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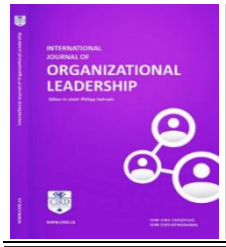

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Project Management of the Future: Working on Projects in the Current Field of Tension of Change

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ABSTRACT

Project management is in a state of upheaval, with entire workflows and processes having been digitalised or moved to virtual space in a very short space of time in recent years. Projects are now largely managed virtually and from the home office, which has massively increased the importance of (virtual) communication. Among other things, this has abruptly changed the demands on project managers, so that the current situation with all its changes goes far beyond the other "usual difficulties" in everyday project work. This study therefore focusses on the following areas: Structural anchoring of project management in companies, Procurement of personnel for project implementation and support, Requirements for future competencies of project managers, and Leadership and goal achievement. To this end, project managers were questioned in a semi-structured interview. By focussing on best practice, the trends for the future in project management are to be derived using the qualitative approach and the current state of the art is to be described. The Covid-19 pandemic has fundamentally changed the world of work - and therefore also project management. Within a very short space of time, there has been a massive shift towards decentralised, virtual workplaces, which has undermined the unwritten law of physical presence on site. This inevitably changed the model of collaboration, which led to significant changes in operational, structural, organisational and personnel processes. These changes, the trends in the emerging orientation of project management and best practice points were the focus and were considered.

Introduction

Project management originated in the fifties of the 20th century in the aerospace and plant engineering industries. Special planning methods such as the Critical Path Method also known as Precedence Diagram Method (PDM) or PERT (Program Evaluation and Review Technique) were developed to solve complex tasks. When the term became widespread in the sixties, it was primarily understood to mean pure tools for project planning and control. In the 1970s and 1980s, however, it became clear that there was more to successful project management than operational tools. Project management, as the name suggests, became a "management system". It was not only used for technical tasks, but was also applied to problem and crisis situations in all management functions - for example, for marketing, human resources, finance and organisation in private companies and public administrations.

In the industrial age of Taylorism, classical project management helped to create efficient procedures that are still valid today and are applied across industries and functions. In various areas such as product or software development, however, they are increasingly reaching their limits due to their rigidity and sluggishness. Today, in the knowledge age of the network economy, complexity, dynamics and fast development cycles determine the everyday life of companies. Agile methods such as Scrum help. They are deliberately lean and focused on fast, iterative delivery of results and prototypes. In addition, they pursue a different mindset and rely on the principle of self-organisation of teams. self-organisation of teams. Meanwhile, hybrid forms (e.g. SAFe or DevOps) have developed from the classic and agile approaches, which are referred to as hybrid project management.

The Covid-19 pandemic has fundamentally changed the world of work - and thus also project management. Within a very short period of time, a massive shift towards decentralised, distributed workplaces could be observed, which undermined the unwritten law of physical presence on site. This inevitably changed the model of cooperation, which led to considerable changes in operational, structural, organisational and personnel processes.

In this study on project management of the future, we have addressed the most pressing questions about the challenges that currently exist. We hope that you can use these latest findings to better classify the perspectives of project management and derive fields of action for your purposes.

Current State of Research and Background

Current State: A Summary

Currently, terms such as Future of Work have gained widespread popularity, especially since the radical disruptions caused by the COVID-19 pandemic. At the same time, “many jobs held by highly qualified workers are now over-categorized and routinized” (Holmes, 2016, p. 105). However, they not only promise optimization but also entail certain risks and dangers. The term Future of Work emerged when digitalization had also made its way into the field of social sciences in the workplace. The premises and demands of young employees have changed in such a way that the so-called work-life balance has become one of the central concerns in the selection of job opportunities. The resulting challenges for companies and employers not only consist of changing perceptions of their own employment relationships, but also "the resulting consequences for labor markets as well as a societal shift in values that accompanies processes of individualization". It is therefore evident that "the development of employment is influenced

by several components according to general understanding. Technological conditions are only one building block - and even this component of the transformation of work requires social shaping." With constant connectivity to the internet, local attachment loses significance (Hoose, 2018, p. 7). In the present day, Taylorism has experienced a resurgence and is being implemented through the on-demand economy, leveraging technology and algorithms to exert a level of control and oversight that surpasses even Taylor's original vision. Rather than enjoying entrepreneurial autonomy, the majority of on-demand workers are subject to stringent supervision and control by the platforms they operate under (Prassl, 2018, p. 52).

The importance of this change for employers in relation to future and potential employees is also acknowledged by the German Federal Institute for Occupational Safety and Medicine. They argue that in the future, financial incentives alone will no longer be sufficient to retain or attract capable employees within one's own company. To compete for qualified personnel, it is necessary to offer attractive working conditions that align with individuals' overall lives and personal values. Today, a desirable job is one that can be reconciled with other aspects of life and personal values. Jobs that fail to do so, due to excessive overtime and a lack of space for family, leisure, social, and cultural activities, will often remain unfilled in the future. Therefore, companies must provide working hours that allow individuals to have greater autonomy in their personal lives and enable them to shape their lives according to their own preferences (BAuA, 2017, p. 10). The concept of leadership has evolved from a focus on personal traits to a process-oriented approach. In current leadership literature, leadership is defined as the process through which an individual influences a group of people to achieve a common goal (Northouse, 2018, p. 5). The remote leadership style, characterized by regular checkpoints, mentoring and shadowing, and the use of digital media to build trust and involve employees in decision-making, leads to an enhancement of employees' autonomous professional competence development and willingness to learn. This is achieved by replacing the previous rigid and linear career paths with flexible development paths (Sauerland, 2020, p. 36).

In order to effectively accomplish tasks in a company, collaboration with other employees should be promoted. This is particularly relevant in the context of remote work, as many organizations face the challenge of forming teams that can work together virtually to achieve their goals efficiently (Hertel & Konradt, 2002, p. 12). This applies to both local and virtual teams. Virtual teams consist of geographically dispersed employees who are united by common objectives or assignments. They prioritize achieving results and utilize information technology for communication and networking (Hertel & Konradt, 2002, p. 18). Lipnack and Stamps (1997) similarly define virtual teams as a group of individuals who collaborate across temporal, spatial, and organizational boundaries using communication technologies to achieve a shared goal. The formation of virtual teams facilitates collaboration across geographical, temporal, and organizational barriers (p.6-7). Among the resulting work models and the increasing flexibility they offer, those that involve a continuous choice on the part of the employer, the employee, or both, regarding the extent and temporal distribution of working hours can be understood. This differs from simply deviating from the standard workday, as is the case with shift work. What characterizes flexible working hours is rather the ability to constantly adapt the working hours to the operational needs and the preferences of the employees (BAuA, 2017, p. 13). The rise in the utilization of a systematic methodology in project management can be attributed to technological advancements in Information and Communications Technology. The emergence

of project management systems based on ICT has led to alterations in the duties and obligations of project managers. To effectively adapt to these evolving project frameworks, project managers must continuously acquire the necessary knowledge and expertise (Edum-Fotwe, 2001, p. 1). To successfully oversee remote teams, adapt to evolving needs and financial constraints, and effectively coordinate multinational teams across various countries, project managers must possess advanced digital proficiencies. Marhraoui (2023) argues that the acquisition and proficient utilization of digital skills is crucial for modern project managers to not only succeed but also surpass expectations in a dynamic and unpredictable setting (p.1591).

