Digitalisation in Accounting

Study of the Status Quo in German Companies
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Focused on opportunities and potential
Keywords such as “digitalisation”, “big data” and “data analytics” are also omnipresent in the financial sector – regardless of company size and industry. Digitalisation will bring major changes to all companies. Besides the change in entire core business models, digitalisation particularly encompasses support functions such as accounting, controlling and management.

This is where the present study picks up and provides insight into the current status and the trends of digitalisation within accounting. Who is responsible for ensuring that accounting digitalisation heads towards the intended objective? What are the obstacles on the path to digitalised accounting? Where are German companies in general in this ever more rapidly advancing process?

In addition to examining these questions, the role of the auditor within the digitalisation of accounting is, of course, important. This study therefore also aims to ascertain the expectations German companies have of their auditors.

Expert interviews and a large-scale empirical online survey form the basis of this investigation. In addition to ten expert interviews with the respective Chief Accountants of companies domiciled or listed on the stock exchange in Germany, the standardised online survey was completed by a total of 146 CFOs (Chief Financial Officers), Chief Accountants or employees in accounting. Content from the expert interviews was used for designing the online survey and had also been integrated into this study at the relevant places in the form of core messages and quotations.

This study is the result of a KPMG cooperation with Prof Dr Thorsten Sellhorn and Prof Dr Thomas Hess of the Ludwig Maximilian University of Munich. Our special thanks go to all contributors and, primarily of course, to the interview partners and survey participants, as well as Dr Antonia Köster, Kathrin Oberwallner, M.Sc., and Sabrina Vieweg.

We hope this provides you with inspiring reading.

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Executive Summary

This study investigates the status quo and developmental trends of digitalisation in accounting, the responsibilities for implementation and any obstacles to the digitalisation of accounting, which may have already emerged. Building on this, a maturity level model was developed that assigns companies to defined clusters and reflects the current status of digitalisation in their accounting systems.

The analysis of this study provides the following key findings.

1. The digital solutions in accounting so far essentially only cover the “basics” of digitalisation.

From the respondents’ point of view, the focus of accounting digitalisation is the uniformity of the basic systems used in accounting, as well as a routine evaluation of the quality and accuracy of master data. By contrast, real-time reporting, cloud computing or complex big data analyses do not, as yet, play a large role for most companies.

2. The elimination of media breaks in the data flows offers the greatest potential for digital solutions in accounting.

The expansion of interfaces to external systems such as suppliers and banks is also considered to be important. The possibility of automating routine processes to the greatest extent possible with the aid of digital technologies is being pursued by companies with high priority, however, at present, this has not been fully exploited.

3. Prior digitalisation projects were primarily aimed at improving data quality and data consistency.

Apart from this focus, companies have, in particular, increased the speed of reporting and accelerated the digitalisation of end-to-end processes. Cost savings were rarely the focus here.
Future digitalisation measures in accounting will, for the most part, tie in with existing measures.

Data quality and data consistency continue to remain focal points of digitalisation in accounting. The companies surveyed see the greatest potential for development through digitalisation in cost reduction and in a more strongly IT-oriented job profile for employees.

Insufficiently optimised processes represent the greatest obstacle to implementing digitalisation in accounting.

The optimisation and digitalisation of processes is described as laborious and complex, repeatedly resulting in conflicts in the internal allocation of personnel.

Digitalisation in accounting is a management issue.

Presently, the main responsibility for digitalisation in accounting is borne by the managers of external accounting or the CFO or chairperson of the management board.

The overwhelming majority of the companies surveyed achieve an average maturity level.

Approximately 66 percent of the companies surveyed are in the middle of the maturity level model in terms of applying digital solutions and the management of digitalisation within the accounting system. Only 15 percent can be described as “digital pioneers”. For these companies, both the application of digital solutions and also the management of the digitalisation process are already well advanced.

The process of accounting digitalisation is related to very high expectations of auditors.

Through the use of digital technologies, companies also expect audits from their auditors to be both more efficient and also of increasing quality.
Methodology

The two-part study design involves expert interviews and an empirical online survey. This makes it possible to combine detailed and representative insights in order to arrive at a multi-faceted picture of the status quo and of the future developments in the area of digitalisation in accounting.

As preparatory work for the online survey, between December 2016 and January 2017, semi-structured interviews were initially conducted by telephone and in person with ten Chief Accountants of companies domiciled or listed on the stock exchange in Germany. The interview length varied between 55 minutes and 80 minutes. The companies surveyed are differentiated, among other things, by size, stock exchange listing and industry.

