The Avoidable Cost of Downtime

Research Report

SEPTEMBER 2010

CA TECHNOLOGIES

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EXECUTIVE SUMMARY

IN AUGUST 2010, CA TECHNOLOGIES COMMISSIONED INDEPENDENT RESEARCH* TO EXPLORE EUROPEAN ORGANISATIONS' EXPERIENCES OF IT DOWNTIME AND DATA RECOVERY. DATA ANALYSIS FROM THE 1,808 ORGANISATIONS SURVEYED ACROSS 11 COUNTRIES HAS PROVIDED INVALUABLE INSIGHTS INTO HOW DOWNTIME IMPACTS FINANCIAL PERFORMANCE AND AN ORGANISATIONS ABILITY TO OPERATE EFFECTIVELY.

THE RESEARCH SHOWS THAT THROUGHOUT EUROPE**, IT OUTAGES ARE FREQUENT AND LENGTHY. DURING THESE PERIODS, BUSINESS CRITICAL SYSTEMS ARE INTERRUPTED, LEADING TO A SIGNIFICANT REDUCTION IN THE ABILITY OF A COMPANY TO GENERATE REVENUE. THE FINANCIAL LOSSES ASSOCIATED WITH IT OUTAGES QUICKLY ESCALATE THE LONGER BUSINESSES TAKE TO FIX THEM.

THE KEY FINDINGS OF THE RESEARCH ARE:

- European organisations above 50 employees are collectively losing more than €17 billion*** in revenue each year through IT downtime and data recovery. That's the equivalent of 13.5% of the proposed EU budget for 2011. On average, each company loses more than a quarter million Euros (€263,347).

- European businesses collectively suffer from almost 1 million hours of IT downtime each year (956,373 hours). That's an average of 14 hours per company per year.

- During these periods, when business critical systems are interrupted, companies estimate that their ability to generate revenue is reduced by a third (32%).

- Post IT downtime, (i.e. when IT systems are up and running), there's an additional delay of 9 hours per year at each firm during which time data is still being recovered. Across Europe, that's another 628,565 hours when business operations aren't fully operational.

- In this post-outage period when data recovery is taking place, company revenue generation is still severely hampered, down by an average of 25%.

Much of the financial impact highlighted in the research can be avoided through better data protection strategies. This will reduce both the frequency and length of IT outages.

Furthermore, many companies endure longer than necessary interruptions to their IT systems, because their data protection policies aren't robust enough. Organisations often focus their efforts on backing up data securely while neglecting to consider how quickly they can recover their data in the event of a failure. This 'speed of recovery' is a good starting point for businesses planning or re-evaluating their disaster recovery needs.

FURTHER INFORMATION

For further information about the Avoidable Cost of Downtime please visit:
http://www.arcserve.com/emea/acd

*Research carried out by Coleman Parkes Research Ltd
**'Europe' for the purposes of the study constitutes the countries surveyed: UK, France, Germany, Spain, Italy, Belgium, Netherlands, Norway, Finland, Sweden and Denmark
***For the purposes of this research, '1 billion' is defined as '1,000,000,000'.

More than Backup

TOTAL REVENUE LOSS

The total amount of revenue loss caused by IT downtime and data recovery across all organisations in Europe was calculated as €17,722,978,794.

Total revenue loss for each country is as follows:

| UK	€2,681,000,000
France	€6,406,000,000
Germany	€4,236,000,000
Spain	€2,906,000,000
Italy	€428,000,000
Belgium	€194,000,000
Netherlands	€329,000,000
Norway	€377,000,000
Finland	€443,000,000
Sweden	€754,000,000
Denmark	€281,000,000
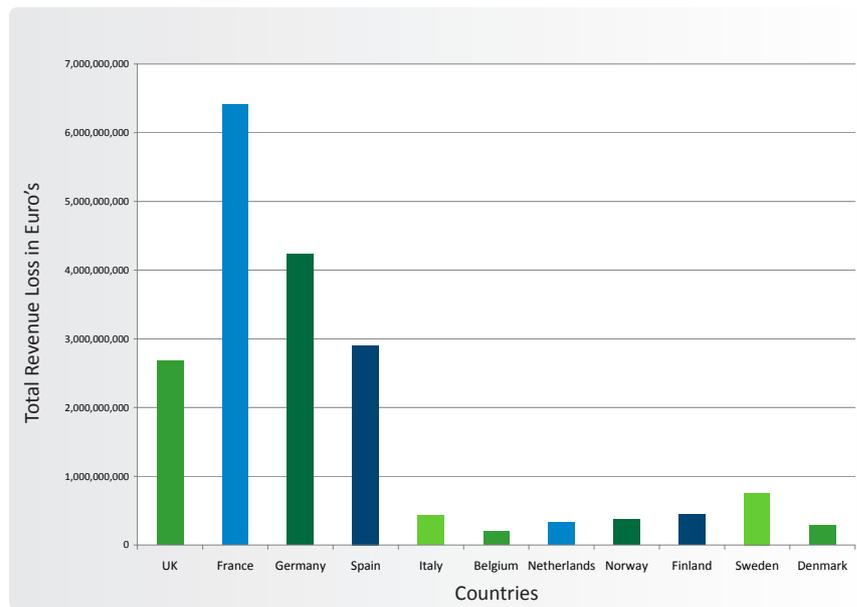
"The total amount of revenue loss caused by IT downtime and data recovery across all organisations in Europe was calculated as €17,722,978,794."

