DIGIGEN

Professional career guidance for women in management positions in the field of digital competence

WOMEN, LEADERSHIP & DIGITALIZATION

Reports on Surveys in Germany, Hungary, and the Netherlands

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CONTENT

1 INTRODUCTION

Digitalization is omnipresent and, at the latest, can no longer be ignored since the Corona pandemic. The same applies to the ongoing efforts to improve the proportion of women in management positions. Therefore, at the beginning of 2020, the European Commission came up with a Gender Equality Strategy 2020-2025, placing this issue at the centre of European policy: Women should be able to achieve professional and social goals in the same way as men and exploit their potential to the fullest (European Commission 2020). This includes an equal employment ratio across sectors, equal chances of work-life balance, and an equal share of care work (European Commission 2020).

The Erasmus+ project DIGIGEN "Professional career guidance for women in management positions in the field of digital competence," focuses on designing a counseling approach for guidance professionals to support women in planning their entry, entering, and remaining in management positions by making use of the digital transformation. So far, the authors of this report have not found any widely spread and known approaches to foster female leadership, specifically under Digitalization, through an up-skilling program for guidance professionals. This will therefore be subject to the Erasmus+ Project DIGIGEN.

That report focuses on women, leadership, and Digitalization to get the needed background information and give essential insights into the related interfaces based on international applied surveys. This project distinguishes between the direct target group (HR counselors and HR practitioners) and the indirect target group (women in

management positions). It will not specifically focus on the theory of counseling approaches because counseling will not be newly invented.

Our surveys that are applied in Germany, Hungary, and the Netherlands should address the following topics:

- Changes in the management sector as a result of Digitalization
- Legal norms and programs to promote women in management positions
- Digital skills need for people in management positions
- Previous qualification measures for learning digital skills
- Counselling approaches for women in management positions

The report is structured as follows: First, we present related literature on the interfaces between women, leadership, and Digitalization and also address the regulatory framework in Germany, Hungary, and the Netherlands. The following chapter will explain our methodology and present the collected data. The key findings are presented and discussed in chapter 3. Finally, our report concludes in chapter 4.

2 RELATED LITERATURE

2.1 Digitalization and Digital Skills

Even though the current inflationary use of the terms "Digitalization" and "digital transformation" documents an awareness of the problem, they remain vague. No uniform nomenclature or an appropriate definition would enable understanding across disciplines. The relationships between the terms remain unclear. The only

thing that is common sense is that they are important matters. While Digitalization can be interpreted as the introduction of new solutions based on Information and communication technologies (ICTs), digital transformation addresses the implementation induced by Digitalization and the associated changes and risks resulting from Digitalization compared to the initial situation, which ultimately determines the consequences for all stakeholders also beyond the implementation issue. Consequently, Digitalization and digital transformation as terms can be placed in a sequence: Digitalization is the first step, heralding the change of a current state. Digital transformation follows digitalization in the form of a transformation process that ultimately leads to fundamental changes (e.g., innovations) in a business model. In extreme cases, it can even lead to the obsolescence of the original business model. This can lead to spillover effects on societal systems (Herberger et al., 2021).

ICTs are a core aspect of the fast-changing economy in the 21st century. Along with ICTs comes the general requirement for people to increase their knowledge and perform in the increasingly complex and interactive work environment (van Laar et al., 2017, p. 577). Van Laar et al. (2017) refer to such requirements as 21st-century skills, which people must acquire to enter the workforce in 2022 and the following years. Those 21st-century skills include "collaboration, communication, digital literacy, citizenship, problem-solving, critical thinking, creativity, and productivity" (van Laar et al., 2017, p. 577) and relate to the overall economic situation. Besides general 21st-century skills, people must provide digital skills to succeed in the labor market. Such digital skills are "searching and evaluating information, solving problems, exchanging information or developing ideas in a digital context" (van Laar et al., 2017, p. 578). Although both concepts (21st-century and digital skills) are crucial to the

workforce, an established combination is not yet on. This deficiency led van Laar et al. (2017) to conduct a systematic literature review on 21st-century digital skills and develop a concept of 21st-century digital skills. The main objective was to "(1) examine the relation between 21st-century skills and digital skills; and (2) provide a framework of 21st-century digital skills with conceptual dimensions and key operational components aimed at the knowledge worker" (van Laar et al., 2017, p. 577). In general, the authors consider 21st-century digital skills as:

- "[...] the mastery of ICT applications to solve cognitive tasks at work;
- [...] skills that are not technology-driven, as they do not refer to the use of any particular software program;
- [...] skills that support higher-order thinking processes; and
- [...] skills related to cognitive processes favoring employees' continuous learning." (van Laar et al. 2017, p. 578)

In particular, and as a synthesis of 1592 screened articles, from which 75 met the predefined criteria, twelve different skills were reported as core 21st-century digital skills or contextual 21st-century digital skills. The following list presents those skills in descending frequency of mention (n = the number of times the skills were mentioned in the reviewed literature) (van Laar et al., 2017, pp. 582–583):

Core 21st-century digital skills

- Information management (n = 31) – *skill to use ICT to efficiently search, select, or organize information and choose the most suitable source for a given task*

