The Use of Digital Technologies in German Business Consultancies

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Abstract—**The increased digitalization of the economy and society has triggered drastic changes in companies and confronted them with enormous challenges. The consulting industry is also strongly affected by this digital transformation. In an exploratory study, we examined digitalization's impact on management consultancies in Germany and their use of digital technologies. In our article, we provide insights into which digital technologies are considered to be important for the different phases of consulting and how digitalization affects the work of management consultants. From the perspective of such consultants, we discuss the technologies currently in use and offer an outlook on their future importance based on an online survey. Our results reveal that many business consultancies already rely heavily on digitalization and use a variety of digital technologies in all phases of the consulting process. Although business consultancies currently use well-established technologies, they remain aware of the growing importance of modern technologies for the future of consulting services.**

Index Terms—**Digitalization, Digital technology, Consulting, Business consultancy**

I. INTRODUCTION

TODAY more than ever, society as a whole is undergoing a rapidly evolving digital transformation. Government institutions, households, enterprises, and their interactions are all changing due to the increased prevalence and rapid growth of digital technologies. Especially for enterprises, it has never been more important to be able to rely on a deep understanding of information technologies (IT) in general and of digital innovation in particular. The persistently high level of dynamism in everyday business today shows that constant changes and adaptations in response, including ones due to digitalization, will be the rule, not the exception, in the future economy. Worldwide digital networking, the automation of individual or even all business processes, and the restructuring of existing business models are just a few of the wide-ranging effects of digitalization. Indeed, the consequences of digitalization are omnipresent, as is the question of whether such changes should be viewed as positive or negative [1]–[4]. In either case, nearly all companies will have to pursue increased digital transformation, at least to some extent, in order to remain competitive in the (global) market [5].

Digitalization is partly of unprecedented importance owing to the COVID-19 pandemic, which delivered an unparalleled shock of uncertainty across all state borders and industries. Nationwide store closures, contact restrictions, and mandatory home offices forced companies to use contactless distribution channels and to facilitate remote work. Those developments drove a push toward digitalization as numerous processes in companies had to be digitalized and as companies themselves had to prove their resilience [6], [7].

One industry especially challenged by uncertainty during the COVID-19 pandemic was the consulting industry. As reported by the German Association of Management Consultancies—that is, the BDU (https://www.bdu.de/en)—the revenue growth of business consultancies collapsed in 2020 for the first time since 2010. The pandemic also dramatically altered the working methods of consultants. Guided by the motto of "New Work," the BDU reported massive contact restrictions and significant changes in workplace and working time models [8]. To be sure, business consultancies had to radically reorient themselves to meet the challenges of the COVID-19 pandemic.

At the same time, the pandemic, sometimes hailed as an accelerator of digital transformation, clarified that companies should and indeed were seizing the moment as a launchpad for not only digital transformation but also structural change. However, even before the pandemic, consulting companies faced the same challenges associated with digitalization that other companies faced as well. New competitors, new demands from customers seeking to professionalize their own digitalization [9], new requirements imposed by digitalization in providing consulting services, and the need for new skills and know-how on the part of consulting companies all confronted the classic people-oriented business of consulting with the need for changes in service provision, just as in other industries. In that light, "business as usual" was not a valid

business strategy for many consulting companies even before the COVID-19 pandemic and became especially impractical due to the pandemic. Instead, the consulting industry has had to increasingly implement digital technologies in the various phases of the consulting process and, in turn, deal with emerging opportunities and innovations. In that context, the question thus arises as to what extent business consultancies are already using digital technologies. Therefore, to gain insight into how relevant digitalization already is and how much more relevant it will become in the consulting industry, we sought to survey the current and future significance of digitalization. We also wanted to investigate the general perception of digitalization among consultants in a bid to provide a basic picture of their opinions regarding digitalization. Beyond that, to gain comprehensive insight into business consultancies, we aimed to examine the current and future significance of digital technologies and trends for consultants.

To those ends, we developed a study using an online questionnaire to evaluate the status quo of the use of digital technologies in business consultancies in Germany, which we chose to examine due to our cultural background. The research question for our study was:

To what extent do business consultancies in Germany use digital technologies?

In response to that question, in this article we present selected results of our study. Following this section addressing our motivation for the study, we provide a short theoretical background before describing our study's design and our method of data collection. Afterward, we present and discuss selected results in light of our research question. The article closes with a summary of the main results and an outlook for future research in the field.

