Scanning as an enabler for digital transformation
Findings from research into the usage of scanning

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Executive summary

Historically, paper was a core part of organisations' processes. As computers and electronic processes developed, scanners became a means of capturing documents and creating digital copies that could then be stored and used as needed.

Over time, the role of the scanner has become far more extensive: as the initial point where data is digitised and directly fed into automated digital workflows within and across organisations, scanners can now largely eliminate paper from many processes. However, it is unlikely that paper will be disappearing any time soon from inter-organisational and customer-to-business/business-to-customer workflows.

To make the most of digitisation, organisations must now address the various issues around how to digitise incoming paper. They must consider volumes, different sizes, quality of paper used, type of input (document, pamphlet, book, etc.), and whether the content of the scan then needs to be extracted as text and/or data to be fed directly into the relevant business processes.

Although many organisations have a number of multi-function printers (MFPs) that can do ad hoc scanning, digitisation of core documents in volume and at speed requires greater capabilities than MFPs can offer. Enterprise-class, dedicated scanners then come into play: systems that are designed and built to focus on the specific task, with enhanced capabilities to deal with the needs of unpredictable document sizes and qualities.

To observe current usage of scanning technologies and gauge satisfaction and future plans, Quocirca carried out online research in July 2022. It covered 508 organisations across France, Germany, Italy, Spain and the UK, including finance and banking, healthcare, and public sector and government. A balance of organisations ranging from small businesses (250 employees) up to large organisations (1,000+) were covered. Respondents included both those deciding and influencing what scanning technologies were purchased by organisations and those who were purely users of the devices.

Overall, the research shows that users' scanning needs are not all fully met. Many are looking to replace existing scanners due to lack of functionality or poor capabilities. However, respondents do see scanning as a core step toward digitisation – and that digitisation itself is required to maintain their organisation's capabilities in the market.

The research was commissioned by PFU (EMEA) Ltd, a RICOH company. All findings have been independently analysed from the research's raw data and used by Quocirca within this report.

Key findings

- **22% of organisations are targeting paperless operations.** For some organisations, going paperless is nearly achievable. For most, a target of 'less paper' makes more sense. For these, the quick win solution is to eliminate paper wherever possible within the organisation by digitising incoming paper before it enters the environment.

- **68% of organisations have funding for digitisation projects.** Digitisation is high on the agenda: organisations are looking for ways to avoid paper within their processes and end to end workflows. However, incoming paper will remain a problem.

- **77% of organisations scan all or the majority of their paperwork directly into business processes.** As opposed to simply scanning paper to place digital copies into storage systems, the majority of items are being scanned to be a direct part of workflows, enabling greater efficiencies. However, greater effectiveness can only be achieved where the scanning devices support the systems they need to integrate with and don't become a problem for them.

- **The main reason for keeping paper is legal compliance.** 39% of organisations maintain paper copies of items for legal compliance. However, this is becoming less of a viable argument. Indeed, many governments now prefer or mandate electronic versions of items because they are easier to check, validate, and audit if required. For organisations, digitised data is easier to route, search and recover.

- **53% see digitisation as providing a more agile and scalable IT infrastructure to allow for contingencies.** With COVID-19 having caused them major disruption, many organisations are now searching for capabilities to weather any such problems in the future. Increased digitisation is seen as one suitable approach.

- **44% see scanning as a foundational step to digitisation.** The scalable automation that scanning can deliver allows fast, highly efficient digitisation of data. Optical character recognition (OCR) and form recognition can use advanced systems to identify and extract relevant data, while also flagging any poor machine transcriptions – making manual checking an exception rather than the bulk of the effort.

- **The benefits of digitisation are widely accepted.** 30% of respondents view digitisation as aiding information sharing, with a further 30% seeing it as simplifying processes. The more data that can be digitised, the more organisations stand to benefit from its increased utility.

- **There is an expectation-to-perception gap in respondents' needs.** 45% see high-speed scanning as a need when looking for a new device. However, 26% are disappointed with how fast their current devices scan. 44% also consider image quality important, with 22% stating that they are disappointed in image quality in their existing devices.

- **Price and longevity of device also score highly for respondents – but this focus could be misplaced.** 32% of respondents consider price a significant concern. However, with 45% wanting to integrate scanning into business systems and 31% stating that longevity of the scanning solution is also important, making sure that the device is fit for purpose should also be high on the priority list. Poorly performing, cheap scanners with a difficult user experience will have much deeper and wider operational cost impacts in an interdependent system. This is even more so if they are expected to be used for a longer period.

- **The right scanner for the job can avoid many negative impacts.** 32% of respondents have wasted time rescanning poorly scanned items. 26% say time was lost rescanning items that were missed the first time around. A further 33% are frustrated with the level of misfeeds and paper jams they have experienced, while 27% state that time has been lost due to either planned or unplanned downtime of devices. Choosing scanners that minimise such interruptions to expected operation will ensure that the organisation saves time and, therefore, money.

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Introduction

Much has been published around the move towards the 'paperless office'. However, the main thrust has been towards the 'less-paper office', as paper still constitutes a major part of most organisations' workflows, particularly when dealing with suppliers and customers.