The impact of business-critical systems going off-line has a direct impact on revenue and productivity. This lost revenue could be caused by long delays in getting the systems back online, or by the frequency of the outages. To avoid these costs, organisations need to design their data protection and disaster recovery systems to deliver a faster recovery speed, and invest in more resilient infrastructure to minimise the number of outages. For many years the emphasis has been on the speed of the backup, and whilst obtaining a copy of the data is still immensely important, it is the speed of recovery that should now be the focus. Many more organisations are dependent on IT systems to support revenue generation activities, and therefore downtime comes at a significant cost.

AVERAGE REVENUE LOSS PER ORGANISATION THROUGH IT DOWNTIME AND DATA RECOVERY

- By country
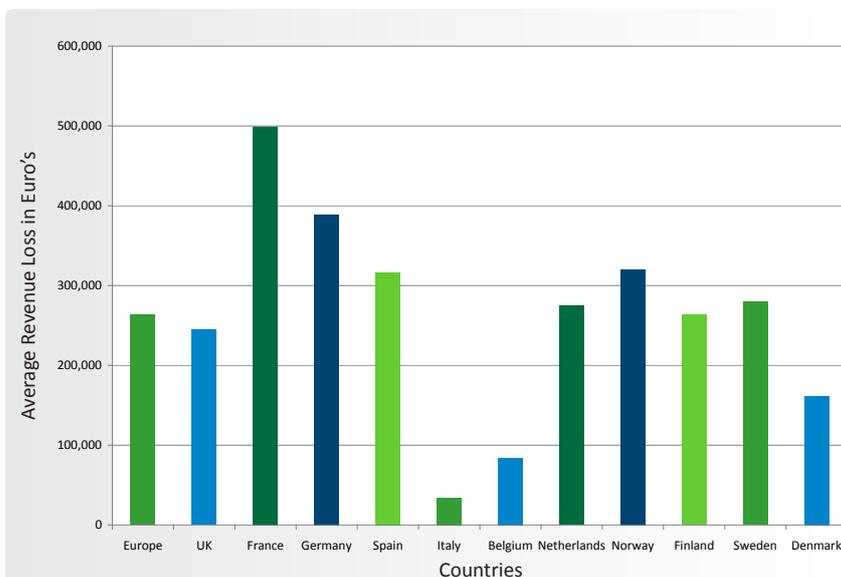
Results for Italy are interesting and there are a number of possible explanations for this. For example, the percentage of small (50 to 99 employees) and medium (100 to 249 employees) sized companies is much higher in Italy than in the other countries. Their level of adoption of ERP and CRM systems lowers the average, which also includes large enterprises. As both of these systems are important for sales processes this could be a reason why revenue is not affected to such an extent as in the other countries surveyed. This is in spite of the fact that Italian organisations do not proportionally suffer shorter or less frequent outages.

Another consideration for the low average revenue loss per company is because Italian small and medium organisations do not always have service level agreements (SLAs) in place for measuring the impact of downtime on revenue, so there is little perception of the real risks. However, due to new regulations and the need to be more competitive, this situation is likely to change as Italian organisations become more dependent on IT systems. When this occurs, recovery management will become more and more critical.

