

Competency Models: definition, different approaches, and strategies, and benefits for companies

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Affidavit

I, **HANNAH SCHROETER, BSC**, hereby declare

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Abstract

Competency models are useful for planning the future performance of enterprises. Managers must know how to best motivate their employees, for only motivated employees work well for the firm, are engaged, and are able to fulfill customers' wishes. Therefore, much academic reflection has been devoted to finding the optimal model of competence and the best strategies. Several theoretical approaches exist, including classic approaches such as trait-oriented leadership, behavior-oriented leadership, and situational leadership approaches.

Due to modern technological developments, other concepts have gained importance; these foster especially the employees' ability to make independent decisions. This thesis refers to super leadership, shared and distributed leadership, agile leadership, and systemic and virtual (digital) leadership approaches. The result is that independent digital decision-making will be the future of working within companies. Furthermore, AI presents a new challenge that managers and employees must address in the future.

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1 Introduction

1.1 Initial situation, current state of research and problem

definition

As result of advancing digitalization, which is primarily characterized by the integration of computers into all kinds of operational processes, information and communication technology (ICT, Gabler, 2018) has broken down the boundaries between the analogue and digital world connecting them more strongly than ever before. This era of ubiquitous computing started around 2013. At this time groundbreaking technologies like mobile computing and virtual reality were implemented. They created large-scale networks of people, computers and objects. Additionally, modern sensor technology embedded in portable devices and machines generates immense amounts of data used by intelligent software and robots in order to make complex decisions. Moreover, modern technologies began to take over human tasks. Modern IT systems enable team members from all over the world to work together. Therefore, they can work on projects in real time and they are able to communicate with each other at any time. In this way, communication between companies works faster. Advanced communication media make it possible to reach other communication partners at any time and at any place (Schwarz Müller & Brosi & Duman & Welp, 2018, p. 114).

The constant emergence and development of new technologies create a competitive environment for all companies worldwide. Companies must have a lot of knowledge to recognize and to follow these trends. Simply possessing innovative technology is not enough. In this way it isn't possible to achieve the greatest benefit (Brunner &

Gonzalez-Castañé & Ravesteijn, 2021, p. 140). The digital transformation competence can enable companies to continuously adapt new technologies. Consequently, digital leadership is one of the most important competencies managers must have.

The term digital leadership or e-leadership refers to the ability to achieve a goal through the management and the use of IT. It has been observed that organizations that lack digital leadership skills are unable to fully exploit their technological potential. However, there are also opportunities for companies. A successful implementation of digital leadership can provide a competitive advantage. Furthermore, managers increasingly rely on big data analysis instead of their own experience and intuition. Finally, the fact that more and more people are working from home, in home offices or in virtual teams, means that managers today need to have completely different skills and behaviors than in the past (Schwarz Müller, Brosi et al., 2018, p. 140). It is crucial for companies to be open to new digital technologies. They must ensure that enough employees are trained and prepared to implement them. The strategic application, renewal and modification of resources are crucial to ensure the effectiveness and competitiveness of the companies (Schwarz Müller & Brosi & Duman & Welp, 2018, p. 140).

Rapid digitization and globalization of the working world mean that management is more and more complex. Therefore, adaptability and strategies that guarantee constant and individual development opportunities are needed. Especially in times of corona and after, working from home is more important than ever. Consequently, there are more and new challenges for companies willing to maintain quality of work without the on-site presence of employees. To date, research in the field of leadership

and digital transformation (DT) has focused primarily on the extent to which leadership is conveyed and the overall corporate strategy. Accordingly, the acquisition of IT skills by managers can influence the way in which they exercise their leadership. The focus here is on the interaction between leadership and IT. Based on the concept of "e-leadership" to analyze the impact of IT resulting from interaction with organizational structures, it is shown that the leadership of employees can change. Furthermore, little is still known about the extent to which communication using IT affects its effectiveness (Pabst von Ohain, 2019, p.3). The need for companies to integrate new technologies is not contested. Companies can further their own competitiveness.

In addition, digital technologies have changed the way customers perceive the value of products. Companies are forced to redesign and adapt their business and operating models accordingly. To achieve this, they must ensure investments in digital technologies and use them efficiently.

In the digital age, managers must have both digital and emotional agility and adaptability. Only in this way can they survive in an environment constantly evolving and placing new demands (Mihai & Crețu, 2017, p. 70). The difficulty for managers is that challenges of the implementation of digital technologies often are not successfully implemented. Moreover, some studies point out that failures of digital transformation are usually attributed to the governing body. Other studies address problems with established management practices, corporate cultures and the implementation of complex transformation programs. The researchers point out that there are problems with the acquisition of new and DT-related skills. Other researchers noted that better understanding this is needed to determine the

responsibility of implementing such initiatives. In addition, studies of organizations that have successfully implemented such change suggest that DT is not dependent on technology adoption, but on leadership mindset and strategies. The gap identified is between the leadership intentions of managers and the implementation of successful DT initiatives (Kazim, 2019, p.25).

A large proportion of internal communication takes place via digital platforms such as Zoom or Microsoft Teams. However, this increasing change leads to problems. How can managers promote motivation and employee satisfaction? Promoting day-to-day business without any close personal contact for managers is a challenge. „The identified competence requirements must be communicated and promoted promptly and efficiently, which requires new approaches and tools for further training." (Tirrel & Winnen & Lanwehr, 2021, p. 7). The rapid pace of technological change and its impact on the world of work in the 21st century offer potential for optimizing processes and strategies.

However, these trends are connected with risks. „Examples are the concepts of working from home and trust-based working hours, where managers run the risk that employees will not work as long and as focused as expected, and employees must fear that their work will not be noticed and valued." (Jäckel, 2020, p. 172). In addition to the risks, however, digitization also offers the potential to digitalize business processes previously carried out exclusively in the company. And such processes save human (and financial) resources and time.

But managers need also other competencies. Therefore, competency modelling is needed. It is a tool of competence management. These models describe existing competencies in companies needed there. Determining and evaluating relevant

competencies is primarily a task of human resource management. The base of all competencies is a definition of competence. Competence is the ability of an individual to organize his own work. A competent staff member confronted with professional challenges is able to find creative solutions. Competence is a condition of self-conducted actions within open, complex and dynamic situations. According to Erpenbeck and Heyse (2007), there exist four key groups of competencies (Lippold, 2021, p. 68):

Technical and methodological competencies like digital leadership cover technical knowledge. A person having these skills is able to use this knowledge in order to solve problems creatively with expertise, a lot of planning behavior and market knowledge.

Personal competence means the ability to adopt a critical, productive, and value-oriented attitude towards one's own work. It includes loyalty, credibility, and personal responsibility.

Social and communication skills refer to the ability to cooperate and communicate with others on one's own initiative.

Activity-oriented skills mean that an individual makes an active and goal-oriented use of personal, professional, social and communicative skills. It includes energy and decision-making ability.

Leadership competence is not part of these groups. It is rather a cross-sectional competence. Main characteristics are the ability to communicate, to make decisions, and to work in a team (Lippold, 2021, p. 68). Due to technological progress, another kind of competence is becoming more and more important, the digital leadership

including media skills and intercultural skills. Until now, media competence is not necessarily expected of a manager. However, familiarity with and the confident use of social media will become increasingly important (Lippold, 2021, p. 68). Already now, the lack of media skills often is a recruitment barrier for managers. In addition, within a globalized world, intercultural skills are necessary too. The history of human development shows that, in most cases, humans are not lone fighters (Bannys, 2012, p. 31).

Therefore, such competencies are absolutely needed. They enable people to empathize with thoughts, feelings, and actions of other people across geographical, political and cultural borders. In this way, they form the basis of respectful coexistence. Intercultural competence refers to situations in which people from at least two cultures interact with each other. There is no generally recognized definition for the aspect of culture. However, one can state that culture refers to those norms of behavior considered acceptable in a group (Martins & Martins, 2009, p. 423-424). Consequently, it is about the traditional values and norms of a group or, in other words, a specific orientation system of a group (Thomas & Utler, 2013, p. 41). This can also be described as collective programming of consciousness within a group (Hofstede Insights, 2019).

All these models and skills are the object the thesis deals with.

1.2 Objectives of the thesis, research question and procedure

This thesis will identify and analyze the relevant thematic literature on competency models in order to explore the opportunities and risks of pursuing above mentioned strategies.

The focus will be on the development of models and strategies on competencies. Therefore, all trends are observed. The result should be a detailed elaboration of strategies that can lead managers and subsequently companies to the greatest possible economic success.

Overall, this results in the following central research question:

What are competence models, why are they needed, which kind of strategies do exist, and in which way do they further the economic advancement of companies?

In order to answer this question, a systematic literature review is carried out. For this purpose, data from scientific sources is compiled and conclusions are drawn. These are relevant specialist journals and other works available in libraries and digital databases. A systematic literature search is suitable because there are now a large number of high-quality, subject-specific studies that have been compiled over a long period of time. By bringing together the collected information, a high-quality analysis of the conceptual approaches developed in the context of competence strategies is to be carried out.

2 Current state of research

2.1 Overview of leadership development

The constant change in business and technology and its increasing speed mean that managers who lead modern organizations are in a constant learning process. Leadership coaching is a process designed to enable managers to lead their employees in a way that maximizes their development potential in desired areas, thereby optimizing the company's economic performance. It is often about supporting managers in conceptualizing change management measures (Prammer, 2009), supporting projects, and empowering employees on a personal level. Although executive coaching initially involved clients who exhibited behaviors that presented problems for the company, it is now recognized as a valuable development tool at all levels of management. The applications extend to a wide range of areas. This includes, for example, succession planning for top executives and personal development, as well as individualized learning at all levels of a company. Executive coaching is characterized in particular by the personal exchange between the trained coach and the client (MacIntyre, 2020, p. 376).

Until recently, leadership was largely defined by the boundaries of the organization. However, it is becoming increasingly clear that the most important aspect of effective leadership is not this focus on the organization itself, but requires a clear perspective. This requires leadership development that raises awareness of the economic and social environment in which an organization operates, as well as the role that a department plays within the larger organization. This means the ability to understand trends, markets, and technologies and to anticipate developments rather

than simply reacting to them. This emphasis on foresight is of great importance. In an increasingly globalized economy, the ability to understand and appreciate the different business cultures of different industries and parts of the world can be an essential part of effective leadership. The market may dictate competition as the indicator to which all management decisions must ultimately be subordinated. However, the day-to-day reality of leadership involves cooperation and the pursuit of beneficial goals for all stakeholders as well as other organizations. The more a leader achieves this, the more effectively they can manage the integration of broader strategies of their organization (Goldberg, 2017, p. 2).