II. THEORETICAL BACKGROUND: BUSINESS CONSULTANCIES

Business consultancies can be characterized in light of their consulting focus. In our study, we classified consultancies with reference to the BDU's classification, which divides the market for consulting into four classic fields [8]:

- Strategy consulting
- IT consulting
- Organization and process consulting
- Human resources consulting

To begin, strategy consulting is considered to be the most demanding field of consulting. Not only does it occur exclusively within the top management of companies, but the topics also concern the core of all corporate activities—that is, the corporate strategy [10]. The goal of a consultant in strategy consulting is to help the client to define long-term goals and develop a course of action to achieve the corporate strategy. Achieving that goal involves analyzing the current business situation, identifying opportunities and challenges, and developing a tailored strategy [11].

By comparison, IT consulting addresses the widest variety of consulting topics of all four classic fields of consulting. The topics range from the creation of business-critical individual software and the implementation of standard software and web-based applications to system integration and the optimization of IT architectures and infrastructure [11].

Next, organization and process consulting builds on the concepts of strategy consulting. By contrast, however, consultants work at the operational level, and contact between the client company and the consultancy usually occurs not within top management but mostly in middle and lower management [11]. Organization and process consulting deals with the optimization of organizational structures and processes within a company. Its goal is to improve the efficiency, effectiveness, and agility of the company by reviewing and, if necessary, adapting its business processes [12].

Last, human resources consulting focuses on both the managers and employees of a company. Among other activities, it involves the promotion of professional and social skills, usually facilitated in training courses [12].

No matter the field, a key factor of success for business consultancies is the consulting approach that they adopt. At base, successful consulting requires an understanding of the consulting process. In the literature, the consulting process is described in various procedure models, which differ less in their content than in the number of phases conceived as being part of the process. Barchewitz and Armbrüster [13] have described the consulting process in a three-phase model involving planning, realization, and control. Bodenstein and Herget [14], by contrast, have presented a four-phase process model involving conception, contract design, implementation, and conclusion. In our study, we followed the procedure model developed by Seifert [15], which comprises six phases:

- Acquisition
- Project preparation
- Problem analysis
- Problem-solving
- Implementation
- Post-processing

First, acquisition forms the basis of the consulting process, because in that phase a business consultancy seeks to win an order from a client [15]. A general exchange of information also occurs, after which the business consultancy submits a bid for the project order. Once the consultancy has received the order, a consultancy contract is negotiated between the parties [11].

Second, in project preparation, the project team is defined, the team's members are given access to all relevant systems, and further organizational arrangements are made [15].

Third, problem analysis focuses on gathering, deepening, and evaluating information. During that phase, the current situation is analyzed, and a formulation to meet the project's objective is finalized [11].

Fourth, problem-solving is the core phase of a consulting project [11]. Therein, a strategy for realizing a solution to the

problem is presented. To that purpose, different alternative solutions are designed, evaluated, and presented to the client, who subsequently selects one of them to pursue [15].

Fifth, during implementation, the selected solution is implemented. The process is carefully planned to ensure successful implementation, and, afterward, the results are reviewed, and, if necessary, then the solution is optimized [14].

Sixth and last, post-processing considers both the client and the consultancy. On the client's side, the phase involves the conclusion of the project, including the achievement of the project's objectives. On the consultancy's side, it entails the preparation of documentation, assessments, and results for re-use [15].

III. DATA COLLECTION

Our research question was designed to afford access to initial insights into how consulting firms view and use digital technologies. To gain such insights, we adopted an exploratory approach in our study, which we conceive as being a starting point for more in-depth research in the future. For that reason, we make no claim regarding the representativeness of participants in the study.

Questionnaire Design

Overall, our questionnaire included 20 questions, divided into seven blocks of questions:

- General information about the participants
- Importance of digitalization
- Importance of digital technologies
- Degree of digitalization
- Importance of the business model
- Use of digital technologies
- Perception of digitalization and future trends

General information about the participants: In the first block of questions, participants were asked four fact-focused questions as a means to later categorize them in data analysis. Question 1 inquired into the number of employees in the participants' companies, the responses to which were used to classify the companies into micro, small, medium, and large companies. Question 2 asked participants about the area of consulting in which they were most active. Last, Questions 3 and 4 addressed the participants' professional experience by inquiring into the number of years spent in the profession and the number of client and consulting projects undertaken.

Importance of digitalization: The second block of questions, containing Questions 5–8, addressed the current and future importance of digitalization, along with its importance during the COVID-19 pandemic. To that end, participants were asked to indicate digitalization's importance for themselves as consultants in Question 5 and for their company in Question 7. In between, Question 6 asked for an assessment of digitalization's expected importance in the next five years from the participant's perspective. Last, Question 8 inquired

into how digitalization's importance has changed from the company's perspective since the pandemic.