## - By company size
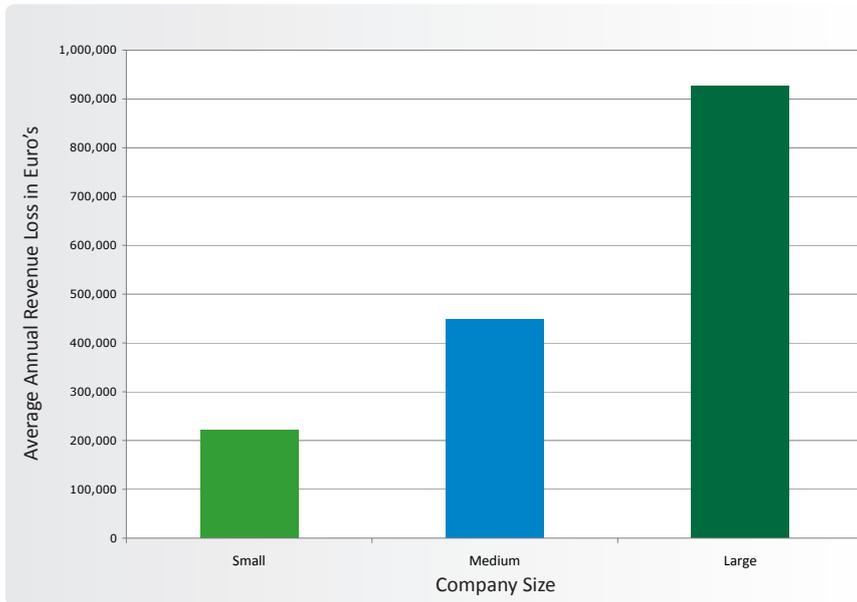
Annual revenue loss per company per year

France	€499,358
Germany	€389,157
Norway	€320,069
Spain	€316,304
Sweden	€279,626
Netherlands	€274,752
Finland	€263,314
UK	€244,888
Denmark	€161,655
Belgium	€84,050
Italy	€33,844

Average revenue lost per year due to IT downtime and data recovery was also compared across the different size of organisation surveyed (however caution must be used when drawing inferences from these figures as they may partly be a function of the company size due to more revenue-generating staff being affected). Large companies lost the most revenue over the last year, with an average of €927,823 per company. Small companies lost the least (€221,817).

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Increasingly it is not the size of an organization that defines how important their data and systems are, but the line of business they operate in. Many smaller organizations now have a reliance on IT systems to generate revenue, and the outage is proportionally just as great as in a large multi-national.

More than Backup
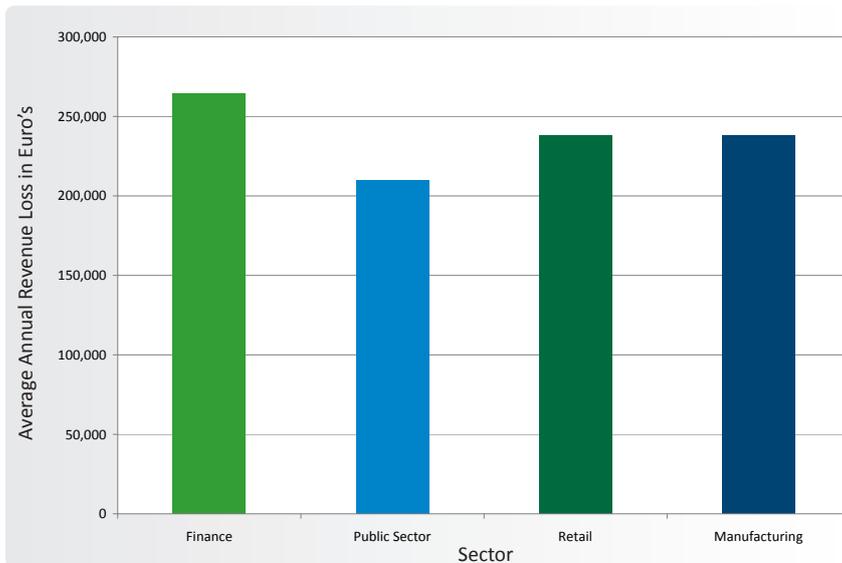
- By sector

There were small sector differences when comparing lost revenue over the last year. The finance sector lost the most revenue (an average of €264,605 per company) and the public sector the least (€209,819 per company).

It is important to understand the difference between revenue generating systems, and those that support the operation of the business. For example, in the finance sector there is a lot of reliance on the IT systems to generate revenue, and organisations invest a lot in making these systems as highly available as possible.

This research perhaps demonstrates how successful the finance sector is in minimizing the impact of an outage. The public sector predominantly uses IT services to support the main function of the business, and an outage may not cause operations to stop, rather run in a less efficient manner.