These expert interviews supply in-depth insights and thus represent a valuable basis for, and supplement to, the results of the online survey. Statements from the expert interviews were integrated into the relevant places in the course of the study. These are primarily used for the purposes of illustration.

Between the beginning of March and April 2017, we invited more than 1,700 companies in Germany via email to participate in our study for the online survey. The target audience for the online survey were the respective CFOs or Chief Accountants (Figure 1). 146 participants – of which 93 percent were in a management position as the CFO or Chief Accountant of external accounting – fully completed the documents.

The sample for this study encompasses companies of various turnover volumes and industries, including those listed and not listed on the stock exchange. Companies with up to 1,000 employees make up 62 percent and represent the largest portion of the sample (Figure 2). An additional 27 percent of the survey participants represent companies with employee numbers from 1,000 to 10,000. Eleven percent of the companies have more than 10,000 employees. About 12 percent of the companies surveyed are capital market-oriented (Figure 3). The companies surveyed are engaged in various industries (Figure 4). The classification, in particular of large companies often engaged in multiple industries, is mainly based on the self-classification of the survey participants.
Figure 2: Company size
How many employees does your company have?
Please select one of the following categories.
(n = 146)

< 1,000

62%

1,000 to 10,000

27%

> 10,000

11%

Figure 4: In which industry does your company primarily operate?
Please select one of the available categories.
(n = 146)

Banking/insurance

Chemical/pharmaceutical/medical

Commerce

Machines and electrical engineering

Energy/raw materials

Infrastructure/construction

Automotive industry

IT/media

Consumer goods

Logistics

(Tax) consultation/attorneys at law

Telecommunications

Other industries

Source: KPMG, 2017
1 Digitalisation in accounting - the status quo and outlook
DIGITAL SOLUTIONS IN ACCOUNTING

The digital transformation of companies is occurring not only in the core operational areas along the value-added chain, but also in the central functions such as purchasing, human resources and finance. It is also taking hold of the processes and systems in accounting at a rapid pace. The following results reveal the extent to which the digital transformation in accounting has already taken place for German companies and which digital solutions are to be put in place in the near future.

For eleven selected digital solutions, the participants were asked to indicate whether these were already implemented in their companies or were on the agenda for the near future.

1. **Paperless accounting**
   We digitalise all documentation (e.g. invoices) or the documentation is already digitalised.

2. **Interfaces to (external) systems**
   We receive invoices and other files from our partners (e.g. suppliers, banks) that can be accepted by means of an interface directly into the accounting system.

3. **Management of data quality**
   We validate the quality and accuracy of our (master) data at least once per year.

4. **Process automation**
   We utilise the latest digital capabilities in order to automate our routine processes to the fullest possible extent.

5. **Uniformity of systems**
   The basic systems used in accounting are for the most part uniform.

6. **Integrated consolidation system**
   We have a consolidation system in the company that can obtain direct access to the data of the corporate division.

7. **Real-time reporting**
   We apply innovative technologies such as high-speed databases for rapid analyses.

8. **Creation of transparency**
   The systems used enable analyses from the top of the group down to the detail of our end-to-end processes, such as purchasing and sales.

9. **Big data analyses**
   We actively use our expertise in the area of big data in the accounting system; that is, the analysis of large quantities of data from various source systems.

10. **Tools for visualisation**
    We actively use digital visualisation tools to prepare the results of our data analyses in graphical form and to varying degrees of detail for the respective target audience.

11. **Cloud computing**
    For the most part, we have transferred our applications to cloud solutions.
“We started digitalising incoming invoices 15 years ago. Once received, every invoice is read directly using OCR text recognition; it is then matched against the order, and in the best case, directly posted. The so-called opaque-posting rate is currently at roughly 85 percent.”
(Gerhard Stoll, Bechtle AG)

“The accruals that can be picked up by processes are automated. Everything beyond this still takes place in the traditional way. Of course, this also depends on how new the organisation actually still is.”
(Anonymous)

“For the past two years, we have been using a global chart of accounts as the standard for the systems. Our objective was that this chart of accounts be appropriately implemented in the system; that is to say, that no mapping is done for group purposes only. And every new system in accounting that falls back on account allocation is obligated to use this chart of accounts. This brought us a giant step forward in data quality and eliminated a lot of discussion.”
(Interview partner of BMW AG)

“I believe, the cases in which we need data for managing the business more quickly, and perhaps even in real-time, need to be carefully considered. As part of this, we must of course also differentiate very, very carefully between what is merely “trendy” and what is really relevant and adds value.”
(Jochen Schmitz, Siemens AG)

