Introduction to print buying

Every organisation, no matter how large or small and irrespective of the sector, has a need at some time for print. It is important that print is procured professionally and effectively not just from the commercial point of view, but also because the image which a printed product conveys about your company will influence how your suppliers and customers view your organisation.

This knowledge paper is supportive of Procurement professionals operating at Operational level of the CIPS Global Standard

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This guide is intended to take you through the process of procuring print and to give some insight into the technical nature of print buying. It is intended to be a starting point for the effective procurement of print and should be supported with further research and training for those who are new to this area of purchasing.

The print marketplace

Over the last ten years the printing industry has changed dramatically. With the economic challenges, rising paper and postage costs, coupled with the rise of social and email, the use of print as the go-to option of communication has had a monumental shift. This has led to huge numbers of print manufacturers and mills consolidating or closing over the last decade. The print manufacturers who have survived have tended to specialise in one or two disciplines and become very efficient. This has led to bigger challenges in the marketplace and a reduction in the number of specialist buyers and consultants.

First considerations for procuring print

For some sectors of print it would be wise to consult a print buyer/consultant from a design or production house, rather than going directly to a manufacturer, because of the specialist knowledge required.

Direct mail, door drops or packages that have a requirement to be sent through the post can be complex, especially with quantities over 4,000. There are also many more postage options available since the end of Royal Mail's monopoly in 2005. Small changes in size, weight and even content of the material can bring significant savings in postage, which is often a significant proportion of the total cost of a mailing campaign. Point of sale pieces and brochures can be complicated by finishing and technical requirements, as can be Out of Home (OOH and what most will know as billboards) with artwork supply requirements.

Areas in which a procurement professional is often required to source print is business stationery, house journals, specialist magazines, advertising literature, sales brochures, posters, packaging, labels, cheques, vouchers and transactional that covers; bills, payslips and statements.

Print options

There are two main options to choose between for printed material, lithographic (litho) and digital, each has its advantages. Litho is the more traditional of the two and where wet inks are laid onto individual plates for each colour. These plates are wrapped around cylinders that act like rubber rollers and press the ink into the page as it passes through the printing press. Plates traditionally were aluminium, costly and time consuming to make through photochemical processes. Over the last 20 years with the advances in direct to plates technology plates can be created from pdf artwork files and sent directly to a printing press, reducing time and costs.

The image in litho printing is made up from four colour process, consisting of cyan, magenta, yellow, and black (referred to as CMYK). Tiny dots from each of these four colours are mixed together on a page to create an image. An easy way to understand this is to look at a colour photograph in a newspaper under a magnifying glass, you will see small dots in patterns that make up the picture.

The biggest differential between litho and digital, is the type of ink used. Litho is a liquid ink, where as digital presses use toners, in a similar technology to a photocopier. Toner is a very fine, plastic-based powder which is heated inside the digital printer and melts (known as fusing) to the paper. Although digital printing does use the same four colour process as litho, it does not have the necessity of printing plates, which coupled with the use of dry inks gives a number of advantages.

As digital printing uses a similar technology to an office photocopier, the time and costs to set up a print run are significantly less than litho, making very quick turnaround times achievable, as well printing small quantities. Small print runs aren't as cost effective with litho because of the set-up time of the printing press. Digital also has the advantage of variable imaging, allowing for personalised materials with dynamic content.

Litho has always held the advantage over quality and speed, digital technology has closed the gap significantly over the last decade with recent advances in metallic colours making it a viable choice from many more types of work, however litho print still has the more defined image output. The speed of litho presses is also a significant advantage for large print runs and why it is the choice for magazines, newspapers and larger volume direct mail.

This brief introduction hopefully demonstrates there are advantages to both digital and litho. There are also other methods such as flexography, letter press and screen printing. It is key to choose the right method for the job in hand. As with any purchase it is important to define the requirement before going out to market, in print production this is the specification (spec).