- Critical thinking (n = 30) – *skill to use ICT as a source for informed judgment and reflected reasoning*
- Creativity (n = 29) – *skill to create new ideas and content by the use of ICT*
- Problem-solving (n = 24) – *skill to use ICT to process and understand a problem and find a solution cognitively*
- Collaboration (n = 24) – *skill to use ICT to interact with others effectively*
- Communication (n = 22) – *skill to transmit information and express effectively*
- Technical (n = 18) – *skill to use (mobile) devices and applications and orientate in online environments*

Contextual 21st-century digital skills

- Self-direction (n = 16) – *skill to set one's goals and manage the process of reaching those goals with ICTs*
- Lifelong learning (n = 10) – *skill to constantly improve one's knowledge and capabilities by using ICTs*
- Ethical awareness (n = 9) – *skill to behave socially responsibly when using ICTs*
- Cultural awareness (n = 9) – *skill to show cultural understanding when using ICTs*
- Flexibility (n = 8) – *skill to adapt one's thinking or attitude to changing ICT environments*

In a subsequent study by van Laar et al. (2018), the authors conducted cognitive interviews, a survey pilot, and a survey among a large sample of professionals working within the creative industries to elaborate on a measure for 21st-century digital skills. As a result, they present a validated instrument to measure six types of 21st-

century digital skills. Those skills include communication, information, collaboration, critical thinking, creativity, and problem-solving (van Laar et al., 2018, p. 2184). After the pilot test of the predefined items to measure 21st-century skills, the following categories with specific items per skill were defined. Creativity and problem-solving skills are not divided into sub-categories; they are assigned with items directly.

- Information management: *define/access, evaluate, manage*
- Communication: *appropriateness/expressiveness, content sharing, contact building, networking*
- Collaboration: *responsibilities, planning, interdependence, knowledge sharing*
- Critical thinking: *reflection, justification, novelty*

Following this measuring instrument for 21st-century digital skills, van Laar et al. (2019a; 2019b) then conducted another study, which elaborates on the determinants of digital skills and the relation of digital skills to each other. 1.222 professionals from the Netherlands directly involved in creative work processes participated in an online survey. The survey collected data on digital skills via the predeveloped 21st-century measure and data on various determinants via selected items from different measuring instruments.

The final and overall conclusion from the study is that a unique set of determinants explains each skill. This highlights the skill development barrier "as the proposed skills vary due to the different individual background variables" (van Laar et al., 2019b, p. 100).

"An important finding is that, except for critical thinking digital skills, the results confirm that all skills lead directly to problem-solving digital skills" (van Laar et al., 2019a, p. 3478). Furthermore, in general, all given digital skills sequentially build on each other, meaning lacking one skill might likely result in lacking another (van Laar et al., 2019a, p. 3462).

The combination of determining properties and interdependent 21st-century digital skills means special care must be taken while appropriately designing an initiative to support women in leading positions.

In conclusion, digital skills range from widely known technical competencies to the often overseen contextual competencies. Furthermore, those skills build on different determinants and are of a sequential and conditional nature. Therefore, counseling on such competencies/skills must focus on specific selections and the overall situation of a woman in a management position.

Digital transformation processes have an impact on leadership and the competencies therein. Currently, the effects and bearing are unclear to a certain point. The research project "Digitalisierungskompetenzen – Digital Leadership" (Engl. Digital Competencies – Digital Leadership), funded by the Dr. K. H. Eberle Foundation, aimed to identify relevant competencies for successful leadership in digital transformation using a mixed-method approach. First, a meta-analysis of existing studies on digitalization, digital transformation, and competencies in German-speaking countries was carried out. These studies extracted many competencies that appeared significant for leadership in digital transformation. Next, these competencies were summarised by qualitative content analysis. In the next step, they were evaluated as part of a focus group workshop with representative practitioners. The resulting set of forward-looking

competencies for digital leadership, including the associated descriptions and operationalizations, provides organizations and individuals with a better understanding and career orientation (DHBW Lörrach 2020).

As a result, the project identified ten competencies most relevant for successful leadership in digital transformation (Imbery et al., 2022, p. 103). These future-oriented competencies are:

- Agility: The ability to adapt oneself and the organization to changing conditions to achieve set goals in the best possible way. This includes reacting flexibly to unforeseen events and new requirements and acting proactively rather than just reacting to changes.
- Translation of Methods: The ability to understand, choose from, and adapt new methodologies in an environment of increasing dynamics and uncertainty to achieve the desired impact.
- Tolerance of Ambiguity: The ability to accept ambiguous situations and contradictory courses of action without evaluating them negatively or positively. Thereby resisting the urge to draw simplified conclusions. This includes seeing those conclusions in their specific context and making decisions under uncertainty.
- Product and business model design: The ability to create digital products and new business models for developing the economic potential of digitalization for one's company.
- Process innovation: The ability to design and introduce novel and significantly changed processes.

- Technology Trend Assessment: Identifying new technologies and resulting opportunities and assessing their impact and relevance to one's organization.
- Competence of transformation: The ability to design the process of fundamental changes in an organization and guide this process from a current state to a target state.
- Transdisciplinarity: The ability to think and act across disciplines by considering and integrating multiple perspectives.
- Facilitation: The ability to define a goal-oriented orientation framework within which employees are motivated and enabled to act self-organized and purposeful for the organization's benefit and to feel responsible for the perception of internal and external changes.
- Competence of Networking: The ability to create an environment where networking is a prerequisite for collaboration. This includes establishing and maintaining relationships to communicate and interact to obtain information and overcome problems.

