

**ICT IN DESIGN, MARKETING,
MANUFACTURING AND DISTRIBUTION**

This mobile revision pdf is based on detailed work found in the 'PRODUCT DESIGN' section.

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ICT IN DESIGN, MARKETING, MANUFACTURING AND DISTRIBUTION

1. INFORMATION
COMMUNICATION TECHNOLOGY
- A VITAL MARKETING TOOL

2. BARCODES IN
MANUFACTURING,
DISTRIBUTION AND SUPPLY

3. INFORMATION
COMMUNICATION TECHNOLOGY
DEVELOPING AND MODELLING
IDEAS / PRODUCTS

4. E-COMMERCE AND THE
CONSUMER? AND EDI

ICT - A VITAL MARKETING TOOL

Using information Communication Technology (ICT), is crucial to most businesses, regardless of size. It is important to a company aiming to expand and to improve efficiency. The use of good ICT also improves customer services and customer demand.

From database development, website design to market research, translation software, direct mail marketing and training, the application of ICT is critical for a economic success.

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THE INTERNET – ADVERTISING AND MARKETING

The internet is one of the ways in which media companies / businesses advertise. The main form is advertisements or 'prompts' on media focussed websites. One example is the i-tunes website, through which millions of people purchase and download music. The site automatically recommends similar CDs / DVDs to the one being purchased by the customer. This is direct marketing, taylor-made for the individual customer. It ensures that the customer is directed to further potential purchases. Furthermore, previous customer purchases are recorded, allowing the software to build an accurate customer profile on each i-tune member.

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TELE-MARKETING

Tele-marketing is often used by media companies, especially 'sales departments' to generate appointments with potential customers. Company Directory Software is used to identify decision makers within companies, capturing their details. Often electronic versions of customer database lists are purchased, allowing sales to contact potential customers directly. The objective being, to secure appointments that lead to orders.

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DIRECT MAILING

Direct mailing is a way in which DVD production companies send material / product information, directly to potential customers. The aim is to focus on real customers rather than sending catalogues / information to people who have very little interest in the product.

Direct mailing takes two forms. Mailing through the post and emails.

DVD production companies keep up to date customer databases, saving thousands of pounds on future marketing campaigns. This ensures that advertising is directed to the people who have a potential interest in their products or services.

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QUESTIONNAIRES

Questionnaires are used as a marketing and research tool. A well designed questionnaire will allow companies to compile up to date and accurate information. The questionnaire should be composed of appropriate questions, with proper wording and flow.

DVD production companies use this approach, especially when gathering information on the internet.

Free software such as Google Docs allows online questionnaires to be compiled and then analysed automatically. This software is available for all to use.

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COMPANY WEBSITES

Companies usually have their own websites. For example, Sonymusic.co.uk promotes new releases. Often a media company will produce a website, for a specific artist or their most recent album. Free downloads of tracks encourage the purchase of further tracks and promote live events. Video trailers are produced to encourage attendance at cinemas or the purchase of films / music. Manufacturers also have websites, promoting their products.

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PROMOTIONAL PRESENTATIONS

Promotional Presentations through, special events, involvement of celebrities.

Sometimes videos are release through YouTube, advertising / promoting a product.

In school, presentations are often based on the use of PowerPoint slide shows.

ICT is normally involved when a new product is being promoted.

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WHAT ARE BARCODES?

barcodes are a graphical method of representing numbers. Computer system can read barcodes more efficiently than optically reading numbers and letters.

Computer systems use barcode technology to keep track of products as they are manufactured and progress down the production line. Barcodes are used to track the progress of products as they are distributed to customers. In shops and supermarkets, the barcodes on the packaging of products, are used by computer systems to monitor sales and the order further supplies.

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BARCODES AND THE PRODUCTION LINE

On a production line a component / product will be issued with a barcode. As the product progresses down the production line, the barcode is scanned repeatedly. This allows the computer system to monitor the products progress, as it is assembled and quality checked. The computer system also records the number of products/units manufactured, keeping accurate records such as times and dates. At every point on the production line and in stores awaiting for distribution, the computer system will know exactly where the product is located.

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BARCODES AND DISTRIBUTION

The computer system allocates each product or box of products to a 'lorry' for distribution. The barcode again plays an essential role. Each barcode will be allocated the correct address for a retail outlet or for an individual customer. As the product is transported, its location is monitored and recorded. For instance, when sending a package by Royal Mail (UK) it is possible to log on to the Royal Mails website and find out where your 'package' is geographically located.

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BARCODES AND SHOPS, RETAIL AND CATALOGUES

A checkout operator in a supermarket scans a product barcode as the customer passes through the checkouts. The price will be automatically displayed and as more products are checked out the total cost will be calculated. This means the checkout operator does not need to manually type in the price of each product. This makes the checkout procedure less time consuming and it is less likely that mistakes will happen.

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BARCODES

SUPPLY AND DEMAND

As products are scanned at the checkout, the supermarket computer system will automatically determine, whether more products need ordering, so that replacements are placed back on the shelves. This saves time as it does not require an employee to constantly check the shelves, or to manually order replacement products. Stock control is much more efficient as a result of the introduction of barcodes.