“We offer the so-called Digital Boardroom to our customers and also use it ourselves. Instead of the classic presentations, the SAP Board works in Board sessions on three to four large monitors with live data and can run immediate analyses. Among other things, the Board can see how potential measures will impact company performance by utilising predictive analytics methods on the basis of a value driver tree. For example, how will turnover and expenses change if we now place 20 more people in sales in North America? All of this functions because big data and in-memory technologies enable us to work directly on the individual transaction data instead of being limited to preplanned aggregations. In the meantime, the presentations of financial data in the SAP Supervisory Board also take place in our business exclusively via the Digital Boardroom.”
(Christoph Hütten, SAP SE)
The current emphasis of digitalisation in accounting is on the creation of uniform basic systems, with a level of agreement (“applies completely” and “rather applies”) of 64 percent, followed by the management of data quality, with agreement at 56 percent. Surprisingly, cloud computing, big data analyses and tools for visualising only achieved agreement rates of under 30 percent, although it is these topics which are currently the focus of discussion (Figure 5).

**Figure 5: Digital solutions – status quo**

Please assess, from your daily operating practices, the extent to which the following statements on digitalisation in accounting apply to your company. Please assess the status quo of the suggested digital solutions in your company on a scale of 1 (“does not apply at all”) to 5 (“completely applies”).

(n = 146, information in percent)

When looking ahead to which digital solutions should be introduced in the next two years, the assessments of the participants change. Paperless accounting receives the highest agreement, with 83 percent (Figure 6, page 14). From this, one can conclude that the majority of the companies assume that they will completely dispense with paper documentation within the next two years at the latest, and only process supporting documents in digital form. In addition, the uniformity of the systems and management of data quality still received high rates of agreement, each with greater than 70 percent. In terms of outlook, big data analyses and tools for visualisation in fact received an average of 30 percentage points more agreement. However, companies believe that these will not reach the top of the priority list of digitalisation topics in accounting within the next two years.
Here, cloud computing generated the lowest agreement both for the status quo and outlook. This result is noteworthy given that, for example, the latest market-leading ERP and database solutions are still only available as a cloud solution. Apparently, a significant number of companies have not yet conclusively dealt with the advantages and disadvantages of the cloud for the accounting of the future.

**Figure 6: Digital solutions – outlook**

Please assess, from your daily operating practices, the extent to which the following statements on digitalisation in accounting will apply to your company in the next two years. Please assess the outlook of the suggested digital solutions in your company on a scale of 1 (“does not apply at all”) to 5 (“completely applies”).

(n = 146, information in percent)

In the comparison of the status quo and the outlook, the interfaces to external systems (+47 percentage points) and process automation (+39 percentage points) achieved the largest increases among the digital solutions, as measured by the agreement (“completely applies” and “rather applies”) (Figure 7, page 15). This might also explain the already advanced implementation of uniformity of the systems and management of data quality: Both an internally uniform system landscape in accounting and also adjusted master data are important prerequisites for linking to external systems, but also for the automation of processes.
THE INFLUENCE OF DIGITALISATION ON ACCOUNTING

Besides the issue of the digital solutions in accounting already applied or planned in the foreseeable future, the influence of digitalisation on accounting is of importance. We therefore asked the question what effect digitalisation in accounting has already had, and what effects the company anticipates from digitalisation for the future.

Figure 8: The influence of digitalisation on accounting – status quo
What has changed in the accounting system in your company due to digitalisation in recent years? Please assess the status quo in your company on a scale of 1 ("does not apply at all") to 5 ("completely applies").

(n = 146, information in percent)
“What I believe [is] that the number of employees in the Shared Service Centre will be dramatically reduced [...].”
(Anonymous)

“Automation does not necessarily mean a cut back in jobs, but rather often allows for human labour to be employed for more meaningful purposes. As we automated the ‘Last Mile of Reporting’ in the group reporting of SAP, we did not reduce any employee numbers. Instead of primarily creating figures by hand, the employees now check and explain the figures. This is much more important and also more interesting for the employees.”
(Christoph Hütten, SAP SE)

“Well, there must always be a business case for this. [...] I would also place emphasis on the topics of governance and quality. However, I believe that without recognisable savings, nothing would be introduced in our company. In other words, I would say: it is definitely primarily a matter of cost.”
(Anonymous)

“So far, extensive restructuring of commercial processes, i.e. the industrial revolutions, has ultimately produced more jobs than it has cost. There is currently much discussion on whether digitalisation could be the first industrial revolution that no longer follows this rule. I believe however that it is still too early to tell.”
(Christoph Hütten, SAP SE)
So far, the companies experienced the largest influence of digitalisation on accounting in terms of data quality/data consistency, with agreement ("completely applies" and "rather applies") at 74 percent, and speed of reporting at 71 percent (Figure 8, page 15). A reduction in staffing in the accounting department, or a reduction in costs only occurred as an effect of digitalisation for a few of the companies surveyed. Here, there was agreement of less than 35 percent.