The above competencies mainly focus on the social and communicative aspects of leadership competencies in digital transformation. Nevertheless, technical knowledge and technological know-how were often mentioned during the practitioner's workshops. Both are highly relevant to successful leadership. The difference is that technical and methodological competencies are assumed to be future competence in general, but social and communicative competencies are more relevant for digital leaders (Imbery et al., 2022, p. 101). Similar results come from McKinsey's discussion paper "Skill Shift: Automation and the Future of the Workforce". It presents

novel findings on the coming shifts in demand for workforce skills, competencies, and organizational work within companies as people increasingly interact with IT technology (McKinsey Global Institute 2018). Twenty-five workforce skills were defined and quantified by the time spent on each skill in 2016. The results forecast predicted changes in those workforce skills by 2030. In addition, a detailed executive survey of 3.031 respondents in Canada, the United States, and five European countries (France, Germany, Italy, Spain, United Kingdom) was conducted, as well as in-person interviews with chief human resources officers and other industry executives. Although those findings focus mainly on the effects of automation, some results also apply to leadership and Digitalization.

- In Germany, the need for physical, manual, and basic cognitive skills will decrease by 22 percent. The need for higher cognitive skills will increase by 5 percent, social and emotional skills by 23 percent, and technological skills by 41 percent. The increase in the need for "digital skills will grow relatively slowly compared to the other focus countries. This is likely to reflect Germany's relatively advanced technology application in the workplace already, especially in manufacturing." (McKinsey Global Institute 2018, p. 15)
- The demand for social and emotional skills, especially leadership and managing others, will rise in general. It was found that future workers will spend considerably more time deploying these skills than they do today. "In aggregate, between 2016 and 2030, demand for these social and emotional skills will grow across all industries [...] by 22 percent in Europe. While some of these social and emotional skills are innate, such as empathy, they can also be honed and, to some extent, taught [...]" (McKinsey Global Institute 2018,

p. 11). The demand for technological skills will complement the increase in social and emotional skills. Executive leadership teams will need to evolve along with the workforce and structure of their organizations.

- "Leadership and human resources will need to adapt: almost 20 percent of companies say their executive team lacks sufficient knowledge to lead the adoption of digitalisation." (McKinsey Global Institute 2018, in-brief text)

In summary, McKinsey's discussion paper states that multiple skill shifts will apply to the future workforce. Therefore, leadership must evolve along this development and increase technological and social-emotional skills.

Another study from the Georg-August-Universität Göttingen (Germany) focused explicitly on needed soft skills for leaders embracing "New Leadership" (Lange et al., 2021). Commercial managers were interviewed in a qualitative, half-standardized interview. As a result, it was determined that increasing the use of digital structures often leads to decreasing hierarchy and, therefore, more personal responsibility on the employees' side. Thus, leaders should be able to trust in their employees' sovereignty and coach them sufficiently through those decision-making processes. In addition, the following essential cornerstones for »new leadership« are crucial: the reduction of concerns and fears of employees about Digitalization, acting as a role model and coach in dealing with new tools, as well as recognizing the need to adapt to changed requirements and to provide the personnel with suitable development measures.

Similar results come from a study of the recruitment group Hays (Hays AG, Institut für Beschäftigung und Employability IBE 2017). In 2017 591 leaders in Germany,

Austria, and Switzerland were asked for their opinions on competencies in a digital world. 82% consider change management the main challenge for leaders during Digitalization. 61% feel that handling the increasing complexity of leading is a considerable challenge, and 55% say that establishing transparency challenges digital leaders. Additionally, 53% of respondents state that leadership needs to adapt to a new leading culture and flexible forms of work, and 42% of respondents see an increase in the complexity of processes and their management. In general, the study identifies the need for action in the following competencies for all employees and, therefore also, for leaders:

- The willingness to embrace changes,
- The capability to handle complexity, insecurity, and risks,
- The capability to think on the whole, understand processes, and prioritize,
- Self-Management and the willingness for life-long-learning,
- Communication skills and the ability to work in different teams,
- and the willingness to take responsibility.

In conclusion, Digitalization impacts the competencies needed for a leading position and the way of leading employees without a concrete differentiation between men and women.

2.2 Women, Leadership, and Digitalization

Recent statistics show that Hungary is still behind in digital development compared to other EU countries (European Commission 2021b) and by global standards

(International Institute for Management Development 2021). Even so, Hungary is one of the top risers in the field of digital transformation in Europe (European Center for Digital Competitiveness 2021), a fact that assumes the possibility of dynamic development in the field.