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GRAPHICAL BARCODES

Barcodes are usually plain in design. However, they are sometimes seen as an opportunity to promote the product

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QR CODES (QUICK RESPONSE CODES)

QR codes (Quick Response Codes) are seen on packaging. They are a type of 2D barcode and they can be used as a form of advertising. QR codes are accessed by smart phones with the right 'app' installed. The QR scanner reads the QR in a similar way that bar codes are read, converting it to a URL (website address), text, email, or phone number. If the QR code directs the customer to a website, it appears on the screen of the smart phone. Specific information can be read by the customer / potential customer.

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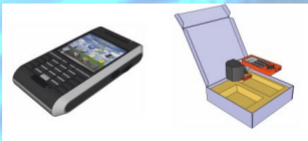
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COMPUTER AIDED DESIGN

Computer Aided Design (CAD), is vital to a Product Designer in the development of a product. 3D design software such as AutoCAD or Sketchup, allow the designer to draw a product in detail, applying materials and textures to its surfaces. CAD software can also be used to test a product, during its development, helping to identify problem areas and even faults. For example, CAD software is often used to test designs of bridges and other structures.

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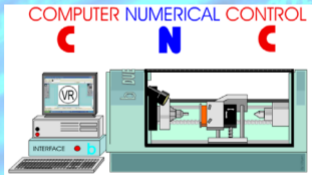
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COMPUTER AIDED MANUFACTURE

Once a prototype design has been produced, it can be manufactured on a CNC machine or Rapid Prototyping machine. Professional CAD software will interface (link / communicate) with CNC machines, allowing the prototype to be manufactured, directly from the design. CAD software can link to CNC routers, vinyl cutters, digital 3D printers and plotters. The prototype/model, can then be shown to potential clients / customers.

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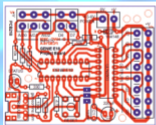
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CIRCUIT SIMULATION SOFTWARE

A range of circuit design software is available, allowing the circuit designer to develop and test circuits. Circuit Wizard software is a good example. Software such as this, means that there is no need to manufacture real circuits, during the development stage. Faults can be identified and corrected by simulating the software on screen, before an actual circuit is made. This saves time and money. The 'modelled' circuit can be shown to potential customers / clients and alterations made, before the expensive manufacturing stage.

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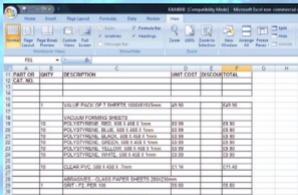


COSTING A PROJECT - SPREADSHEETS

A spreadsheet is an ideal way of tracking costs, during the development of a product.

This type of software can also be used to estimate the cost of manufacture, of the final product or of a variety of possible designs. Spreadsheet software can also be used to model 'systems'

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The screenshot shows a Microsoft Excel spreadsheet titled 'EMER8 [Compatibility Mode] - Microsoft Excel 2010 - commercial'. The spreadsheet contains a table with the following data:

11	A	B	C	D	E	F	G	H
12	PART OR	QNTY	DESCRIPTION	UNIT COST	DISCOUR	TOTAL		
13	CAT. NO.							
14								
15								
16		1	VACUUM PACK OF 7 SHEETS 1000X1000mm	125.90		125.90		
17								
18			VACUUM FORMING SHEETS					
19	10		POLYSTYRENE, RED, 500 X 450 X 1mm	23.90		23.90		
20	10		POLYSTYRENE, BLUE, 500 X 450 X 1mm	23.90		23.90		
21	10		POLYSTYRENE, BLACK, 500 X 450 X 1mm	23.90		23.90		
22	10		POLYSTYRENE, GREEN, 500 X 450 X 1mm	23.90		23.90		
23	10		POLYSTYRENE, YELLOW, 500 X 450 X 1mm	23.90		23.90		
24	10		POLYSTYRENE, WHITE, 500 X 450 X 1mm	23.90		23.90		
25								
26		10	CLEAR PVC, 500 X 450 X 1mm	11.40		111.40		
27								
28			ARTISANOVES - GLASS PAPER SHEETS 2600X1000mm					
29	1		SWT - P2, 400 X 500	18.60		18.60		

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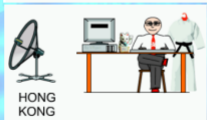
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FILE SHARING

Products are often designed by a team of Product Designers. During the development of a product, CAD files are often shared and designs constructed collaboratively. The internet allows designers located in different regions of the world, to share in the design and development of a product.

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WHAT IS E-COMMERCE ?

E-commerce is a growing feature of the world economy. Customers / potential customers, use e-commerce every time they search for products and purchase products, on the internet. An example - a customer orders a product over the internet and pays using a credit / debit card. The payment / order is processed electronically and the product is dispatched from the warehouse. Finally it is delivered direct to the customer's home and the customer signs for it.

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ELECTRONIC DATA INTERCHANGE (EDI)

EDI involves using standardised document / file formats across the entire company. This means that employees use the same system to order materials, track customer orders, control stock levels, produce invoices and to carry out accounting. Companies that use EDI, can transfer data from one branch to another and even across the world, with full confidence that the data can be accessed, edited and updated, without problems.

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