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THE CHALLENGES OF LEADERSHIP IN THE AGE OF LEADERSHIP 4.0

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Abstract: *The age of Leadership 4.0 has brought about major changes and challenges for leaders that are characterised by digitalisation, globalisation and the changing world of work. In the VUCA world, where technological competence requirements are constantly increasing, managers must learn to react quickly to unpredictable developments; in addition to this, the principles of New Work require a reorientation of traditional leadership approaches. The management of hybrid and digital teams is a particular challenge, as is maintaining a balance between autonomy and control. The focus of this publication is therefore specifically on the challenges that management is facing in the age of Leadership 4.0. Firstly, the underlying technical terms are explained in detail so that purposefully selected challenges may be further addressed. Leadership 4.0 requires a holistic change in the attitude and skills of managers. Only those who combine technological, social and strategic skills will be able to lead successfully in the dynamic and digitalised world of work.*

Keywords: *Leadership 4.0, VUCA world, new work, challenge, leadership culture*

INTRODUCTION

Today's world of work is undergoing considerable changes. Triggered by globalisation and digital transformation, corporate competitive pressure is significantly growing. Ongoing digitalisation has proved to be a driving factor in the constantly evolving competitive environment, making the need for constant innovation a major challenge (Hildebrandt, Landhäußer 2017, p. 595).

The number of innovative business models and new global competitors is constantly increasing, whereas the pillars that have historically been regarded as reliable, such as regulatory density, customer base and capital strength, can no longer be considered a given. The increasing use of artificial intelligence is also a driving factor. As a result of these circumstances and the dynamic requirements of the digital world of work, employee management is confronted with numerous challenges in the current age. In this context, the scientific concept of Leadership 4.0 has been established in response to the requirements of the Fourth Industrial Revolution. It addresses the challenges of leadership in the digital age and also takes into account the changing expectations of employees. In addition, new working models, such as hybrid and digital collaboration, are also taken into consideration (Hildebrandt, Landhäußer 2017, p. 617).

The following article examines more closely the problems associated with the implementation of Leadership 4.0 and shows how managers can operate successfully in a complex and dynamic working environment. The aim is to identify key challenges and point out possible solutions. Neveretheless, these are only briefly discussed for the purpose of the current study.

RESEARCH METHODOLOGY

This publication is based exclusively on literature sources that focus on the challenges of Leadership 4.0. The literature research includes existing sources and data from professional journals, specialised books, online articles and studies. Firstly, terms such as Leadership 4.0, VUCA world and New Work are clearly defined in order to ensure sufficient background knowledge. The emphasis then will be on a few selected issues which will be examined from different angles.

DEFINITION OF LEADERSHIP 4.0

The term Leadership 4.0 is used in the context of Industry 4.0 and implies the adaptation of leadership behaviour to the advancing digitalisation of the world of work. The underlying leadership paradigm therefore

responds to the requirements of the fourth industrial revolution, which is prompting a rethink of traditional leadership approaches through the use of artificial intelligence, automation and the internet. In contrast to the previous leadership models, Leadership 4.0 focuses on the integration of technology and people, so that digital expertise, agility and the ability to lead in a dynamic and networked working environment takes central stage. Technological transformation in this context is seen not only as a challenge, but also as an opportunity for innovation (Moskaliuk 2019, p. 13).

In addition to understanding and using technological know-how, characteristic features of Leadership 4.0 include the ability to adapt quickly to technological and organisational changes, the promotion of agile methods which to enable efficient response to changing market requirements, as well as the promotion of sustainability and long-term value creation. Another key component of Leadership 4.0 is the increased use of soft skills, i.e. emotional intelligence for effective communication and conflict resolution. Building empathy and resilience within a team helps to promote personal initiative and focuses on strengthening individual skills. To this end, flat hierarchies are typically used to promote collaboration within interdisciplinary and multicultural teams through transparent communication.

By combining these characteristics, Leadership 4.0 represents a dynamic and integrative approach that takes into account both technological and human aspects in order to ensure successful employee management despite the demands of digital transformation (Moskaliuk 2019, pp. 14–15).

INCREASED COMPETENCE REQUIREMENTS FOR MANAGERS

Leadership 4.0 takes into account not only technological but also cultural changes within an organisation, meaning that the integrative leadership style is faced with numerous challenges. The VUCA model describes the changes of our time, with the acronym VUCA expressing the features and difficulties of modern society and economic systems, which are defined by a high degree of dynamism and uncertainty. Thus, the framework model developed by the US military can be applied to the everyday lives of managers (Bendel 2021).

The term VUCA stands for Volatility, Uncertainty, Complexity and Ambiguity. Volatility refers to the rapid and unpredictable changes in markets caused by technological innovations, environmental conditions and market shifts (Moskaliuk 2019, p. 2).