Research Results

Downtime

- Average downtime in the last outage
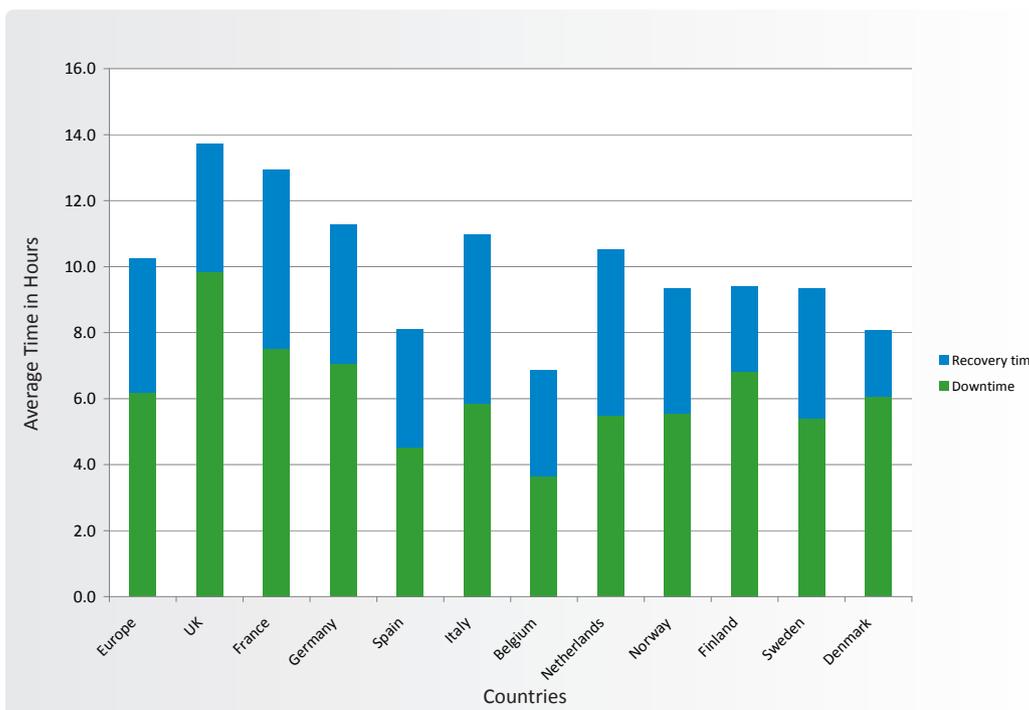
Respondents were asked about the length of their most recent IT outage. Across Europe the average was 6.2 hours– the vast majority of the working day. IT outages lasted the longest in the UK (9.8 hours) whilst companies in Belgium experienced the shortest period of downtime (average 3.6 hours). It could be argued that the length of the outage does more direct damage to revenue than the frequency. Short, frequent outages may have a bigger impact on the reputation of an organisation.

There was some variation in the amount of downtime experienced between sectors. Companies in the public sector underwent the longest outages on average (7.5 hours) whereas the manufacturing sector had the shortest (4.9 hours).

There was little company size variation although small companies experienced slightly longer periods of IT outage than large companies (6.7 hours compared with 5.7 hours). This reflects the roles that IT staff play within different sized organisations, and their relative ability to plan for, and react to an IT outage. Large organisations have traditionally employed large IT teams, with specialist roles focused on availability and data protection. Smaller organisations do not have this luxury, and the IT teams are usually made up of IT generalists who need to manage all aspects of operations.

"Respondents were also asked about the length of time it took between the systems and applications coming back up, and all data being fully recovered and available. Across Europe the average was 4.1 hours; 2 hours less than the length of the downtime itself."

Respondents were also asked about the length of time it took between the systems and applications coming back up, and all data being fully recovered and available. Across Europe the average was 4.1 hours; 2 hours less than the length of the downtime itself. Data recovery time was longest in France (5.4 hours) and shortest in Denmark (2.0 hours). Similar to the length of the outage, companies in the public sector took the longest to recover their data (4.7 hours). The retail sector took the shortest amount of time (3.7 hours).

Small companies took significantly longer to recover data after an outage (5.2 hours) when compared with both medium sized companies (3.2 hours) and large companies (3.7 hours).

To minimise the impact of the post outage data recovery phase, organisations need to look at the design and the granularity of the backup process. Critical business data should be isolated in the back from less important data, so that the recovery process can focus on the critical systems first. The key is to bring back only what is needed!

- Average downtime in the last year
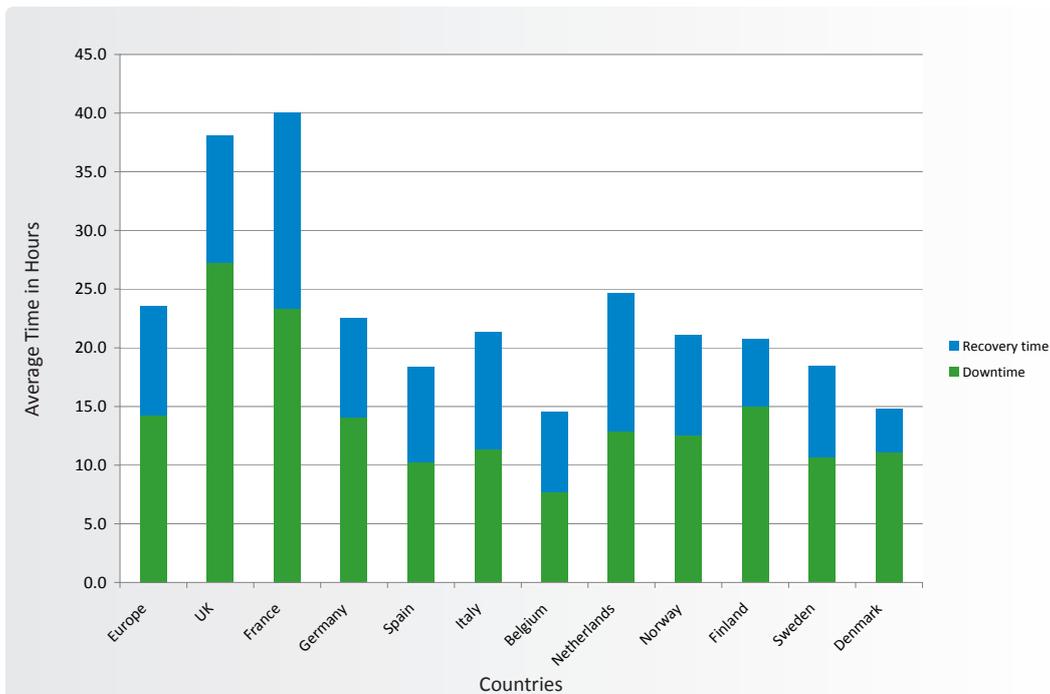
Downtime in the last outage and frequency of downtime were multiplied together to calculate the average amount of downtime per company in the last year.