As the trend is increasingly moving towards leadership development, companies are investing more and more in this area. In addition, the focus is also increasingly being placed on employees at all possible levels. Effective coaching is required at all levels of the company. However, the majority of investments are still being made at management and executive levels. The reason for this is that a company-specific, optimal management body can have a positive effect on the output of the entire company. As part of this development, small and medium-sized enterprises (SMEs; Kaschny & Nolden & Schreuder, 2015) are also showing increased interest in investing in coaching for their top management (Goldberg, 2017, p. 2).

Through coaching, for example, a manager learns how to give and receive feedback, which enables employees to be integrated into an organization's performance management and competency-based systems. Coaching requires a unique blend of emotional intelligence and organizational change. Executive coaching is one of the most important forms of leadership development for organizations. The goal is to help individuals accomplish organizational change. Coaching works on the basis of

numerous disciplines, including adult education, learning enhancement, psychology and psychotherapeutic approaches. Additionally, executive coaching is used as a developmental intervention that focuses on high-potential leaders with the intention of improving and enhancing leadership and communication skills (MacIntyre, 2020, p. 376).

This topic is just as important for today's generation. Millennials are very ambitious when it comes to their professional development and are also willing to commit to their work. The basis for this, however, is that the employees of this generation find their work fulfilling. They take their values seriously, as do the employees who pursue their work with the same attitude. This covers many areas, from organizational hierarchies to respect for human rights, for example. Therefore, organizations that want to develop their leaders need to do so in a way that aligns with the expectations of employees of this generation. Fundamental to this is effective leadership development (Goldberg, 2017, p. 3). An important factor in the increasing popularity of professional coaching is the opportunity for managers to work on issues for which there is normally little time in their hectic working lives.

This is a result of the high demands placed on managers. They are expected to constantly improve their personal performance and the performance of the company under increasing pressure. This makes it even more difficult to achieve a good work-life balance (WLB), which can lead to a drop in performance in the long term. Individual coaching is therefore very important in order to optimize the manager's way of working and development and to achieve strong performance in the long term (Boysen-Rotelli, 2020, p. 30).

Executive coaches are expected to add value to leaders and their clients in a turbulent world. A world that requires these leaders to constantly adapt and set the tone for others while facing personal challenges themselves in navigating constant organizational changes and dynamics (Bennett, 2021, p. 54). A key aspect of executive coaching is to provide a learning mechanism that supports the alignment of individual development with the organization's strategic vision and goals. As a result, it enhances the leader's ability to encourage, inspire and motivate their employees. Through coaching, leaders can thus use feedback from employees, stakeholders, colleagues, and partners to identify the barriers to individual and organizational success (MacIntyre, 2020, p. 376).

2.2 Tasks and functions within a company

Leadership is defined as a method that indicates the degree to which a manager's influence on the members of an organization has an impact on the achievement of goals (Park, 2019, p. 58). Managers who have well-developed leadership skills and know how to motivate people have the knowledge required to deal with their employees so that they can perform their tasks with commitment. They delegate responsibility effectively to their employees, widen the field for development opportunities, act fairly, are goal-oriented and recruit talented people into their teams. They are the people in an organization who are actively involved in the process of determining direction, alignment, and commitment. Leadership competencies are leadership skills and behaviors that contribute to better performance of the entire organization (Grewal & Chahar, 2013, p. 19). While managers are more concerned with numbers, leaders are focused on people.

A more recent distinction defines managers as implementers of change. While managers are concerned with ensuring the smooth running of the company, it is the task of leaders to set new directions and implement visions. Managers contribute ideas and motivate employees to deal with uncertainty and insecurity. They shape company-specific goals and their formulations. Managers, on the other hand, make daily decisions that affect day-to-day business. They lead the company, motivate people to give their best every day, assign tasks, monitor operations and act in the interests of the company's economic well-being (Rüth Netzer, 2020, p. 4). Accordingly, leadership can be defined as a combination of personality traits, characteristics and behaviors of the leader that bring motivational, collaborative, and progressive aspects to achieve the best possible result for the company. On the one hand, a leader acts as a source of inspiration, and on the other, as a mentor: they also act as a point of contact for the employees of an organization (Grewal & Chahar, 2013, p. 19). In today's world, a company's performance rate stands and falls with the quality of its leadership. With this powerful tool, a manager can achieve performance development with the given competencies and create an ideal working environment within the team, which ultimately enables the best possible work performance.

Learned leadership skills alone cannot drive performance to the top. Personal qualities that make a person an ideal leader are therefore particularly important. Personal leadership qualities only become apparent to the observer by observing behavior under the influence of driving mechanisms such as skills, knowledge, awareness of one's own importance, values, and motives. The leadership competencies of managers form the qualities from whose combination exceptional leaders are developed that lead to results at all levels of the activity performed. In

this context, leadership is defined in the broadest sense and refers to behavior, not hierarchy (Filipova, 2015, p. 10).

2.3 Essential leadership skills

Cognitive skills are the basis for the demands placed on the leader. These include collecting, processing and disseminating information. These are crucial skills that are essential for a large part of the activities for which managers are responsible. These skills also include the ability to communicate orally in order to effectively convey information, such as what needs to be achieved, what needs to be done and why it needs to be done. Furthermore, active listening is required to understand appropriately, to ask for further information in order to gain a complete understanding. (Grewal & Chahar, 2013, p. 24).

Learning involves the acquisition of skills for the effective use of information. The human information processing system for performing complex tasks relies on a combination of perceptual, cognitive and motor skills, all with the support of memory. Specifically, most modern information services are interactive and rely on perceptual skills to obtain information from screens, cognitive skills to process and analyze that information, and motor skills to communicate with the system through keystrokes (Sullivan & Davis & Koh, 2022, p. 814). Written communication is also essential. It includes writing to effectively convey target group-specific messages and reading comprehension to comprehend extensive and complex written information. Another important cognitive requirement is the ability to learn and adapt. This enables managers to work with new information and grasp its implications.

These tools allow leaders to adapt their behavior and strategies to deal with emerging, non-routine and dynamic components of their work. Last but not least, critical thinking is also an important aspect of leadership. Through logical reflection processes, strengths and weaknesses of different approaches to work can be analyzed and evaluated (Grewal & Chahar, 2013, p. 24). The following skills and characteristics are also required: cooperation, creativity, communication skills, curiosity, perseverance, initiative, and social sensitivity. Furthermore, managers should restructure themselves in the following areas in the digital world: Responsibility, results, distribution of information, goals, evaluations, errors and conflicts, change and innovation (Bencsik, 2020, p. 1276).

Another category of leadership qualities is referred to as interpersonal skills requirements. This term is derived from the combination of interpersonal and social skills in relation to interacting and influencing others. This category derives from what previous research has referred to as social skills, social judgment, social complexity, differentiation, and human relationship skills. Interpersonal skills include social perceptiveness and awareness and understanding of reactions. The interpersonal category of leadership requirements also includes the skills that are crucial for coordinating one's own actions and those of others. Furthermore, negotiation skills are required to reconcile differences between different employee perspectives, to build mutually satisfactory relationships and, where appropriate, to influence others to achieve the company's predetermined goals.

Negotiation skills are also required to reconcile differences between different employee perspectives, build mutually satisfactory relationships and, where appropriate, influence others to achieve the company's objectives.

There are also requirements for business skills, which include skills related to specific functional areas that form the context in which most managers work. In addition, business skills involving the management of physical resources and operational analysis are essential as managers make decisions about the allocation of resources, technology, and materials. Furthermore, business skills include the specific skills of managing human resources to motivate, develop and promote employees, as well as managing the organization's financial resources.

The strategic capability requirements are important for adopting a systemic perspective, understanding complexity, dealing with ambiguity, and exerting influence in the organization. These include the planning-related skills of visioning and system awareness to develop a picture of how a system should function, as well as analyzing when important system changes have taken place or are highly likely to take place.

Strategic capabilities also include a significant problem-solving component. Problem identification is therefore also an important competency for leaders to recognize the core problems facing the organization and focus accordingly. Leaders often also have the important task of evaluating alternative courses of action to solve organizational problems, which is referred to as solution and objective evaluation skills (Grewal & Chahar, 2013, p. 25).

2.4 Management coaching

Today's transformation initiatives often require leaders to develop new skills. Executive coaching is a powerful tool that can be used to quickly introduce new skills into an organization's leadership team. In this way, it accelerates the

development of an organization and transfers the new skills from executives to all levels of an organization.

2.4.1 Executive Coaching

Given the exponential rates of change in today's business world, executive coaching has become an effective new way to develop leadership teams in organizations. In addition, fine-tuning the performance of leaders who play a critical role in change initiatives can be optimized. Furthermore, it can be important to develop new skills quickly if the manager's area of responsibility expands or tasks change radically. Executive coaching has therefore become an important tool for changing leadership behavior in organizations and aligning entire leadership groups with new business objectives and operational priorities.

Its use is conducive to maximizing the individual performance of leaders and managers as well as the economic function and profitability of the entire organization. The benefits of executive coaching include taking into account the unique role that leaders and managers play in changing their organization and using this as the basis for the participants' executive coaching experience (Prammer, 2009).

2.4.2 Business coaching

Business coaching differs from executive coaching and life coaching in that the focus is on developing the client's skills required to achieve business results, rather than on the personal or professional goals of the person being coached. The definitions can be divided into four main types: Coaching, Executive Coaching, Business Coaching and Life Coaching.

The distinction between these coaching approaches is that life and executive coaching are more focused on personal development and function more

therapeutically, whereas business coaching focuses more on the process than the client and emphasizes the performance outcome. These coaching approaches are described as either acquisition-oriented, which refers to learning a new skill, or transformational, which is intended to stimulate personal change.

Guiding the process rather than directing the outcomes and thus enabling growth rather than forcing it is the key to goal-oriented coaching. This focuses on the achievement of clear, defined goals rather than the problem analysis used in more therapeutic forms of coaching (Gatling & Harrah, 2014, p. 30). The intricacies and complexity of their roles cannot be taught to managers in a short course. Only through targeted coaching for managers can a company sustainably internalize the new core competencies required for these tasks.