According to studies, it has been demonstrated that the expectations of employers and employees are not always in alignment. Particularly, young employees tend to have significantly greater expectations for autonomy when traditional characteristics of dependent employment, such as trust-based working hours, remote work, and goal-oriented taxation, blur (Bührmann et al., 2017, p. 120). While these dynamics may present a risk of uncertainty and unpredictability for many employees, others perceive them as a challenge and an increase in personal freedom (Sabrowske, 2019, p. 24). The efficiency of teamwork is influenced by the diversity of the team, as well as by the nature of communication and cooperation within the team. Therefore, the utilization of information and communication technology, which forms the basis of collaboration, holds great significance. This also changed the process of project management in general. In Scrum methodology, the developer team assumes responsibility for the majority of project management activities, thereby acquiring a comprehensive understanding of the development environment and project challenges (Ahmad et al., 2014, p. 3837). The effectiveness of agile performance planning relies on the establishment, agreement, and communication of a set of short-term goals, criteria, and expectations that can be regularly monitored and have greater relevance to individuals' work. By doing so, employees' behavior can be promptly redefined to enhance performance. The framework advocates for agility as a key factor for organizations, teams, and individuals to swiftly adapt to more realistic and short-term goals, real-time feedback, and flexibility in order to improve performance (MacDonald et al., 2022, p. 155).

In an effort to increase efficiency and based on advancements in technology and future industry forecasts, notable companies have embraced the strategy of breaking down tasks into smaller components and enforcing strict protocols and oversight in translation procedures. This approach is particularly common in platform-mediated work, collaborative workflows, and time-sensitive multimedia projects (Moorkens, 2020, p. 12). The implementation of digital management strategies has been credited with notable advancements in efficiency and productivity within the technology sector. This approach to management, known as digital Taylorism, shares similarities with the original concept of Taylorism and has been linked to adverse outcomes such as dehumanization of employees, increased work expectations, an unequal distribution of income favoring management, and escalated competition among staff members (Liu, 2023, p. 262). Digital process management systems are considered to be an evolved version of Taylorism, as they utilize digital technology to encompass a wider range of employees, including not only industrial workers but also service workers such as sales agents, knowledge workers, and even managers (Nyckel, 2020, p. 14).

Background and Motivation for the Study

The research field of project management is very multifaceted and provides valuable impulses for economic and social development. In this context, megatrends such as digital transformation, globalisation and Future of Work present companies with key challenges. In addition to higher speed and dynamics, the degree of complexity is also increasing, which means that a high level of experience and methodological knowledge is necessary to successfully lead projects to their goal. The international research activities focus on, among other things: Methodological diversity (agile & hybrid project management), Tools and technology (e.g. special software solutions and AI in project management), Soft skills (communication, motivation, leadership, decision-making), and Future of Work (self-organised teams and team development).

From the daily project management routine and the intensive customer exchange, the authors were able to directly observe the continuously changing requirements and challenges in the operative project business. In order to deliver valid and reliable statements on the topics that currently move the project management world the most, we have dealt in detail with the following research questions.

Research Questions

1) How will the project business develop in the future?

2) Will organisational structures change in the future?

3) How will the procurement process for project management staff change in the future?

4) What qualifications will project managers need to have in the future?

5) What will communication in the project environment look like in the future?

6) What status will classical and agile methods have in the future?

Hypotheses

- The project business will increase
- Organisations will develop into pure project organisations
- Organisational change, in some cases there will no longer be a distinction between lines and PM
- Digital project business is more efficient than analogue project business

Method

In order to thoroughly investigate the project settings in different German companies, this study employs a method of expert survey. This approach is selected due to its capacity to gather detailed and specific insights from individuals who possess extensive knowledge and experience within their respective organizational environments. The process of gathering data is facilitated by conducting structured interviews and surveys that are specifically designed to gather in-depth information about the project environments, challenges, and practices within organizations. These interviews and surveys are customized to meet the specific requirements

and terminologies of different industries, thereby ensuring the collection of the most precise and significant responses.

The information obtained from the expert interviews and surveys undergoes a thorough qualitative and quantitative examination. This examination involves the coding and categorization of responses, thematic analysis, and, if appropriate, the application of statistical techniques. The resulting findings will be presented in a manner that maintains the confidentiality of the participating organizations, while also offering significant sector-specific information.

To summarize, the chosen expert survey methodology in this study demonstrates a dedication to comprehensively understanding the diverse aspects of project management in German corporations, guaranteeing that the research is valuable and applicable to different business contexts.

Participants, Design and Instruments

The participants in this part of the study (n = 74) came from different industries, but all had a direct connection to project management. Recruitment was done through personal contacts, through the designated contact persons or the press offices of the companies. A total of 252 companies were contacted, resulting in a response rate of 29.4%. The participants indicated their position in the company as management/C-level (13.5%), division/department head (43.2%), expert/officer (17.6%) and other (25.7%). Company sizes ranged from under 100 employees to over 10,000 employees. The company sizes ranged from under 100 employees to over 10,000 employees, see Figure 1. The participants were deliberately and specifically surveyed from SMEs (12.2% under 100 EE) to large companies (32.4% over 10,000 EE). The largest group was companies with between 1,000 and 10,000 employees at 36.5%. The participants were deliberately and specifically interviewed from SMEs to large corporations. By involving experts from all sizes of companies, the aim was to provide a comprehensive overview of project management in this study.

Figure 1

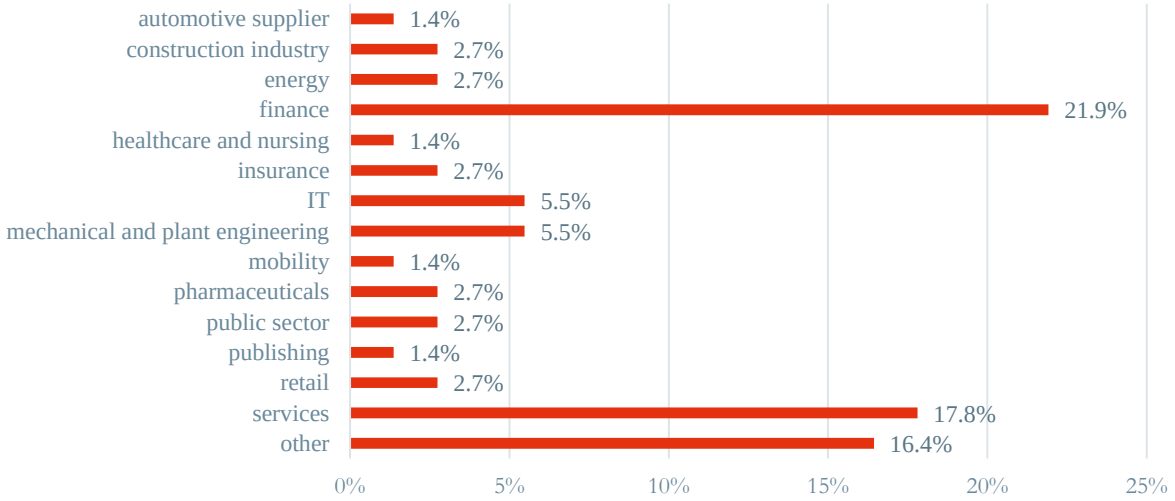
Participants According to Company Size

The participants were deliberately and specifically interviewed from various industries to provide a comprehensive overview in the field of project management. The participants in the study were very heterogeneous in terms of the industry they worked in. Most participants were from the financial sector with 21.9% and services with 17.8%, see Figure 2. By including

experts from various sectors, the study aimed to provide a comprehensive overview of project management.

Figure 2

Business Sectors of Participants



Data collection was carried out by means of semi-structured guided interviews and provided both qualitative and quantitative data. The open-ended questions were subjected to qualitative content analysis according to the inductive method, while the quantitative data were analysed descriptively. The interview guide was tested in advance on three respondents with regard to its feasibility and revised after constructive feedback regarding the clarity of the questions. Overall, the interview guide consisted of four central blocks, for which the interviewers and subjects needed an average of 35 minutes of interview time: 1) Structural anchoring of project management, 2) Staffing and procurement of personnel for project implementation and support, 3) Requirements for future competencies of project managers, and 4) Leadership and goal achievement.