Indeed, paper constitutes a problem for organisations: manual transcription of content from paper to electronic systems introduces human errors. Storage of paper needs a large amount of space – and maintaining the quality of paper over the expanding legal time limits in various industries often requires more expensive, environmentally controlled storage. Additionally, locating information stored on paper is exceedingly difficult, as even if the paper can be located, searching for the right information has to be a manual process.

As organisations begin to produce corporate social responsibility (CSR) statements disclosing their 'Scope' outputs according to the Greenhouse Gas (GHG) Protocol, the presence of paper and issues with its manufacture and supply chain are increasingly coming under the microscope. Any improvements to areas of sustainability where wastage and GHG outputs can be controlled will be increasingly high on any organisations' agenda.

To this end, organisations have been searching for ways to more easily transfer information from paper format into electronic data that can be stored and searched more easily, while also enabling faster and more accurate workflows between enterprise apps and across suppliers and customers. As such, 'digital transformation' (the leveraging of digital processes to develop business strategy), and its supporting activity, 'digitisation' (the conversion of paper-based information into digital formats), have come to the fore. The ambition is to capture as much information as possible into electronic format and use these digital assets within business processes, rather than using paper. A degree of this has become possible simply because much information is now being created digitally via computer office suites and enterprise applications.

But many organisations still print items out for many reasons (such as reviews, sign-offs, and simple reading), and also send documents to and receive them from customers and suppliers. However, this seemingly continued ubiquitous comfort with paper does not have to be a problem. Even where electronic document exchange is not possible, incoming paper can now be more easily digitised than ever before.

A key part of this is the use of scanners – a technology that has been around in one form or another since the 1860s. Technology has advanced massively over time at both the hardware and software level, and many organisations now have scanners available for their employees' general use. Most scanners can now work together with optical character recognition (OCR) software which will turn text into electronically searchable content as part of the capture process. Forms can be recognised and data and information extracted, ready to be input directly into enterprise systems such as customer relationship management (CRM), enterprise resource planning (ERP), and human resources (HR).

There are many different types of scanner available in the market, ranging from consumer-grade multi-function or stand-alone devices, through multi-function printers (MFPs), to enterprise-class, stand-alone scanners capable of dealing with thousands of items of different sizes and shapes per day. It is important that an organisation ensures that what is available to its employees is right for their needs.

However, not all organisations have the right scanning technology for their employees' needs available to them, nor are they making the best use of what document or image scanning can do for them.

The research covered in this report looks at the responses from 508 employees across five geographies, three verticals and a range of organisation sizes.

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The basics of scanning

Quocirca's research shows that, on average, each organisation has 296 scanning devices, with 48% having only or mainly dedicated scanners, with an average scanning volume of 835 items per day. 49% of the scanning processes carried out by an average organisation are multiple pages of the same size. 66% of respondents state that most or all of their scanners are of an enterprise class (Figure 1). France has the largest proportion of dedicated scanner device fleets (18%), with the UK having the largest proportion of MFP-only fleets (15%). Finance and banking have the largest proportion of dedicated scanners (13%), with public sector and government having the biggest proportion of MFP-only fleets (11%). Regarding types of pages scanned, 35% scan multiple pages of different sizes – something that can present issues for scanners that are not built to deal with different types and sizes of documents. Specifically, where optical character recognition (OCR) or data extraction is carried out after scanning, the images must be normalised accurately. The UK leads the pack here, with 45% stating that they scan multiple pages of different sizes, while 25% of German and Italian respondents state that they do the same.
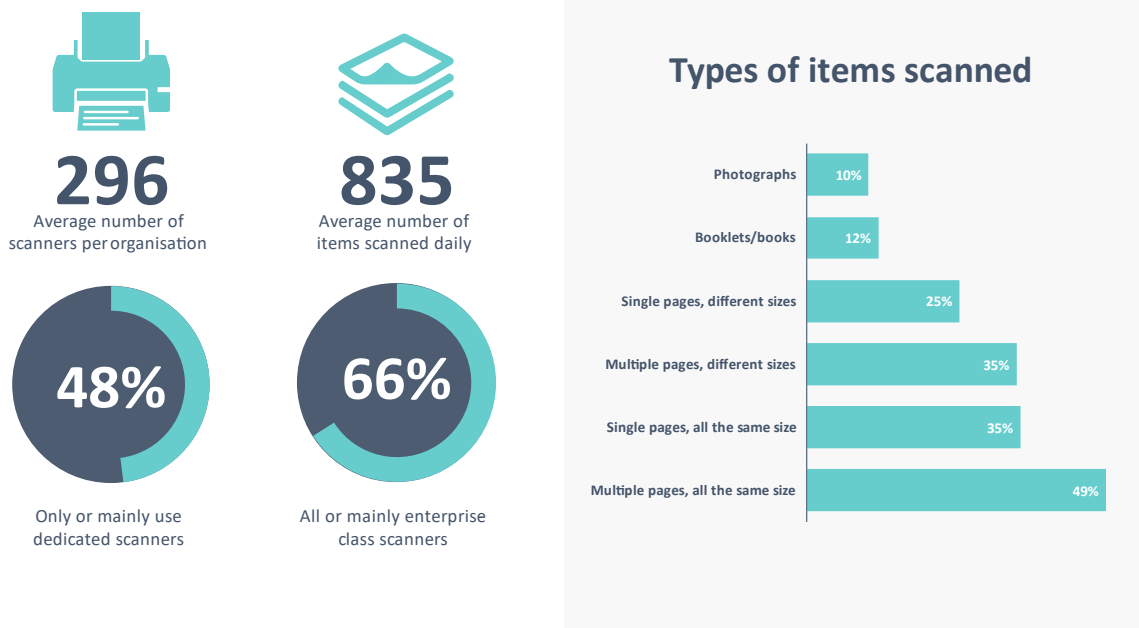
296
Average number of
scanners per organisation