Executive coaching is not a single event or an external training program. Rather, it is an ongoing process that is embedded in the workflow of the respective manager. This is an important aspect in a constantly changing work environment. Coaching offers managers the opportunity to receive efficient and targeted training under the guidance of a coach who customizes the training plan for the manager, while integrating this process into the performance of daily work. Organizations no longer focus on a specific standardized tool to develop leadership potential.

Instead, they take a more comprehensive approach in which the client is involved in shaping their own development process and can use the tools and methods of their choice. The focus of the different approaches is on innovation. Technology plays a central role in innovation as more content is increasingly delivered via mobile technologies, making it available to participants anytime, anywhere.

An example of technological innovation is the introduction of games and simulations into the learning process to increase employee engagement and generate powerful and positive results (Goldberg, 2017, p. 4). Executive coaching is one of the fastest growing and effective methods within an organization to help individuals develop personally and professionally. Organizations with better leadership practices outperform their peers on long-term measures of financial growth and return on investment.

The practice of using executive coaching as a competitive advantage sets many top companies apart from their competitors. Executive coaching promotes the learning curve in leadership approaches and personal development, which shows potential for improvement in many leadership ranks. The use of executive coaching is seen as a sign that the respective company places a high value on increasing the performance level and development of employees. Coaching the individual gives the person the time, space, and skills to develop themselves and ultimately their team (Niemes, 2002, pp. 61-63).

3 Competency Models and Strategies

Meanwhile, there exist a lot of theoretical approaches to competency models. Competence means the knowledge, skills, abilities and personality traits needed to successfully process or solve tasks in a work context (Boss, 2023, p. 92). In addition to technical and methodological competencies and skills, there are also personal competencies and leadership skills, which play a role. Many approaches focus on leadership and its different forms. Therefore, an overview of the most important theoretical concepts will be given on the following pages. Theoretical concepts of leadership may be divided into specific categories.

3.1 Theoretical concepts of leadership

There are classic and new leadership management approaches. On the one hand, *classic approaches* and theories address the importance of leadership characteristics, leadership behaviors and leadership situations with regard to the success of managers (Lippold, 2021, p. 20). Knowledge about human and interpersonal processes as well as about the mechanisms of certain leadership approaches and theories increase the probability that a manager will behave correctly or successfully in particular situations. (Lippold, 2015, pp. 25-46; Lippold, 2014, pp. 209-228). On the other hand, *modern leadership approaches* may be described with the acronym VUCA. It stands for the words „Volatility, Uncertainty, Complexity and Ambiguity“. These modern concepts are the result of new developments. The coronavirus crisis has acted as a catalyst. All four factors are mutually reinforcing.

The real challenge of a VUCA world is to accept the new developments and to adapt to them (Ciesielski & Schutz 2016, p. 4). It is not only the large number of leadership

guides published every year, but also the training concepts that make it clear that the topic of personnel management is becoming increasingly important. Below, various leadership theories are described. First, the classic approaches and then the modern leadership concepts of the VUCA world. For reasons of space, not all concepts are presented. Instead, a selection will be made.

3.2 Classic Approaches

3.2.1 Trait-oriented leadership approaches

From a historical point of view trait theory is the oldest approach to the explanation of leadership. It is based on the consideration that leadership and leadership success are largely determined by personality traits of the leader. The assumption is that effective leaders possess certain traits in order to influence the actions of those they lead (Lippold, 2021, p. 20). Characteristics are defined as stable over time and independent of the situation; they should be clearly identifiable and measurable. The leader's actions are also seen as the result of these personality traits. The most important approaches to trait-oriented leadership theory include

the Great Man Theory,

the Theory of charismatic leadership, and

the theory of transactional and transformational leadership.

1. *The Great Man Theory*

The so-called great men were the main focus of leadership research until well into the 20th century. Theories were always based on famous leaders, both political and military, and aligned with them. Leaders were ascribed certain character traits that

were innate to them and thus predestined them for a leading role within society. Another important component of this theory is the assumption that leaders have no influence on the leader within the interaction (Stippler, Moore, Rosenthal & Dörffer, 2011, p. 16). In 1948 Ralph Stogdill evaluated over 100 studies from what he considered to be the past 40 years and compiled the character traits of a leader considered in this theory.

The characteristics represented were in the areas of intelligence, perseverance, attention, self-confidence, and initiative, which had previously been identified in representatives of the group of leaders. Stodill came to the conclusion that it was not enough to possess the described characteristics alone. The appropriate application of individual factors in the respective situation was important too. The researcher identified characteristics that should help to increase the probability of being able to lead successfully (Stippler, Moore, Rosenthal & Dörffer, 2011, p. 16). These characteristics included:

1. striving for responsibility and task fulfillment,
2. ambition and perseverance in achieving goals,
3. the willingness to take risks and originality in solving problems,
4. initiative and approaching others,
5. self-confidence and self-awareness,
6. willingness to accept consequences,
7. stress tolerance,

8. frustration tolerance,
9. the ability to influence other people, and
10. the ability to create social structures

In the 1980s the characteristics of masculinity and dominance were added. Today, there is a consensus within the scientific community in this field that leaders have distinct characteristics making them suitable for certain tasks. However, it is not possible to draw up a definitive list of attributes for every conceivable leadership situation. Additionally, the influence of leaders in interpersonal interaction is not taken into consideration. Therefore, today the thesis is described as outdated (Stippler, Moore, Rosenthal & Dörffer, 2011, p. 16).

2. Theory of charismatic leadership

Weber defines the concept of charisma as follows:

„als außeralltäglich [...] geltende Qualität einer Persönlichkeit“, „um derentwillen sie als mit übernatürlichen oder übermenschlichen oder mindestens spezifisch außeralltäglichen, nicht jedem andern zugänglichen Kräften oder Eigenschaften (begabt) oder als gottgesandt oder als vorbildlich und deshalb als „Führer“ gewertet wird.“ (Weber, 1980, p. 140).

Weber explored the circumstances why orders are being obeyed. He identified three forms of rule, the patriarchal (traditional) and the bureaucratic style of leadership, as well as the concept of charismatic rule. The concept of charisma he took from the Christian theology and introduced it into sociology (Viertelhaus, 2000, p. 807). Charisma represents a leader's reason for legitimacy in front of his followers

(Weibler, 2001, p. 159). The difference between the three forms of legitimation lies in the recurring nature of traditional and legal rule. Charismatic forms, on the other hand, go far beyond the norm (Weber, 1980, p. 654).

Weber's ideas were first taken up in the Great Men Theory mentioned above. The leading assumption was that the characteristics of leaders contribute significantly to the success or failure of a company (Wunderer, 2000, p. 58). The trait theory was also based on charisma as a personality trait that evaluating a person's exceptional qualities in the area of interpersonal relationships (Delhees, 1995, p. 904).

In the 1980s, it was organizational psychology that created a foundation for the theorem (new leadership approach). According to this approach, a leader credibly communicates their own vision to their subordinates and thus reflects the organizational goals (Bryman, 1996, p. 280; House & Shamir, 1995, p. 878).

3. *Transactional and transformational leadership*

In 1978, Burns made a qualitative analysis of leadership based on various biographies of leading politicians. He distinguished two types of leadership, which can be divided into transactional and transformational leadership styles (Burns, 1978, p. 91). *Transactional leadership* is based on the principle of social exchange, which can take place on an economic and political level as well as on a psychological level. In the case of the leadership example, the expected result of the exchange is the performance agreed between employee and employer, after which the leader is rewarded with a predetermined sum. In this scenario, the task of the manager is to recognize what is expected in return and to reconcile this with the available budget. Therefore, a leader is required to perform the classic tasks of goal setting, control,

and feedback. To summarize, it can be said that transactional leadership is what is known as contingent reinforcement, i.e. management by exceptions (Felfe & Schyns, 2002, p. 90f.). Overall, this means that a manager only actively intervenes in actions of the person being managed if the agreed performance cannot be met: „In this sense, executives and subordinates are business partners in a deal, where good work earns reward” (Felfe & Schyns, 2002, p. 91). As soon as there is no longer a shared goal, i.e. at the end of a working day during leisure time, all interaction between the leader and the person being led ceases at the same time.

This fundamentally distinguishes transactional from transformational leadership. In *transformational leadership*, both parties enter into a specific relationship within which they develop each other. Burns summarized this phenomenon as follows:

„Such leadership occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality” (Burns, 1978, p. 91).

Therefore, the relationship is not limited to recognizing and responding to needs on the part of the leader. It also extends into the area of personal maturity and the attempt to raise the needs of those being led to a higher level in their interests. This extension of the relationship appeals to the values as well as to the sense of overriding purpose, which in turn can change the work attitude and also the status quo, in that employees can also be motivated for company goals that lie outside their own interests in the form of remuneration. Bass summarized these statements as follows:

“[...] the transformational leaders shift goals away from personal safety and security towards achievement, self-actualization, and the greater good. Transformational leaders may have the charisma to fulfill the frustrated needs for identity and lack of social support felt by followers.” (Bass, 1998, p. 41).

What Bass presumably meant is that transformational leaders can also influence the self-image of those being led. In particular, self-confidence can be strengthened by setting higher goals, as it often achieves performance that exceeds the expectations of the individual, which in turn motivates future goals. Ultimately, it can therefore be summarized that the relationship between employee and manager is particularly relevant for transformational leadership. There are various theories about the connection between the two forms of leadership described. Burns saw his two constructs as endpoints within a single dimension. Bass, cited above, saw things differently, ascribing a separate dimension to both theorems, each of which could be broken down. Research as a whole took up the terms and their meanings, but no longer saw them as bipoles of one single dimension, but as complementary facets of leadership, which resembled each other in different proportions at different times in a particular leadership style (Bass, 1985, p. 26). Furthermore, this can be supported by empirical analysis, which shows that (Riedelbauch, 2011, p. 14f.).

3.2.2 Behavior-oriented leadership approaches

Among the behavior-oriented leadership approaches only the concept of leadership style continuum is described hereinafter.

