



## Justifying digital signatures - the cost savings from eliminating paper based approvals

You might be thinking the price of paper is cheap, so why bother changing from traditional way of hand signing a paper document. Right? Wrong! At a high level paper may seem cheap but when you start to consider the real cost, you will soon find that paper is extremely expensive. You will come to realise that the last thing your company needs is more paper.

A number of factors must be taken into account when considering the real cost of paper-based signatures and the savings that can be achieved by using digital signatures. These factors do not just include the paper purchase, but also printing/photocopying, distributing, storage, scanning and disposal costs.

Over the last decade or so, many business have already implemented various paper-cutting solutions and streamlined their processes, however for document approval and sign-off, too often documents are still printed off for gathering ink signatures. By moving to digital signatures, you can plug this final gap also and achieve further cost reductions and process improvements – giving your business a real bottom-line benefit.

The first step in implementing a digital signature program is to determine the baseline for measuring the savings. A proper baseline measurement will help to obtain management and employee buy-in to the program. This brief paper explains the true costs of paper-based signatures. Use this to determine the cost savings your own business can make by moving to digital signatures via SigningHub.com.

Let's assume that a typical business produces 10,000 documents per year which require approval through a paper-based signature. This may seem like a lot but it's actually quite a conservative figure, when bearing in mind that U.S. companies typically print 1.5 trillion pages per year — that is a 95,000 mile-high stack of paper, or equivalent of nearly 20 million trees!

Let's further assume that each document is an average of 10 pages, and 3 copies are made for three signatories, so making the total number of pages per year as 300,000.



## Paper purchase costs:

The cost of this paper is relatively minor at half-pence per sheet for a total cost of £1,500 (GBP). Now let's look at how the paper is actually used when requesting paper-based signatures. This can be broken down into three categories 1) printing/photocopying costs 2) delivery costs 3) scanning costs 4) storage and disposal costs. Each of these categories is briefly described below.

## Printing/photocopying costs:

Printing and photocopying generally costs about 2 pence per page. Therefore a total cost of £6,000. This price includes the capital cost of the equipment, toner, and maintenance but not necessarily the time spent waiting at the copier for your turn, or sorting out printer paper-jam problems!

## Paper delivery costs:

Printing cost is just the beginning, next you need to get the document delivered to the person(s) who need to sign it. There are many different delivery methods: for our sample company with 3 copies of 10,000 documents (i.e. 30K documents) we will assume the following:

- Let's assume that 20% of documents are delivered internally within the organization and to keep things simple the delivery costs for these are assumed to be zero.
- Delivering documents by postal service is fairly common; let's assume 30% of the documents are delivered through the mail. The cost of each envelope is 4 pence and the average postage cost is 46 pence. The total cost for mailing is therefore £4,500.
- Urgent documents are also often couriered using an overnight facility (lets assume the recipient is in same country). If we assume 10% of the documents are sent by courier at an average cost of £10/envelope, then this element adds up to £30,000. Note this doesn't even take into account using the courier to return the signed document!
- Sending the document by fax can also be common where the quality of the document image is not a major issue. Let's assume 40% of documents are sent this way and the cost is 3 pence per sheet. This makes a total faxing cost of approx. £3,600.

Delivery Costs:		
Internal Delivery	20%	\$ 0
Mail	30%	£ 4,500
Courier	10%	£ 30,000
Fax	40%	£ 3,600
	<b>Total:</b>	<b>£ 38,100</b>



## Paper scanning costs:

Having printed the documents to get them signed, then once the signed documents are returned you will want to scan those back in to your electronic systems so that they can be reconnected to their digital record.

An average cost per page for scanning (for equipment, maintenance, space etc.) is estimated at 3 pence per page. If our sample business scans every signed document, the total cost for scanning the 30,000 documents (300,000) is £9,000.

The manual processes involved with scanning are costly as well. Someone has to prepare the signed documents by removing staples/paper-clips, repair any damage, then feed the documents into scanner, clear any jams, capture the image and make any corrections, finally the image needs to be indexed to connect the scanned version to a digital record in a database.

Let's assume it takes an administrative staff person only 10 minutes per document to do this. Office administrator salaries vary from country to country, but let's assume an average of £8/hour, then the cost of the scanning effort is £1.33 per document. With 30,000 documents, the cost of the manual effort would be £40,000 per year.

## Paper storage costs:

Companies that are not using digital archives will want to retain the paper copy of the signed documents. These will also be needed to be able to prove that the hand-signature applied to the paper document was valid – just having a scanned hand-signature image on an electronic document offers no security on its own since the signature could have been copied or the document subsequently modified. Legislation and regulations may require the document to be stored for 7 to 10 years!

Let's assume the above office administrator only takes 5 minutes to file the paper copy document. Therefore the manual effort for filing will be £0.66 per document, so a total of £20,000. This doesn't take into account the actual storage space costs for the filing cabinets, and the capital costs for the cabinets, filing folders and tabs etc. We will ignore this to keep things simple.