Procedure

In the case of positive feedback, personal appointments were made with the respondents contacted. After a brief explanation of the background of the study, the later utilisation of the results and the reference to anonymous processing and evaluation of the data, the data collection took place. The respondents were asked the questions contained in the interview guide. The respective answers were documented by the interviewers in the form of bullet points. After each question was completed, the central statements were presented to the respondent, checked for correctness and completeness and corrected or supplemented if necessary. In the course of the data analysis, the method of inductive category formation was used for qualitative data, while a univariate frequency distribution was carried out for quantifiable data.

Results

The results are presented in the order in which they were interviewed. The statements and findings of the responses are based solely on the extraction, evaluation and summary of the documented material and do not contain any additional information or evaluations.

Structural Anchoring of Project Management

From what scope (in person days = PD) do you speak of a project in your company? (n = 72)

The answers to this question were strongly dependent on the respective sector. Due to partly non-existent or non-uniform definitions for a project, individual customer contacts or orders (operative construction projects) were already referred to as projects by the participants. Overall, 56.9% (41 out of 72) were able to give clear information about the minimum scope of projects from which they speak of a project in their company. This ranges from 1 PT to 1,500 PD and amounted to 99.9 PD on average. The mode, i.e. the most frequently mentioned value, was also in this range and amounted to 100 PD. There is also a significant moderate correlation between the size of the company and the extent from which companies speak of a project (p = .38, p < .05). Consequently, larger companies only speak of a project from a higher number of PD.

What is the average scope of your projects? (n = 71)

According to the respondents, the average total size of the projects was about 21% less than 100 PD. About half (53.5%) of the projects ranged between 100 and 1,000 PD and ¼ of the projects were above 1,000 PD, as shown in Figure 3. Contrary to the previous question, there was no correlation between company size and average project size (p = .09). Smaller companies thus carry out equally extensive projects as large companies.

Figure 3

Average Scope of Projects

What do you think: Will the volume of project management (PM) increase or decrease in the next 5 years? (n = 74)

Regardless of company size and industry, the respondents assume that the volume for project scopes will tend to increase in the future. On a scale of 5 from 1 (decrease) to 5 (increase), a mean value of M = 4.08 (SD = .93) was determined. The participants justified this assessment with the general change in the world of work. Projects currently primarily serve to automate and optimise processes, which results in fewer operational activities. The capacities thus gained can be used for creative, conceptual activities, which are becoming increasingly important in the context of ever shorter development and life cycles.

Do you have a separate "PM unit" in your company? (n = 74)

67.6% of the respondents have a PM unit in their company, and 32.4% do not. Whether or not there is a PM unit does not depend on the size of the company (ρ = -.162).

What is the size of the PM unit/structure in your company? (n = 60)

Due to the very heterogeneous composition of the participants in terms of company size and sector, quantifying the data does not seem to make much sense. The statements varied from one-man departments to several hundred (500-600). Supplementary statements to this question were that projects are partly managed from the specialist departments or the line, but PMOs are increasingly integrated. Occasionally, employees are temporarily taken out of the line and released for projects. Structurally, the boundaries between the organisational forms of line, matrix and staff unit are often blurred.

How high is the respective share of fixed and variable employees? (n = 65)

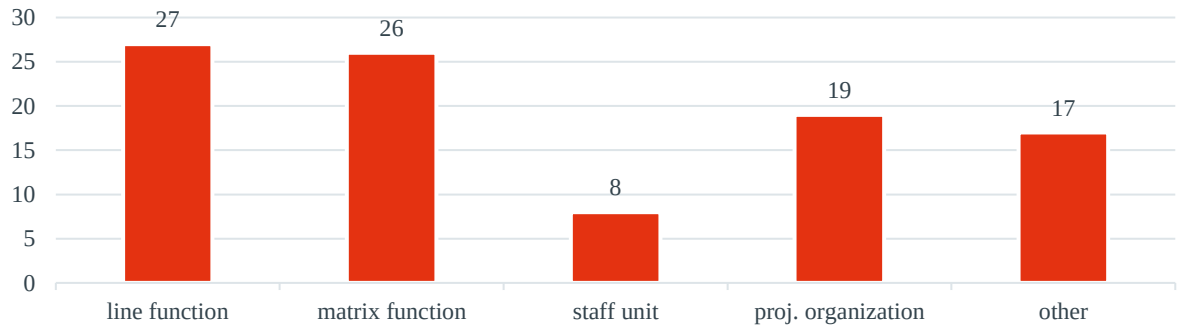
The percentage distribution of employees in the project business is strongly dependent on the type of company as well as its functionality and position in the value chain. In the case of service providers, a high proportion of fixed employees was registered, while the ratio was more balanced in the case of medium-sized companies, and in the case of corporate groups, the majority of employees tended to be variable. On the corporate side, this was justified by the fact that project-related capacities and competences were brought in by external employees. On average, the ratio was 73.75% (fixed) to 26.25% (variable), whereby the values fluctuate strongly around these mean values (*SD* = 23.75).

How is PM structurally integrated in your company? (n = 74)

Respondents indicated that PM is primarily integrated into their company through the classic line or matrix function. However, there are differences depending on the type of project, sector, core activity and corporate culture, which is why several organisational forms are possible in some companies. Figure 4 presents Line function 27 / Matrix function 26 / Staff function 8 / Project organisation 19 / Other 17.

Figure 4

PM Structurally Integrated



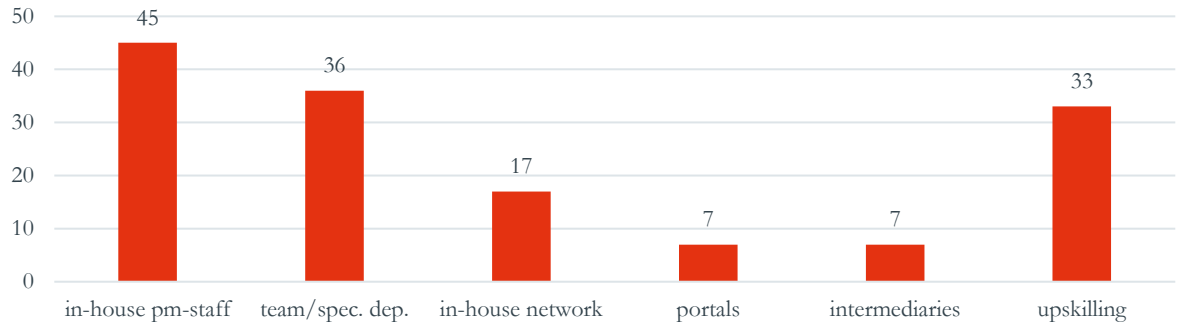
The other answers mainly represent mixed forms, e.g. line function with matrix elements or staff positions, or there is only a slight distinction between line and project activities.

Staffing and Procurement of Personnel for Project Implementation and Support

How do you currently fill your PM positions? (n = 72)

The filling of PM positions reflects the already outlined tendency to fill such positions predominantly internally with permanent employees. Figure 5 shows Own PM staff 45 / PM team or specialist department 36 / own network 17 / portals 7 / headhunters 7 / retraining 33.

Figure 5
Staffing of PM FTE

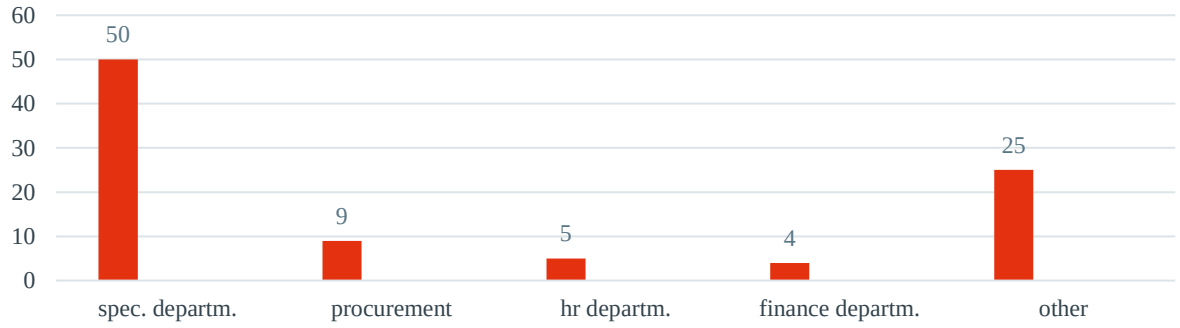


In many companies, there is a mixed form of the various options (multiple answers), which is adjusted depending on the project requirements. In addition, in-house retraining was mentioned in order to further train employees from the specialist departments to become PM staff.