Leadership style continuum

The term „leadership style continuum“ describes a theorem of the two authors Tannenbaum and Schmidt. It extends between the two spheres of social and

leadership orientation and comprises a total of seven different types of leadership styles. On the one hand, there is the certain leader making decisions and presenting these to the group as set. On the other hand, the society-oriented side is the more important, the clearer the influence of the led group becomes. In the next step presented, the influence shifts again in favor of the guided group. At this stage, the leader firstly seeks the advice of their employees on upcoming decisions and then makes a judgment. Finally, the next step represents the opposite pole of the leadership style continuum, in which the leader specifies a problem and allows the work group to work out a solution independently (Tannenbaum & Schmidt, 1973, p. 4).

This last step means an extreme degree of self-determination of the group. Thus, it is rarely practiced in real leadership situations (Tannenbaum & Schmidt, 1973, p. 5). The core assumption of the leadership style continuum is that acceptance of certain decisions increases linearly with the degree of participation in their process. At the same time, it increases the motivation to work on the implementation of the jointly developed decisions (Yuki, 2012, p. 112). The authors cite various factors for the selection of the management method that is considered appropriate:

1. structure of the decision problem,
2. importance of the quality of the problem solution,
3. availability of sufficient information,
4. importance of the acceptance of the decision,
5. acceptance of individual decisions,

6. acceptance of the organizational goals by the employees, and

7. probability of conflict (Yuki, 2012, p. 112).

Other concepts, such as the behavioral grid model e.g., are not addressed here.

3.1.3 Situational (situative) leadership approaches

Among situational leadership approaches hereinafter only the *Contingency theory* is described.

Contingency theory

The contingency theory, which has already been briefly outlined within the classification, is based on the work of Fiedler from 1967 and builds on the theory of situational leadership. Fiedler's recommendation is to deploy the leader in a situation in which individual leadership styles can be practiced that are best suited to the respective circumstances. In order to find the right leader for a situation and to identify the personal leadership style, the author also developed his own measurement scale, LPC, the so-called Least-Preferred-Coworker Scale (Stippler, Moore, Rosenthal, & Dörffer, 2011, Table 4, p. 10), whose poles are labeled with the aspects of task orientation and employee orientation.

There are 18 pairs of opposites on the scale itself. The favorability of situations is determined with the help of three variables. Firstly, the focus is on the relationship between the leader and those being led. In particular, the degree of group cohesion and admiration for the leader play a decisive role here. A certain situation requires trust and loyalty so that a good relationship can exist between both parties and thus also a good working atmosphere. The second variable is the task structure of the situation. This indicates how clearly tasks are defined and specified. A high task

structure is characterized by a clear formulation that can be understood by everyone and in which it is particularly clear how the fulfillment of this task can be measured.

In other words, it is a clear specification of the work path, the associated rules and the work processes that are expected of employees. The third and final variable within these considerations is so-called position power. This is the authority of a manager that arises automatically from the company's internal hierarchy.

To measure this, the author used the instrument of disciplinary measures. The higher the number of disciplinary measures available to a manager, the greater their power within the company structure (Stippler, Moore, Rosenthal, & Dörffer, 2011, p. 10). In order to assess the favorability of a situation, the first variable of the relationship between the leader and the led is evaluated as the one that has the strongest effect, while positional power is classified as the least relevant for the respective leadership situation. By determining the leadership style of the respective leader, according to the final core thesis of the contingency theory, and matching this with the situational favorability, it is possible to precisely predict the respective leadership success. The results of the considerations show that in moderately favorable situations, leadership styles with a high relationship orientation are the most promising (leadership success in this case is always defined as task effectiveness), while the extreme cases, i.e. the very favorable or very unfavorable situations, tend to require a high task orientation.

However, contingency theory, which has shown that not every leader is suitable for every leadership situation, does not itself provide any suggestions on how to change the respective situations or even the leaders if they do not agree with each other. At the same time, there is no indication in Fiedler's explanations of the causalities of the

harmony between some leadership styles and situations. The author himself later referred to this as the black box problem.

Other concepts, such as the Path-goal theory and cognitive approaches to leadership research e.g. are not addressed here.

3.3 Modern leadership approaches

Due to the modernization of the working world, it has become unavoidable to adapt management methods to new situations. Companies and their management are faced with a wide variety of circumstances that can no longer be met by the approaches of the 20th century. In particular, the heterogeneity of working groups, across generations and geographical distances, requires an adaptation of the management strategy. Dirk Lippold (Lippold, 2019) defines the most important influencing factors in his work on leadership culture in transition as follows:

Digitalization and technological change

Media mix and communication across distances

Generational change and hybrid work cultures.

Talking about digitalization, the topic is so complex that often it has to be reduced to an intersection. In this case, the Internet is usually used as a cross-sectional technology connecting all others. The transformation of communication, transactions and information through the internet offers both opportunities and challenges for the world of work (Kollmann & Schmidt, 2016, p. 5). In order to take advantage of the opportunities in the areas of efficiency, development and competitive advantages, it is important to revise the classic value chain.

The changing market and new customer needs must be the focus of attention. Personalized marketing is just as expected as early communication with potential customers, to put it bluntly, on all channels. A website alone is no longer enough. Managers must initiate the process of data collection, processing, and presentation, pay attention to these qualifications in personnel management and train themselves in order to be able to control and monitor the process. Digital transformation cannot succeed without the right form of leadership, although at the same time, the right leadership in the modern working world is not possible without digital transformation. Therefore, both factors are highly interdependent (Lippold, 2019, p. 24f.). Old patterns of leadership can no longer be relied upon in the modern world. The concept of hierarchy in pyramid form no longer works, as employees need to be involved in decision-making in a completely new way in order to ensure a certain scope for action. Working conditions, the working atmosphere and the individual diversity of staff can also no longer be adequately managed with traditional role allocations (Lang & Rybnikova, 2014, p. 20).

There exist different conceptual approaches: the concepts of super leadership, of shared and of distributed leadership, of agile leadership, of systemic leadership, and finally, of virtual leadership, i.e. leadership with new media.

3.2.1 Super leadership approach

Charles Manz and Henry Sims developed the so-called super-leadership approach towards the end of the last century. This mainly deals with the decentralized world of work and the associated difficulty of reaching employees in real time and understanding their behaviour or influencing it through leadership. This approach therefore considers a form of leadership that focuses much more on independent

working methods and how managers can have a positive influence on this behavior without controlling employees. The self-leadership skills of the respective subordinates play a central role here. Stock-Homburg summarizes this theory. He says: Theoretically, leading persons act as „Super Leader“ granting his employees more flexible working conditions for a purposeful self-monitoring (Stock-Homburg, 2013, p.515ff.).

Therefore, the assumption of behavioral control by the manager, which plays a decisive role in classic management approaches, is completely eliminated here. It would even have a counterproductive effect in the modern working world. Instead, in this scenario the leader is a guiding, shaping, motivating person who, through his behavior, creates opportunities and freedom. There employees can pursue their work. In the success model of super leadership, the authors describe a multi-stage process that should ultimately lead to successful self-leadership through super leadership. This goal is considered to have been achieved when employees are able to make decisions independently generating information and tasks that contribute to the company's goals (Schirmer & Woydt, 2016, p.192).

Finally, it should be noted with regard to this approach that large parts of management success are transferred from the hands of the manager to the area of responsibility of the employees. That is enriching in many industries, but does not work everywhere (Weibler, 2016, p. 390).

3.3.2 Shared and distributed leadership

The following pages deal with two approaches very close to each other: the concept of shared leadership and the concept of distributed leadership.

1. Shared leadership

As a result of globalization and digitalization, organizational approaches (keyword: flatter and lean hierarchies) and increasing demands for stronger democratization of corporate decision-making processes, another new leadership approach has become the focus of interest: the concept of shared leadership.

With this approach, as with the super leadership approach, the focus of the leadership process is no longer on the line manager as the sole decision-maker. Instead, the focus is on the question of how leadership in organizations should be to optimize motivation and performance. Therefore, leadership is not a chain of instructions passed on from the line manager to his employees. Rather, the manager and the line manager should see themselves as quasi-equals against the background of the target. The manager acts more as an accelerator, instead of taking on the role of decision-maker (cf. Schirmer & Woydt, 2016, p. 195 ff; Lang & Rybnikova, 2014, p. 151 ff.).

The reason for the emergence of this new leadership theory is often cited as the change of the society. Additionally, the entry of „Generation Y“ and further generations into the labor market plays an important role. The members of these generations are now gradually replacing members of other generations, especially of the baby boomer generation and of „Generation X“; and the members of „Generation Z“ are replacing those of „Generation Y“.

There are several aspects that need to be taken into account:

People from different generations work together with different levels of experience and attitudes toward life. Although it is a matter of generalisation research found typical characteristics are typical for every generation. Given this, there exists the generation of baby boomers, the generations X, Y (millenials) and Z. The succeeding

generation alpha is of no interest, since it comprises people with years of birth from the early 2010s. The author realizes well that every person has a different character; but a coarse grid can help to facilitate communication on the job. That's of interest especially for HR managers.

The differences between these three generations are shown below.

a. „Generation X“

Junior Managers are part of the generation X. They can be characterized by the slogan: „work to live“. It is the definition of people born from 1965 to 1980 (cf. Twenge 2018). Typical for their job behavior and attitude toward life are the following points (cf. Kasper, 2019).

Communication: flat hierarchies, formal or casual, „Sie“ and „you“, intranet, telephone, mobile telephone, e-mail, WhatsApp Groups, skype, flexible, flexibly reachable with consideration for privacy

Motivation: concrete performance specifications, working independently, free space, self-affirmation, yielding own ideas and approaches, professional advancement and competition

Learning: workshops, coaching, digital platforms, virtual study rooms, challenging, inspiring, flexible study units, final tests

Conflicts: anti-authoritarian, personal identification with the performance: solution: open and respectful communication, providing criticism reasonably, developing improvement strategies together

Benefits: gliding time models, home office options, parental leave, part time, career opportunities, options of further education, supply grants, health care offers.