835
Average number of
items scanned daily

48%
Only or mainly use
dedicated scanners

66%
All or mainly enterprise
class scanners

Types of items scanned

Photographs	10%
Booklets/books	12%
Single pages, different sizes	25%
Multiple pages, different sizes	35%
Single pages, all the same size	35%
Multiple pages, all the same size	49%

Figure 1. The status of scanning across respondents' organisations

The less-paper office

Few organisations are moving toward being paperless, with only 1% having already reached such a status and a further 6% having hard targets to get there. 15% have targets for minimising paper, with 30% minimising paper usage wherever they can, but without any set targets (Figure 2). 42% are trying to move to a less-paper environment, but paper will remain important to them. Spain is the most advanced, with 2% already paperless and 8% with hard targets, followed by Germany, where 9% have hard targets to become paperless. Finance and banking lead, with 2% already paperless and 7% with hard targets. However, they are also the most likely to state that they are heavily paper-reliant and becoming paperless is not an option for them (8%). Many organisations in the finance and banking sector receive a lot of paper and are still migrating to a more digital environment: it is likely that there will be more movement towards targeted paperless or less-paper as time goes on.
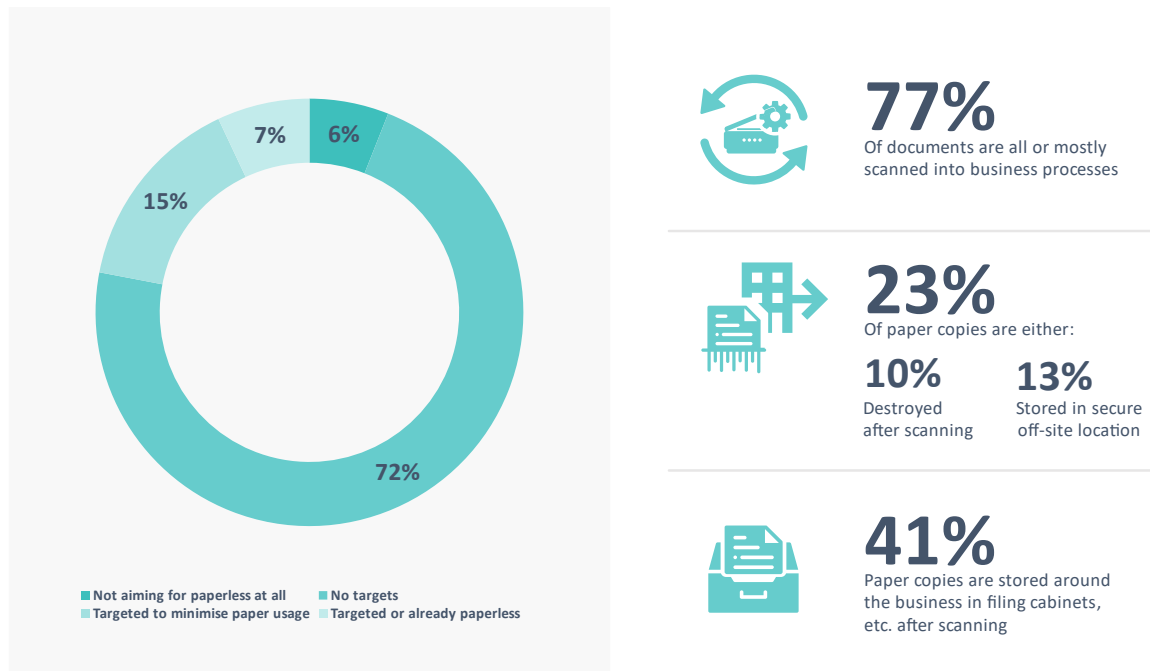

77%
Of documents are all or mostly scanned into business processes

23%
Of paper copies are either:

10%
Destroyed after scanning

13%
Stored in secure off-site location

41%
Paper copies are stored around the business in filing cabinets, etc. after scanning

Donut chart segments: 6%, 7%, 15%, 72%

Legend:
- Not aiming for paperless at all
- No targets
- Targeted to minimise paper usage
- Targeted or already paperless