There were significant differences between the countries surveyed. The UK and France experienced the largest amounts of downtime in the last year, an average of 27.3 hours for the UK and 23.3 hours for France. There was the least amount of downtime in Belgium, an average of 7.7 hours.

"There were significant differences between the countries surveyed. The UK and France experienced the largest amounts of downtime in the last year, an average of 27.3 hours for the UK and 23.3 hours for France."

There were only small differences between the vertical sectors; the public sector experiencing the most downtime with 17.7 hours. Small companies had more outage time than medium or large companies (16.0 hours compared to 13.7 and 12.9 hours).

When looking at the time taken to recover data following IT outages, an additional 9.3 hours per year is added to the downtime total across Europe. France experienced the longest data recovery times (16.7 hours per year) and Denmark the shortest (3.7 hours per year).

Frequency of IT outages (per year)
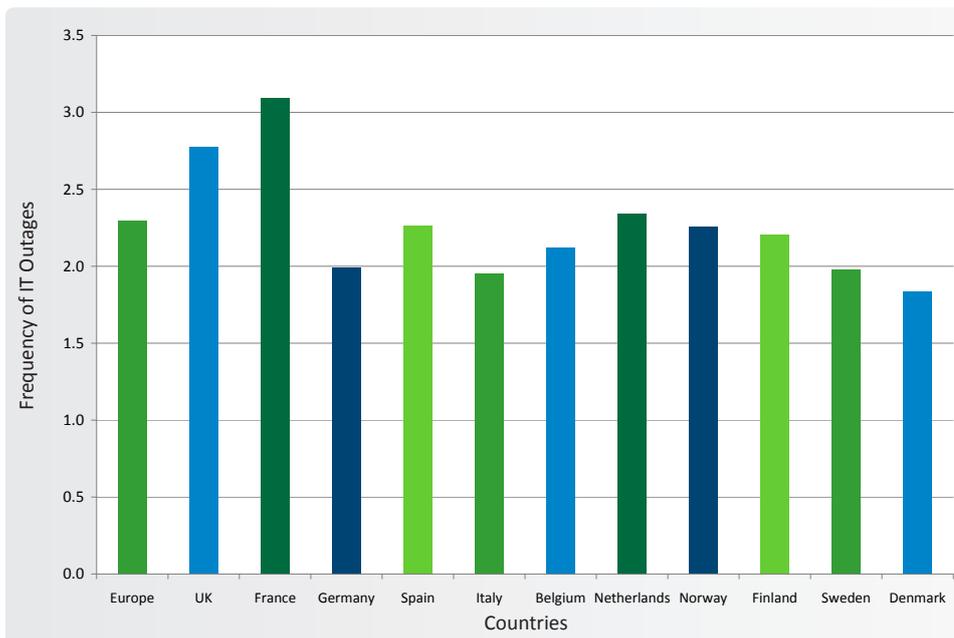
Avoidable IT outages occurred an average of 2.3 times in the last year across Europe. There was very little difference by country, although France and the UK experienced the most outages (3.1 and 2.8 respectively).

There was very little difference in the frequency of IT outages between either companies of different sizes or those from different sectors.