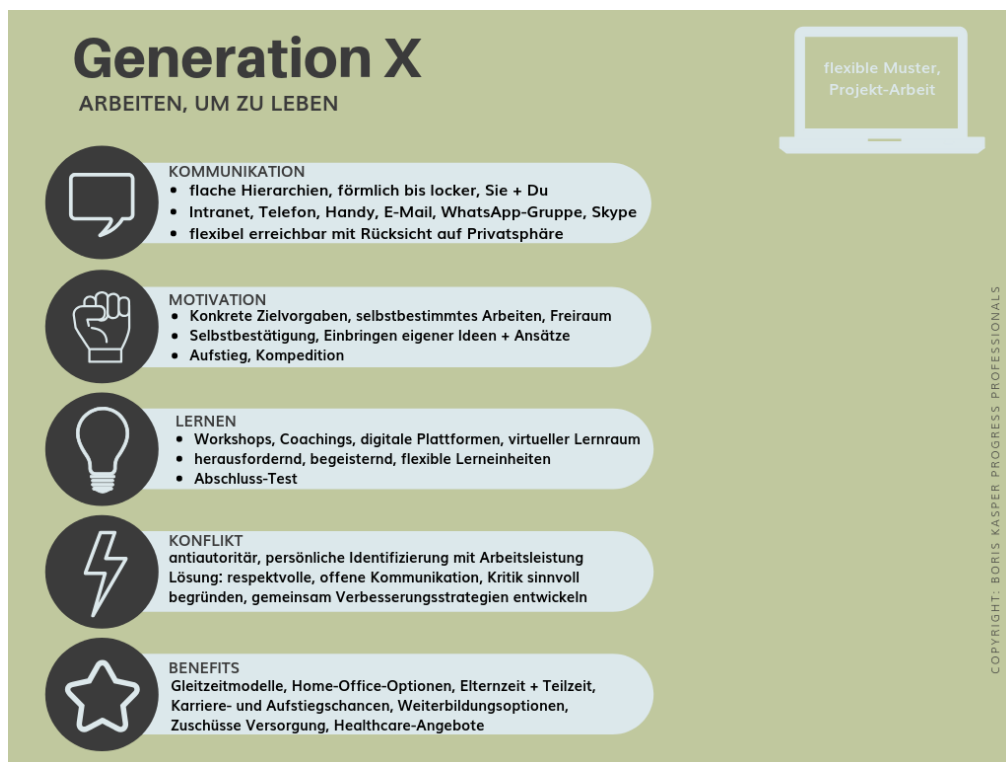


Figure 1: The Generation X (Source: Kasper, 2019)

b. „Generation Y (or: Millennials)“

They can be characterized by the slogan: „work to self-actualize“. This term comprises people born from 1981 to 1996 (Rauch, 2018). Typical for their job behavior and attitude toward life are the following points (Kasper, 2019).

Communication: respectful, without hierarchy, informal and personal, „Du“ („You“: otherwise uncommon in German), smart telephone, apps and digital tools, video calls, voice messages, always on

Motivation: understandable mission, participation and free space, feedback, self-actualisation, contribution of individual personality, spiritual growth, challenge

Learning: digital tools, webinars, study videos, virtually cross-linked, inspiring, creative, short study units, realizing test projects

Conflicts: sensible, high degree of identification with work; solution: appreciative communication, linking criticism with praise, self development of improvements

Benefits: options of working without presence, self-determined work organisation, parental leave, offers of child-care, offers of further education, adventure offers (sport, travelling, team)

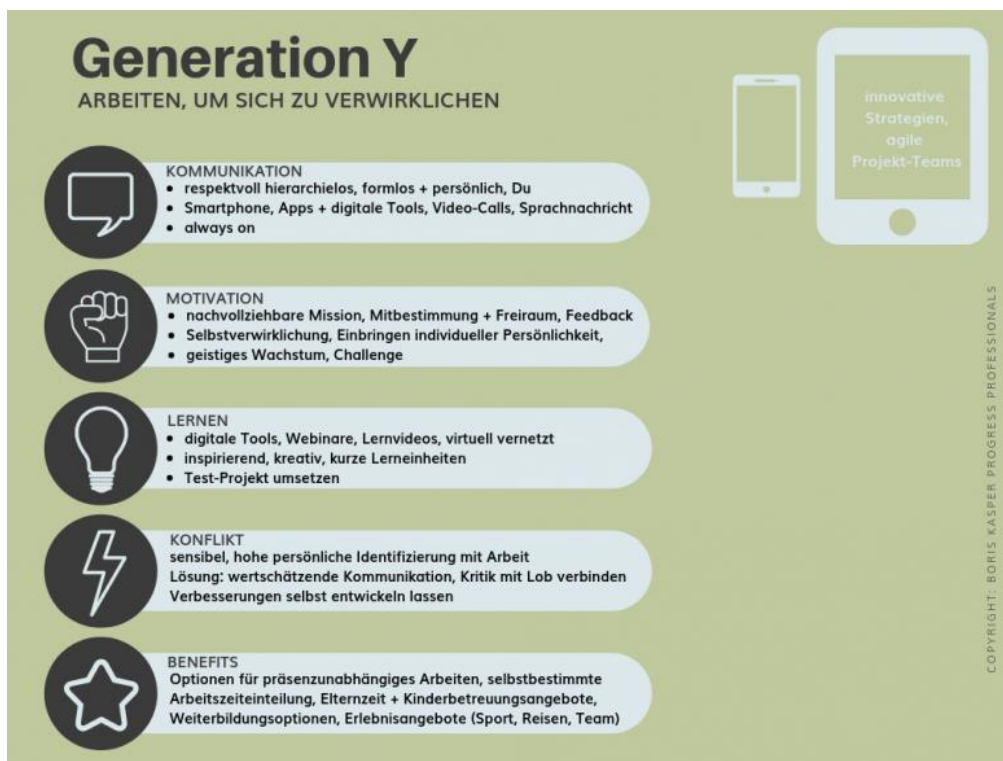


Figure 2: The Generation Y (Source: Kasper, 2019)

c. „Generation Z“

Junior managers belong to the generation Z. This generation can be characterized by the slogan: „separating work and life“. This term comprises people born from the mid-1990s to the early 2010s (June, 2021). They are parents of generation Alpha (from the early 2010s). Typical for their job behavior and attitude are the following points (Kasper, 2019):

Communication: appreciative in flat hierarchies, informal, „Du“ („You“), smart telephone, digital platforms, video calls, voice messages, on only when working

Motivation: efficient approaches, structured processes, feedback, opportunities of retreat without trouble, sustainable responsibility, learning effects that are applicable again

Learning: workshops, webinars, study videos, digital learning platforms, well structured, playful, regular study units, final tests

Conflicts: critical, aware of the necessity to separate work from life; solution: friendly and facing but target-oriented communication, offering and justifying suggestions for improvement

Benefits: own office, job sharing, generous vacation policy, parental leave, part time and come back, internal pension schemes, (honest) corporate social responsibility

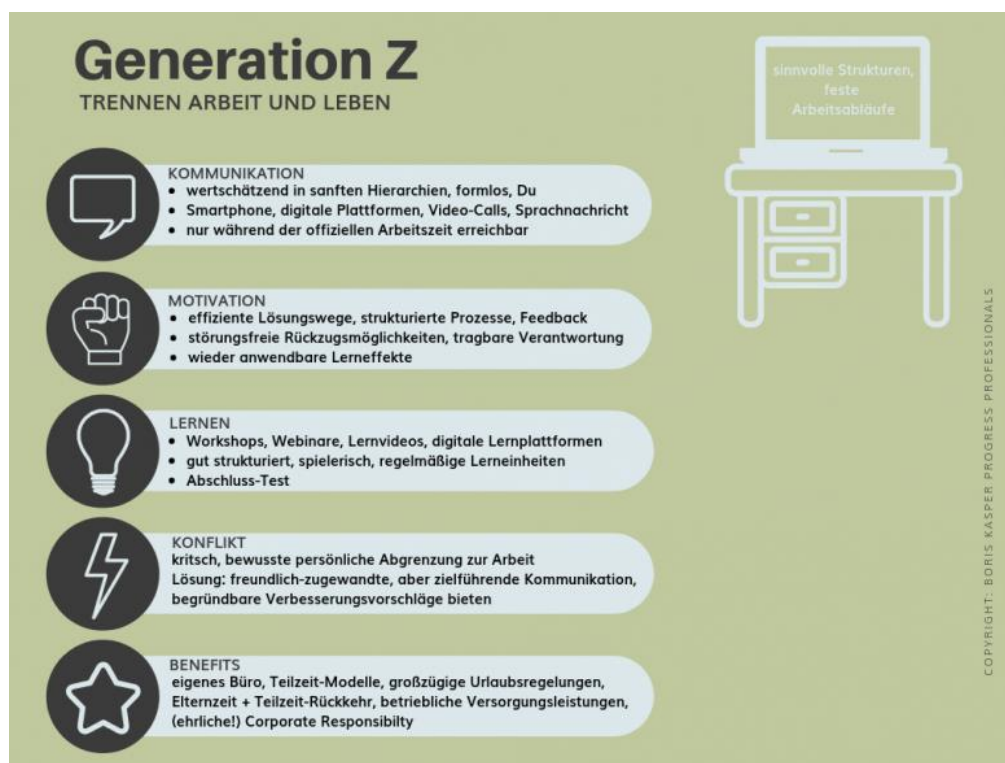


Figure 3: The Generation Z (Source: Kasper, 2019)

Members of Generation X grew up with hierarchies and controlled processes. Digital natives of Generation Y and Z are much more focused on emotional values. These are much more central to their thinking and attitudes. This inevitably means the choice of job for members of Generation Y and Z is often linked to different requirements. In addition to the expansion of skills and leadership through the team, an understanding of shared leadership is widespread. There, two bosses perform the leadership role together on a part-time basis. This kind of shared leadership is always a good idea; especially when part-time work has a high and accepted status in a company.

There are different opinions on shared leadership: On the one hand, very often trust among team members, the team performance and employee satisfaction are perceived as better. On the other hand, a „lack of direction“ or the „abuse of power ”

by team members, are seen as negative effects. Consequently, establishing a concept of „Shared Leadership“ in a company needs a certain amount of perseverance, as part of successful introduction is both a training phase and a discovery phase for all persons involved.

According to the results of a study, a high proportion of women, combined with a low average age, emerged as a favorable factor for the introduction; in addition, a high level of ethnic diversity and a high level of mutual trust within the group. On the other hand, on the management side, there are factors such as loss of control and power, fear of anarchy, personal insecurity, and a lack of skills in dealing with non-directive management behavior.

On the employees side, fear of too much power and responsibility as well as fear of losing status can pose a challenge (Lang & Rybnikova, 2014, p. 168 ff.).