Figure 2. Views on becoming paperless and what happens to scanned items

After scanning, 77% of the digitised output is all or mostly fed into business processes. Italy leads here, with 46% stating that all scanning is fed into business processes and a further 37% stating that most scanning is. 42% of those in finance and banking say that all scanning is fed directly into business processes. Of paper documents, only 10% is securely destroyed, with the UK leading the way at 15% and the public sector and government being the strongest vertical at 13%. A further 13% is secured in off-site locations overall, with Italy leading the way here at 17%. 35% is stored in a central location within the organisation. However, 41% is left around the organisation – which could present security risks and limits the ability to audit where the paper or its content physically is. Such storage also takes up space that could better be used for other purposes: the paper could (and should) be securely destroyed wherever possible. It must also be noted that digitised data, once fed into a suitable enterprise document management system, has much greater search and recovery capabilities, with full audit possible if needed internally or externally. For many verticals, such as financial services, such a capability is an absolute must.

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The enduring need for paper

As to why organisations see paper as a continuing need, 39% state legal reasons, 29% customer need, and 25% employee preference (Figure 3). The UK (45%) and Germany (44%) are more likely to state legal reasons, as is the public sector and government (46%). Legal reasons for keeping paper are becoming less compelling: many governments prefer or mandate digitised records of certain documents or digital feeds of particular types of information for auditability and ease of discovery. Quocirca recommends that organisations digitise whatever they can and store the resulting records in a controlled manner, where metadata can provide an evidential trail of edits, deletions, and so on, should the need arise.

While employees can be weaned off the use of paper, doing so with customers may be more difficult. However, customer-facing organisations are now offering electronic invoices and receipts, and customers are becoming accustomed to this. If the customer is another organisation, it will be facing the same issues as the original organisation: it will want to minimise the use of paper wherever possible and likely be open to straight-through electronic document processing.

This will not happen quickly, as a large proportion of documents will continue to arrive at an organisation's doors as paper for the foreseeable future. Any move to a less-paper environment will require the right type and quality of scanners. The right scanner for the job will be able to embed less-paper behaviours across the organisation – and thus feed through to customers and suppliers and create smoother straight-through processes.
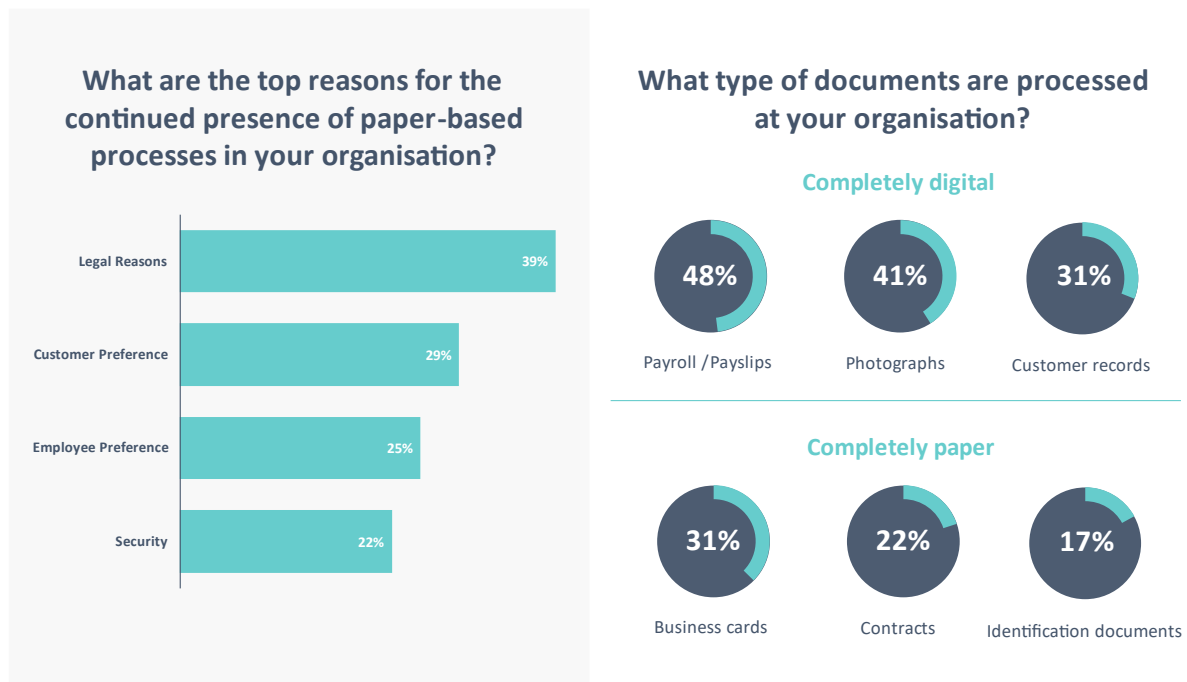

Figure 3. Reasons to maintain paper and main digital and paper documents

48% of organisations only use digital payroll/payslips, with 41% of photographs stored digitally – which is hardly surprising in today's world of digital photography. Meanwhile, 31% of organisations store business cards solely in paper format. More worryingly for security and audit purposes, 22% only store contracts in paper format, with 17% storing identification documents as paper only.