Impact of downtime on company revenue generation
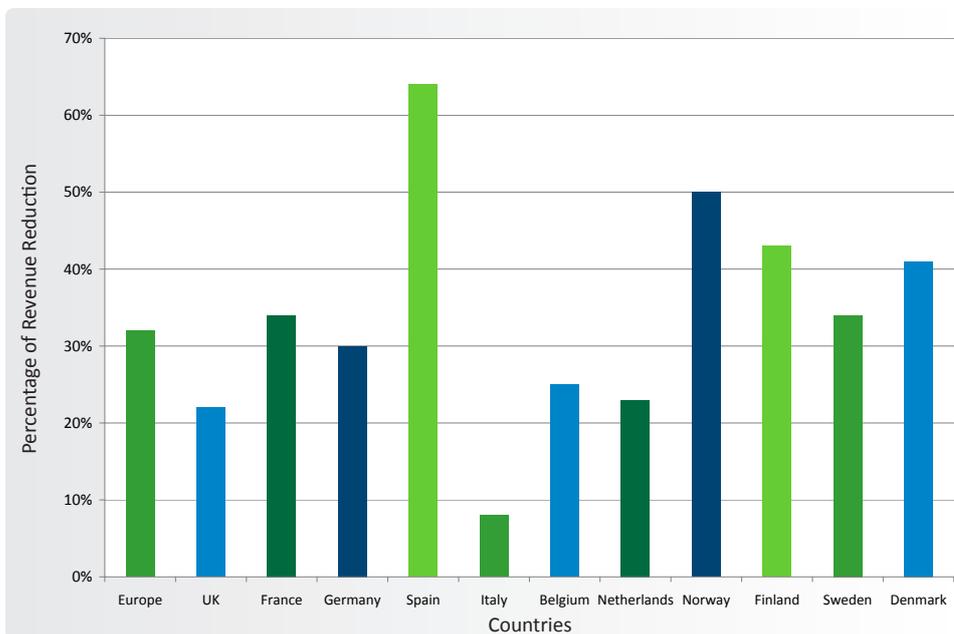
IT downtime was found to have a significant impact on the ability of a company to generate revenue. Overall across Europe, respondents stated that when business-critical systems are compromised, their ability to generate revenue is reduced by almost a third (32%).

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There is a significant difference between countries when it comes to revenue generation. Italian companies reported a very small drop in turnover during IT downtime, with their revenue-generating ability only dropping by 8%. Spanish companies however were greatly affected, losing nearly two thirds (64%) of their potential.

Large companies showed the higher potential to generate revenue during the last period of downtime (dropping only 28%). In comparison, small companies lost well over a third (38%) of their ability to generate revenue.

There was little difference between the different vertical sectors.

Impact of recovery time on company revenue generation
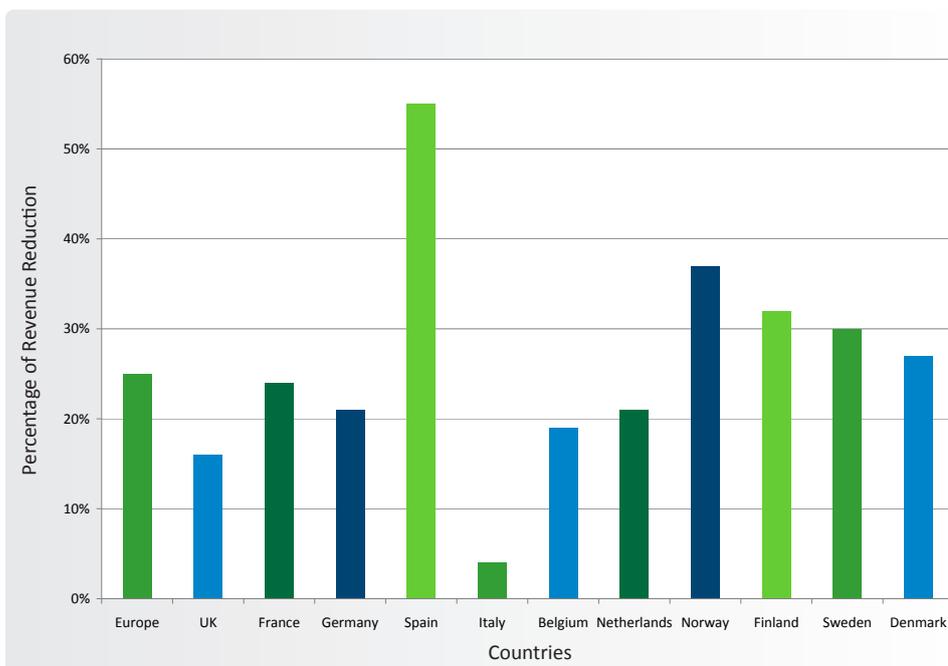
In addition to downtime, the time it took for the data to be recovered also had an impact on the ability of a company to generate revenue. Unsurprisingly however, this happened to a lesser extent than the downtime itself. Whereas downtime reduced companies' ability to generate by nearly a third (32%), during recovery time the average company in Europe lost its ability to generate revenue by a quarter (25%).

"Downtime reduced companies' ability to generate by nearly a third (32%) and during recovery time, the average company in Europe lost its ability to generate revenue by a quarter (25%)."

Again, there was significant difference between countries with Italian companies managing to only lose 4% of its ability to generate revenue and Spain losing over a half (55%).

As before, large companies showed the higher potential to generate revenue during recovery time (21%). Small companies lost 29% of their revenue-generating potential.

There was little difference between the different vertical sectors.