2. Distributed leadership

In contrast to shared leadership, the more far-reaching concept of distributed leadership includes forms of leadership that go beyond the group, but also includes structural and, in some cases, cultural forms of leadership. Formal, pragmatic, strategic, regional, but also cultural distribution of leadership play a role when the common assumptions about a natural division of leadership processes form the working basis (Lang & Rybnikova, 2014, p. 168 ff.)

In principle, shared and distributed leadership approaches are always particularly relevant when it comes to sharing and distributing leadership tasks, sharing leadership responsibility, sharing and distributing power resources and exercising joint, collective influence.

3.3.3 Agile leadership and manufacturing methods

One practical manifestation of shared leadership is agile leadership. This concept has become more and more important during the last years. Agile leadership is interpreted as behavior in which employees themselves determine the way in which tasks are carried out. Therefore, they are involved in decisions. It is important that hierarchical structures are broken down. Employees should recognize and assess and give each other feedback. Agile leadership can even mean that management functions are assigned according to the motto „employees elect their boss.“ (Schirmer & Woydt, 2016, p. 200).

Agile leadership and agile manufacturing is an innovative and, at least from the perspective of its protagonists, „revolutionary“ way of creating, continuously developing and manufacturing products. It is a characteristic of the management of an organization - a commercial enterprise, a non-profit organization or a public authority - to act flexibly and proactively, anticipatively and proactively in order to introduce necessary change processes (Goldman, 1996). The Lehigh Report defines agility as follows:

„A manufacturing system with extraordinary capability to meet the rapidly changing needs of the marketplace. A system, that can shift quickly among product models or between product lines, ideally in real-time response to customer demand“ (Hooper, Steple & Winters, 2001, p. 632).

Tseng and Lin (2011, p. 3694) describe the behavior of agile companies:

„Agile enterprises are concerned with change, uncertainty and unpredictability within their business environment and with making an appropriate response.“

In this context, „agile“ means something like „lightweight“ and is intended to express the positive aspects of low planning and management intensity (Foerster & Wendler, 2012, p.2). The word „agile“ etymologically derives from the Latin „agilis“ = „easy to handle, agile, busy“ or „agile, active, busy“ (Stowasser, 2016).

It is often also used in a modern context in the sense of „flexible“ (Foerster & Wendler, 2012, p.2). Within organizational theory, the term agility refers to a form of flexible, lean, customer-oriented organizational design. Expanded to include newly developed technologies, it usually is combined with the character of a young, modern form of organization (Foerster & Wendler, 2012, p.1).

The aim of agile approaches is to make development and all other processes more efficient by reducing bureaucracy. The focus here is on flexibility and continuous customer coordination.

The term agility distinguishes between the following levels:

Agile values and principles set out in the agile manifesto,

Agile methods (e.g. Scrum, IT Kanban, Design Thinking), and

Agile practices, techniques and tools (Product Owner, Product Backlog, Time boxing).

Agile leadership originates from software development. There it is now the rule rather than the exception. But also in IT-related areas, such as the introduction of the introduction of ERP systems and in non-IT areas such as product development, agile methods and principles are playing an important role. Agile methods place values

and principles in the foreground, where methods and techniques were previously the focus.

The Scrum software development methodology can be seen as a kind of pioneer of agile management. leadership: Instead of managing projects according to rigid plans, agile projects take a more flexible approach. Scrum comes from the sport of rugby. It refers to a „scrum formation“ in which the two teams come together again after a short break in play in order to continue the game. Scrum relies on self-organizing teams without a project manager in software development. The teams divide the overall project into short intervals (sprints). At the end of the intervals, there are self-contained partial results realized by self-responsible and self-organized developers working together independently and self-organized. This dispenses with very extensive, bureaucratic planning and preparation processes leading to a separation of planning and execution.

In agile organizations, employees form themselves into squads (interdisciplinary product teams), tribes (grouping of squads with a common business mission) and chapters (focal points of knowledge and experience across the squads) into constantly new teams. The management organization comprises product owners (process owners within a squad), tribe leads (management leaders within a tribe) and chapter leads (hierarchical function with holistic personnel responsibility within a chapter). In addition, agile coaches offer individual support for individuals or moderation of teams.

The Information technology (IT) and its infrastructure form the basis for agile production. Various participants from business, government and academia have now come together to develop a broadband communications network, referred to by many

as the „Factory America Network“ (FAN), which is a network of alliances, i.e. suppliers, producers and customers, enabling member companies to realize the great benefits of real-time sampling and analysis and diagnostics (Nagel, 1993). Due to such technology cooperation, manufacturers can order directly and in real time from their suppliers via the network. The supplier, in turn, can order directly and in real time from its upstream supplier: automatic direct ordering from the first link in the supply chain is also possible.

Examples include aircraft construction: The Boeing 777 or the Airbus A380 are well-known examples of successful implementation of information technology. These projects involved the collaboration of sometimes more than 250 cross-functional teams that were linked electronically. This alliance of domestic and foreign manufacturers completed the project with complementary core competencies (Goldman et al., 1995).

In order to „reinvent“ their companies, managers must abandon the organizational and operational principles and processes they have used up to now and create completely new structures. In short, a radical internal structural change must be implemented. Business process reengineering (= BPR) as a special form of change management is not an internal process at the content level, but is actively managed from the outside. Unlike organizational development (OD), BPR is a „hard“ change concept and aims to achieve planned, rapid and complete change. The focus is on a strategy of sudden change. The primary aim is to improve performance and competitiveness. In contrast to OD, people and employees are merely a means to an end and are therefore only partially involved in certain phases. The change strategy is initially kept secret and only communicated to employees during implementation.

This increases the potential for conflict within the company. Decisions are made exclusively by the company management and the process is implemented quickly, with the inevitable disruptions that this entails. The change is usually initiated from outside or from above („top-down“) (Prammer, 2009, p.15).

The need for BPR arises from the fact that many work processes in companies are carried out inefficiently by specialists in functional „silos“: especially in the fields of accounting and marketing. Hammer and Champy argue that every employee involved in a process looks inwards to their department and upwards to their boss, but no one looks outwards to the customer (Gunnerson, 1997). Processes are the heart of any organization, creating and developing value for customers. In traditional (functional) line organizations, such processes are fragmented, invisible and unnamed. In short, they are hardly effective.

Agile companies, on the other hand, design these processes, according to the protagonists of agility, in a cross-functional and results-oriented manner (Hormozi, 2001, p.141) Two steps are required for the successful implementation of BPR or an internal structural change:

1. Firstly, the process must be identified from the outside in, i.e. from the customer to the product.
2. Secondly, the processes must be redesigned. This includes formulating a breakthrough design and transitioning to the desired process. Superior process performance requires superior process design (Ibid.).

It is human nature to be skeptical of change and to seek stability by remaining in the current state. However, agile production requires exactly the opposite: employees

should or must be creative. Agility should give them exactly the freedom they need for unrestricted creativity. Employees should never rest on their laurels, but constantly improve their existing products. They create new products that always satisfy consumers' tastes in a new way. This requires employees to constantly question the way they (and others) do their work. Employees must constantly rethink their existing product lines and processes in order to develop improvements, additions and new products.

Employees need to keep themselves informed and educated about new technologies and processes in order to perform their roles better and for the long term (Nagel & Bhargrave, 1994). Therefore, not only to managers but also to employees, realization of agile concepts of leadership and manufacturing is very challenging.

3.3.4 Systemic leadership

Although transformational new leadership approaches assume that decision-making processes are largely self-organized by employees, however they are still designed in such a way that managers can intervene to control them. Systemic leadership concepts see companies as systems in which steering actions lead to a multitude of direct and indirect leadership reactions, making classic, influencing leadership „impossible“. Systems may be defined as follows:

„Systems are wholes that are made up of individual elements that are are connected and interact with each other via relations. Companies with their subsystems and elements, i.e. departments and employees, represent complex systems. Complexity describes the ability of a system to assume a large number of different states or to react to impulses with a large number of differently composed reactions.“ (Schirmer & Woydt, 2016, p. 201).

This description distinguishes companies from simpler systems such as machines, which can only respond to certain stimuli with a specific reaction. Systemic leadership is based on the assumption that complexity is an important component of effective leadership. It is not limited to the relationships between managers and employees alone, but includes the relationships of all stakeholders involved in the system. The manager merely acts as an initiator. Due to the great complexity and the many influences, it is hardly possible for the manager to control the processes.

The most important building block of systemic leadership is communication. The main aim is to present new perspectives to employees through targeted discussions. However, the aim is not for all employees to have a uniform point of view later on. To get to this point, managers use tools such as scale or classification questions. Scale questions are used to assess values or meanings. A possible scale question here would be:

„On a scale of one to ten, how important is the satisfaction of our employees?“

A classification question is used to identify different points of view, for example:

„Which of our new products will be the most successful? “

„Which of our new products will bring the most economic success?“

Systemic leadership does not provide simple solutions in the form of instructions. Therefore, it tries to influence the perceived reality of employees in a way that solutions can be found in a self-organized manner. However, the very specific theoretical foundation prevents many practitioners from accessing systemic leadership (Schirmer & Woydt 2016, p. 203).

3.3.5 Virtual leadership (leadership with new media)

Virtuality describes properties of a specific object that cannot be realized physically, but through the use of additional specifications (e.g. new communication options). With virtual management, these additional properties can be used to manage despite the physical absence of managers. This is not about „management by possibility“, but about the management of real employees with the help of modern information and communication technologies and social media (Wald, 2014, p. 356 ff.).

The central problem of virtual leadership arises from the distance or the lack of personal contact between leaders and followers. The distance is not decisive for the effectiveness of communication, but it is for the effectiveness of leadership. The lack of personal contact and information about the social context makes it difficult to build social relationships and trust.

This can lead to passivity and a reluctance to perform on the part of employees. On the other hand, dealing with this distance, i.e. successful communication with modern media, as well as building and maintaining trust under virtual conditions are indispensable.

Ultimately, according to Peter M. Wald, there are four perspectives from which the phenomenon of virtual leadership can be approached:

1. Virtual leadership as leadership from a distance - Leading from a distance
2. Virtual leadership as e-leadership - leading with new media
3. Virtual leadership as leadership with new relationships - Shaping new leadership relationships
4. Virtual leadership as emergent leadership - utilizing emergent leadership.