Importance of digital technologies: In the third block of questions, Questions 9 and 12 sought to determine the importance of digital technologies and trends in business consulting. To that purpose, a list of 14 digital technologies was created with reference to the literature. To ensure consistency in understanding, potentially unfamiliar technologies were briefly explained. Meanwhile, Questions 10 and 11 asked participants about the importance of those technologies during the COVID-19 pandemic. Those questions allowed us to determine both the current state of digital technologies in business consultancies and the most significant technologies for the consultants during the COVID-19 pandemic.

Degree of digitalization: In the fourth block of questions, Question 13 asked participants to select one of four statements that best describes the current level of digitalization in their respective companies.

Importance of the business model: The fifth block of questions consisted of Question 14, which asked about the COVID-19 pandemic's impact on the company's business model.

Use of digital technologies: To gain more granular insight, the first question of the sixth block of questions, Question 15, asked the consultants to rate their current use of digital technologies during the different phases of the consulting process. Afterward, Question 16 asked them to rate their expected use of digital technologies in the next five years, and Question 17 asked them to select the technologies that they use in each phase of the consulting process.

Perception of digitalization and future trends: The intention of the seventh and final block of questions was to determine how the participants perceived digitalization at present and in the future. To that end, Questions 18 and 19 asked participants to evaluate specific opportunities by responding to different statements. The questions were intended to capture the participants' opinions on digital technologies. Last, Question 20 inquired into the participant's personal attitude toward digitalization.

Data Collection

As a result of several pretests with various researchers of the Technical University of Central Hesse and different practitioners, the questionnaire was improved. The general aim of the pretests was to assess the questionnaire's instructions as well as the individual questions for comprehensibility and errors.

Next, mostly using email, we invited consultants to participate in our study. To that end, we contacted all business consultancies that were members of the BDU at the time of data collection, and their responses were our primary source for contact information. The emails were sent between January 15 and February 15, 2023. We also shared the link to the online questionnaire on business platforms such as LinkedIn (www.linkedin.com) and XING (www.xing.com) and with personal contacts in our business networks.

When the survey period ended, the online questionnaire had been completed 291 times. Of those 291 questionnaires, 187 had been completed in full. Before data analysis, those 187 questionnaires were checked for plausibility, with special attention to whether any pattern in the answers might suggest that the participant had only clicked through the questionnaire at random. As a result, we had to exclude only one data set, meaning that 186 data sets were analyzed for the results presented in the following section.

IV. SELECTED RESULTS

Participants' General Characteristics

To be able to differentiate responses along the lines of company size, the business consultancies were grouped according to the number of employees. Table I provides an overview of the respective company sizes.

TABLE I.
PARTICIPANT STRUCTURE BY NUMBER OF EMPLOYEES (N=186)

Number of employees	Absolute frequency	Relative frequency
1–10	47	25.3%
11–49	30	16.1%
50–249	19	10.2%
>250	90	48.4%

Table I shows that 47 consultants from micro-enterprises and 30 from small enterprises participated in the survey. The smallest group of participants, totaling 19, was represented by medium-sized companies, whereas the largest proportion of participants, totaling 90, came from large companies.

The distribution of participants across the different fields of consulting (see Section 2) was highly heterogeneous. Because Question 2 allowed multiple answers, the 186 participants gave a total of 245 answers. The most represented field was organization and process consulting, with 78 responses, followed by IT consulting with 70, strategy consulting with 44, and human resources consulting with 36. Added to that, 17 participants selected the answer option "Other."

Concerning the experience of the participants in terms of their years spent working as consultants, Table II shows that 105 participants had up to 10 years of work experience and that 81 had at least 10 years of work experience.

TABLE II.
PARTICIPANTS BY YEARS OF WORK EXPERIENCE (N=186)

Years of work experience	Absolute frequency	Relative frequency
<1	5	2.7%
1–5	66	35.5%
6–10	34	18.3%
11–15	20	10.8%
16–20	20	10.8%
21–25	18	9.7%
26–30	13	7.0%
31–35	4	2.2%
36–40	6	3.2%
> 40	0	0%

The participants' professional experience with consulting projects was also queried. Whereas only 11 consultants had previously worked on 1–3 projects, 43 had been involved in 4–9 projects, 37 in 10–19 projects, 20 in 20–29 projects, and 17 in 30–39 projects. In the largest group, 58 participants had been involved in more than 40 projects.