The majority of the companies surveyed did not undertake any outsourcing of additional tasks to third-party service providers in the course of digitalisation.

Figure 9: The influence of digitalisation on accounting – outlook
What changes in accounting are anticipated in your company due to digitalisation in the next two years? Please assess the status quo in your company on a scale of 1 ("does not apply at all") to 5 ("completely applies").

(n = 146, information in percent)

<table>
<thead>
<tr>
<th>Change in Accounting</th>
<th>Status Quo</th>
<th>Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data quality and data consistency will improve.</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>There will be increased focus on processes.</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Reporting speed will increase.</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Employee qualifications will expand in the direction of IT.</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>The range of services will be expanded.</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Costs will be reduced.</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>More tasks will be outsourced to external service providers.</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>There will be an overall reduction in accounting staff as a result of digitalisation.</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>More tasks will be outsourced to external service providers.</td>
<td>5</td>
<td>38</td>
</tr>
</tbody>
</table>

In terms of outlook, no major changes emerge with respect to expectations for digitalisation in accounting. For example, 54 percent of the companies now confirm with complete agreement that the focus on processes is now a central expectation for digitalisation in accounting (Figure 9).

The largest jumps in the comparison between the status quo and the outlook were made by other issues. The qualifications required by employees in accounting will develop more and more in the direction of IT. This is indicated in the increase in agreement of 24 percentage points as compared to the status quo. Cost savings also gain relevance in the near future for digitalisation in accounting. Here, there was a jump of an additional 23 percentage points in agreement in comparison to the status quo.

However, outsourcing to external service providers due to digitalisation is also hardly a subject for the future for the companies surveyed.
OBSTACLES TO DIGITALISATION IN ACCOUNTING

The process of digitalisation is indeed advancing rapidly, however there are aspects in almost every company that impede this development. The following indicates which aspects have become obstacles for the companies surveyed in the course of digitalisation.

Figure 10: Obstacles to digitalisation
Which of the following aspects have you perceived to be an obstacle in your company during the implementation of digitalisation in accounting? Please assess the status quo in your company on a scale of 1 ("does not apply at all") to 5 ("completely applies").
(n = 146, information in percent)

- Digitalisation of processes which are not yet adequately optimised
  - 5 3 9 32 30 21
- Presence of systems which have been heavily adapted in the past (even in the case of standard processes) in highly company-specific ways (legacy systems)
  - 5 9 12 27 15 32
- Conflicts in the internal allocation of personnel between short-term operational objectives and implementation of a medium to long-term strategy (i.e. limited availability of innovative employees who are effective implementers)
  - 11 7 10 25 27 21
- Lack of transparency concerning the financial consequences of digitalisation projects
  - 6 15 21 24 20 14
- Lack of transparency concerning the status quo as compared to the competition
  - 10 14 19 33 16 8
- No direct involvement of employees in comprehensive modernisation measures (i.e. no early addressing of the question of what the changes will mean for colleagues directly if successfully implemented)
  - 5 12 30 30 17 6

No data
1 (= does not apply at all) 2 3 (= applies only in part) 4 5 (= completely applies)

Source: KPMG, 2017

The digitalisation of processes which are not yet adequately optimised is seen as the largest obstacle, with agreement of 51 percent (Figure 10). This corresponds with the findings previously described which illustrated a further focus on the optimisation of processes within the company.

An additional, significant obstacle in the view of the companies is at the employee level, with 48 percent agreement. According to the evaluation, this results in a conflict for almost every other company between achieving the short-term, operational goals and the implementation of medium-term and long-term digitalisation projects.
“We introduced SAP as the ERP system practically everywhere, but we have not had, for example, uniform master data management, and accordingly, no consistency. These are legacy issues and if one wishes to change this, then it is also good if this is carried out by someone who is process-independent and who drives it.”