Under virtual conditions, leadership can be „distributed“ to different instances. Joint leadership by the team members can be advisable under virtual conditions because it increases the team's ability to steer itself. Joint leadership has a stronger influence on performance than in conventional teams. Questions about the relationship between the forms of leadership (centralized/distributed, transactional/transformational), the effects of their influence and the implementation of interactional leadership under virtual conditions have yet to be answered.

The recommendations for shaping virtual leadership include advice on the selection and the selection and development of managers as well as concrete suggestions for implementing virtual leadership by means of communication, trust, relationships and distance leadership.

During the COVID pandemic forms of new work have become more important, especially remote work and home office.

Remote work: This concept is characterized by the fact that the work in question can be carried out anywhere, i.e. it is spatially unbounded and location-independent, at any location („ubiquitous“). This innovative form of work is also due to the fact that work is becoming increasingly mobile and mobile working has become a matter of course for many employees with a wide range of qualifications and in almost all sectors of the economy. More and more work processes can be carried out anywhere by using mobile devices. Therefore, the stationary workplace, e.g. in open-plan rooms or open-plan and individual offices, become increasingly less important.

Home office: Another innovative form of work is working from home, i.e. working within your own four walls. During the COVID pandemic, this form of work has been increasingly used. This could and can be a challenge, especially for people with children. Due to digitalization and networking, working from home is increasingly possible. There is also a need to individualize work, with an increasing focus on achieving a work-life balance (WLB). This also makes working more flexible. For employers, allowing employees to work from home requires the ability to manage employees who are not on site. In addition, the scope for control is reduced. On the employee side, the technological and structural prerequisites as well as personal skills associated with working from home must be in place. Not every work process is suitable for working from home.

3.3 Competencies of employees

As seen in the chapters before employees must have today a lot of the competencies described there. The most important challenge for all employees is the digital change. Not only managers but also employees must have digital competencies. Consequently, improving digital skills is the most important task employees have to accomplish. It is necessary because digital change gets faster and faster.

Employees must deal with the application of artificial intelligence (AI).

The third industrial revolution is now being replaced by the fourth industrial revolution. New types of division of labor are emerging (Hierzer, 2020, p. 38) through the intelligent networking of people with machines and processes based on modern information and communication technology (ICT) (Gabler, 2018, ICT). This

is leading to a shift in the boundaries of the division of labor between people and the digital world (Hierzer, 2020, p. 39). There are computers that are able to learn and communicate with humans (example: Alexa). The question is already being raised as to whether machines may soon be superior to humans. This brings up another aspect that will increasingly play a role in companies: artificial intelligence. When dealing with the topics of artificial intelligence (AI) and machine learning (ML) and deep learning (DL), it makes sense to first define both terms before categorizing them. An initial overview is provided by the following figure:

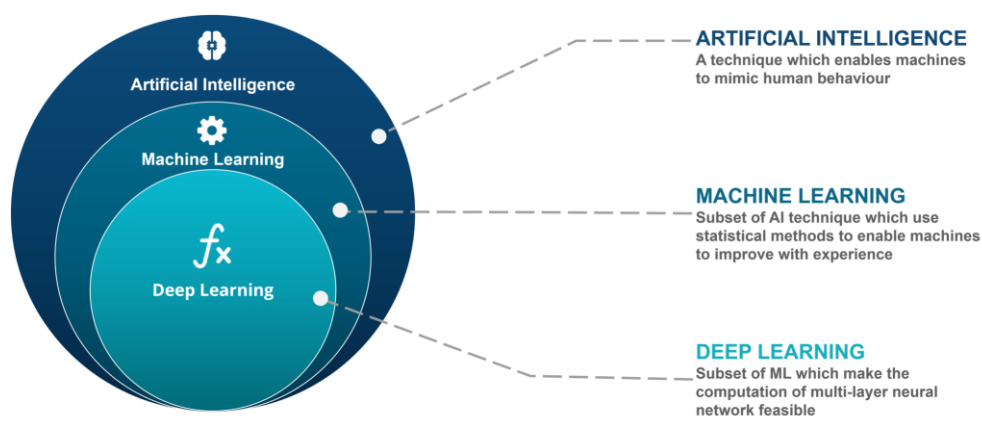


Figure 4: AI (Source: <https://i.stack.imgur.com/mbif4.png> (10.03.2024))

AI is a technology that enables machines to imitate human behavior (see Figure 4).

AI can be described as follows:

„If there is a machine behind a curtain and a human is interacting with it (by whatever means, e.g. audio or via typing etc.) and if the human feels like he/she is interacting with another human, then the machine is artificially intelligent.“ (Joshi, 2020, p. 4).

This definition does not focus so much on the intelligence of machines, but rather on human behavior. In fact, this objective has a much broader scope than intelligence. From this perspective, AI does not mean the use of exceptionally intelligent machines that can solve any problem without delay, but rather the construction of machines that are capable of human behavior.

However, the latter is not particularly interesting. Accordingly, AI can be said to exist when machines are able to perform one or more of the following tasks:

1. understanding human language,
2. performing mechanical tasks including complex maneuvers,
3. solving computer-based complex problems including large amounts of data in a short time and providing answers like humans (Joshi, 2020, p. 4).

According to all this, a system can be described as intelligent if it can solve problems independently and efficiently. The degree of intelligence depends on the degree of autonomy, the complexity of the problem and the degree of efficiency of the problem-solving process (Mainzer, 2016, p. 3). Accordingly, with the British logician and mathematician A. M. Turing (1912-1954), we can actually speak of thinking machines (Mainzer, 2016, p. 10f.).

Without doubt computers today can calculate faster and more precisely and play chess better (Mainzer, 2016, p. 11). This also applies to other games such as backgammon (1979), Scrabble (2002) and bridge (2005; Bostrom, 2016). Poker was added in 2017 (Deckert, 2019, p. 17). This shows that AI is partially superior to

humans in terms of cognitive intelligence when it comes to quickly analyzing large amounts of data and options for action, e.g. when playing chess.

However, humans are superior to AI in terms of sensorimotor skills (Wahlster, 2017). In addition, AI still has considerable deficits in the area of emotional and social intelligence for recognizing the emotions of human partners and in social behavior (Wahlster, 2017, Deckert, 2019, p. 17).

This is the current state of AI technology. Whether this will change in the future and AI will surpass humans is uncertain. However, experts such as Bill Gates, Stephen Hawking and Steve Wozniak have already warned of the dangers posed by AI (Deckert, 2019, p. 18). Currently, AI still has weaknesses in use that are due to unintended side effects (Deckert, 2019, p. 18). These include 1) hidden biases, 2) statistically based solutions („statistical truths rather than literal truths“), which do not adequately cover specific individual cases in use, for which 3) correction mechanisms are difficult to establish (Deckert, 2019, p. 19).

Machine learning (ML) is a technique that enables machines to improve through experience using statistical methods (Figure 5). The term „machine learning“ (ML) refers to computer programs that are able to learn behaviors that were not explicitly programmed by the author of the program beforehand. Rather, ML is capable of exhibiting behavior for which the programmer is in no way prepared. The learning of behavior is based on three factors (Joshi, 2020, p. 4):

1. data stored by the program,
2. a software metric that identifies errors or types of deviations between the current behavior and the usual behavior (an „ideal“ behavior), and

3. a feedback mechanism that uses quantified errors to guide the program to show a better (more adequate) response to future events (Joshi 2020, p. 4).

It should be noted that the term ML should not be understood to mean a different or special type of learning or a corresponding methodology. That's because ML is a generic term that uses the word „learning“ as a foreign, but nevertheless appropriate keyword for all processes of multilateral knowledge generation“ (Roepert, 2020, p. 88). ML uses specific algorithms:

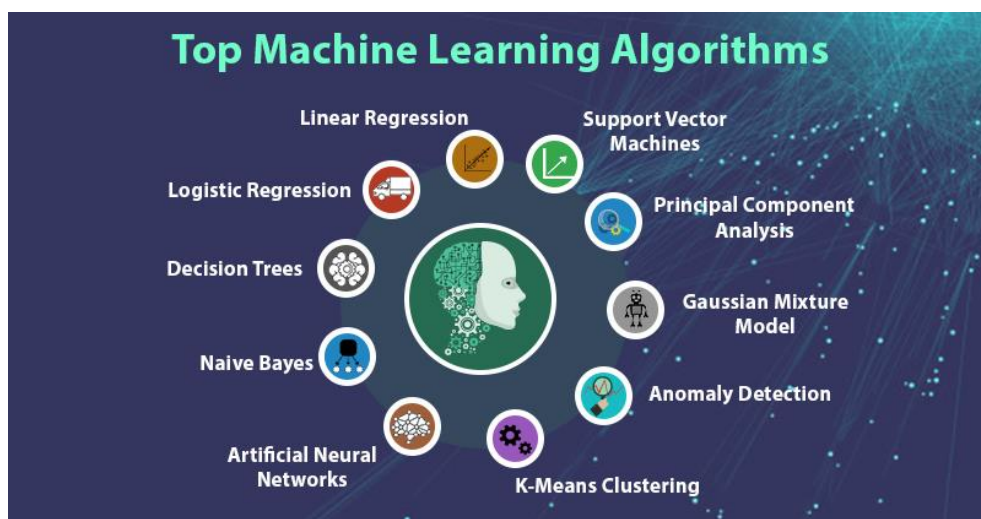


Figure 5: Top Machine Learning Algorithms (Source: <https://d2h0cx97tjks2p.cloudfront.net/blogs/wp-content/uploads/sites/2/2018/02/machine-learning-algorithms.jpg>)

As can be seen in Figure 5, ML is based on generally known basic algorithms. Figure 5 describes the procedure in the context of ML.

ML is therefore a „process of generating knowledge from examples or from processes that have already been completed by an artificial (here in direct distinction to non-artificial humans) system (...), in which the system is enabled to analytically

generalize the results of each completed process.“ (Roepert, 2020, p. 89). The results are not based on the fact that certain procedures or processes are memorized, but on the fact that the machine independently recognizes recurring patterns and uses certain algorithms to identify regularities and learn on this basis (Roepert, 2020, p. 89).