Digitalization: General Aspects

The participants were also asked to assess the current role of digitalization in their day-to-day work. For a detailed look at their responses, Figure 1 shows how participants with up to 10 years of professional experience responded versus participants with more than 10 years of professional experience. On the one hand, participants with up to 10 years of professional experience attributed "medium significance" and "high significance" to digitalization in their day-to-day work in nearly equal measure, at rates of 44.8% and 48.6% respectively. By contrast, only 6.7% participants selected "low significance." On the other hand, 63.0% of participants with more than 10 years of professional experience characterized digitalization as having "high significance" in their daily work, whereas 30.9% of them selected "medium significance" and another 6.2% selected "low significance." Remarkably, none of the participants selected "no significance" to answer the question. It is therefore clear that digitalization was perceived as playing a greater role in the day-to-day work of consultants with more than 10 years of professional experience than for ones with up to 10 years of such experience.
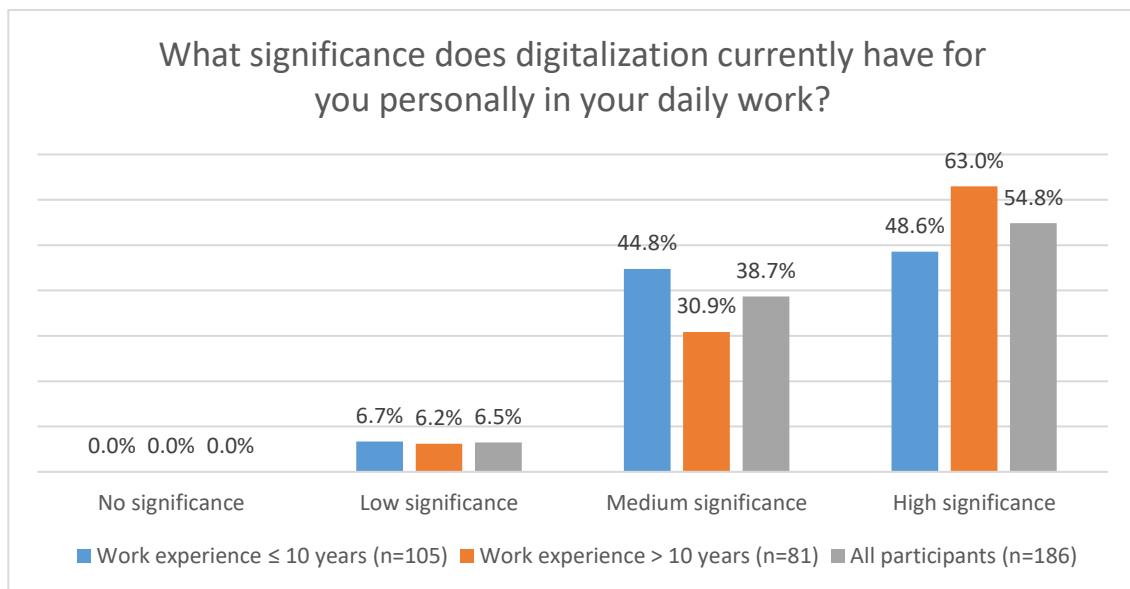
Fig 1. Significance of digitalization for consultants according to work experience (n=186; relative frequency)

Regarding digitalization in general, the participants were additionally asked to assess the level of digitalization in their consultancies by choosing one of the following levels:

- **Level 1:** We predominantly rely on consulting processes in which our consultants work together with the customer on-site. Technologies such as chat, video-conferencing, and other digital collaboration tools are rarely used in projects.
- **Level 2:** We carry out projects in which our consultants and customers work together at separate locations. However, most of our projects are based on on-site, face-to-face interaction.
- **Level 3:** Digital technologies are an integral part of our business model. We specifically manage the personal deployment of consultants on-site and no longer include it in every project.
- **Level 4:** Our business model is based predominantly on digital technologies. Consultants work on-site with clients only in particularly critical phases and in regard to particularly complex problems.

Given those four statements, only 22 of the 186 participants selected Level 4 to characterize digitalization at their companies. By contrast, 83 selected Level 3, 68 selected Level 2, and, least frequently, 13 selected Level 1.

To present the level of digitalization in greater detail, Figure 2 depicts the level of digitalization of the business consultancies by company size. As shown, 18.9% of large companies were characterized as having Level 4 digitalization, followed by 10.5% of medium-sized companies. Micro-enterprises accounted for the largest share of Level 1 digitalization,

at 12.8%, while small companies had the second-largest share, at 10.0%. Those results clearly show that larger companies seem to have a higher level of digitalization than smaller companies.