Specifications

A print job must be specified accurately and with enough detail to ensuring your requirements are met.   To quote accurately a supplier would need to know:

- Quantity
- Elements
- Materials
- Size and the number of pages
- Number of colours
- Personalisation
- Finishing requirements
- Enclosing
- Delivery

Quantity - The quantity is obvious and should be clarified for each element required if the quantities differ. It is always worth requesting a range of quantities, as the supplier's set up in terms of machine size will determine where the best price points will be for the most economical print run. It is good practice to order more than the actual required quantity to allow for samples that people may need at the time or to reference in the future. Running out of copies and needing to print a small additional quantity can be costly. Consideration should be given to splits. If, for example, A4 letters are printed four to a sheet (4 up) it is cost effective to make quantities divisible by four. Varying quantities can mean additional set ups, plates or even

sheets being required, all of which will affect the cost. A good print manufacturer will be able to advise on how best to manage quantities.

Elements – These are the components that are compiled to form the finished print product i.e. catalogues, flyers, inserts, envelopes etc. Detail each element and if elements are different sizes, number of colours, printed on different materials or have different finishing requirements.

Materials - The material is the paper (stock) an element is printed on. Materials have a big bearing on the cost of print, often around 50%. Effectively if a postcard is printed on 300 gsm opposed to 150 gsm, twice the paper is being used. Paper is measured in gsm (grams per square metre). As a rough guide, 80 gsm is photocopy paper and used for envelopes in direct mail. 100 gsm is standard letter paper, 150 - 250 gsm is standard leaflet weight range. 250 - 300 gsm is postcard weight.

As well as the weight of materials there is the type to consider. As a guide leaflets tend to be coated and letters uncoated. Choosing a coated or uncoated paper will have a significant effect on the finished product. With coated papers traditional inks sit on the paper giving a truer, punchier colour. Coated stocks come in matt, silk and gloss, these are not dissimilar to choosing paint for a wall at home and it is very much subjective to what looks best dependent on taste and what is being printed. Printing on uncoated stocks will give a very different finish, as the ink absorbs into the paper more giving a subtler image, and colours can also appear darker. Uncoated stocks often feel heavier than coated paper of a similar weight, which some perceive as a more premium look. The decision on the finish should be decided by a designer or with advice from a print manufacturer.

Where the finish of the paper is subjective the weight will have a significant bearing on the cost. Print suppliers or a paper merchant will have stock samples of varying weights to help decide on the required weight. There is a degree of balancing to be done with the chosen paper being heavy enough to be of a good quality, but not too much to increase the costs unnecessarily. If the printer can supply printed examples on the stock this may also help in the decision process of a finish. For packs, brochures and boxes, it is also good practice to ask for a mock-up on stock, sometimes called a white paper dummy. This will give you a good idea of what a finished element will look like, without print, unless a digital print option is chosen which will be explained further on.

Size and number of pages - Papers come in three types of measurements. The 'A series' for stationery and general printing, the 'B series' for posters and how most large format printers buy paper and the 'C series' for envelopes and folders. The key size in each series is designated by the suffix 0 and each subdivision of it is numbered progressively. For example, A1 is half of A0, A2 is half of A1 and so on. All dimensions are given as trimmed sizes, that is, the final size of your job. However, for most types of work, printers need to buy larger sheets in B, RA and SRA sizes, which allow for trimming. A and C sizes are designed to go together, a folded A4 letter, would be A5, this would go into a C5 outer, in turn an A5 letter folded in half would be A6, this would go into a C6 outer.

Sizes determines how many of an element can be 'got out' of a sheet of paper. For example, a printer would get 18 A5, or 9 A4 leaflets out of a B1 sheet. When choosing the size of a printed item the amount of paper required will affect the cost. A good printer will be able to advise on the most economical sizes to print and get the most out of a sheet size. In many cases the size will be governed by the end use of the element being printed. An item may need to match other materials, or fit into a folder or magazine, or need to go into an envelope. Consideration should be made around the end use, if a letter or leaflet is printed an envelope may not be available to fit the element in a standard size, meaning a requirement for a costly bespoke size envelope.

Large volume printing is reel fed, with paper bought and printed on reels and trimmed to size 'in line', which is as a job is printed. Printers refer to number of pages or PP's, an A4 sheet folded in half is an A5 4pp. Two sheets of A4 folded in half and one inserted inside the other would be an A5 8pp. A printed book or magazine nearly always would need to be in page sets of 4, a standard folded booklet couldn't be a 10pp, as there would be no way of a affixing a half a sheet of A5 (2pp) into 2 folded A4's (an 8pp). There are a few exceptions to do 4pp sets rule, either with expensive binding techniques or with what is called a throw out page, where usually the back cover has an additional page folded on itself.

