

**FIVE MANUFACTURING: PROCESS TYPES: BASED LARGELY ON 'VOLUME-VARIETY' POSITIONS/EFFECTS**

TYPE	VOLUME	VARIETY	EXAMPLE	UNIQUE CHARACTERISTICS	CORE CHARACTERISTIC	Process Map	Activities	TRANSFORMING RESOURCES:
<b>PROJECT</b>	<b>LOW</b>	<b>HIGH</b>	Construction; Shipbuilding; Movie Production; Large Manufacturing operations; Installations of a computer system	Discrete, highly customised products.	<u>Each job:</u> Well-defined from start to finish. Time interval between jobs relatively long.	Complex. Rarely used.	Ill-defined Uncertain Changes	Which make product are organised specially for each product.
<b>JOBGING</b>	<b>LOW</b>	<b>VERY HIGH</b>	Specialist Toolmakers; Furniture Restorers; Bespoke Tailors; Printer producing tickets for local social event	Resources process a series of products. All require same kind of attention. However each product differs in its exact needs.	<u>Unlike Project:</u> Produce more & usually smaller items. <u>Like, Project:</u> Degree of Repetition is low. Many jobs probably 'one-offs'.	Less Complex		Each product share operation's resources with many others.
<b>BATCHING</b>	<b>WIDE</b>	<b>RANGE</b>	Machine Tool Making; Production of special gourmet frozen foods; Manufacture of component parts for mass-produced assemblies e.g. motor vehicles.	Each time processes produces a product, produces more than one. Therefore each part of operation has periods when it repeats, itself.	<u>Unlike Jobbing:</u> Does not have the degree of variety. e.g. Large batches & if products familiar to operation, fairly repetitive. <u>Like Jobbing:</u> Size of batch could be 2 or 3, especially if new/novel product. Therefore: found over a <b>Wide Range</b> of Volume-Variety levels.	Can look complex; Different parts take different paths through process. However, each part will take: Predictable route with Standard activities @ each stage.	Predictable Route. Standard @ each stage.	
<b>MASS</b>	<b>HIGH</b>	<b>RELATIVELY NARROW</b>	Vehicle Assembly Plant; TV Factory; Most Foods Processes; DVD Production	<b>Narrow</b> , in terms of fundamental product design.	Different variants of its products don't affect basic production process.	Simple	Essentially Repetitive. Largely Predictable.	
<b>CONTINUOUS</b>	<b>HIGH</b>	<b>LOW</b>	Petro Chemical Refineries; Electricity Utilities; Steel Making; Some Paper Making	Literally continuous In that their products are inseparable. Capital Intensive Technologies.	Produced in 'Endless Smooth Flow' from process to process. Operate for longer periods of time.	Simple	Relatively Inflexible. Highly Predictable flow	