Turning to the perception of digitalization, we asked participants whether they perceived digitalization primarily as a threat to or as an opportunity for their companies. Figure 3 provides a breakdown of their answers based on company size. The top bar of the graph shows the overall results, which indicates that 113 participants perceived digitalization in their companies "clearly as an opportunity" and 61 as "more like an opportunity." The remaining 12 participants perceived digitalization in their companies as both an opportunity and a threat (i.e., "opportunity/threat"). Notably, none of the participants selected the answer options "more like a threat" or "clearly as a threat." The other four bars in the graph show the evaluation by company size. Of the 90 participants from large companies, 56 perceived digitalization at their companies "clearly as an opportunity," 29 as "more like an opportunity," and 5 as "parts/parts." The picture sharpens for medium-sized companies; of those 19 consultants, 17 perceived digitalization in their companies "clearly as an opportunity" and 2 as "more like an opportunity." Thus, medium-sized companies had the highest proportion of participants who selected "clearly as an opportunity." The 30 participants from small companies also only selected two answer options; 19 selected "clearly as an opportunity," while 11 selected "more like an opportunity." By contrast, of the 47 participants in micro-enterprises, 21 chose "clearly as an opportunity," 19 chose "more like an opportunity," and 7 chose "parts/parts."
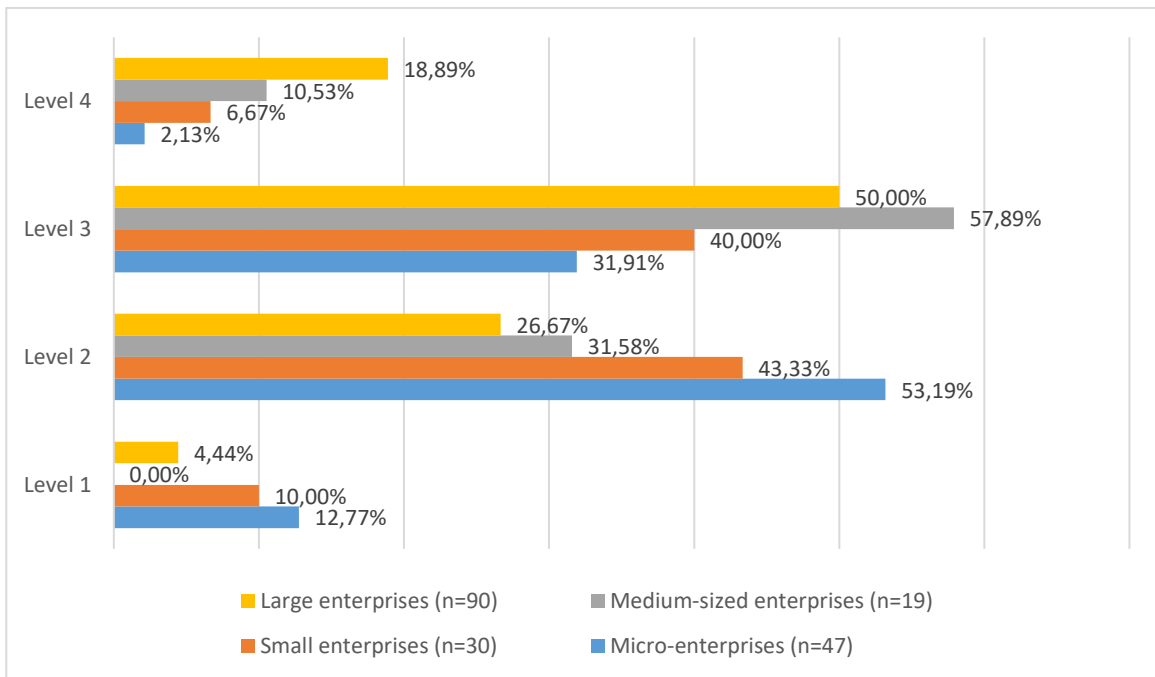
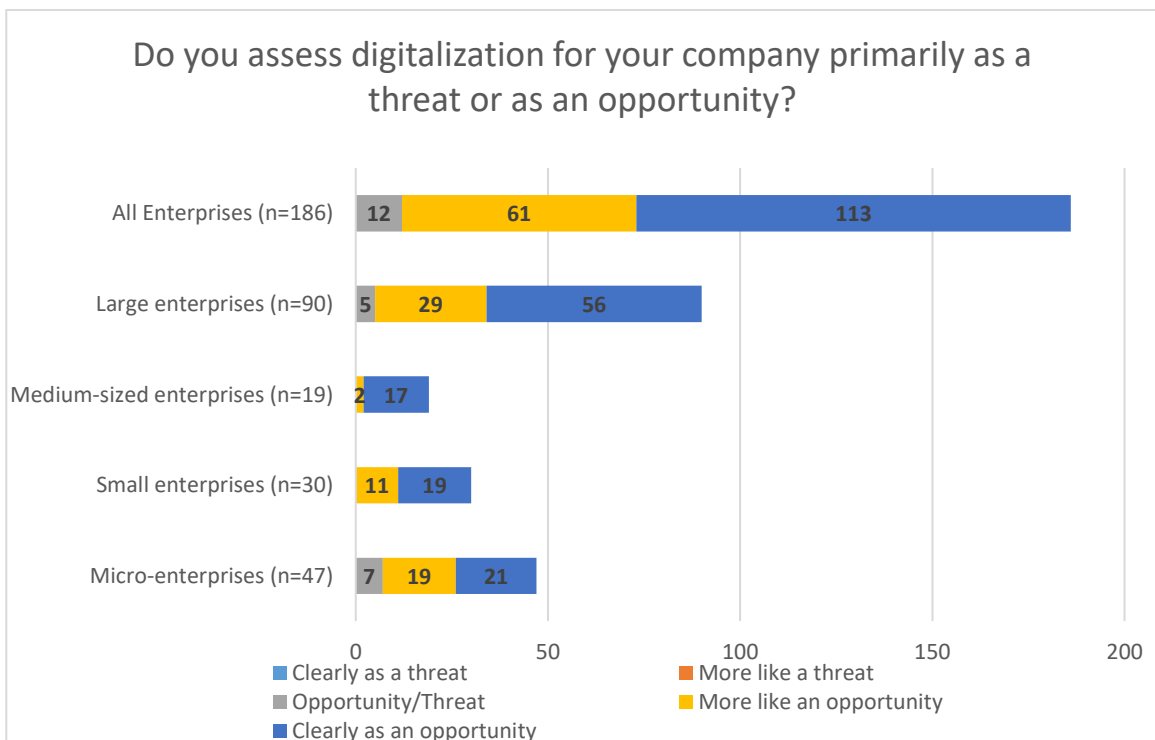Fig 2. Level of digitalization by company size (relative frequency)