Researchers of the Corvinus University Budapest examined Hungary's DESI Index (Digital Economy and Society Index) to get an overview of the current status of Digitalization in the human capital sector (Tóth-Kaszás et al., 2021). Twenty-two percent of the Hungarian population does not have digital skills, 25% has minimal knowledge, 25% has basic knowledge, and 28% has outstanding knowledge. This is lower than the EU average. More than 60% of the workforce used a computer, which is also far from the EU average. This means that the Hungarian population is not yet ready for digital transformation; there is a lot to do regarding education for the workforce and the transformation of companies. (Tóth-Kaszás et al. 2021) Digital knowledge is mainly limited to user skills. Direct access to digital knowledge is through school education or self-tuition. There are still difficulties in adopting ICT systems and the new approaches to the daily educational routine (Pécsi Tudományegyetem, 2017). This is why digital development cannot succeed without the support of educational institutions. In 2017 companies complained that graduates lacked mathematical-statistical competencies, the ability to analyze and solve problems, self-reliance, and the self-marketing of their ideas (Nagy, 2017). Education has to develop from 3.0 to 4.0, which means a combination of natural and virtual information and new virtual resources, like VR headsets. This new digital learning environment requires cooperation between companies and universities. This virtual learning space can also be used to educate employees. Schools and universities must focus on technical and

professional skills and soft skills, like team spirit, critical thinking, communication skills, time management, etc. (Tóth-Kaszás et al., 2021). The labor market has changed a lot since the global economic crisis in 2008; it is more and more demand-oriented, with a growing value of soft skills. Nearly all professions need digital knowledge. (Pécsi Tudományegyetem 2017).

Regarding the business sector, nearly all Hungarian businesses had an internet connection (94%) by 2020, and 63% had their home page. 23% of the total income of all Hungarian companies came from electronic commerce. Integrating other digital technologies, such as 3D printers, was extremely low (3% of the companies). Only 6% used extensive data analyses for business purposes. Internet of Things (IoT) was utilized in 14% of Hungarian enterprises. Artificial intelligence, such as chatbots, was used merely by 1,5%. (Központi Statisztikai Hivatal 2021). Companies offering comprehensive services to aid digital transformation in all sectors are also present in Hungary (SAS, 2022; Trend FM, 2022). As cloud-based technologies gain ground, the spread of digital service management is forecast (Portfolio, 2022).

The research project of Obermayer et al. (2021) revealed attitudes and perceptions of business leaders towards digital transformation and Industry 4.0. It is reported that even though there is a lot of uncertainty and unease about the upcoming changes, companies are becoming more confident and ready to adopt the new technologies during proceedings. However, the diversity of IT systems, data protection concerns, and high costs stand in the way of digitization. Bencsik (2021) perceived similar manager attitudes in her study but also reported a lack of enthusiasm and motivation regarding the changing work environment.

Szloboda Gábor, the managing director of Idya Hungary, a company specializing in digital processes, points to the human factor as a key to successful transformation. Managers and co-workers must be convinced that the new technologies will make their work more accessible (HRPower, 2022). Focusing on the agricultural sector, Olga Berta (Berta, 2018) has drawn similar conclusions from her study: "Without the IT training of agricultural enterprises and their managers, the persistence of these deficiencies will mean long-term competitive handicap (...). If the owners and those in charge of management do not take the competition in the application of IT devices in global agriculture into consideration, it will have harmful effects on their economic efficiency and profitability".

Móricz 2022 analyses data from a 2019 survey that investigated the competitiveness of Hungarian companies focused on leadership preparedness, awareness and planning, skills and resources, and openness and responsiveness factors of Digitalization readiness. Most companies (63%) were fully prepared for the digital transformation. The others lacked digital awareness or the necessary resources (regarding budget and technology). The survey found that expectations were very high regarding implementing digital strategies, but this does not necessarily mean that the presented strategies were all sound. A pivotal moment here would be determining specific measures instead of defining general goals. The most prosperous areas of digital development were customer relationship management and information systems for decision support (DSS). The author notes that this survey has concluded before the outbreak of the COVID-19 pandemic, which is widely believed to be a most relevant factor in speeding up Digitalization measures, especially in remote working.

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The importance of Digitalization strategies among Hungarian retail companies was shown in Matyusz & Pistrui 2020. The authors found that the companies analyzed in their study also had access to underlying technological tools. An important finding is that the leaders of Hungarian companies must broaden their horizons to achieve digital success; the sole arrangement of allocating financial resources will not be sufficient. It is recommended in the paper that the management should appoint a person in charge of implementing the Digitalization strategy. Marciniak et al. (2020) also suggest that management positions should be dedicated to digital transformation. In a paper from 2020 (Hortoványi et al., 2020), the authors investigated whether Hungarian executives are prepared for the impact of digital transformation on workplaces. While conducting the survey, business executives perceived labor shortage, but few realized that the 'low/medium value-added low-wage model was no longer sustainable. The results also indicate significant employee resistance to digital transformation, and managers are not prepared for the change management tasks. They believe the key is to educate leaders capable of managing digital transformation by developing, disseminating, and operating model practices, curricula, and incentives.

In a paper addressing the topic of the influences of digital transformation on the HR sector (Poór et al., 2019), the authors describe the results of their survey from 2018, in which HR managers (57%) and workers from other positions (43%) took part from overall 259 Hungarian companies. In contrast to global trends, the authors have found that most Hungarian respondents consider management conversion the critical element, whereas organization development was considered less important. The authors concluded that the Hungarian HR branch knows Digitalization will cause

significant changes in human resources management. However, there is common consent regarding the main areas for development: lifelong learning, adjustment, and personal growth within the organization.

