer service and Warranties ? For manufactured goods, customer service is provided through replacing if good is faulty, education, repairing good if not working properly and maintaining/servicing it ? In service industries, service provided often consumed at the same time, customer service will reflect more how the service is customised and provided Operations Strategies • Performance objectives – quality, speed, dependability, flexibility, customisation, cost • New product or service design and development • Supply chain management – logistics, e-commerce, global sourcing • Outsourcing – advantages and disadvantages • Technology – leading edge, established Inventory management – advantages and disadvantages of holding stock, LIFO (last-in-first-out), FIFO (first-in-first-out), JIT (just-in-time) • Quality management – control, assurance and improvement • Overcoming resistance to change – financial costs, purchasing new equipment, redundancy payouts, retraining, reorganising plant layout, inertia • Global factors – global sourcing, economies of scale, scanning and learning, research and development • Performance objectives – quality, speed, dependability, flexibility,

customisation, cost ? Strategies in operations that managers must set to have GOALS ?

Objectives interrelate and influence each other in O. P ? Quality ? Consumers seek to buy products of quality and worth their value for money ? Quality products benefit producer in 2 ways: 1. Product is reliable and works properly encourages customers to buy, reputation for quality (may be able to charge premium costs) 2. Product with quality doesn't need to be attended to or readjusted or returned for warranty fixes ? Speed ? Speed of response between time of customer request of p/s and receiving it ? Speed is important for customer satisfaction and repeat bs ?

Aim to maximise customer experience and enable for fast service charge ? Linked with cost reduction ? Dependability ? Operations seek for g/s to by ' DOING THINGS ON TIME' ? Impacts customer service experience and increase reliability ? Reliability depends on bs and speed and quality ? Flexibility ? Easily responded to ? Management aims to improve bs flexibility by changing what they do and constant review of strategies and processes ? Allows be to offer: p/s, adjust sale mix, quantities produced, offer at different times ? Improving will achieve faster response and reduce waste during changeovers ?

Mass customisations ? Tending to specific customer wants ? Mass – selling to vast amounts of customers ? To satisfy customer orientated market (focus on cost and quality, mass customisation) ? E. g. Dell, Toyota, Ford ? Offers customers customised product (high variety) rather than standardised (low variety) ? E. g. Dulux paint allows any colour to be made through mixture

with no additional chargers to labour, it is the same process of standard colours but seems as an “ extra” process ? Cost ? Responsible for efficiency and use of few resources at the same time ? Main objective of bs is to minimise cost Evaluating process and constant review, gaining significant cost effective products •New product or service design and development ? Lengthy process: initial research to indicate number of possible products and commercialised into final product ? Product is central to all marketing activities (should be flexible within marketing mix and subject to adapt to costumer wants) ? Products need to satisfy costumers ? New product development is process of bringing new p/s into market. Two main ways idea generation, product design and detail engineering AND market research, analysis ?

Planning process: Idea gen, idea screening, concept developing and testing, bs analysis, marketing strategy & product development, test marketing and commercialisation •Supply chain management – logistics, e-commerce, global sourcing ? Where you get your materials from ? Purchasing and supplying for correct materials for production process is crucial for smooth operation of bs ? E. g. Australian Fashion Industry, travelled to Europe for fashion trends for coming season, ? Making products takes lead time and must be planned ahead (quantities products must be ordered) ?

Difficult when input products need to be imported from overseas ? E. g. Pepsi has secret ingredient that must be imported to be made ? Large bs (e. g. supermarket) must be heavily computerised to allow constant access to info ? E. g. Aldi, scans, tell comps how much need to supply (constant reviewing and purchasing of supplies) ? Point-of-sale (checkout)

management to view sold and reordered simultaneously ? Logistics ? How it's going to happen ? Logistic management plans, implements and controls efficient flow of storage of g/s relating to point of origin to point of consumption ?

E-commerce ? Buying and selling online ? Rapid penetration off internet worldwide, making your product to be accessible online ? Global Sourcing ? Getting supplies worldwide ? Globalisation is important for supplier relationship and expansion of supply chains over national boundaries ? Growth categorised by global supply chains (increase CA, add value, reduce costs) • Outsourcing – advantages and disadvantages ? Asking someone outside business provide p/s and help bs with what they can't do (third party) ? Bs secures/purchases p/s from 3rd party, opposed to own bs ?

Common dep functions that are outsourced include: info tech, training, accounting, human resource management, supply management Advantages Disadvantages Cost effective (pay someone else to do your job) Loss of control (might not be exactly to your taste) Faster production time Difficulty maintaining standards (may not meet your standards) Outsourcing allows more time to focus on core bs processes Loss of job with decision to outsource (may be someone already in your department to fulfil job) Access to professional, expert, high quality service Security and confidentiality issues (TRUST) Hard to communicate with Technology – leading edge, established ? Is essential is bs environment today and key component of flexibility in industries ? Advances in tech makes it possible to build products with fewer resources ? High tech can provide a CA ? Internet based tech creates new bs and destroys others ? Leading Tech ? Investment in leading

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edge tech increases significant potential benefits (bs achieving superior performance objectives and gaining CA) ? Tech advances at fast rate; streamline, improve quality, speed, dependability and flexibility ?

Acquiring tech implement costs, training, development of staff and potential staff redundancies ? Established Tech ? Needs to be up to date ? Bs needs to research costs and benefits of tech to more accurately draw experiences of other bs ? Better decisions offer techs to achieve goals ? Pressure of customers/stakeholders keep up with established tech/risk becoming irrelevant •Inventory management – advantages and disadvantages of holding stock, LIFO (last-in-first-out), FIFO (first-in-first-out), JIT (just-in-time) ?