There appears to be a widely held perception that legal reasons are a barrier to removing paper. However, globally followed legislation such as the EU-mandated General Data Protection Regulation (GDPR) around how identifiable information is stored now means leaving any document with personally identifiable information on it in an insecure environment is illegal and can leave an organisation open to large fines. Similarly, contract documents contain information that is confidential both to the issuing organisation and the company the contract is with, and can lead to both legal and brand reputation issues. With the continued growth in acceptance of the validity of digitally signed documentation, it may be time to revisit this conversation.

Digitisation as an enabler for efficiency and effectiveness

Paper is a necessary evil: many suppliers still use paper as a means of invoicing or agreeing contracts; customers like to have paper copies of receipts, user manuals and so on. However, paper is a problem on many levels: it is a source of errors, is difficult to manage, does not contribute to sustainability goals, and is increasingly difficult to manage for legal requirements.

When paper is digitised at as early a stage as possible, it can then be introduced into business workflows where greater tracking and audit capabilities can be applied, enabling greater management of information security. Many organisations are on a journey toward greater automation, and digitisation is a major step towards automating the flows of information within and between organisations.
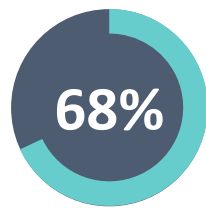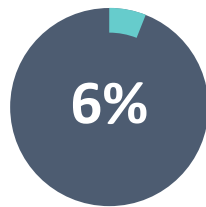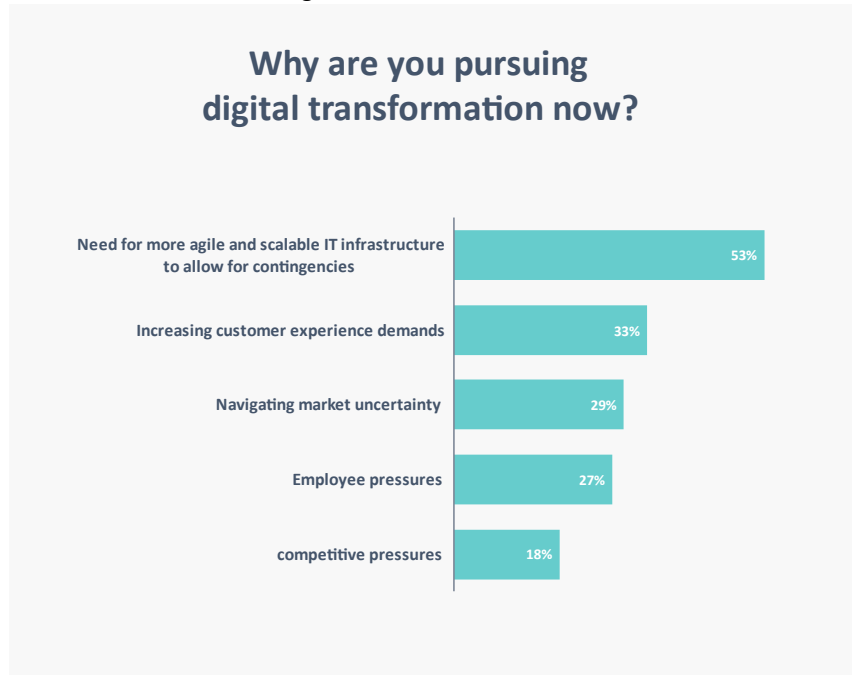

Figure 4. Plans and reasons for digitisation

Indeed, 68% have budgeted plans in place for digitisation projects, with only 6% having no plans at all (Figure 4). Spain leads, with 76% of respondents having funding for digitisation projects, although the UK has more respondents with full plans (29%). Finance and banking lead, with 77% having funds in place. In the Fujitsu Image Scanners Organisational Intelligence Research Report 2020, commissioned pre-COVID-19 for PFU, 35% of respondents had no clear plan toward digitisation. This shows that the pandemic has focused minds and emphasised the need for digitisation. The main reasons behind such plans range from needing a more agile and scalable IT infrastructure to allow for contingencies through to dealing with increasing customer experience demands and market uncertainties. Again, these will have been heightened by COVID-19, with organisations facing a steep learning curve in managing dispersed workforces with so many working from home due to the COVID-19 pandemic, and with many still working at least partially from home. According to the Organisational Intelligence Research report, 27% saw digital transformation as enabling greater cost efficiencies and company growth, with 24% believing it allowed them to stay competitive within their industry. However, the focus has now shifted to business survival strategies.

With so many plans in place for digitisation projects, organisations must address the key aspect of the problem – how to ensure that their information assets are all digitised in the first place.