Realizing the significance of Digitalization, the government of Hungary launched 2015 a program to aid citizens and businesses in the process of Digitalization (Digitális Jólét Program / Digital Success Programme). A follow-up measure is a strategic framework (DJP2030) for international cooperation and digital governance (Magyarország Kormánya, 2022). Furthermore, end of May 2022, the establishment of a new organization called Digitális Magyarország Ügynökség (Digital Hungary Agency) was announced, with the main task of the Digitalization of the government and the creation of digital citizenship (Magyarország Kormánya, 2022b).

A non-governmental organization (IVSZ) facilitating digital transformation to achieve competitiveness in business proposed a strategic plan on a broad range of fields of action. One of the main areas of these recommendations is the education and skill development of human resources regarding Digitalization (Informatikai, Távközlési és Elektronikai Vállalkozások Szövetsége 2022).

The terms "women" and "leadership" did not go along for a long time. Although now, for many years, women have taken active participation in the active labor market, there is still a gap between men and women in general, specifically in management positions. The European Union and national governments have addressed the problem and designed regulations to improve the situation for women. In Germany, the Equal Participation Act of Women and Men in Leadership Positions in the Private and Public Sector (FüPoG) came into force in May 2015. The law aims to significantly increase the proportion of women in management positions in the private and public

sectors. For the private sector, this means the introduction of a fixed quota of 30 percent of the respective underrepresented gender on supervisory boards for listed companies and subject to parity-based co-determination. Companies that are either listed or subject to corporate co-determination and do not already have to meet the fixed quota must set their target values. In addition, the corresponding Equality Act of Women and Men in the Federal Administration was amended (BGleiG). For this purpose, the requirements for the equal opportunity plan were specified in more concrete terms and structured like the target size regulation in the private sector. Furthermore, the law obligates extensive reporting (annually) to inform the public about the development of the proportion of women and men in management positions. The facts presented here are based on the fifth annual information provided by the federal government in 2021 (Bundesministerium für Familie, Senioren, Frauen und Jugend 2021). The following presents aspects of the proportion of women and men at management levels in the private sector through fiscal 2018 and 2019 and in the public sector through the end of 2019:

- Since the law came into force in 2015, the proportion of women in leadership has increased. For example, the ratio of women on supervision boards rose by 3.9 percentage points to 22.5 percent in 2018.
- In the case of listed companies and companies with equal co-determination, which have had to meet a fixed gender quota of 30 percent, there was an increase of 8.4 percentage points of women on supervision boards since 2015. As a result, the proportion of women was 33.4 percent in 2018. On the other hand, companies required to meet the quota increased the proportion of women on supervision boards by only 3.7 percentage points.

- The proportion of women on management boards of companies is low. In 2018, 8.3 percent and 79.5 percent of companies had zero women on their management boards.
- In the committees in which the federal government could appoint at least three members, the proportion of women in the mandates was 46.1 percent in 2018 and mostly only an offset of one seat.
- In the area of the highest federal authorities, there is still a significant potential for improvement. For example, in 2020, 37 percent of employees with managerial and supervisory responsibilities in the highest federal authorities were female.

Of the ongoing struggle, the current legislation (SPD, Bündnis90/Die Grünen, FDP; from 2021 to 2025) states in their coalition agreement the following passages to support leading women in general and women in the context of Digitalization (SPD et al., 2021):

> „To make successes and needs for action more visible, we are expanding the basis for reporting the federal government's annual information on the development of the proportion of women and men at management levels and on boards in the private and public sectors and, if necessary, tightening up the law."
>
> „We want to increase the proportion of female founders in the digital sector. To this end, we are creating a scholarship for female founders and reserving a portion of the Zukunftsfond."

In conclusion, women in management positions are strongly supported by the German government to equal the existing gap between the number of male and female

leaders. Unfortunately, although those laws and regulations have been in force since 2015, there has not been a vast improvement. Nevertheless, digitalization may allow women to set foot in management positions.

Even though the proportion of women managers in Hungary (39%) is above the EU average of 34% (European Commission 2021a), there is still room for development. Takács (2020) attempted to uncover why women still seem to be underrepresented in top management positions despite being increasingly qualified. She has found a strong correlation with rigid structures and traditions in many enterprises. Women also have to struggle more than men to find a balance between private and working life, possibly facing a sexist work environment. Liptay (2021) found in company-wide research that work-life balance is the most crucial criterion for employee satisfaction for half of the female managers. Regarding skills required for success, Hungarian executives considered building a personal network and strong communication skills more important than the world average. Their worst fear was losing their jobs due to automation. Kézai et al. (2020) explored the role of women in the startup world by providing a comprehensive picture of the state of female-led startups and the factors affecting their operations in today's Hungarian startup ecosystem. They revealed several limiting factors that hinder female-led startups. These, too, are typically due to family and social reasons. Furthermore, women are exposed to the glass ceiling phenomenon in the workplace. Education is considered most important in these circumstances. These findings are the article of Klára Tatár-Kiss (Tatár-Kiss, 2021), who conducted a survey in 9 countries that regards the gender differences between a US holding company and its international daughter companies. Hungary was the most masculine country among the survey participants, with a masculinity index of 88.

According to Hofstede, the founder of the idea, a masculine society is determined by the spirit of competition, striving for success, people live to work, material goods are essential, and conflicts are handled by aggression. It is highly required in management positions to be self-confident, capable of making decisions, and to give directions. The study refers to Rudman-Glick, who points out that if a woman gets into a leadership role in a masculine society, she automatically has to take on a leading masculine attitude. The female workforce in the former socialist countries, especially in the financial sector, is the highest, but they are seldom in a leading role. Sweden, France, and Spain, which are feminine countries, have more women in leading positions. The conclusion is that even if the company culture regulates many processes, a daughter company's feminine or masculine atmosphere is mainly affected by the national culture.