Stock such as materials and finished products that need to be stored ? Inventory management involves decisions about amount of stock held, how to handle it and store it ? Constantly needs enough stock but not TOO much ? Store managers stock: electronic stock monitoring (scanners and barcodes), communications (goods, computer systems) and transport (courier systems – delivery) ? Advantages and Disadvantages of holding stock Advantages Disadvantages

Holding stock ensures adequate supply for sale Storage or large quantities are expensive (rental/buying of warehouse) Adequate supply ensures satisfied customers Slow moving stock doesn't generate profits Holding stock maintains backup stock (not lost) Difficult to continually and accurately monitor stock Ability to store gives bs advantage to have bulk orders (better deal) Stock being held is at risk of damage, theft and deterioration ? LIFO

(last-in-first-out) (refers to how merchandise and stock is managed in bs) ? Stocked from the front (long lasting products e. . corn cans) ? Restocked by pushing old items to the back to make room for new, long expiry date ? FIFO (first-in-first-out) ? Stocked from the back (fast expiry dates) ? Perishable items such as bread and milk that are restocked from back to push old items forward and be first selected by customers ? JIT (just-in-time) ? A process that tries to reduce the amount of time which product needs to be stored (bs doesn't want to waste finance on warehousing) ? Ordering when needed from supplier (quick turnover time) ? Ordering on basis that you need it) Response and delivery times are minimal but there must be trust within supplier ? How JIT works: reduce warehousing/storage costs, improved flow of goods from warehouse directly to shelves, smooth flow, emphasis on close relationship with suppliers, arrival on regular intervals (night/morning drop off) and synchronisation of supply with demand) •Quality management – control, assurance and improvement ? How your products meet customer wants/desires/demands/expectations ? Kaizen: Jap concept that states there is always room for continual improvement ?

Some bs develop a quality concept and monitor their quality and manufacturing techs to support production of quality products ? Controls ? Internal method; quality control needed to develop quality products. Employees need to be aware and monitor all levels of production at highest possible quality (e. g. answering phone promptly) ? External method: hiring and quality control consultant to check if bs is meeting standards) ? Quality process: advertising fact with special logos of accreditation e. g. appliance 5 star efficiencies ?



Gov organisations only restrict employees who are accredited (have to meet certain standards) ? Assurance ? Quality assurance attempts to improve and stabilise production to minimise issues that led to defects in first place (assuring that it meets standards – ads and campaigns – and followed right steps) ? Improvement ? Refers to ongoing effort to improve p/s ? To maintain levels of quality and satisfied customers bs should seek to improve quality, streamline processes (better way of doing something, less steps e. g. ), eliminate waste and maximise efficiency ?

Surveys to gain feedback (especially from employees) ? E. g. Quality management: Vodka tasters cannot smoke, drink coffee or have perfume on

- Overcoming resistance to change – financial costs, purchasing new equipment, redundancy payouts, retraining, reorganising plant layout, inertia

? Financial Costs and purchasing new equipment ? Many bs recognise the need for multi-skilled, flexible workforce but such investment is costly but beneficial in the long run ? New technology is also expensive to introduce but is flexible and used for a long period of time ? Redundancy payouts Change may require the replacement of some workers with machinery that do the job more efficiently (this is the ultimate fear of workers) ? If employee is made redundant, they are given a portion of next year's wage/salary and dismissed with notice (level of redundancy payouts based on length of service) ? It could be a positive (workers who are planning to retire) or negative decision for employees ? Can cause tension and disruption to work especially if worker has a trade union ? Retraining ? Associated with changing methods ? Resistance from staff can quantify financial costs Workers feel threatened by change and by resist causing disruption to bs ?

Worker morale needs to be considered and consulted (can be time consuming) BEFORE change is implemented (bs decisions must be discussed) ? ‘ Deskillling’ refers to situation where tech change/ new machines take over employees ? Reorganising plant layout ? Inertia: reluctance and unwillingness to change ? Fear of change (some managers/owners simply resist change as they feel comfortable with what they know and fearful of what they don’t (personal failure and possible loss of reputation, position or finance) ?

Philosophy, “ if it ain’t broke, don’t fix it” ? Change must be small, incremental and ongoing (has to be gradual through taking steps not a BIG change) •Global factors – global sourcing, economies of scale, scanning and learning, research and development ? Future for many organisations and involves designing the production line to seamlessly change new product models anywhere in world and meet demands ? Organisations have well-structured supply chains to gain CA ? New dimensions for O. M include designing, producing and manufacturing in different countries and distributing worldwide ?

Global sourcing ? Both materials and staff (trend in Australia is using foreign call centres from low cost English speaking workers such as Philippines and Indians) ? Refers to the practise of sourcing g/s internationally ? Exploits global efficiencies (low cost skilled labour, lost cost raw materials, low trade tariffs) ? Economies of Scale ? Refers to cost advantage of bs by obtaining expansion of high volume products to expect to gain profit (e. g. bulk orders) ? Outsourcing, production tech and supply chain/ inventory management increase economies of scale ?

Scanning and learning ? Research and development ? R & D through new tech, new products and new processes ? Gains CA ? New markets gain CA through new tech, products and new processes ? Research: refers to generations of new ideas that developed new products, tech and processes e. g. laser was originally used by surgery but not used by point of scanners to record barcode ? New products are brought into the market through development (new product, techs and processes turn something made by bs and sold to consumers)