Fig 3. Perception of digitalization (n=186; absolute frequency)

Use of Digital Technologies

This section presents the results of our analysis of the data from questions concerning the use of digital technologies in business consultancies.

To begin, focusing on the current and future significance of digital technologies in business consultancies, participants were asked to assess the current significance of 14 specific technologies. They were next asked to assess the importance of those technologies for their consultancies in the next five years. To evaluate those data, the verbalized answers were

coded and recorded as arithmetic mean values. The following coding was chosen:

- 1 = *no importance*
- 2 = *low importance*
- 3 = *medium importance*
- 4 = *great importance*

Table III provides an overview of the results. Because not every participant assessed every technology, the table also provides the number of participants who assessed the particular technology.

TABLE III.
SIGNIFICANCE OF DIGITAL TECHNOLOGIES (N=186; MULTIPLE ANSWERS POSSIBLE)

Digital technology	Current significance (arithmetic mean)	Future significance (arithmetic mean)
Knowledge management systems (n=180)	2.96	3.38
Virtual marketplace for consultants and customers (n=180)	2.96	2.99
Social media (n=180)	2.18	3.29
Self-service consulting (n=175)	2.05	2.98
Open community and expert platforms (n=171)	2.32	3.01
Mobile computing (n=171)	3.54	3.81
Artificial intelligence (n=182)	2.66	3.62
Document management systems (n=181)	2.99	3.34
Data/process mining (n=171)	2.52	3.47
Crowdsourced consulting (n=170)	2.05	2.96
Cloud computing (n=180)	3.29	3.69
Chats (n=183)	3.22	3.31
Big data analytics (n=176)	2.52	3.55
Audio/video-conferencing (n=186)	3.72	3.75

As Table III shows, audio/video-conferencing was viewed as being the most important digital technology, with a mean value of 3.72 out of 4.00. In second place was mobile computing, with a mean of 3.54, followed by cloud computing, with a mean of 3.29. The importance of the mean values becomes particularly clear when looking at the technologies in the lower ranks. Social media came in third lowest place, with a mean value of 2.18, followed by crowdsourced consulting and self-service consulting as lowest in ranking, each with a mean of 2.05.

The difference between the arithmetic means of "Current significance" and "Future significance" indicates which digital technologies may become the focus of consulting firms in the next five years. The third-largest difference was 0.96 for artificial intelligence technology, closely followed by social media, with a difference of 1.01. The largest difference, 1.03, was with big data analytics.

Next, participants were asked to indicate the current and anticipated future use of digital technologies in their consulting process. Again, the arithmetic mean was used for evaluation. To that end, the verbalized answers were coded as follows:

- 1 = *no use*
- 2 = *very little use*
- 3 = *low use*
- 4 = *medium use*
- 5 = *high use*
- 6 = *very high use*

Figure 4 shows the participants' evaluation of the current and anticipated future use of the technologies in the consulting process undertaken by their respective business consultancies. The figure readily clarifies that the anticipated future use of digital technologies in all phases of the consulting process was rated higher than the current use.