The action plan (2021-2030) of the Hungarian government with the title "Consolidation of Women's Role in the Family and the Society" forms several goals to promote women, especially in poorer regions and in minority communities (Magyarország Kormánya, 2020). Part of the plan is projects like the VEKOP-Project, which motivates young adults with 4,5 million forints not refundable financial support to find their own company in Hungary. Women managed 47% of the supported companies by July 2020. The study points out that in Hungary, the salary between the male and female workforce shows a shrinking difference; the gender pay gap is claimed to be the lowest within the EU. In 2018 the government started a new program for women who aspire to participate in public life. The program focuses on the importance and influence of women in the economy, society, and public life. It combines education and practice; participants can meet influential national and international personalities,

managers, politicians, and experts. The DESI Index shows few female employees in the IT sector. They are also underrepresented in the economy, science, professional training, and politics. One aim is to increase the proportion of women in these fields by motivating them with further training, mentor programs, and qualifications. There are also programs to educate the digital competencies, especially of women. It would be inevitable to build Digitalization in adult education. There are two concrete goals to encourage women in jobs where they are underrepresented: by career counseling in secondary schools and advertising for mathematics, life-sciences, technical sciences, and informatics by making scientific life more attractive with scholarships and prices, especially for women (Magyarország Kormánya, 2020).

The Hungarian Business Leaders Forum was founded in 2005 as a dedicated Forum for Women in Leading Positions to open a dialogue between female leaders and top managers in economic and political life in Hungary. Group members are women in executive positions. In addition, the Forum organizes professional events in Hungary and abroad, offering a networking platform and trying to build out more female leaders with a mentor program. (Hungarian Business Leaders Forum s. a.)

Hungary also took a leading role in the empowering project of the European Commission that aimed to empower females to engage in self-employment and entrepreneurship (HÉFTA 2022).

A paper study by Non et al. (2021) looks at the demographic characteristics of people with different digital skill levels and relates those to labor market outcomes in the Netherlands. Relevant to the DIGIGEN project are the results on digital skills, employment, and labor force participation regarding the situation of women. A general, non-gender-related outcome is that with increasing digital skills, the percentage share

of employment increases (Non et al., 2021, p. 21). Additionally, people with low(er) digital skills are often older, lower educated, or – which is essential for the project DIGIGEN – female (Non et al., 2021, p. 1).

In 2018 the Government of the Netherlands entered the Gender & LGBTI Equality Policy Plan of the Netherlands into force (Government of the Netherlands 2018). This policy plan aims at enabling everyone's chance to live the life they desire regarding the situation of "(i) the labour market, (ii) safety, security and acceptance, and (iii) gender diversity and equal treatment" (Government of the Netherlands 2018, p. 5).

Regarding women in management positions, the policy plan states the following:

> "The number of women in senior positions is still too low, especially at the very top of organizations, and this situation is not changing fast enough. Appointing women at this level is important not just from the perspective of social justice, but also because only then do we make the most of the abilities of the increasingly well-educated female half of the workforce. An economy thrives best when it utilizes all talents the nation has to offer. The government is committed to diversity and inclusivity in the broadest possible sense, and is promoting them actively within companies and organizations. Greater diversity in the upper echelons can also help create a more inclusive climate at every other level." (Government of the Netherlands 2018, p. 9)

The main goal will be to increase awareness of the situation and find ways to improve the situation for women in the labor market. To archive this goal, the Dutch Senate approved a bill to maintain a quota for the number of women at the top of the

business world in 2021. Starting on the 1st of January 2022, companies listed on the Dutch stock exchange must fulfill a quota for women in top management positions. "In time, the supervisory boards of these companies must be composed of at least one-third women and one-third men. Each new appointment to the board must help meet this target" (Government of the Netherlands 2022). In addition, the largest companies in the Netherlands must:

- "set appropriate and ambitious targets;
- draw up an action plan for achieving these targets;
- report their results each year to the Social and Economic Council and include this information in their directors' report." (Government of the Netherlands 2022)

In conclusion, women in management positions are strongly supported by the Dutch government to equal the existing gap between the number of male and female leaders. However, the outcomes must be awaited since this regulation only started in 2022.

There are few concrete projects or studies dealing with leading women regarding Digitalization and the needed competencies. Nevertheless, two thoughts concerning the effects of Digitalization on women (in management positions) are prominently discussed. The first thought connects to the competencies necessary in a digitalized leadership role. A study by Global Digital Women (Reimer & Onaran, 2020) asks their 30.000 network members about their thoughts regarding Digitalization and its impact on diversity in the workforce. Competencies are relevant to digital leadership were named numerously. Those are similar to the competencies in the previous