Criticality of the affected IT systems/applications
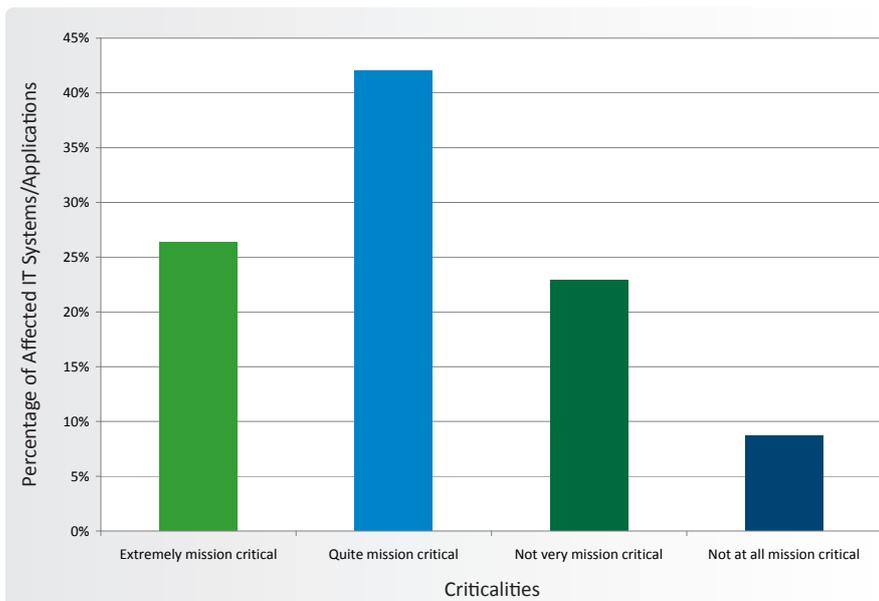
Overall, over two thirds (68%) of companies say the systems/applications affected by the most recent period of IT downtime are mission critical (with 26% saying they were extremely mission critical and 42% saying they were quite mission critical). Respondents in Germany said the systems affected were the most mission-critical (84%) and those in Spain said they were the least critical to the business (50%).

Large and medium sized companies were the most concerned about the criticality of systems affected by the downtime. 74% of large companies and 73% of medium companies, as compared to 59% of small companies, thought the systems affected were mission-critical. There was little difference between vertical sectors.

Departments affected
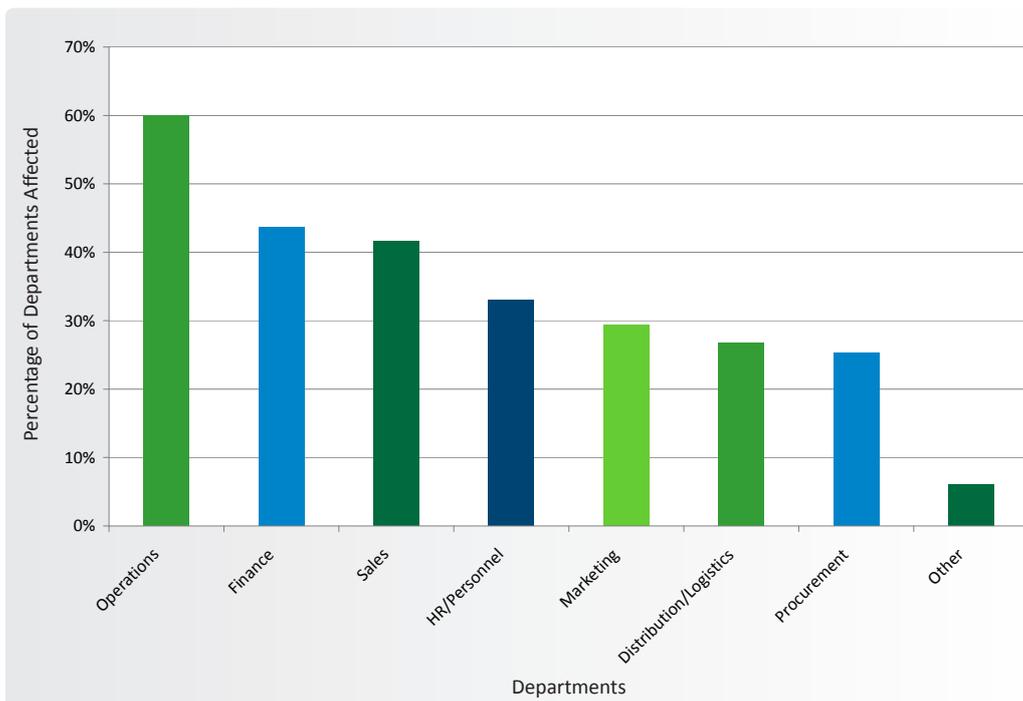
Across Europe the operations department was most affected by IT downtime, with 60% of companies reporting that it was affected by the most recent outage. The finance (44%) and sales (42%) departments were also highly affected.