Who has the final say in the procurement process? (n = 72)

In the majority of cases, the specialist department (n = 50) decides on the use of external PM staff. Less frequently, procurement (n = 9), HR (n = 5) or finance (n = 4) have the final say, as shown in Figure 6. In some companies, the decision is left to the management or a committee (CEO or works council).

Figure 6
Procurement Process 1



To what percentage does the following statement apply: I find the appropriate project support with my current sourcing/recruiting/procurement process. (n = 65)

There are large differences in satisfaction between internal and external staffing. Therefore, the data should only be considered as a rough indication. In some cases, in-house MAs are rated as too weak in PM. They often lack the necessary methodological knowledge. The human resources usually come from the line and there is little influence on the selection. Therefore, one does not always get the expertise that is technically needed in the project. Tense relationships between project managers and procurement were reported in the procurement of external staff. The procurement department likes to decide against the department's preferences, was a statement made in many cases. Overall, the respondents showed moderate satisfaction with the current sourcing/recruiting/procurement process with 68.2% (*SD* = 22.73). It is striking

that there is a negative correlation between company size and satisfaction (p = -.39, p < .01). Larger companies are thus significantly less satisfied with their process than small companies. It is irrelevant whether the company has its own PM department or not.

Please briefly explain what goes well or what goes badly in your sourcing/recruiting/procurement process. (n = 56)

The participants mentioned both positive and negative experiences. However, in terms of frequency of mentions, the mentions of what goes badly in the process predominate. It is reported that the processes (especially in internal recruitment) generally take too long, are too bureaucratic and do not follow clearly defined standards. The last point leads to the processes being non-transparent and non-reproducible, which means that the quality of staffing can only be insufficiently ensured and is unreliable. In combination with various requirements placed on the project positions to be filled, it can therefore happen that unsuitable applicants make it to the final interview. External staff can usually be brought in more quickly and comparatively less complicated once the budgets have been released.

Other interviewees continue to report that administrative processes are too bloated, for example in the context of justifying staffing needs or benefit analysis. But the recruitment process also reveals weaknesses. Job advertisements are often created in HR departments on the basis of keywords without taking their meaning and operational necessity into account in the subsequent selection process in the sense of the specialist department. This means that sometimes the personnel selected is not always what is needed. In addition, hierarchy-dependent decision-making paths according to the principle "top trumps bottom" force this circumstance.

"If you buy cheap, you buy twice!"- Statement of a participant -

The cost factor often takes precedence over quality and qualification. As a result, more is spent due to poor quality but lower daily rates. More costly but more qualified external candidates cannot be paid the desired salary. Top people cannot be recruited in this way, which also means that new and helpful impulses are missing. Internally, the hurdle is often that suitable employees cannot be reached or are not given clearance for project activities. Another complaint is that there is no final evaluation or control. Long-term partnerships are hardly feasible, not least because of such structural deficiencies.

"If we only knew what we know...!"- Statement of a participant -

Independently of filling positions with external staff, deficits in internal knowledge transfer were also mentioned. Often know-how of undreamt-of dimensions lies dormant in the companies. Making this transparent, structuring it and allowing it to benefit one's own project business would noticeably increase the quality of project realisation.

In addition to the negative impressions mentioned, the participants also mentioned positive aspects. The establishment of standards and clearly defined roles between the specialist department and procurement in the tendering process is becoming more and more common. This can significantly improve fairness in the process and pre-selection. The right specialists can be selected from partly well-functioning networks with a wide range of services. As a result,

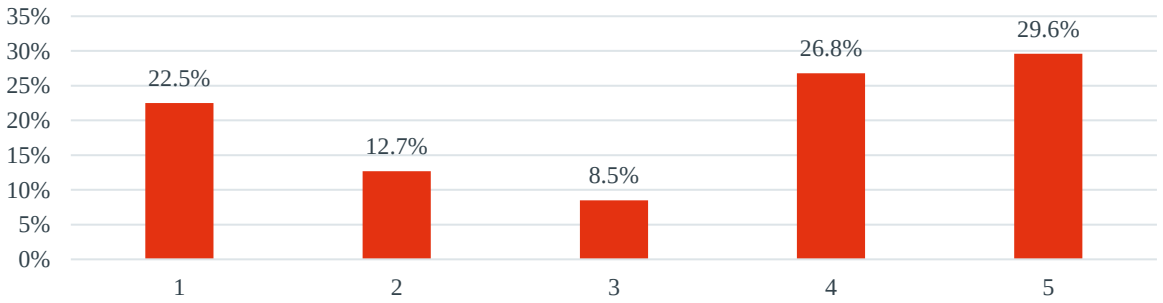
an efficient project team is available that brings a lot of know-how with it and at the same time is diversified in terms of experience and knowledge.

How likely is it that you will use more flexible PM offerings (on demand, PM as a Service, "Click & Order") in the future? (n = 71)

On average, respondents rate flexible PM offerings rather moderately (M = 3.28, SD = 1.55). However, a more detailed analysis shows that the data is not normally distributed and there is rather a concentration of answers at the ends of the scale. Accordingly, for 56.4% of the respondents the use of flexible PM offers is quite likely or very likely, while 22.5% are averse to such offers. Company size did not play a role in this question (ρ = .147). As Figure 7 demonstrates, 22.5% said very little / 12.7% said little / 8.5% said medium / 26.8% said a lot / 29.6% said very much.

Figure 7

Use More Flexible PM Offerings 1



In your opinion, what should a future-proof/flexible project management "on demand" look like? (n = 67)

Some participants report that it is already common practice in their company to quickly and flexibly select from a pool of experts. For the vast majority, however, this model is still a vision of the future and was described as follows:

- Lean, simple, trustworthy booking process
- Transparent and comprehensible price-performance ratio
- Flexible contract duration: "termination" even before the actual end of the contract to minimise the risk of mis-hiring
- Transparency and assurance of staff experience, personality and skills
- Selection of staff according to individual needs and requirements, e.g. a filter function
- Getting to know each other via an interview video on the website or a personal interview and personal counselling by the offering company
- Framework contracts with pre-screened staff who go through fast onboarding and offboarding processes according to the "hop-on" - "hop-off" principle.
- Availability of staff within 24 hours
- Quick readiness: content is predefined, processes and methodology are provided by the service provider.
- Integration of new technology (e.g. AI)
- Spirit of cooperation and flexibility must not suffer under on-demand concepts
- Core team of PMO staff (internal), supplemented with experts on demand
- Sensible combination of agile and classic elements (hybrid approach)

- High level of efficiency among all participants, unbound by time and place with high decision-making speed.

To ensure the greatest possible success of a project, one participant describes future-oriented project management as follows: "The right staff at the right time in the right place with the right price." (Statement of a participant).

With regard to PMonDemand, there were also sceptical voices. One participant noted that he only wanted to issue special topics or individual functions (e.g. PMO) and not entire projects, so as not to create a black box in the company. Other participants cannot imagine project managers "on demand" at a high level or consider it inconceivable that this concept will become established. Another concern was that PMonDemand forces do not allow for the possibility of reintegrating this role back into the line at a later stage and that knowledge is lost.

Other quotes:
"Service catalogue with building blocks of classic and agile elements."
"I want to focus on content, the processes should come from PMonDemand."
"Selection of project manager according to individual needs and requirements."

