

Glossary of key terms

- activity based management (ABM)** System of management which uses activity based cost information for a variety of purposes including cost reduction, cost modelling and customer profitability analysis.
- bottleneck** An activity within an organisation which has a lower capacity than preceding or subsequent activities, thereby limiting throughput. Bottlenecks are often the cause of a build-up of work-in-progress and idle time.
- break-even point** The level of activity at which there is neither profit nor loss, ascertained by using a break-even chart or by calculation.
- concurrent engineering** A means of reducing product development time and cost by managing development processes so they can be implemented simultaneously rather than sequentially.
- cost driver** Any factor which causes a change in the cost of an activity. For example, the quality of parts received by an activity is a determining factor in the work required by that activity and therefore affects the resources required. An activity may have multiple cost drivers associated with it.
- cost of quality (COQ)** The cost of quality may be defined as the additional cost incurred in non-added value activities and events in a business in fully satisfying customers' agreed requirements for products and services delivered. It is the cost both of not doing the right things and not doing things right first time.
- cross-function management** Horizontal cross-departmental organisation as opposed to the traditional vertical, functional, chimney organisation.
- just in time (JIT)** The management philosophy that incorporates a 'pull' system of producing or purchasing components and products in response to customer demand, which contrasts with a 'push' system where stocks act as buffers between each process within and between purchasing, manufacturing, and sales.
- limiting factor (or key factor)** Anything which limits the activity of an entity. An entity seeks to optimise the benefit it obtains from the limiting factor. Examples are a shortage of supply of a resource or a restriction on sales demand at a particular price.
- margin of safety** The difference between the break-even point and an anticipated or existing level of activity above that point.
- optimised production technology (OPT)** OPT is a manufacturing philosophy combined with a computerised system of shop-floor scheduling and capacity planning. It is a philosophy that focuses on factors such as manufacture to order, quality, lead times, batch sizes and set-up times, and differs from a traditional approach of balancing capacity as near 100% as possible and then maintaining flow. The aim of OPT is to balance flow rather than capacity. The goal of OPT is to make money by increasing throughput and reducing stocks and operating expenses, by making better use of limited capacity by tightly controlled finite scheduling of bottleneck operations.
- policy deployment** The process of internalising improvement policies throughout the company from translation of customer requirements, through each process of specification, design, etc. to final manufacturing and delivery.
- reverse engineering** The decomposition and analysis of competitors' products in order to determine how they are made, their costs of production and the way in which future development may proceed.
- theory of constraints (TOC)** An approach to production management which aims to maximise sales revenue less materials (throughput), whilst simultaneously reducing 'inventory' and operational expense. It focuses primarily on factors which act as constraints to this maximisation.
- throughput** The rate of production of a defined process over a stated period of time. Rates may be expressed in terms of units of products, batches produced, turnover, or other meaningful measurements.
- total productive maintenance (TPM)** Where first line maintenance, cleaning, checking for irregularities, leaks etc., and simple maintenance, become the responsibility of operators rather than of the maintenance department.
- total quality control (TQC)** A concept of the quality operation of a business that includes policy deployment, quality control teams, cross-function

quality groups, 5S techniques of good housekeeping, the seven tools of quality, and the Deming cycle of plan–do–check–act, to involve everyone in all areas of the business to meet customer needs.

total quality management (TQM) An integrated and comprehensive system of planning and controlling all business functions so that products or services are produced which meet or exceed customer expectations. TQM is a philosophy of business behaviour, embracing principles such as employee involvement, continuous improvement at all levels and customer focus, as well as being a collection of related techniques aimed at improving quality. In addition to the features included in TQC, TQM additionally includes JIT, *heijunka*, and *jidoka*.

value analysis A technique for examination, by multi-disciplined teams, of design attributes and any other factors affecting the cost of the product to identify and implement the means of achieving the specified purpose most economically at the required standard of quality and reliability. Value analysis is the broad term usually used to include both value analysis and value engineering. Value engineering applies to products under development, whilst value analysis applies to products currently in production.

value engineering The method of value analysis that applies to products under development.