Scanning as a foundational step for digitisation

When it comes to how respondents see scanning, 44% agree strongly or somewhat that it is a foundational step to digitisation (Figure 5). 50% of Spanish respondents agree completely, whereas only 17% of UK respondents feel the same way. However, few across the board disagree completely with the statement. Prior to the COVID-19 pandemic, the Fujitsu Image Scanners Organisational Intelligence Research Report 2020 found that 54% saw digitisation as such an enabler. Quocirca's research finds that 36% agree strongly that digitised data is easier to deal with, and 33% agree strongly that it leads to better knowledge sharing, with Spain again leading in both cases.

44%

Agree or agree strongly that scanning is a foundational step to digitisation

36%

Agree strongly that digitised data is easier to work with

33%

Agree strongly that better information management leads to better knowledge sharing

What do you see as the main advantages of well-organised digital information?

30%
Easier information sharing

30%
Simplification of processes

29%
Avoiding wasted time

25%
Improved productivity in the workplace

Figure 5. Views on digitisation

When it comes to the main advantages of well-organised digital information, 30% see it as enabling easier information sharing (with Spain leading on 33%, public sector and government on 37%), 30% as simplifying processes (with Italy leading on 38%, public sector and government on 34%), 29% as avoiding wasted time (France leading on 43%, finance and banking on 32%), and 25% as improving productivity in the workplace (Germany leading on 35%, public sector and government on 31%). There is a belief that digitised information is helpful to the organisation and its employees – the problems seem to be around how to get to that point.

Satisfaction with scanner fleet and plans for replacement
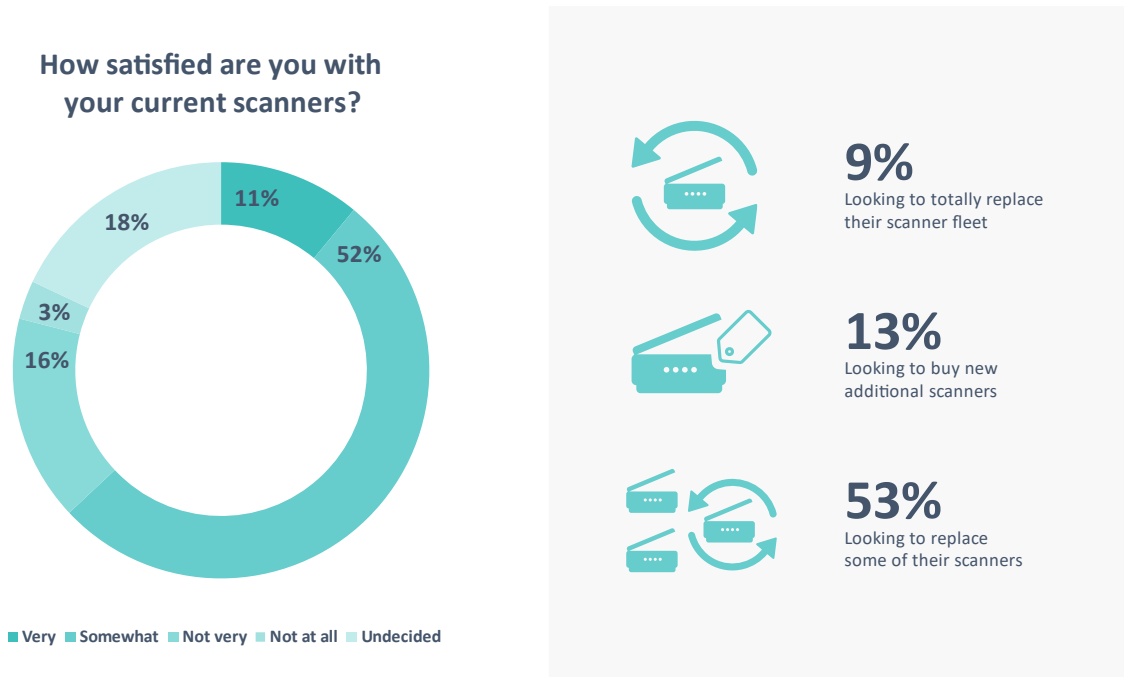There are issues around how well respondents see their scanner fleet handling a move to digitisation.

How satisfied are you with your current scanners?

- 11% Very
- 52%
- 18%
- 3%
- 16%

Very Somewhat Not very Not at all Undecided

9%
Looking to totally replace their scanner fleet

13%
Looking to buy new additional scanners

53%
Looking to replace some of their scanners

Figure 6. Satisfaction with scanner fleet and plans to replace or increase scanners