What do you think: How likely is it that PM will be implemented mostly virtually in the future? (n = 74)

For the respondents, it is rather likely to likely that PM will be implemented virtually in the future (M = 4.31, SD = .79). 89.2% of the participants see the future of project management more in a virtual environment. The survey was conducted in Q2 2021 and thus fell into the period of the perceived "permanent lockdown", which may have influenced the response behaviour. However, apart from the duration of the lockdown, respondents also indicated that some virtual-affinity behaviour had become established, producing a solid input-output relationship. The initial reservations and rejection attitudes towards virtually conducted project management could therefore largely be put aside. In this new constellation, the perceived flexibility is often seen as a gain, while reduced social interaction is missed among the participants.

"Digitally, the project is more results-oriented than ever before." (Statement of a participant).

Requirements for Future Competences of Project Managers

In your view, what are the main selection criteria for a project manager? (n = 71)

The answers to this question focus on the following areas:

- Experience and reputation
- Specialist knowledge, industry knowledge
- Holistic, entrepreneurial thinking
- Communication skills
- Coordinate, anticipate, structure, motivate
- Solution-oriented, neutral, objective
- Methodical competence (classic and agile)
- Value for money; Quick perception
- Availability

- Trust and reliability
- and Being able to go from the "big picture" to the details.

Will you rely more on generalists or specialists in the future? (n = 74)

As shown in Figure 8, The basic opinion tends more towards the generalist (43.2%) than the specialist (20.3%). 36.5% of the respondents also stated that it will differ in the future, depending on the project, whether generalists or specialists are used. In the category "partly/partly", a "healthy mix" of both types was called for, which was answered by one participant thus: "In the team the specialist, in the mind the generalist." (Statement of a participant).

Figure 8

Generalists or Specialists 1

If you had to choose: Which type of PM manager would you prefer? (n = 70)

In this question, the participants had the choice between "trained project manager with specialist knowledge" or "specialist with PM knowledge". As presented in Figure 9, almost 2/3 of the respondents would rather have a trained project manager with specialist knowledge than a specialist with PM knowledge. This goes along with the findings of the previous question. Trained project managers correspond more to the image of the generalist and have broad methodological competence and communication skills. The experience also mentioned above weighs more heavily than pure expertise in a specialised field.

Figure 9

Certified PM or Expertise PM

What qualifications/certificates do you think a PM expert should have? (n = 71)

Multiple answers could be given to this question, which produced three central statements (see Figure 10):

1) Classic project management and a sound methodology (PRINCE2, GPM or PMI) are essential and form the structure-giving backbone in many companies. In hybrid combinations of agile and classic elements, e.g. steering committees or reporting at management level are often used to complement the predominantly agile approach.
2) Agile methods (e.g. Scrum, DevOps, etc.) are gaining strongly in importance and are increasingly expected and included in project management business. Some participants even report revised or entirely new standards in their companies.
3) The most important thing, however, is to have a qualification appropriate to the field of work and to have already gained practical experience. Certificates must not be empty words, but must be backed up by practical knowledge. Practitioners who have practical and life experience are therefore preferred.

Figure 10

Qualifications or Certificates

In some companies, there are no preferences, standards or guidelines so far, according to which the approach depends on the specific context as well as the culture. The assessment or weighing of certificates and experience, for example, is different in the public sector than it is in consulting. In the civil service, the certificate is seen as proof of qualification. In consultancy, on the other hand, practical experience and the number of successful projects are seen as indicators of qualification.

To what extent do you already use agile/modern PM methods today? (n = 71)

The answers were very heterogeneous. From "not at all" to "100%", almost all combinations were represented. However, many companies act differently depending on the project assignment, customer requirements or objectives and use the most efficient mix of agile and classic methods. However, the tendency is clearly towards "modernising" the methods, although this often happens in the area of tension between theory and practice. A pure culture is often described as not suitable for practice, which is why only individual suitable building blocks are adopted in the company and project environment.

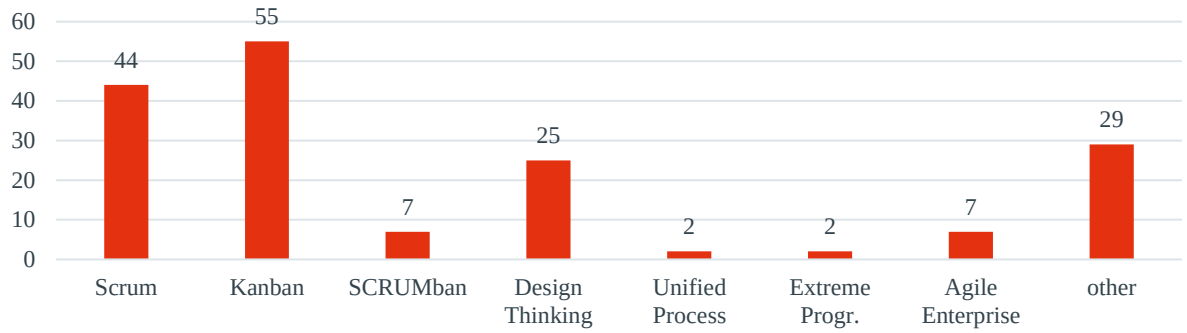
Which methods do you use? (n = 67)

Multiple answers were permitted for this question. As presented in Figure 11, Scrum (44 mentions), Kanban (55) and Design Thinking (25) are used most frequently. Under the category "other", many mentions such as Smartsheets, SAFe or Jira. SAFe builds on Lean principles and offers an agile framework for companies undergoing agile transformation. Smartsheets and Jira,

on the other hand, are not so much methods as software solutions for operational project management.

Figure 11

Methods of PM



The high number of multiple answers and other responses clearly shows that project management is currently in a phase of discovery among the companies surveyed. On the one hand, the deficits of the classic methods are recognised, on the other hand, the challenges of introducing (unknown) agile methods are slowing down the transformation process. The associated or parallel mechanisation of processes and work steps increases the complexity and scope of the change. The derivation of new standards to which the project business can orient itself is therefore currently in full swing and in many areas still completely open-ended. Depending on the mindset of the company, but also internally between departments, strong differences can sometimes be observed with regard to the basic readiness and speed of change.

Why do you (not) use agile/modern PM methods? (n = 61)

- Classic took too long, was outdated and too expensive to develop (now faster and more dynamic)
- Ad hoc requests can be answered faster and more accurately
- Smaller "parts" of the final product can be delivered faster ("speed counts more than ever today.")
- Flexibility and freedom on the way to the project goal
- Less financial risk in the event of undesirable developments
- Customer requirements necessitate changeover
- Integration of feedback loops (development, testing, customer feedback)
- Clear focus on customer benefits
- Stronger involvement and identification of colleagues with the product
- Empowerment promotes creativity and a sense of responsibility and thus better and faster results
- Faster results lead to higher MA motivation and satisfaction

Further quotes: "Clear focus on customer benefits." "For more flexibility and freedom on the way to the project goal." "Agile methods reduce lead times and act as an accelerator. The customer demands faster solutions - with agile methods we can deliver them faster." "Flexible customer demands require fast changes." "Speed matters now more than ever - smaller "parts"

of the final product can be delivered faster." "Classic methods took too long, were outdated and too expensive to develop - now things are faster and more dynamic."

Why don't you use agile methods?

- It is not known
- Employer does not support it (outdated and obsolete management structures)
- No business necessity
- Not worthwhile for short-term projects
- Pressure to change is too low
- Agile coaching is available but not adopted
- Structure/culture/management is very classical and stands in the way of change
- Lack of understanding for agile methods and thus defensive attitude in the team
- Lack of internal know-how and methodological competence
- Low acceptance among employees
- Customer requirements do not allow it
- Agile methods cannot always deliver the desired results
- Inability of the employees to deal with flexibility
- Modern IT tools are not released

Other quotes:

"Lack of specialists, no know-how internally." "Customer requirements do not allow it." "Modern IT tools are not released." "It is not known." "Pressure to change is too low." Employer does not support it - outdated and obsolete management structures." "No understanding in the team and therefore resistance to new methods and tools."