Number of colours - The number of colours in a print job will affect the cost. A printed item with a colour photograph, or any colour image, will be made up of four colours (CYMK). You may need to add to this a corporate colour. Using a specific colour is called a spot, special or pantone. Pantone is the internationally recognised colour mix. For example, the red used by McDonald's is pantone 485, choosing a special red like this is a little like going into a DIY shop and asking for a certain colour red paint to be mixed. By specifying a pantone colour 485, an identical colour should be achieved by using any print manufacturer.

For smaller jobs, printers may mix a colour up themselves using weighing scales to get the exact breakdown specified in a pantone colour swatch. Special colours do add to the cost in most instances. This is because of the time it takes to either weigh and mix special colours, or the additional cost of ordering in special inks. There is then the time required to get a lithographic machine cleaned after a special colour has been introduced. More often, with standard pantone colours a print manufacturer will order in pre-mixed colours. The number of colours in a job are specified in a similar way to the number of pages. A mailer that has full colour images and maybe a special pantone for the company logo will be CYMK + one special, so five colours. The mailer may have terms and conditions on the reverse in black text, this is a single. In this instance the colours would be specified as 5/1 (five colours, backed by one). Business stationery tends to use less colours, there may be a single colour logo, with the address details on the footer in black, with no print on the reverse. This would be referred to as 2/0 (2 colours, backed by zero).

Personalisation - Personalisation or dynamic content can add cost and time to a print project. A job requiring personalisation, like address details, a salutation or dynamic imagery, will require either a secondary process or be digitally printed rather than lithographic (litho) printed (which has been referenced to mainly in this document). Personalisation requiring single colour personalisation can be lasered into pre-printed material. For example, correspondence from your bank or insurance company is likely to be on pre-printed stock. This is done with either sheets or reels litho printed in advance and held in stock by a print manufacturer. This stock can then be lasered, which is done by a large fast version of an office printer. If a client is sending out 10,000 letters per month, they are likely to get six months letter headed stock (60,000 units) printed in advance. Then laser personalise the letters on a monthly basis. For this stock control would need to be in place between the buyer and the manufacturer so additional stock can be ordered to avoid running out mid production.

Consideration should be given to ordering stock too far ahead of production. Many buyers have fallen foul of ordering two years of base stock to get economies of scale, for company contract, registered details or business affiliations to change. In this situation it may be the case that the base stock would need to be destroyed and reprinted at the buyer's expense. The alternative to laser personalisation is digital print. In very basic terms a digital printer is a sophisticated high-speed photocopier. Digital print once had limitations on the stocks that could be printed on, the quality and definition of images and cost of producing larger volumes. Digital print has come on dramatically in the last 10-15 years, with specialised stocks, inks and finishes available. The introduction of reel fed digital print has widened the options available to buyers. High volume, personalised printed elements can be produced without the requirement of base stocks.

Reel fed digital print doesn't have the high quality of sheet fed digital print, but has its place in the market, especially for transactional mailings where high definition print isn't essential. Printing digitally removes the necessity of static images, meaning each sheet of paper printed can be completely different. An example where this is applicable is sales material. An estate agents could create a mailer to everyone in their customer database, the mailer could have the recipients, address details, salutation, perhaps a photo of their current road or house using google images for the dynamic content, and then pictures of houses the estate agent has on their books in the price range that the recipient is likely to be interested in.

The options of personalisation are limitless when printing digitally and there are two areas to consider. Firstly, is the data available and complete. Using the example above if there are gaps in the data it is likely the personalisation will have errors. There are ways around this by having default images or wording for missing data. The second consideration is cost, with more complex personalisation adding set-up time to create the logic. Decisions around this should be looked at through return on investment. In the estate agent example above, if there were only a handful of people on the database it wouldn't be viable to set up complex logic for what is unlikely to get the ROI. Many litho printers have diversified into digital printing to open themselves up to a broader range of customers. A printer supplier will be able to advise on the best type of print based on the personalisation requirement. The watch out is that manufacturers operating in only one area will steer you towards the production they can produce.