To gain a comprehensive view of the current use of digital technologies in the consulting process, participants had the opportunity to assign the 14 listed technologies to the individual phases of the process and could select multiple response options. Table IV provides an overview of the results. When the numbers of the various technologies per phase were totaled, digital technologies emerged as being used most frequently in problem analysis, followed by problem-solving and project preparation. Implementation ranked fourth, followed by acquisition. Last, post-processing was reported to involve the fewest digital technologies. Altogether, the results suggest that the diversity of digital technologies used is most often greatest in the middle phases of the consulting process.

Regarding the use of digital technologies in the different fields of consulting, participants in IT consulting selected different digital technologies most frequently in all six phases of the consulting process, closely followed by participants in organization and process consulting. Participants in strategy consulting reported using nearly half as many different digital technologies as in IT consulting or organization and process consulting. Meanwhile, participants in human resources consulting reported using the fewest different digital technologies.
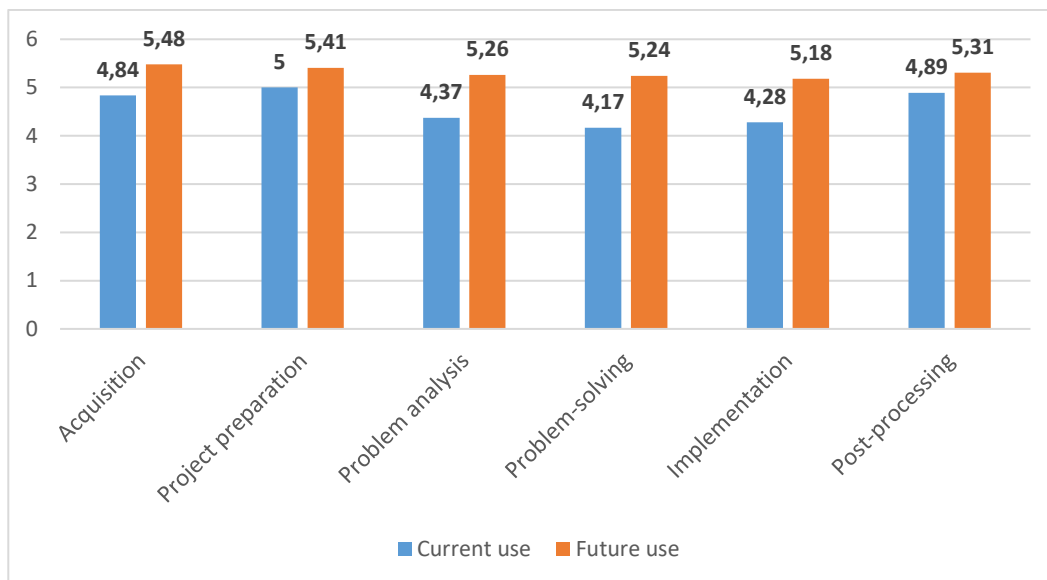
Fig 4. Use of digital technologies (n=182; arithmetic mean)

TABLE IV.
DIGITAL TECHNOLOGIES PER PHASE OF THE CONSULTING PROCESS (N=186; ABSOLUTE FREQUENCY, MULTIPLE ANSWERS POSSIBLE)

	Acquisition	Project preparation	Problem analysis	Problem-solving	Implementation	Post-processing
Knowledge management systems	66	133	121	125	95	100
Virtual marketplace for consultants and customers	92	36	35	39	27	18
Social media	144	24	21	23	18	20
Self-service consulting	11	29	92	37	23	13
Open community and expert platforms	68	37	41	62	29	16
Mobile computing	123	139	143	140	138	131
Artificial intelligence	19	28	77	78	56	18
Document management systems	92	124	115	117	113	122
Data/process mining	16	32	102	79	35	17
Crowdsourced consulting	17	31	42	62	30	29
Cloud computing	72	118	120	118	116	100
Chats	90	136	126	124	116	112
Big data analytics	20	26	111	67	30	15
Audio/video-conferencing	106	166	143	135	128	143

Last, Table V provides an overview of the participants' opinions on five statements regarding the use of digital technologies. For each statement, the arithmetic mean was again calculated, and the verbalized scale was coded as follows:

- 1 = *strongly disagree*
- 2 = *somewhat disagree*
- 3 = *parts/parts*
- 4 = *somewhat agree*
- 5 = *strongly agree*

Table V shows that the statement "By using digital technologies, the work–life balance in the consulting industry is improved" was only partly agreed with, with a mean value of 3.71. By contrast, the statement "By using digital technologies, there is an increase in the efficiency of consulting" had the highest level of agreement of the five statements, with an mean of 4.3. The lowest level of agreement, with a mean of 2.82, was achieved by the statement "By using digital technologies, the quality of the result delivered to the customer is improved." The statement, "By using digital technologies, new customers and markets can be addressed," was agreed to by significantly more participants, with a mean value of 4.25. The rating of the remaining statement, "By using digital technologies, a differentiation from competitors is made possible," had a mean value of 3.82. Based on the five mean scores, it can be concluded that the participants were more likely to agree than disagree with the statements.