chapter because they mainly focus on social and emotional skills. The authors of this study identify those social and emotional competencies as primary female properties. Thus, female leaders may have a natural advantage in adjusting to the new requirements of digital leadership. Another thought concerning women in management positions in Digitalization connects to the current deficiency in equal share of care work. In 2013 women did twice as much unsalaried care work and household jobs in a partnership with children and 1.3 times as much in a partnership without children (Destatis, 2015). At the same time, women often work in fields where the home office is more complicated to realize than in the fields most men work in. Leading positions can be digitalized more easily (Sachverständigenkommission für den Dritten Gleichstellungsbericht 2021), which might support the needs of women with care work. Global Digital Women's study supports this, with half of the female respondents seeing an improvement in work-life-Balance through Digitalization, primarily if the respondents already work in a leading position (Reimer & Onaran, 2020). On the contrary, the opportunity for a home office has increased the amount of care and household work for some women if their male partners continue working in an office space (Sachverständigenkommission für den Dritten Gleichstellungsbericht 2021). Still, a review by Gulden and Thomsen (2021) points out the positive effect of the obligation for the home office during the COVID-19 pandemic. This obligation increased awareness and acceptance of men simultaneously doing home office and care work. They postulate that this awareness and acceptance will impact work-life balance and women's chances in management positions.

In conclusion, Digitalization may help women balance their work and personal responsibilities better. Especially the Digitalization of leadership could be a chance for

women to enter the field of management positions. Additionally, women might naturally bring the competencies needed for digital leadership, which could give them an advantage in fulfilling a management position successfully.

Female managers agree that Digitalization helps women to progress in their careers. The internet and smartphones help them to keep the balance between family and work life. The biggest challenges in Hungary are the lack of qualified and talented employees, technological development, and rapidly changing regulations, which is not a gender-specific problem (KPMG Hungary 2018).

However, Digitalization also has adverse side effects. A survey (Nagy, 2020) among twenty female senior managers on how mobile devices affect their work-life balance showed that it is even harder for them to put their mobile devices aside when they finish work as it is for their male colleagues. The extended maternity leave, established in the last decades of socialism, and the social pressure that mothers are the main care-holder for their families in combination with a high-commitment career, can cause guilty conscience. This can explain why the advantages of mobile technology are rated higher than the disadvantages. They generally do not see it as a burden; it is considered part of their well-paid job if they are disturbed in their spare time or during the holiday. Working mothers feel pressure to succeed in work and within the family. They use their cell phones to be available for distant mothering and show interest and responsibility for work even after working hours. In contrast, they seldom use ICT for private purposes during working hours and mainly to organize family life, which is still women's responsibility. This way, companies can colonize space and time reserved for family life (Nagy, 2020).

If we look at the companies in Hungary, there are several initiatives for women in the IT sector. For example, there is cooperation between Vodafone Hungary, Lenovo, and BookR Kids to make female employees visible, present girls with possibilities in the IT sector, and break down existing stereotypes. Vodafone's target is to make 40% of the management out of women by 2030. Currently, 15 percent of the "startuppers" are female in Hungary, and only 9% is the quote of the female executive in the technology sector. Huawei also does a lot for female employees, e.g., the SEED grant in Hungary, which prioritizes female engineers against their male counterparts (Kotroczó, 2021).

3 DATA AND METHODOLOGY

For our survey, we interviewed representatives of each partner country's direct and immediate target groups. To consider the possible influence of industries in our analysis, we consider representatives of the Public Sector, the Private Services Sector as well as the Production Sector for our interviews. For the interviews with the direct target group (HR practitioners and career counselors), semi-structured interviews of 20-30 minutes each were planned. The interviews could be conducted in the interviewee's mother language but must then be transcribed and edited in English. Interview partners selected for interviews should have at least two years of experience in their current career field. However, this does not mean they must have held their current position with their employer for at least two years.

For the survey of the indirect target group (women in management positions), a paper/pencil questionnaire was conducted in each partner country. The questionnaire was designed to take 5-10 minutes and was intentionally open-ended and exploratory.

After the transcription of the interviews from the direct target group and the questionnaire among representatives of the indirect target group by the rules and the preparation of the data, the analysis of the collected data was applied. The method used for the interview and questionnaire evaluation is qualitative content analysis, according to Kuckartz (2018). The content-structured qualitative content analysis focuses on forming and identifying categories and subcategories. First, the data material is coded according to these categories. Subsequently, the different categories are compared, resulting in a category-based analysis and presentation. The scheme of this analysis is especially recommended for guided interviews. Finally, the qualitative data analysis software MAXQDA developed by Kuckartz was applied (Kuckartz, 2008, p.8). Since the selected form of data analysis and the corresponding program were used and developed by Kuckartz, the most outstanding possible compatibility is ensured (Kuckartz, 2018, p. 26).

The content-structured content analysis is divided into seven consecutive phases (Kuckartz, 2018, p. 100) and was used for both the transcribed interviews and the questionnaires. The first phase refers to initiating text work. Here, an interview or questionnaire transcript was worked through sequentially, important text passages were marked, and corresponding marginal notes were made. The second phase of the analysis, which provides for the formation of the categories, represents the most decisive phase. Thematic main categories were formed from the interviews, the guide, and the questionnaires. The third phase describes the coding process, in

which all the material was coded using the main categories. Only the relevant text passages were assigned to the different categories; text passages that did not make sense were discarded. Subsequently, all text passages belonging to the same primary category were compiled in the fourth phase. The fifth phase refers to the already categorized text passages, which contribute to creating subcategories. Care was taken to ensure a certain simplicity and differentiability in forming the subcategories (Kuckartz, 2018, p. 108). The sixth phase involves recoding the text using the differentiated category system. The last phase comprises the category-based evaluation and presentation of results.