Finishing requirements - Finishing is the additional process(es) that happens to a printed piece. The most common finishes are lamination, folding, stitching (stapling) and binding, which most buyers will be familiar with. Other finishes include die cutting, where sheets are cut in anything other than in straight lines and at 90-degree angles or where shapes are cut, or punched out of sheets. Embossing or debossing, where sheets are punched into giving an indented feel when touched. Foiling, where a sheet has a shiny metallic area, often also embossed or debossed - matt finish foils are also available, but metallic remain the most popular. Die stamping, which gives a metallic embossed area, done through a hand-fed machine, not dissimilar to a letter press and used on high-end invitations or business stationary in the main. Spot UV, is clear varnish and can feel like lamination, the advantage over lamination being, a spot UV can be applied to particular areas of the page, which 'spot' referrers to, meaning it can be applied in spots rather than a whole page. UV varnishes are often used in high end brochures to give a premium feel to an image. Thermography, an inexpensive version of die stamping and achieved by spraying wet ink with a powder and baking sheets through a conveyor belt with a toaster, again used mainly on invitations and business stationary.

Each additional process will increase the cost to a printed piece and should be defined as early as possible. All have limitations and many variations and options. In the case of die stamping, foiling dies would need to be made in advance. Caution should be taken when defining finishing. Simply stating a brochure requires binding can mean may different outputs and a buyer should ensure quotes are matched like for like. For example, binding could mean wiro binding, which is available in any high-street copying shop and is inexpensive. Stitching, which is staples inserted into the spine to create a book, any print manufacturer should be able to stitch a booklet in house and again it's relatively inexpensive. Binding could also refer to perfect binding which is like a paperback book and used on high-end brochures and booklets. These three options will have very different costs and limitations.

Enclosing - Enclosing is predominantly used in direct mail pieces going through the postage system. This may be a letter, information pack and brochure. As mentioned in the materials section it is important to consider the size of all elements fitting into an envelope or polywrap. For packs with the addressing details on the letter, the most popular option is to use a windowed envelope, so the address panel is viewable when the envelope is sealed. This avoids what is referred to as matching. Matching is required when using a closed face envelope with the address on the outside of the envelope and the elements in the pack have personalisation.

With the envelope and contents personalised the two elements with recipient details need to match. There are two options of matching. The first is with barcode machine readers matching the details on the letter and envelope and enclosing them. The second option is for packs not applicable for machine enclosing, in this instance the envelope and contents will have to be hand matched.

Delivery - When a printed piece isn't going through the postage system, delivery requirements should be considered. If multiple deliveries are required, this should be specified during the quoting process. Savings by using suppliers in lower cost countries can quickly be cancelled out with delivery costs. Buyers can often be caught out by either not considering multiple or long-distance deliveries or when artwork is supplied to a printer late, meaning the need to make up time elsewhere like faster delivery; this can be the difference between a 48-hour courier to direct lorry or van, which dependent on distance can be significant. Longer lead times give the buyer more options for deliveries and potential cost savings. When having print elements delivered, consideration should be given to storage. If a substantial amount of print is delivered to an office there needs to be some sort of storage, large amounts of print is often delivered on pallets, in this situation there would need to be people available to move it to the storage area.

General Considerations
Artwork and Repro

Anything going to print will need to be 'artworked'. Artworking should be done by the print supplier or repro company (design or production company) if the service is not available in house. Assets and imagery for professionally printed materials can't just be put together in PowerPoint because of the requirements around layout, image resolution and colour management.

When reviewing tender responses, it is wise to check if artworking is included. It is worth noting artworking and design are often considered different services. For example, designing a brochure from nothing other than supplied copy and images can be a lengthy process, whereas taking an existing brochure artwork and making tweaks and preparing a design brochure for print is straightforward.

If the intention is to use an internal department or repro company a print specification should be supplied by the chosen supplier before artworking is started to ensure any specifications around artworking are known upfront. For example, OOH and digital display will have specific image supply requirements, so it is wise to check that asset and imagery will satisfy these requirements, as rescaling and retouching artwork can be costly and time consuming.