Uncertainty, on the other hand, refers to the difficulty of predicting future developments, as contradictory or incomplete information makes planning and decision-making more difficult. This is triggered, for example, by uncertain political conditions and unclear future trends (Moskaliuk 2019, pp. 2–3).

Added to the above features is the emerging Complexity, as the networking of different factors leads to interrelationships and interactions that are difficult to understand. This is where global supply chains and digital ecosystems with many stakeholders come into play, making a comprehensive understanding and clear decision-making basis difficult (Moskaliuk 2019, p. 2).

Finally, Ambiguity stands for the scope for interpretation and the challenges of finding clear answers to ambivalent facts. Challenges are posed by different interpretations of the same trend as well as by contradictory signals in data (Moskaliuk 2019, p. 2).

To sum up, the VUCA world describes a reality that precisely identifies the challenges of the current age for which traditional approaches to problem solving and strategic planning are often inadequate, meaning that the leadership required as a result must be fundamentally redefined (Moskaliuk 2019, p. 3).

Another term that aptly outlines the complex requirements of the modern world of work is New Work. The concept is based on social and technological change and describes working models that are built on freedom, self-determination and meaningfulness for employees.

The core elements of New Work include freedom, self-realisation and, above all, finding meaning in one's occupation. New Work also reflects the importance of flexibility, considering working hours and location as important job factors, whereby working practices such as home office or remote work are no longer regarded an exception. Collaboration and employee participation are also closely linked to this, as flat hierarchies place a stronger focus on teamwork with employees also actively involved in the decision-making process. In general, the term New Work lays emphasis on meaning, the idea behind being that work should not only generate economic added value, but also be individually fulfilling, socially relevant and sustainable (Bergk, Rehn 2024, p. 342).

However, the implementation of the elements listed above poses some challenges depending on the respective industry and the existing corporate culture. For example, flexible working hours and home office options can hardly be implemented in skilled trades. There is no doubt that the people-centred approach defined by the term New Work offers a high degree of benefits and innovation, yet there are also problems resulting from it, as implementation depends on the needs and priorities of individual employees (Bergk, Rehn 2024, p. 343).

New Work and Leadership 4.0 are closely linked since the two tendencies both respond to the demands and changes of the modern world. New Work is a response to the demand for far-reaching social change. In addition to demographic change and technological development, this also includes the shortage of skilled labour and the general search for meaning among younger generations. Leadership 4.0, on the other hand, refers to the management style required for this, which responds accordingly to the conditions of the digitalised and networked world of work and therefore plays a key role in the successful implementation of New Work (Bergk, Rehn 2024, p. 342).

The topic of New Work emphasises the importance and necessity of an adapted leadership culture. The challenges of leadership in the age of Leadership 4.0 are discussed below.

MANAGEMENT OF VIRTUAL AND HYBRID TEAMS

Managing virtual and hybrid teams poses a particular challenge in the context of Leadership 4.0, as traditional leadership approaches reach their limits in a digitalised and decentralised working environment. One of the key challenges here is the loss of physical proximity since virtual teams are working groups whose members are geographically separated from each other and rely on technology to be able to work together. Hybrid teams consist of employees who work both on site in an office and remotely, i.e. from home or at another location. Hybrid teams are a combination of traditional office teams and virtual teams. This is an increasingly common model, which has gained great popularity due to digitalisation and the COVID-19 pandemic. To ensure long-term successful leadership despite localised separation, leaders need to take targeted measures so that social bonds are consciously strengthened. This is possible, for example, through transparent communication and digital tools for collaboration (Basel, Spörri 2024, pp. 55–56).

Closely related to this is the buildup of motivation and commitment on the part of employees, as they are potentially isolated when working virtually. In order to prevent being overwhelmed by the multitude of tools, technical disruptions and digital exhaustion, it is advisable for managers to promote digital skills in a targeted manner and to implement the technological infrastructure effectively (Mütze-Niewöhner et al. 2021, p. 14). However, Leadership 4.0 also requires managers to be more adaptable and self-reflective when it comes to leading virtual and hybrid teams. Standard competences such as decision-making skills are taken for granted. Other competences, such as flexibility, are required in order to be able to respond professionally to unforeseen challenges and changing requirements in the area of agile leadership. This illustrates a transformation of the traditional leadership role towards a moderating and networking leadership approach (Mütze-Niewöhner et al. 2021, p. 15).

MANAGING TECHNOLOGICAL CHANGES

Fundamental knowledge of artificial intelligence, Big Data and automation is essential for managers to be able to lead virtual and hybrid teams in the first place. The term Big Data refers to huge amounts of structured and unstructured information generated by humans and machines alike (Lattemann, Robra-Bissantz 2024, p. 388). The challenge for managers is to develop both a broad technological understanding and in-depth digital knowledge without being experts in that particular area. Furthermore, simply implementing the technology is not enough; it should be strategically integrated into the existing business models. The manager's task here is to have a good technical understanding in order to be able to decide to what extent technology serves the company's goals and what added value it actually generates (Mütze-Niewöhner et al. 2021, p. 14).