(Jochen Schmitz, Siemens AG)

“[…] there are two essential challenges: firstly, creating the technical prerequisites, and secondly, motivating the employees in this process of change. This is because the employee asks himself the question: are there sufficient high-quality tasks available for me that cannot be taken over by robots?”

(Axel Sommerlatt, Drägerwerk AG & Co. KGaA)
Management of digitalisation
The digitalisation of accounting is an exceptionally complex, and under some circumstances, expensive undertaking. 28 percent of the companies surveyed place this within the scope of responsibility of the CFO and 50 percent within the scope of responsibility of the Chief Accountant (Figure 11). Only one percent view this to be within the responsibility of a central digitalisation unit. This result permits no other conclusion than that digitalisation in accounting is overwhelmingly a management issue.

In addition, 60 percent of the companies surveyed assume a significantly increased investment budget for digitalisation in accounting (Figure 12, page 22).

“Large projects for standardisation and automation do not function without clear support at the top management level. I think it is unlikely that a company can be successful with a digitalisation strategy without the CEO saying: ‘I’ll pick up the banner here and run ahead with it’. The same applies to such projects in the financial area: if the CFO is not personally committed and does not provide a clear signal that the project has high priority, the prospects for success are very minimal.”

(Christoph Hütten, SAP SE)
“People have their own diverse experiences with digitalisation – in some cases they are excellent at programming and bring in their own breadth of experience. The key thing is to step out of the specialist function and be open to taking on outside impulses and evaluating whether they fit or not.”

(Interview partner of BMW AG)

Figure 12: Development of the budget for digitalisation projects
How will the investment budget for digitalisation projects in accounting develop over the coming years? Please select one of the available categories.

(n = 146, information in percent)

- It will increase: 60%
- It will decrease: 28%
- Not reported: 7%
- Unchanged: 5%

Source: KPMG, 2017

Clear responsibilities and an increased budget for investments for digitalisation in accounting are just two aspects that characterise the management of this process. In order to reflect the current status of the companies with respect to this, respondents were asked to give their assessment of the following statements:

1. **Strategy**: The digitalisation in accounting follows a defined, strategic plan.
2. **New technologies**: We systematically evaluate new technologies in order to identify potential for optimising processes.
3. **Digital skills**: The company systematically supports skills for its employees, which will be necessary in a digital future.
4. **Change**: All management personnel promote individual responsibility and the willingness to change in employees in order to successfully accelerate the digital transformation in the accounting system.
5. **Management**: The digitalisation in accounting is managed on the basis of defined roles, responsibilities, and decision-making processes.
6. **Resources**: The top management level (senior management, board, etc.) recognises the significance of a digital change in accounting and makes appropriate resources available.
7. **Cooperation with the IT department**: The IT department fulfils the needs of the accounting department.

Source: KPMG, 2017
The management of digitalisation shows a relatively balanced picture. It seems somewhat surprising that only 40 percent of all companies surveyed follow a clear strategy with regard to the digitalisation of their accounting system (Figure 13). This shows that, for many companies, there is still a lack of clarity with respect to the direction of digitalisation, and the specific steps for a digitalised accounting system. This hypothesis is supported by the fact that defined roles, responsibilities, and decision-making processes are specified in only 48 percent of the companies surveyed.

Figure 13: Management of digitalisation
Please assess, from your daily operating practices, the extent to which the following statements on digitalisation in accounting apply to your company. Please assess this on a scale of 1 (“do not agree at all”) to 5 (“completely agree”).

(n = 146, information in percent)
Maturity level model for the accounting system
To obtain a broad cross-section of the current status of digitalisation in accounting for German companies, and to allow all companies to classify themselves in the digital transformation process, we developed a maturity level model for the digitalisation of the company function of accounting. So far, there has been a lack of such a maturity level model in literature specifically for accounting.

ASCERTAINING THE MATURITY LEVEL

The results of Section 1 (“Digitalisation in accounting – status quo and outlook”) and Section 2 (“Management of digitalisation”) form both of the axes of the maturity level model:

**Digital solutions**
- 1. Paperless accounting
- 2. Interfaces to external systems
- 3. Management of data quality
- 4. Process automation
- 5. Uniformity of systems
- 6. Integrated consolidation system
- 7. Real-time reporting
- 8. Creation of transparency
- 9. Big data analyses
- 10. Tools for visualisation
- 11. Cloud computing

**Management of digitalisation**
- 1. Strategy
- 2. New technologies
- 3. Digital skills
- 4. Change
- 5. Management
- 6. Resources
- 7. Cooperation with the IT department