Only 11% of respondents are completely satisfied with their scanner fleets (Figure 6). The overall muted level of satisfaction could be for a number of reasons, ranging from functionalities that are not available on current scanners, to having the wrong scanner for the job, through to overall dissatisfaction with using the scanner. Unsurprisingly, this leads to many identifying a need to replace their current scanners. Overall, 62% are looking to replace some (53%) or all (9%) of their scanners, with a further 13% looking to buy more devices, led by Italy at 19% and Germany at 15%. Those with dedicated scanner-only fleets are the most likely to want to purchase additional devices, with 24% stating that this is likely. Those using only MFPs are the least likely to replace or buy extra devices, with 62% stating that this is unlikely.
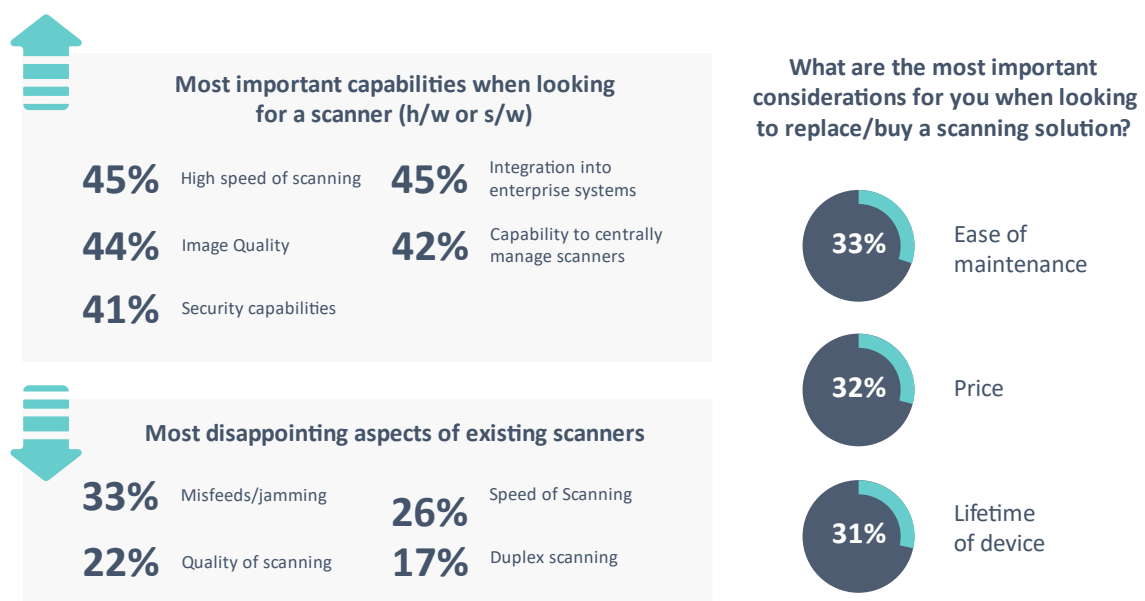
Most important capabilities when looking for a scanner (h/w or s/w)

45% High speed of scanning

45% Integration into enterprise systems

44% Image Quality

42% Capability to centrally manage scanners

41% Security capabilities

Most disappointing aspects of existing scanners

33% Misfeeds/jamming

26% Speed of Scanning

22% Quality of scanning

17% Duplex scanning

What are the most important considerations for you when looking to replace/buy a scanning solution?

33% Ease of maintenance

32% Price

31% Lifetime of device

Figure 7. Importance of areas when considering a new scanner – and disappointment with existing ones

In terms of what buyers are looking for when they purchase a new scanner, 45% state that high-speed scanning is the most important factor (62% in France, 49% in healthcare), with 45% choosing integration with enterprise systems (51% in the UK, finance and banking 49%). Image quality is also cited by 44% (50% in Spain, 46% in healthcare and public sector and government) (Figure 7). Regarding their current scanners, 33% are dissatisfied with misfeeds and jams (47% in the UK, 37% in healthcare and public sector and government), 26% are unhappy with the speed of their existing scanners (30% in the UK, 26% in finance and banking and healthcare), and 22% are disappointed with the quality of scanning (27% in Spain, 25% in finance and banking).

Expectations versus reality

The research indicates a gap between what users want and what they believe they get. This is not helped by the three main considerations being ease of maintenance, price and the lifetime of the device. To address this gap, new purchases must be optimised and presented around the best fit for the organisation's needs, rather than arguments particularly around price.

Going for the lowest or a lower-priced scanner may not provide the qualities required, particularly around the quality of the hardware, which could lead to more misfeeds and lower speed and quality of scanning – the three main areas of disappointment with existing scanners. Indeed, a lower price can turn into a much higher overall lifetime cost, when areas such as increased maintenance, lower quality and time wasted are considered. Also, trying to get more use out of existing scanners to save money can make a scanner fleet less useful to an organisation. As scanners age, they have less of the capabilities of newer systems, they may start to suffer greater issues due to parts ageing, and the costs of maintenance may increase. Whilst ease of maintenance (including access to parts at a reasonable cost and in a suitable time frame) can extend the life of a scanner, organisations must look to prioritise where such scanners should be used, bringing in new scanners with the needed functionality in a cascade method to ensure the fleet can still meets the business's needs.

The top four negative business impacts stated by respondents are all areas where choosing a more robust and high-quality scanner could have alleviated the issues (Figure 8). Poorly scanned and missed items show that document feeders are not working as they should; time lost through planned and unplanned downtime indicates scanners are not as robust or being monitored as well as they could be. Increased central monitoring and management of scanners from a central environment can create a just-in-time predictive approach: scanners can report when they believe problems are upcoming, and parts can be ordered ready for fitting as required, minimising downtime and maintaining high levels of availability.

Which of the following negative business impacts have you experienced as a result of your current scanning environment?