However, it is not just the technology itself that poses a new challenge; along with digitalisation, an awareness of data security and ethical implications is another core competence for managers in the age of Leadership 4.0, particularly when tackling sensitive data. Growing risks from data misuse and cyberattacks

pose an almost daily challenge to the security of a company (Huber 2024, pp. 169–170).

In conclusion, however, the balance between people and technology has top priority, as technological development supports people's work, but does not replace it. It is therefore the task of the manager to motivate employees and to demonstrate the innovation process and the extent to which technology can have a positive influence on the world of work. The challenges of dealing with technological changes therefore require a combination of strategic foresight, technical understanding and social skills in Leadership 4.0. The core message is not only to implement technology, but to use it consciously and responsibly in the interests of the company and its employees (Huber 2024, pp. 173–174).

BALANCE BETWEEN AUTONOMY AND CONTROL

The above outline makes it clear that Leadership 4.0 presents an individualised leadership model. Hence, managers face the difficulty of taking into account their employees' different needs and abilities in terms of autonomy and control in the work process. As already mentioned, the physical absence of the manager in hybrid and virtual teams poses an additional challenge, as new strategies must be developed to promote the autonomy of remote employees while still maintaining a certain degree of control. Since excessive control leads to the inhibition of intrinsic motivation, while at the same time a high degree of autonomy can lead to excessive demands and disorientation, it is important for managers to establish the optimal middle ground (Mütze-Niewöhner et al. 2021, pp. 18–20).

One approach to overcoming this challenge is to formulate clear objectives and responsibilities so that employees are aware of the framework within which they are allowed to act. A continuous feedback culture also helps to promote employees' personal responsibility and to consistently adapt the existing management style to current circumstances. The balance between autonomy and control requires a paradigm shift in the area of leadership, as clearly defined framework conditions can promote employee autonomy while at the same time regular checks and targeted support could ensure that goals are achieved (Mütze-Niewöhner et al. 2021, p. 17).

RESULTS

Leadership 4.0 is a modern form of leadership that is characterised by the dynamic requirements of the VUCA world and the principles of New Work. These developments bring with them specific challenges that managers need to overcome in order to operate successfully.

Furthermore, Leadership 4.0 faces the task of transforming traditional leadership approaches and developing new skills in order to meet the demands of a dynamic, digital and flexible working world. The key lies in the combination of technological understanding, social competence, and the ability to motivate and lead employees in uncertain times. Successful leadership in this context requires not only new tools and methods, but also a fundamental change in the attitude and mindset of managers.

CONCLUSIONS AND DISCUSSION

In summary, it should be emphasized that leadership in the era of Leadership 4.0 is characterized by structural changes. The present work addresses these by explaining the terms VUCA-World and New Work and then addressing individual challenges in detail.

However, it should be noted that this paper is merely a theoretical analysis and thus practical recommendations for action are only given peripheral consideration. For a company to remain competitive, it is essential that the individual challenges be initially outlined in order to develop suitable management approaches on this basis. The nature of leadership is changing from authoritarian and traditional in style, to digital, agile or transformative. The existing challenges need to be analysed in detail and, ideally, taken into account within the prevailing leadership style to ensure the long-term success of the company.

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ПРЕДИЗВИКАТЕЛСТВАТА НА ЛИДЕРСТВОТО В ЕРАТА НА ЛИДЕРСТВОТО 4.0

Резюме: *Ерата на лидерството 4.0 доведе до големи промени и предизвикателства за лидерите, които се характеризират с дигитализация, глобализация и променящ се свят на труда. В света на VUCA, където изискванията за технологична компетентност непрекъснато се увеличават, ръководителите трябва да се научат да реагират бързо на непредвидими развития; в допълнение към това принципите на Новата работа изискват преориентиране на традиционните лидерски подходи. Управлението на хибридни и цифрови екипи е особено предизвикателство, както и поддържането на баланс между автономност и контрол. Ето защо фокусът на настоящата публикация е насочен конкретно към предизвикателствата, пред които е изправено управлението в епохата на Лидерство 4.0. На първо място, основните технически термини са обяснени подробно, за да могат целенасочено подбраните предизвикателства да бъдат разгледани допълнително. Лидерство 4.0 изисква цялостна промяна в нагласите и уменията на мениджърите. Само тези, които съчетават технологични, социални и стратегически умения, ще могат да ръководят успешно в динамичния и дигитализиран свят на труда.*

Ключови думи: *Лидерство 4.0, VUCA свят, нова работа, предизвикателство, лидерска култура*

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