Countries overall gave similar responses to this question. However, some countries particularly mentioned the marketing department (Spain 44%, Netherlands 46%), HR/personnel (Spain 43%, Netherlands 43%, Denmark 42%) and distribution/logistics (Spain 43%, Netherlands 43%).

Conclusions

The global economic climate is making it harder for many European organisations to grow or even remain in business. The ability to generate revenue is key, and companies need to invest wisely in all aspects of their business to maximize their chances of success.

The Avoidable Cost of Downtime 2010 Report demonstrates the impact IT outages have on European business, and that many organizations across Europe are wasting a significant opportunity when it comes to generating revenue by not having the tools and procedures in place to quickly recover from an inevitable outage to IT services.

For many years IT departments have focused on efficient ways to take backup copies of key data, and not on the speed of recovery. The goal of a backup was to enable an organization to recover, but little attention was paid to how fast that recovery should take.

Today there are data protection and availability solutions available that enable an organization to maximise revenue generation by recovering key applications and systems extremely quickly, protecting businesses from both physical failure and logical data corruption, while minimizing data loss.

Tips and Advice on Avoiding the Cost of Downtime

- Identify business critical systems and data. The first step in minimising the impact downtime has on an organization is to identify the applications and data that directly drive revenue. All too often organizations take a generic approach to data protection, applying the same policy and process to all data. When a recovery is needed the availability of critical systems is hampered by the need to also recover non-critical data in a generic process.

- Design the infrastructure to minimize the frequency of IT outages. For critical business applications invest in infrastructure solutions that provide the highest levels of availability. This will include such technologies as clustered servers replicated storage.

- Implement a data protection solution to deliver high speed recovery. Replication and disk-based backup technologies allow faster recovery times. Make sure the solutions in place protect against logical corruption of data as well as physical failure. Granularity of the backup will drive more granular recovery – meaning focus can be given to critical data first.

- Work with the right partner. No one solution is correct for every business and therefore it is important to work with specialised data protection partners who can understand the specific needs of an organization and help deliver a complete solution.

Methodology

The fieldwork was conducted in July 2010 by Coleman Parkes Research.

1808 online interviews were carefully conducted across the following countries in Europe:

Country	No. of interviews	Country	No. of interviews
UK	200	Netherlands	201
France	201	Norway	100
Germany	202	Finland	102
Spain	200	Sweden	101
Italy	201	Denmark	100
Belgium	200	TOTAL SAMPLE	1808

Fieldwork was conducted in an equal split across the following vertical sectors:

- Finance
- Public sector
- Retail
- Manufacturing

Fieldwork was also carried out in an even split across companies of the following sizes:

- 50-499 employees ('small')
- 500-999 employees ('medium')
- 1000+ employees ('large').

Online interviews were conducted with CIO/IT directors/IT managers where appropriate across the companies. A small proportion of finance directors were also interviewed to validate the accuracy of the company revenue figures obtained from the IT executives. Where significant differences occurred the final IT data was amended accordingly.

Calculating lost revenue

The total amount of revenue lost due to avoidable IT outages takes into account the total number of hours of downtime when systems are offline; the total number of hours between systems restoration and recovery of all data; the overall, average revenue generation per country/company size/vertical sector; the impact on revenue generation during both of these periods and the overall number of avoidable IT outages a year.

In order to validate the accuracy of the company revenue figures obtained from the IT and Operations executives, a small number of interviews with CFO/Finance Directors were also completed in organisations taking part in the research. Although it varied from company to company and overall was not large, there was some discrepancy between revenue impact figures provided by CFOs and senior IT and Operations executives. Accordingly levels for all organisations were adjusted to reflect the average difference in this regard and, of course, this has improved the accuracy of the impact on revenue estimates (both during the outage itself and the data recovery period) generated by the research.

Universe estimates for the three different company size categories and average revenue figures for each size category were obtained from published sources. This data was used to gross up the impact on revenue information obtained from the research. Sensitivity checks completed on relevant research findings confirmed that it was not necessary to apply company size weights to individual research records.

Resources to reduce the impact of IT Downtime

To find out more about how you can reduce IT Downtime
please visit:

http://www.arcserve.com/emea/acd

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Our solutions help our customers gain a level of deep insight into and exceptional control over complex, mixed IT environments. It's that level of insight and control that enables IT organizations to power business agility.

About Coleman Parkes www.coleman-parkes.co.uk

Coleman Parkes Research was set up over 8 years ago to deliver premium quality, action focused research, specialising in the business-to-business space. The Company undertakes research for service and product suppliers to all parts of the business community including Finance, Retail, Government, Services and Manufacturing. The last of these is a specialist area and with both Directors of the Company having devoted most of their working lives to this sector, the Company is able to offer informed, incisive manufacturing based research that is without peer.

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