32%
Wasted time re-scanning poorly scanned items

27%
Scanner not available due to unplanned downtime

27%
Time spent in maintaining and fixing the scanner

26%
Re-scanning missed items

23%
Problems in users understanding how to get the best out of the scanner
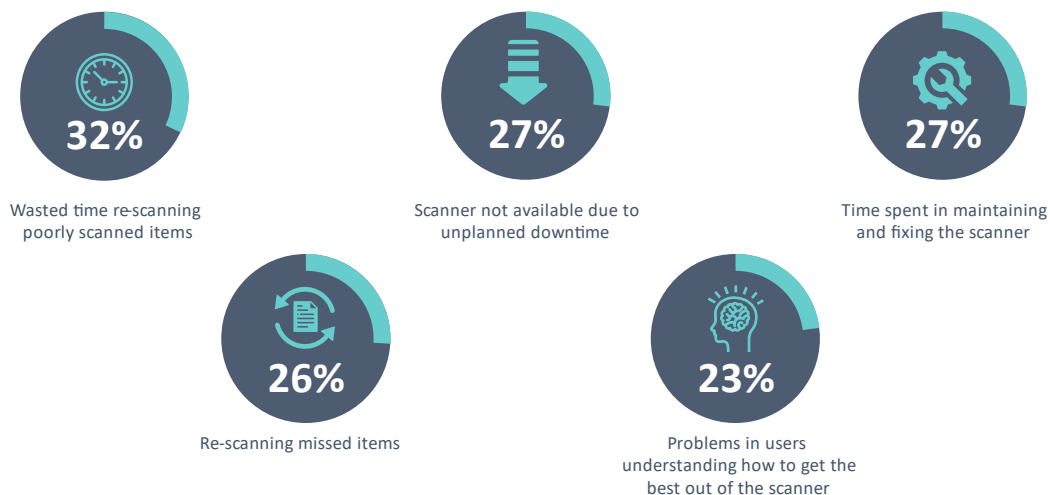
Figure 8. Negative business impacts leading to a need to replace scanners

Also affecting users' experience is their understanding of how to get the best out of the scanner. This is backed up by 19%, who state that ease of user experience is an important consideration when buying a new scanner, with 32% looking for a quick menu system.

Conclusions

Organisations are rightfully trying to move to a more digitised environment so they can optimise business processes and minimise time wasted through dealing with paper and manual processes. As part of this, organisations need to consider how they can digitise paper as soon as possible. Although paper usage within an organisation can largely be minimised through employee education and business workflow systems, paper coming into an organisation from suppliers and customers will remain a challenge for the foreseeable future.

As such, organisations must ensure that they have the right tools in place to quickly and efficiently bring paper into the digital realm. Those facing significant volumes of paper coming in must look for scanners with robust automatic document feeding and paper protection capabilities to prevent misfeeds, paper jams and the need for rescans. Solutions that negate other threats to operational productivity must also be considered – essentially anything that minimises duplication of effort. Downtime is an especially big problem with productivity, whether it is planned (for maintenance) or unplanned. For organisations whose items may include different-sized and -shaped documents, technologies such as automated overscan control can allow slightly skewed items to be successfully scanned in the same batch, eliminating time spent sorting. The capability to comfortably handle damaged or thicker items, as well as a good depth of field that can deal with booklets, should also be sought.

For organisations dealing with a lot of incoming forms, capabilities to recognise the form, automatically extract data from it, and feed the data into existing systems will be a necessity for increasing efficiency. This, plus the systemic impact of low-quality input means OCR accuracy, which is driven by image quality, will become ever more critical to avoiding the hidden costs caused by poorly scanned items.

Another aspect to consider is that any scanner chosen must be easily usable by both regular and occasional users. Complex systems or poor user experience will prevent users from getting the most out of a scanner, or even make them not want to use it at all. In addition, ease of integrating with other enterprise systems will be key to maximising the ROI a scanning solution can deliver throughout ongoing digital transformation efforts.

Overall, organisations need to have high-quality scanners within their fleet as they progress towards digitisation and reap the rewards in terms of compliance, ease of data manipulation and sharing, more efficient processes and space-saving. Although there may be a place for MFPs for occasional scanning, dedicated scanners that can reliably deliver on their promise will still be a necessity for full quality, volume and capabilities.

About Quocirca

Quocirca is a global market insight and research firm specialising in analysing the convergence of print and digital technologies in the future workplace.

Since 2006, Quocirca has played an influential role in advising clients on major shifts in the market. Our consulting and research is at the forefront of the rapidly evolving print services and solutions market, trusted by clients seeking new strategies to address disruptive technologies.

Quocirca has pioneered research in many emerging market areas. More than 10 years ago we were the first to analyse the competitive global market landscape for managed print services (MPS), followed by the first global competitive review of the print security market. More recently Quocirca reinforced its leading and unique approach in the market, publishing the first study looking at the smart, connected future of print in the digital workplace. The Global Print 2025 study provides unparalleled insight into the impact of digital disruption, from both an industry executive and end-user perspective.

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