If you hire PM managers in the future: How important is knowledge of agile/modern methods to you? (n = 74)

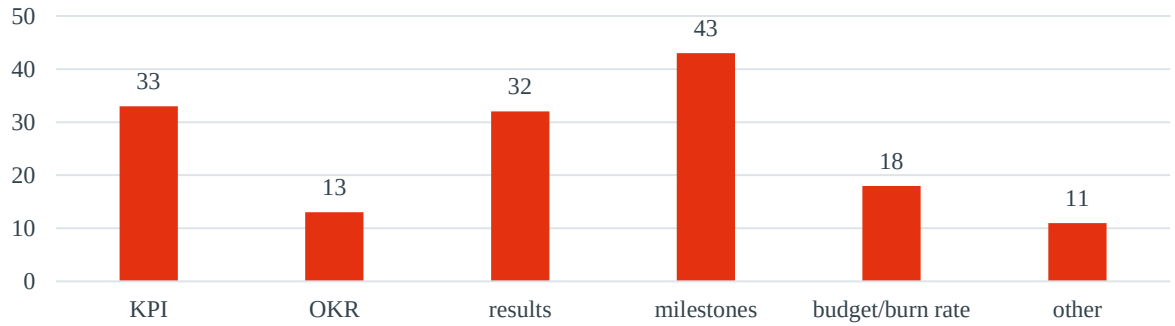
Knowledge of agile/modern methods is rather important (32.4%) or important (52.7%) to the respondents. The average rating is $M = 4.31$ ($SD = .91$), which clearly shows that knowledge of agile and modern methods is a must-have for a project manager.

Leadership and Goal Achievement

What criteria do you use to manage PM managers? (n = 73)

The (multiple) answers of the participants indicate that classic procedures and key figures take up a high share in the context of leadership. As displayed in Figure 12, Milestones, KPIs and burn rates make up over 60% of the mentions, which contrasts with the preferred agile (leadership) methods such as OKR or results (together 30% of the mentions). A clear discrepancy can thus be observed between project implementation, which is increasingly modern and agile, and leadership, which to a large extent still uses classic elements. This inconsistency is due to the discovery phase already described and the lack of new standards, which, however, creates tensions between the project participants, dissatisfaction and even a lack of understanding.

Figure 12
Leadership and Goal of PM



What type/factors of leadership are important in digital/virtual PM? (n = 73)

The most frequent answer by far was communication. Especially in connection with digital tools (Teams, Miro, Planner, Flow, etc.), the following aspects are also mentioned:

- Delegation
- Empathy
- Guardrails instead of instructions
- Motivation & mental cohesion
- Regular exchange
- Teamwork
- Transparency
- Trust

Further quotes:

"In addition to goal-oriented daily planning, there must also be room for creativity - I would like to digitally moderate and promote creative thought processes." "Project management in the virtual world needs to be a facilitator. There needs to be more discipline in communication and in the tools used." "Lack of proximity needs to be compensated by other frequencies. A leader-centred leadership is becoming more and more important here"

Do you notice any differences in the quality of goal achievement between traditional and now increasingly digital/virtual project work? (n = 71)

The basic tenor of the respondents is that hardly any differences are perceived in the quality of goal achievement. Quality increases result from a higher focus on the work, partly also due to the elimination of transit times. The use of tools has increased and thus led to a spatial and temporal decoupling of cooperation. In return, however, this also leads to a significantly higher need for coordination and more formal, less personal communication. Permanent home offices were not considered conducive to the involvement and motivation of more introverted colleagues. In addition, more complex topics are more difficult to coordinate in a virtual space.

If one considers the degree of agility and modernity of the companies surveyed, two groups can be formed between classic/conservative and agile/modern representatives. For companies that took a more classical approach, quality increases tended to be observed, as the framework

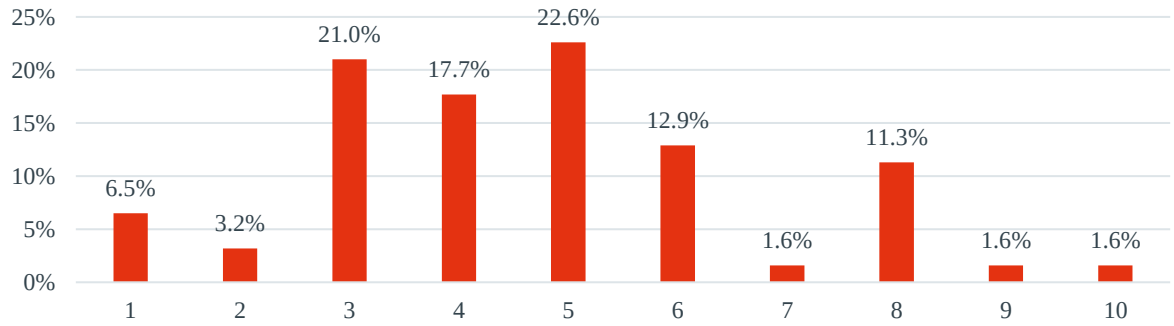
conditions led to a change and ultimately an improvement in working conditions. For companies that were already more modern, the increase in quality stagnated or was perceived as declining. Agile methods were already known or introduced, but were perceived as a step backwards due to the reduction of social interaction.

How much does quality differ? (n = 62)

Participants were asked to rate this question on a scale from 1 (quality much worse) to 10 (quality much better). The mean value (M = 4.69, SD = 2.05) indicates that there has been a slight deterioration in quality. A differentiated analysis of the results shows that 71.0% actually gave a value of 1 to 5 and thus did not perceive an improvement, but rather a deterioration. However, 11.3% also stand out who felt a clear improvement in quality (see Figure 13).

Figure 13

Development of Quality



What do you think are the reasons for the difference in quality? (n = 52)

- Reasons for an increase in quality
- Greater factual reference and transparency
- Stronger focus phases increases professionalism
- Support through digital tools
- Greater discipline (adherence to deadlines and delivery dates increases) Reasons for a drop in quality
- Personal reference is missing, this leads to misunderstandings
- No external help in learning digital PM
- Framework for methodology and rules is missing and leads to insecurity
- No suitable workplace, poor equipment

Even if the focus is increasingly on technical work in the virtual space, the interpersonal aspects fall by the wayside overall. This circumstance was described by one participant as follows:

"Efficiency in the virtual space comes at the expense of charm, wit and relationship level." (Statement of a participant)

FINAL QUESTION: What are your top three challenges in current projects? (n = 73)

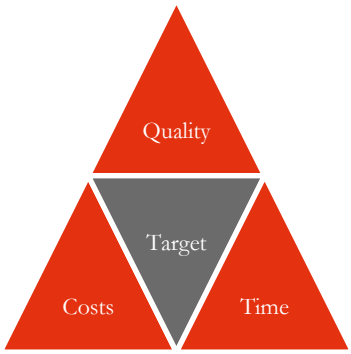
The challenges mentioned were very multi-faceted and affected all levels of project management. In addition to company-specific challenges, however, it was also possible to filter out fundamental and overarching statements. These could be summarised into six categories:

The triple Constraint of Project Management

The triple constraint model shows three parameters (as can be seen in Figure 14) that determine a project and its success (goal achievement): Time, cost and performance or quality.

Figure 14

Triple Constraint of Project Management



In all three areas, and also in the overall goal setting, key challenges were mentioned. For example, in some cases, there is no clear understanding of the goal or it is not sufficiently communicated to the stakeholders. This results in imponderables in determining the scope of the project, which leads to adjustments in the course of the project.