## Paper disposal costs:

Companies that are not using digital archives will want to retain the paper copy of the signed documents. These will also be needed to be able to prove that the hand-signature applied to the paper document was valid – just having a scanned hand-signature image on an electronic document offers no security on its own since the signature could have been copied or the document subsequently modified. Legislation and regulations may require the document to be stored for 7 to 10 years!

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## Total Cost of Paper-based Signatures:

The total cost of using paper-based signatures can be summarized as follows:

Delivery Costs:	
Paper purchase costs:	£ 1,500
Paper printing/photo-copying costs:	£ 6,000
Paper delivery costs:	£ 38,100
Paper scanning costs:	£ 49,000
Paper storage costs:	£ 20,000
Paper disposal costs:	£ 600
	<b>Total: £ 115,200</b>

The above table shows the total cost of paper-based signatures on 10,000 documents with 3 separate signatories as nearly £115K, i.e. over £2.60 per sheet! This doesn't include the labour to purchase the paper, photocopy/print and distribute the documents, retrieve the printer paper from the printer, apply a hand signature and take it to the fax machine, etc.

## What about the costs of digital signatures:

At SigningHub.com you get to create unlimited digital signatures within unlimited document uploads. The service is metered only on the number of signing users. At enterprise level the cost per user is £12.99/month or about £156/year. Even with 100 users who are required to sign documents the total bill will only be £15,600/year – a tiny fraction of the £115K paper-based signature costs.

You may be worried that because the number of end-users in your organization is much larger therefore as a result the solution will eventually become more expensive than paper! We guarantee we will never let this happen, we offer volume discounts in such cases and will always ensure that the digital signature solution is substantially less than what paper-based signatures are costing you today! In fact the more users you have the more savings you are likely to make. Put us to the test by explaining your current paper-based signature costs and then seeing the savings digital signatures could give you.

## Hidden costs of paper-based signatures:

Of course beyond the mere tangible costs, there are many other hidden costs of using paper-based signatures which are more complex to monetize here. These include:

- Lost time costs:** signing on paper takes significantly longer than signing electronically. With SigningHub.com you can sign all the pages of a document in one go, compare that with signing each page of the document! Also with digital signatures it's possible to sign multiple documents in one go. Imagine how much time senior managers will save if they could sign important documents in seconds.
- Fraud & Compliance failure costs:** Paper records can often lead to compliance failure issues, because it's easy to later edit signed documents without detection also hand-signatures can be easily forged without detection. Furthermore paper documents can be easily lost or destroyed. This can lead to significant losses through fraudulent activity, expensive lawsuits or hefty regulatory fines.
- Lost opportunity costs:** imagine the time lost chasing paper contracts when your staff could be working on closing new business opportunities.



- **Document retrieval costs:** finding the required paper document (e.g. in case of disputes or internal/external audits) is even more time-consuming than the original filing. Retrieving digitally signed documents can be performed in seconds using online search facilities.
- **Disaster recovery back-up costs:** for important legal documents having a single paper copy of the original document can lead to issues if your storage site encounters a disaster (e.g. fire or flooding). This leads to the need for having multiple original copies being stored at multiple locations all adding to the cost of paper document archiving.

## Additional benefits of using SigningHub.com digital signatures:

There are a number of additional advantages in using SigningHub.com beyond just the cost savings:

- The digital signature protects the integrity of the entire document. A change to even one character of the document content will render the digital signature as invalid. In this way a digitally signed document is even more secure than a paper-signed document. This leads to better compliance to regulatory requirements and fraud protection.
- A signed document can be verifiable by anyone using freely available PDF readers (e.g. Adobe® Reader). You don't need hand-signature experts to verify if the signature is authentic.
- The digital signature includes an embedded cryptographic timestamp, so you also get proof of when a document was signed, i.e. you are not relying just on the system clock time of the signer but an independent Time Stamp Authority (TSA).
- SigningHub.com enforces the document signing order, automatically notifying each signer when it's their turn to sign the document (via email). The user is further guided on where they must sign the document and prevented from signing in the wrong place.
- SigningHub.com automatically sends reminders to users if a document has not been signed according to the set timeframe.
- SigningHub.com allows departments or role-based groups to be set-up (e.g. sales dept., account dept.) such that anyone from these groups can sign a document.
- Delegated signing (pp. signatures) are also supported so that alternative authorized users can sign on behalf of the original signers.
- The document owner is kept fully aware of the current status of the document, i.e. who has reviewed/signed the document and when they did this, with which user the document is currently stuck, etc.
- SigningHub.com comes with a web services API for easy integration into your business applications to streamline your document signing processes.



There are many other features and benefits that SigningHub.com can bring to your document signing process. Give it a try today by creating a free trial account at: [www.SigningHub.com](http://www.SigningHub.com).