TABLE V.
OPINIONS ON THE USE OF DIGITAL TECHNOLOGIES (N=186; ABSOLUTE FREQUENCY AND ARITHMETIC MEAN)

By using digital technologies...						
Statement	Strongly agree	Somewhat agree	Parts/parts	Somewhat disagree	Strongly disagree	Arithmetic mean
...a differentiation from competitors is made possible. (n=181)	64	56	31	24	6	3.82
...new customers and markets can be addressed. (n=182)	89	60	24	8	1	4.25
...the quality of the result delivered to the customer is improved. (n=186)	48	72	54	10	2	2.82
...there is an increase in the efficiency of consulting. (n=186)	85	77	19	4	1	4.3
...the work–life balance in the consulting industry is improved. (n=184)	49	65	42	23	5	3.71

V. CONCLUSION, LIMITATIONS, AND DIRECTIONS FOR FUTURE RESEARCH

The results of our analysis suggest that consultants currently consider digitalization as to be of medium to high importance in their business consultancies. Taking into account their work experience, digitalization seems slightly more important for more experienced consultants than for less experienced ones. In terms of the four classic fields of consulting that we considered in our study, digitalization currently seems to be most important in strategy consulting and human resources consulting. No matter the field—indeed, overall—digitalization is not perceived as being exclusively a threat (vs. an opportunity). In fact, for 60.1% of consultants, digitalization is clearly perceived as an opportunity and for 32.8% is perceived as being at least somewhat of an opportunity. Therefore, digitalization is seen in an almost entirely positive light by consultants. On top of that, consultants perceive an opportunity to increase efficiency in the consulting process by using digital technologies and believe that the technologies will allow new markets and customers to be reached.

From the consultants' perspective, traditional technologies such as audio- and video-conferencing, mobile computing, and cloud computing are currently the most important for their business consultancies. By contrast, analytical tools are used only sporadically but increasingly more often in larger companies. Beyond that, technologies such as self-service consulting, virtual marketplaces for customers and consultants, and crowdsourced consulting are rarely used. According to the participants, established technologies will continue to play the most important role in their business consultancies in the next five years. Nevertheless, they also expect the use of analytical tools and social media to increase in importance. From their perspective, digital technologies in general will play an important part in developing future business consultancies, and their use stands to have a major impact on the efficient delivery of good consulting services in the future.

Within the concrete phases of the consulting process, the fewest technologies are used during acquisition and post-processing. By contrast, technologies are increasingly used from the phrases of preparation to implementation. From the consultants' perspective, the use of technologies in all phases of the consulting process will increase in the future; even so, they expect priority use after acquisition and before post-processing. Within the individual phases, established technologies are preferred and used the most frequently. Social media, by comparison, is primarily used in acquisition, and analytical tools are used especially during problem analysis. However, a clear change in the technologies used within the phases was not observed despite the existence of social media and virtual marketplaces.

In sum, it can be stated that business consultancies clearly see the benefits of digitalization and of using digital technologies. Nevertheless, they continue to rely on more established technologies. In response to that tendency, future research needs to produce a more detailed, diversified view of the use of different digital technologies. That need is especially evident considering the potential impact of widely discussed generative AI tools such as ChatGPT. On that count, qualitative studies should be conducted in individual fields of consulting and with more specific consideration of company size, especially the size of the companies using the consulting service, to further pinpoint the importance of digital technologies for the consulting process in general and for its respective phases. Future research should also analyze the use of digital technologies with reference to the different types of consulting projects, including logistics projects, IT/digitalization projects, and human resources projects, in order to identify and highlight differences. Last, we recommend investigating barriers to and challenges in using digital technologies in business consultancies and how they can be minimized.

As most empirical studies, ours was limited in multiple ways. Due to our approach, our results possess limited statistical generalizability. However, the method applied allowed us to identify important details and obtain initial insights into the experience of business consultants, which was the chief focus of our study. Another limitation was that the participants' origins were limited to German business consultancies. Because German-specific trends could have influenced the results, the results reflect the situation in one country only.

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