The cost block was often mentioned in connection with tight budgets. The aim is to produce as much output as possible with as few financial resources as possible. This often happens at the expense of quality. Due to this cost pressure, but partly also simply due to the lack of qualified personnel (both in-house and external), ensuring quality in the project business is seen as a critical factor. In addition to the quality of the results, their timely delivery also plays a central role. The parameter of time or the adherence to deadlines is often determined by how quickly, flexibly and cost-sensitively competent personnel can be deployed or added (staffing). However, speed and adherence to deadlines also depend on other factors, such as the degree of complexity of the project or bottlenecks at the client. Too many operational line tasks can slow down the progress of the project and thus jeopardise the schedule; especially since there are rarely consequences for not meeting deadlines.

Effects of Corona

The Corona pandemic has also abruptly changed the unwritten laws of project management. The otherwise usual and predominant presence times at the client's premises were replaced by remote working within a very short period of time. In the course of the changeover to home office, challenges and higher burdens arose in the management of the newly created virtual teams. For new project managers, the difficulty was often to ensure acceptance and trust among the project participants without personal (initial) contact (virtual distance) and reduced accessibility of colleagues. A reduced exchange as well as a lack of routine in the new coordination processes were on the one hand detrimental to the development of creative solutions and on the other hand led to a loss of transparency. This applies to both team-internal cooperation and stakeholder management; in the new digital/virtual project environment (at the beginning), almost all participants had to struggle with unfamiliar circumstances due to a lack of training, software and knowledge of methods.

Change in Methodology and Mindset

Due to, or at least accelerated by the Corona pandemic, the working environment in project management has changed extensively. This change was accompanied by the increasing importance of agile methods. However, the "collision" of classic and agile methods in a Future Work environment harbours increased potential for conflict and is not infrequently associated with a change in mindset. "Status quo maintenance versus change" sometimes leads to paralysing discussions about "how?" rather than "what?".

Management

Top management is often described as overworked. As a result, there is a lack of perspective and understanding of the project, which can also lead to changes of focus in the course of "political games". Moving targets or scope creep is also often attributed to a lack of in-depth knowledge and preparation of management for project meetings. In this context, the survey participants also criticised the lack of courage to make clear, reliable statements and the lack of support for unpopular decisions.

Factor "personality

The changes outlined above place special demands on the personality of project staff, and especially project leaders. The challenge is to maintain human cohesion, communication and relationships and to have a motivating effect. Social aspects and mental strength are particularly important in remote work in permanent home offices, nearshore and especially offshore.

Efficiency

Ultimately, all the aspects mentioned so far influence the efficiency of a project in their own way. Additional challenges arise in the context of a sensible and goal-oriented prioritisation of project tasks. In parallel projects, redundant processes and coordination must also be taken into account.

Discussion

In this chapter, the central findings from the results section are taken up and discussed from a practical point of view. In addition to a critical examination of the study results, an assessment is also made by the authors (see text boxes #).

Successful and efficient project management is the basis for entrepreneurial success. It is therefore surprising that there is no uniform definition of a project among the respondents, although in principle there is a high degree of consensus on which activity is called a project and which is not. Looking at the volume at which the participating companies speak of a project, it became clear that larger companies only speak of a project at a higher volume. The standard seems to be around 100 PT on average. From our point of view, however, such a flat assessment basis does not make sense.

Authors' deduction:

Regardless of the size of the company, projects must be designated and implemented as a project from a scope and content suitable for the respective project management method. A catalogue of criteria consisting of various characteristics (e.g. complexity or novelty) could be much more of a decision-making aid as to whether it is just a task or already a project. However,

"projectitis", i.e. the uneconomical transfer of trivial activities into a project scheme, should be avoided. Equally, however, an overload of content should be avoided, which is why in practice scopes > 1,000 PT are often split into several small projects so that they remain tradable.

According to the majority opinion of the study participants, the project management business will increase in the future. Due to the specific demands placed on a project in the initialisation, definition, planning and control phases, this increase in project activities means that organisations will transform. The foundations for this have already been laid in ⅔ of the companies surveyed with their own PM unit. In the context of the structural integration of PM into the companies, it is also clear that classic models of organisation are increasingly softening.

Authors' deduction:
From our point of view, it is to be expected that single or multi-line systems or the matrix organisation, which is already very close to project management, will increasingly change towards a project-oriented organisation in the future. This hypothesis is supported by the fact that in some of the interviewed companies there is already no longer a distinction between line and project activities, which de facto means - even if still rather informally - a pure project organisation.

In the interviews it also became clear that organisational structures have a significant influence on project business. A decisive factor here is the position in the value chain. While matrix organisations can be found in the majority of corporate groups, service providers operate primarily according to the principles of line organisation. In the course of the change of organisational forms, which is partly evolutionary but also initiated within the framework of change management, deficits and errors in implementation can be observed. Competing constructs, traditional approaches or self-imposed processes do not always make sense and lead to friction and ultimately efficiency losses in everyday project work.

Contrary to the structural change in organisational orientation that has already taken place or the recognised need for a structural realignment towards a project-oriented organisation, the processes in procurement lag behind and usually still follow traditional approaches. However, these no longer do justice to the high degree of complexity and diversity of the projects, which means that miscasting leads to a drop in quality, additional costs for re-staffing and ultimately to frustration for all stakeholders involved. This can be observed especially in competences for project management in the digital as well as hybrid space. Complementary skills and capabilities beyond project management methods are needed - e.g. the use of digital workshop tools, communication skills and leadership tools for digital/virtual teams.

Lessons learned from the procurement process and feedback into the project business are rare and half-hearted. Procurement and specialist departments get bogged down in protracted, inflexible and bureaucratic trench warfare that no longer does justice to the dynamics and speed of market activity. The circumstance of non-needs-based sourcing leads to quality and/or time losses in the projects and consequently to greater risks and higher costs.

Authors' deduction:
The sourcing process reveals the acute need for action and shows levers for optimisation. Especially in view of the fact that PM-on-demand is likely to become increasingly important, companies will not be able to avoid a change process towards flexible and up-to-date procurement in the future.

Another success factor for project management procurement is the issue of time. Solid, simple and high-quality assurance of project management results will become the central core task in the future - also for procurement. Due to the described requirements for mindset, competence and experience, the result will become more important than the resource that brings it about.

Authors' deduction:
We are therefore convinced that innovative procurement processes, such as the PMonDemand model described in this study, may seem futuristic today, but will be the new standard tomorrow. The results also show that project management will increasingly take place in virtual space in the future. This makes the knowledge of agile and modern methods, which is already considered very important, even more relevant. However, a pure agile project environment is not considered practical by the majority.

Authors' deduction:
In our estimation, this is due to the low level of experience to date, the fear of the unknown, and the challenges and investments associated with such a profound paradigm shift. Another key obstacle that was mentioned in the interviews in relation to the achievement of goals is leadership. Although agile and modern PM approaches are considered important and mentioned as a relevant factor in connection with competitive advantages, they have not yet found their way into leadership and project management. There, classic measuring instruments such as milestones and burn rate are still part of the common methods, which are purely time and budget oriented, but not result oriented.

Authors' deduction:
In this area of tension between wanting to be agile and modern but still following a classic mindset, a lot of energy and potential is lost. When filling project management positions, it could still be observed that specialists with a generalist mindset are preferred. A profound education in project management with appropriate certificates - but more importantly references and experience - is essential. A typical dilemma that arises in the search for qualified personnel became clear: There must be qualifications appropriate to the field and practical experience must already have been gained. From a practical point of view, the question therefore arises: "Where is someone supposed to get experience if they are not allowed to work in projects without project experience?"

This experience sometimes also relates to the application of methods. A solid knowledge of classical methods, and increasingly also of agile methods, is assumed. The biggest challenge, however, is to combine both methods and to find an optimal combination for the respective company and project environment - especially with regard to digital and hybrid implementation in the future.

This "finding phase" is one of the main causes of the current challenges in the project business. New forms of collaboration, a broad selection of methods and increasingly digital solutions are causing tension and unrest on the one hand, but on the other hand they are uncovering potential that will take project management to a new level in the medium to long term.