Eleven statements with a five-point scale of 1 (“does not apply at all”) to 5 (“completely applies”)

Seven statements with a five-point scale of 1 (“does not apply at all”) to 5 (“completely applies”)
Based on their answers, companies were assigned a maturity level. To determine this, the maximum possible score is calculated for each of the two axes. The axis “digital solutions” has eleven statements on a five-point scale and therefore a maximum score of 55 and a minimum score of 11. Companies with a score between 55 and 39 were assigned to the upper cluster, whereas the companies with 28 to 11 points were assigned to the lower cluster. The axis “management of digitalisation” has seven statements on a five-point scale which gives a maximum score of 35 and a minimum score of 7. Companies with 35 to 25 points were added to the upper cluster, whereas the companies with 18 to 7 points were assigned to the lower cluster. Companies with a score between the defined point ranges are described as the middle range.

RESULTS OF THE MATURITY LEVEL MODEL

The maturity level model indicates that, for the most part, the majority of companies are still to be found in the middle of the process of digitalisation in accounting. 66 percent of all companies surveyed are in the middle range both in the area of already implemented digital solutions as well as in the area of management of digitalisation measures (Figure 14, page 27). Only 15 percent of all companies can be described as digital pioneers. For these companies, numerous digital solutions have been implemented in accounting and the digitalisation process follows and is managed with a clear plan.
Figure 14: Maturity level model

(Information in percent)

- **Digital trailblazers**: 0 companies (0%)
- **Digital pioneers**: 22 companies (15%)
- **Middle range**: 96 companies (66%)
- **Digital beginners**: 20 companies (14%)
- **Digital conservatives**: 8 companies (5%)

Source: KPMG, 2017
4 Expectations towards the auditor
For some time, within the large auditing firms, the question has been raised with regard to how digitalisation in general, but also developments in the accounting systems of customers, will affect the profession of the auditor and the auditor’s tasks. With this in mind, it is interesting to note the expectations that companies have of their auditors due to digitalisation.

To ascertain the current status of the companies with respect to this, participants were asked to give their assessment on the following aspects:

**Improving efficiency:** The direct use of the advancing level of digitalisation (or the increasing automation of end-to-end processes) in the company for audit examination purposes.

**Big data and cognitive systems:** The use of the latest technological options and big data with the aim of using learning systems to identify anomalies in the database in an ever more detailed and targeted manner and to make this available, so that the quality of the audit examination can be improved.

**Visualisation methods:** The use of modern visualisation methods to allow a structured and rapid presentation of complex issues for further processing by the decision-makers in companies.

**Benchmarking:** The identification of anomalies in the database investigated as compared to peer group companies, as well as information concerning their (potential) effects on quality and efficiency.
The results demonstrate that companies, against the backdrop of digitalisation in accounting, consistently set high expectations for their auditors. All of the selected aspects were confirmed by over 45 percent of the companies surveyed with agreement ("I absolutely expect this" and "I rather expect this") (Figure 15). Of particular note is the concept of efficiency. 63 percent of companies agree that they expect a clear increase in the efficiency of the audit examination as a result of digitalisation and hence, in the final analysis, certainly also decreasing prices for the audit of their company. In order to create the necessary prerequisites for these demands placed on auditors, the companies must promote digitalisation in accounting. Digital solutions, such as data quality or uniform basic systems without media breaks, are fundamental requirements that must first be satisfied by the companies before increases in efficiency in the audit examination are possible.

**Figure 15: Expectations towards the auditor**

Which possible services of auditors are of interest to you within the framework of digitalisation in accounting? Please assess this on a scale of 1 ("I do not expect this at all") to 5 ("I absolutely expect this").

(n = 146, information in percent)

<table>
<thead>
<tr>
<th>Service</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
<th>Score 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement of efficiency</td>
<td>0%</td>
<td>2%</td>
<td>25%</td>
<td>37%</td>
<td>38%</td>
</tr>
<tr>
<td>Use of modern visualisation methods</td>
<td>24%</td>
<td>26%</td>
<td>30%</td>
<td>32%</td>
<td>38%</td>
</tr>
<tr>
<td>Use of big data and cognitive systems</td>
<td>24%</td>
<td>26%</td>
<td>32%</td>
<td>32%</td>
<td>38%</td>
</tr>
<tr>
<td>Benchmarking</td>
<td>34%</td>
<td>34%</td>
<td>34%</td>
<td>30%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: KPMG, 2017
KPMG is a network of firms with more than 189,000 employees in 152 countries.

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