Finally, another learning method is *deep learning* (DL). Like ML, it is a sub-form of AI that enables the calculation of multi-layered networks. DL can perform complex tasks with the help of big data technology. DL is suitable for speech, image and pattern recognition. Complex search engines, technical simulations, various forecasting systems and so-called chatbots use this technology (Geutebrück, 2020, p. 5).

Chatbots are computer programs that attempt to simulate human conversation through interactions via text or voice (Brush & Scardina, 2021). The term chatbot therefore covers all types of software that enable people to have a human-computer conversation. This includes so-called „talkbots“, „chatterbots“, AI conversation systems and virtual assistants such as Alexa (from Amazon) or Home (Google). Chatbots are typically used in dialogue systems, e.g. in customer service or information retrieval (Serban, Iulian et al., 2017). ML must be distinguished from DL and AI. The intersections and differences between the three areas are shown in the following figure.

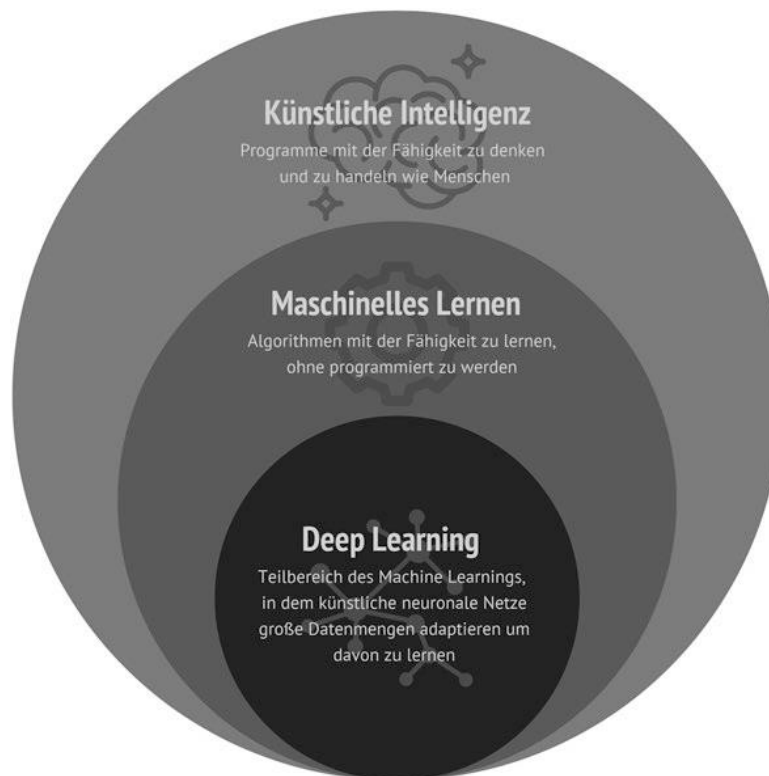


Figure 6: AI, ML, and DL (Source: Timo Arling, logventus GmbH, taken from Roepert, 2020, p. 89)

This figure shows AI is the generic term for programs that are able to think and act like humans. ML, on the other hand, is an enhanced form: By being presented with certain algorithms, machines can draw conclusions about other, previously unknown situations based on stored situations and thus achieve „learning progress“. DL is in turn a sub-area of ML in which artificial neural networks can adapt large amounts of data (big data) and thus „learn“ with the help of algorithms.

In the future, ML will be able to be used in a wide variety of areas of automated production and thus contribute to increasing efficiency and sales in companies.

Apart from AI, however, digital automation can already achieve considerable gains in effectiveness. This includes topics such as data-driven process and system

optimization and the networking of systems for Automation 4.0 or data-based optimization of the business management system.

Employers have to be able to deal with all forms of AI. That is the big challenge they must accomplish.

3.4 Discussion

The previous explanations have shown that digitalization is becoming more and more important in the question of competence models. There are a lot of theoretical concepts that take into account that future employees are working more independently than ever before. Due to technological progress work by managers and employees is determined by modern forms of work such as remote work and work at home.

Additionally, employees and managers also must use forms of AI: But it is important to see that all kind of new work also bring with them certain threats managers and employees have to be aware of. Digitalization does not only open up opportunities for managers, employees and their development. It also harbors risks. These relate to IT security, holding company meetings and modern forms of work.

Countless damage reports, some of which are also reported in the daily press and on news programs, make the importance of IT and cyber security evident. Therefore, companies must also address this issue if they do not want to suffer competitive disadvantages or even financial losses in the face of globalization-related worldwide IT networking (Schmidt, 2013, p. 665). IT managers and IT security managers are therefore faced with the task of effectively organizing and controlling security in the network. Appropriate IT products are essential tools for this.

Hackers and other attackers look for ways to misuse and penetrate IT systems and services of all kinds for their own purposes. Fake emails or malware such as computer viruses, worms or Trojans are used for this purpose (Schmidt, 2013, p. 666). Viruses are infiltrated into other computer programs and reproduce themselves there. This results in changes to the company's operating system or other software; indirectly, this can also lead to damage to the hardware.

In this way, IT security is jeopardized. This can lead to a total failure of the entire system. The risk situation is generally known. As IT systems, components and services become ever more extensive and increasingly interconnected, this is a major challenge for IT managers. The enormous risk situation is based on the fact that IT security is not physically tangible like other security-relevant areas of the company (Schmidt, 2013, p. 666f.).

Viruses spread by copying themselves into files that are not yet infected and adapting them so that the virus is also executed when the host program is started. Viruses can infect program files and libraries, scripts, documents with macros or other executable content and boot sectors. Viruses are transferred to new systems by copying an infected file to the new system. Unlike viruses, the spread of worms does not depend on transmission by a user. Instead, they actively penetrate another system and exploit security vulnerabilities on the target system. Here too, IT must intervene by installing anti-virus programs that identify and eliminate the malicious program in question.

However, an anti-virus program only detects viruses that are already known, which is why the updates provided by the manufacturers must be downloaded. The security effect here is essentially that the latest versions are used, because viruses of a new

generation are usually no longer detected by the anti-virus software (Schmidt, 2013, p. 666ff.).

Anti-virus programs therefore never offer complete security (Gabler, 2018, keyword: virus). Worms are malicious programs that reproduce themselves once they have been executed (Gabler, 2018, keyword: worm). A computer worm spreads without infecting foreign files or boot sectors with its code. A worm spreads via networks or removable media such as USB sticks (Gabler, 2017, keyword: worm).

Finally, Trojans are programs that are deliberately smuggled onto other people's computers or get there by accident, perform unnamed functions and are disguised as useful programs, e.g. by having the file name of a useful file or actually having a useful function in addition to their hidden function (Gabler, 2018, keyword: Trojan). Many Trojan horses secretly install a malicious program on the computer during their execution, which then runs independently on the computer and cannot be deactivated by terminating or deleting the Trojan (Gabler, 2018, keyword: Trojans).

4 Summary and outlook

The central question posed at the beginning was what competence models are. Competence models are an important tool for carrying out systematic management activities in order to motivate employees. The aim is to foster the development of the firm, to ameliorate business performance and employee satisfaction. There do exist several theoretical approaches according to which a competence model is a tool for competence management. It describes the competencies available and required in the company, this includes competencies of managers and also those of employees. Defining and measuring the relevant competencies and creating the model are important for the improvement of business performance. The basis for creating a competency model is the definition of the term competency. Competence is the ability to organize oneself in the work process. Competent managers and competent employees can develop creative solutions to the challenges of everyday working life. Competence enables self-directed action in open, complex and dynamic situations. Within a company, competent actions have four central aspects:

1. Personal competencies describe the ability of a critical viewpoint to the own work including a value-oriented attitude.
2. Method and specialist competencies include the know-how in a certain area. They also describe the ability to use know-how in problem solving processes.
3. Social and communication competencies relate to the ability of cooperating with others in order to realize business goals.
4. Activity-oriented competences use personal, specialist, social and communication abilities in order to solve business problems.

Competence models need to define business aims in relation to the employees' abilities. Moreover, competence models relate to business strategies and values.

There do exist different theoretical approaches. There are trait-oriented leadership approaches, behavior-oriented leadership approaches, and situational leadership approaches. They all have different perspectives on the competencies of managers and employees. The more and more are replaced by modern leadership approaches, such as super leadership approaches, the concepts of shared and distributed leadership, agile leadership and manufacturing methods, the approach of systemic leadership, and mostly by concepts of virtual leadership. During and after the COVID pandemic forms of new work have become increasingly important, such as remote work and working at home.

Working at home brings a lot of difficulties for managers for they fear to have not enough control of their employees. For employees sometimes the coordination with family life and other activities is demanding. Thus, both working within the rooms of the firms and at home often is not the ideal solution.

Additionally, managers must adapt their behavior to new forms of work and modern concepts of leadership. The organization of business work must change too. Meanwhile, in practice there exist some hybrid forms of work including mixed forms characterized by temporary presence in the rooms of the firm and at home. When employees are working within the firms also a flexibilization can be observed. Consequently, one can state that the working world has become diversified and hybrid.

It is obvious that hybrid forms of work will dominate the „working landscape“ of the future. Therefore, one can state that there will be no return to the traditional work with the presence in the firms. This partially is a consequence of the COVID pandemic having demonstrated advantages of forms of new work. Therefore, a „culture of presence“ can be excluded. Only the kind of new work can be a question in the business world.

A new challenge that will dominate the working world of the years to come is the AI. Employees and managers must have competencies in this field too. It is a development the consequences cannot be foreseen entirely now. But AI will completely change the conditions of work and of human interactions. Consequently, new and modern competence approaches are the most important, more important than traditional concepts dealt with in this thesis. The concrete forms of the hybrid working world is complex and variously shaped. A lot of leadership competencies are needed to find an appropriate balance between the work in the rooms of the firms and the forms of new work.

Overall, the result is that digitalization is an enormous challenge to the management and to employees. Managers must acquire digital leadership and learn to deal with AI; but also employees have to do this. However, it seems to be very difficult, for the cycles of innovation become shorter and shorter. New technologies may be obsolete after a short time, because there are new developments in the field of IT. Moreover, virtual Reality and different forms of AI (ML and DL) are becoming more and more intelligent. The danger is that within the next decades, they will substitute human workforces. New networks of humans and machines will exist. Therefore, digitalization and AI will have a lot of chances but also enormous risks. Competency

models are a method to control all this. Managers and employees and the whole working world must be aware of this to draw the right conclusions.

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