In all these areas consideration should be made around image rights. Who owns the rights to the imagery that is going to print? The company or internal department that are managing the artwork creation should be able to answer this for you.

Proofs

Consideration should be given to how much control is required of the printed output. With the improvements in colour management in print manufacturing, more trust is given that printed material will look as it should. If the digital print option is chosen, getting a single printed copy on the correct stock is very simple and shouldn't have a cost attached. For litho print there are more variables, where a printer has previous jobs to reference, or exacting colour is less vital, most buyers are happy to sign-off on a PDF proof. In most cases this is the printer taking supplied artwork running files through though their colour management system, this is known as ripping a file. The printer can then create a pdf of the artwork to be signed off against. It is

important to remember the job will be printed to the correct colour weights or matched to a previous job for reference.

What is viewed on screen can be misleading, as all screens are different, depending on quality of a monitor, the software being used, and brightness/contrast settings applied by the user. Secondly, monitors and TV work in RGB (red, green and blue) where printed material works in CYMK. As mentioned earlier, switching between these views will affect the overall colour. The main point of a pdf proof is for the buyer to check content and layout of the copy or images, to ensure neither have dropped off or been corrupted during the supply or ripping process.

To get a truer representation of the final product a 'digital run out' can be specified, referred to as a Digi or Epsom. A digital run out is outputted from a ripped file by the printer on a high-end wide format printer. This will be an accurate representation of the final output. A draw back to digi proofing is that it will not be on the same stock as the final printed piece. As covered in the materials section of specifications, the material printed will influence the final image. Digis are generally printed on coated stock so are often more a representation of the final product and used to check the quality and sharpness of the images and copy.

The most accurate way to check the final output is with a wetproof or press pass. A wetproof is a small number of copies printed on the correct stock on the press used for the final output. The downside is the printer needing to set up the machine in the same way as for a whole job and run a number of sheets through the press to get up to the correct colour levels. A wetproof also requires time to be delivered to the buyer or client for approval. The cost associated with a wetproof can differ widely dependent on the machine and material used, any special finishes additional to this can be costly to wetproof.

An alternative is to 'press pass', where the buyer or client will be at the print manufacturer to approve the finished product as it is printed. Generally, this works by the printing press being paused and example sheets 'pulled' to be signed off against. Colours can be tweaked by adjusting the CYMK levels up and down in different areas of the sheet. Once the client is happy with the output a sheet will be signed and the machine minder will run the job using the signed sheet to match to. The challenges with a press pass are if there are multiple stakeholders involved in the final decision, these people would all need to be on site at an agreed time. Location can also be a factor; a print job may be placed with a manufacturer at the other end of the country for cost or specialism reasons. Cost savings may be wiped out by a group of people needing to attend a press pass with travel and potentially overnight stay costs.

Environmental Considerations

Today, environmental considerations are essential to many businesses' CSR policy. Virtually all paper bought today will either be PEFC (Programme for the Endorsement of Forest Certification) or FSC (Forest Stewardship Council) certified. Advice should also be sought from paper producers and printers as to the suitability of the various recycled papers for your specific application and their processes. Paper may well constitute 50% of your final invoice and so it is worth researching the options available.

There is a wide range of papers with a recycled content ranging from 20% to 100%. Information and guidance on the use of recycled paper is produced by the Waste & Resources Action Programme (WRAP) and can be found at http://www.wrap.org.uk

Advice should also be sought from paper producers and printers as to the suitability of the various recycled papers for your specific application and their processes.

FSC or PEFC certification ensures wood in the manufacture of paper is sourced from well-managed forests. It defines ten principles of responsible forest management for a manager or owner to follow. In addition to forest certification, the FSC system includes a certified chain of custody that tracks the timber through every stage in the supply chain from the forest to the final user. This is monitored through the invoicing process and the final label on the product has a code that confirms that the item is genuinely FSC.

Support and information from industry bodies

British Printing Industries Federation (BPIF) https://www.britishprint.com

Independent Print Industries Association (IPIA) https://www.ipia.org.uk/

British Association for Print & Communication (BAPC) https://www.bapc.co.uk

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Darren is a member of the CIPS Marketing procurement specialist knowledge group.

To find out more about the group and how to become part of this network, visit the CIPS website.

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