Authors' deduction:
Based on the interviews conducted, we are convinced that the upcoming transformation in the project business will take on a similar dimension as the breakthrough of the Microsoft Office Suite in the mid-90s. On the path of change towards higher efficiency, quality and satisfaction, companies and organisations will have to make great efforts.

Recommendations for Action

In the course of the discussion, we have already made assessments and deductions based on experience from our day-to-day project business. Furthermore, through the intensive examination of the interview data collected, six practical fields of action have emerged (I) project orientation, (II) leadership, (III) resources, (IV) quality, (V) methods and (VI) communication, which we elaborate on in more detail below.

Project Orientation

The companies surveyed often lack a solid, strategically implemented project orientation. In order to develop organisations towards project-oriented organisational structures and processes, we recommend the following steps:

- A fundamental sensitisation of management and staff to the fact that project orientation and project management will become essential for the future viability of their own organisation. This includes clarifying and defining what a project or project management actually means.
- Implementation of a sound project management system incl. process and communication channels.
- Introduction of a structured and valid evaluation procedure to assess at what point a task is a project and at what point it makes sense to combine several projects into one programme.
- Definition of guidelines, KPIs and content-related quality assurance standards.
- Establish organisation-wide portfolio management to coordinate responsibilities and prevent duplication of efforts, conflicting project goals and budget divergences.

Leadership

The demands on leadership have fundamentally changed due to increasingly virtual and hybrid project work. Classic leadership styles and presence-based leadership behaviour are reaching their limits in the new project world. Project leadership today means dealing with digital reality. The modern leader should therefore consider the following points:

- Result- and goal-oriented leadership takes on ever greater importance in the virtual project space.
- Good leadership includes the ability to know the strengths and weaknesses of the virtual way of working in order to enable the best possible establishment of a hybrid project culture.
- The selection, use and operation of methods and tools - according to the respective project and company environment - mean the basis for successful project work.

- A more communicative and motivating leadership is more urgently needed than substantive and factual leadership.
- In the virtual or hybrid project environment, cooperative leadership must ensure the balance between freedom and structure as well as trust and self-responsibility.
- Leadership shapes the corporate culture and thus influences the emergence of new forms and mentalities of work.
- Leadership must therefore reflect the complexity and reality of project work and adapt to the spirit of the times without losing sight of successful project completion.

Resources

Project work will become more dynamic in the future and lead to a greater rotation of project participants due to shorter project durations. The "right" allocation of resources will therefore play a key role.

- Despite a greater drive for efficiency, the focus is on people with their individual needs and skills.
- Project staff must be deployed in a targeted, flexible and competence-based manner (professionally and methodologically).
- Companies and organisations must align their procurement processes in such a way that fast, temporary and targeted project support is possible.

Quality

The survey revealed that the changes in project work have led to quality improvements in some companies and to quality declines in others. We have compiled what "best practices" can be derived from this.

- External and internal influences must be systematically recorded and evaluated with regard to project success.
- Companies must be aware of the necessary adjustments at an early stage and openly face the upcoming change.
- Quality comes from focus and creativity. This requires a clear formulation of goals and room for manoeuvre.
- The easiest and quickest way to ensure quality is to have competent staff. If the desired quality cannot be achieved by internal forces, projects need the support of external competences.
- Projects that are carried out at a low quality level are often more protracted, (unnecessarily) more complex and thus more expensive than planned in advance.

Methods

A sound knowledge and safe use of classical and agile methods as well as digital tools and principles is essential in the new project world. To increase the output and quality of projects, we suggest the following points:

- Precisely elicit which objective, which framework conditions and which personnel are given in order to then decide which methodology(ies) are most likely to contribute to

the achievement of the objective. This level of reflection on the methodology of projects and programmes is currently not evident in the market.
- No persistence in rigid "methodological corsets". Dynamic projects go hand in hand with flexible application of methods.
- The existing PM methods should be harmonised and standardised if possible.
- Agile methods should not be used as an end in themselves. They must be goal-oriented and must be mastered.
- Methods will constantly evolve, which is why it will be indispensable to continuously educate oneself in this area.

Communication

The shift of project activities into the virtual or hybrid space demands a change in communication from managers and project participants. Communication aspects are developing from a success factor to an Achilles' heel, which is why increased attention should be paid to the following points:

- The loss of personal and physical communication on site must be adequately compensated for in the virtual and hybrid space.
- Therefore, targeted, guided and structured communication is needed. Depending on the company, the introduction of formats such as dailies, weekly meetings, personal consultations, team meetings, spring reviews or retrospectives may be appropriate.
- Targeted and activating communication promotes creativity, transparency and trust and contributes to the active involvement of all stakeholders.
- An open and honest feedback culture is essential when testing new forms of communication in order to identify the optimal communication adapted to the respective circumstances.
- Communication no longer only serves the purpose of coordinating content-related issues but must also replace personal social interaction in the case of spatial distance.
- In addition to an increase in quantity, however, attention must be paid at the same time to maintaining quality in the forms of communication. Communication must always pursue the overriding goal and not serve an end in itself.

Overall Conclusion

Project management has already undergone a major transformation in the recent past and is currently still undergoing a far-reaching transformation process. Speed, complexity and digitalisation have increased dramatically in recent years, which has primarily led to the emergence of new forms of collaboration and methods. Whether classic or agile, Scrum or DevOps, flipchart or digital workshop tools like Miro - new skills and capabilities will be needed in the future.

However, changes in organisational structures, leadership and mindset have not always been able to keep up with this development and hinder the upheaval more than they help. Organisations are too fragmented and too hierarchically structured, making them too cumbersome for interdisciplinary collaboration and rapid decision-making. Projects can hardly be managed with the established processes and thus endanger the competitiveness of

companies. New forms of organisation, structures, processes and ways of thinking are required. Above all, these must enable efficient management and communication channels that are independent of media, be goal- and result-oriented, and be complementary in procurement and strategy.

Conclusion

The examination of project management discoveries in this paper intersects with more extensive theoretical perspectives concerning the evolving work environment, leadership dynamics, collaborative efforts, and the process of digitalization.

Overall, the practical insights discussed in this chapter are situated within the broader context of evolving work paradigms, leadership theories, collaboration dynamics, and the pervasive influence of digitalization on contemporary workplaces. In addition, the authors emphasize the need for project managers to possess advanced digital skills to succeed in a dynamic environment. This aligns with the broader recognition of the impact of digitalization on project management practices. The discussion of agile performance planning and the significance of digital skills reflects the changing landscape of project management in the digital era. The authors' focus on the importance of project designation based on scope and content aligns with the ongoing discussion about how highly qualified jobs are becoming overly categorized and routine.

The shift towards the future of work principles, driven by changing employee expectations, is redefining job roles and placing an emphasis on achieving work-life balance. The authors also touch on the concept of digital Taylorism and its influence on work efficiency. This aligns with the broader debate surrounding the effects of digital management strategies on work processes and employee well-being. Furthermore, the authors recognize the significance of collaboration and team formation, particularly in the context of remote work.

Their discussion of virtual teams aligns with existing research on the importance of virtual collaboration across different geographical and organizational boundaries. The effective use of information technology is vital for facilitating collaboration in the current digital work environment. The authors also discuss the evolving concept of leadership, highlighting the need to move away from traditional methods and adopt more agile and modern approaches. This aligns with the theoretical shift in leadership literature, which now emphasizes leadership as a process of influencing a group towards a common goal.

The discussion of remote leadership, digital media, and the importance of agile leadership methods reflects the challenges posed by digitalization and remote work. The authors also highlight the importance of flexible working hours in attracting and retaining employees. This aligns with the overall trend where desirable jobs are those that can be easily integrated into individuals' lives and values. Flexible working hours are seen as a crucial aspect of achieving this alignment.

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