Different evaluation forms were used (Kuckartz, 2018, pp. 101–110). The category-based evaluation along the main categories, the analysis of the correlations between the subcategories of a main category, and the analysis of the correlations between the main categories (Kuckartz, 2018, pp. 118–120). With the help of the presented content structuring qualitative content analysis, the formation of six main categories for the interviews and nine main categories for the questionnaires takes place. The interview questions, as well as the questionnaire, are in the appendix. The survey period for direct and indirect target groups ran from July to September 2022.

After running through the material, 1229 text passages were coded. Of these, 828 sequences are assigned to the questionnaires and 401 to the interviews. The 828 text passages were extracted from a total of 104 questionnaires, which were composed as follows:

- Germany: 25 questionnaires with 186 text passages
- Hungary: 43 questionnaires with 398 text passages

- The Netherlands: 36 questionnaires with 246 passages

The 401 text passages of the interviews were extracted from 51 transcriptions. These can be assigned as follows:

- Germany: 18 interviews with 122 text passages
- Hungary 11: Interviews with 124 text passages
- The Netherlands: 22 interviews with 155 text passages

4 RESULTS AND DISCUSSION

A combination of the inductive method and the deductive method formed the categories. The main categories were deductively derived based on the interview guide or the questionnaire questions. Each main category was clearly defined to enable an exact assignment and coding of the meaningful text sections and corresponds to the research question. Subsequently, subcategories were formed through the inductive method and based on the material to differentiate the statement more precisely (Kuckartz, 2018, p. 77). Two separate category - systems were created despite similar questions within the interviews and questionnaires. Test coding was conducted based on these preliminary category systems, and some category titles were subsequently adjusted. In the following, all main categories and the corresponding subcategories of the respective category systems and the frequency of the codes behind them are presented.

Category - system interviews - direct target group

HK1: Q1 What are the changes in the management sector because of Digitalization? Is there a difference between men and women in management positions? If so, what would these be specifically? Please assume your preferred definition for the term digitalization.

SK 1: Q1a Changes

- more complicated / adaptability difficulties (25
- increased complexity / more techniques / tools (38)
- Easier, faster, more Information (15)

SK 2: Q1b Comparison men & women

- women more personal (5)
- difference in leader styles (7)
- men more receptive to digital solutions / techniques (3)
- no difference (15)

We can see from the responses that the changes perceived with Digitalization and digital transformation tend to be viewed negatively, as increased complexity and higher requirements are expected. The positive aspects are associated with more efficiency but not necessarily more cost-effective. The respondents did not identify any difference between men and women.

HK2: Q2 What digital skills do you think are needed today and will be increasingly needed in the future to fill management positions successfully? Is there a difference between men and women in management positions? If so, what would these be specifically?

SK4: Q2a skills today

- Coaching / Mediation skills (7)
- digital affinity/ Openness & willingness (21)
- Confident use / routine of digital technologies (27)
- Self-confidence (to face challenges) (6)

SK5: Q2b skills future

- Confident use / routine of digital technologies (5)
- Digital coordination & communication (14)

SK6: Q2c Comparison men & women

- women more interactive / personal (5)
- women more flexible / open-minded (3)
- men more receptive to digital solutions / techniques (8)
- no difference (23)

Based on the survey, we can state that an affinity for digital tools and an openness to using digital tools is already significant today and will probably increase in the future, especially in coordination and communication. However, the latter can probably be explained by the impact of the Corona pandemic. It can be stated that there are no significant differences between men and women in this regard. However, women seem to prefer the interactive elements (e.g., communication) of Digitalization, while men show a more general willingness to use new digital tools.

HK3: Q3 What skills training is needed to improve digital skills? What do you think these qualification measures should look like in concrete terms?

SK7: Q3 individual training (12)

SK8: Q3 group training (10)

SK9: Q3 digital training for digital tools/software applications (17)

SK10: Q3 ongoing training / learning by doing (9)

SK11: Q3 Integration into (higher) education (7)

When asked about specific training related to learning digital skills and qualifications, it is noticeable that personal interaction is required. Pure self-study, therefore, hardly meets the need. However, whether this personal contact and exchange (also in the group) must occur virtually or in presence seems to be of secondary importance here.

HK4: Q4 What legal norms and initiatives are you aware of to promote women in management positions?

SK12: Q4 Legal standards related to gender equality /quotas (31)

SK13: Q4 home office option / work-life balance (5)

SK14: Q4 None known (9)

Respondents appear to be aware of numerous legal standards to enable women to participate equally in career development in managerial positions. However, at least a minority do not seem to be aware of any of the standards that apply to them.

HK 5: Q5 Do you know any specific counseling approaches for women in management positions, and which ones do you consider most promising?

SK 15: Q5 none known / no answer (17)

SK 16: Q5 (team) coaching/mentoring (12)

SK 17: Q5 particular program

- International Gestalt Organization Leadership (iGOLD) (1)
- Female managers / her Career program (1)
- (360-degree) assessment system (1)
- in house junior management program (1)
- viewer (quota) (1)
- women networks (super people academy) (2)

Many members of the target groups do not seem to be aware of any specific programs for women in leadership positions to enhance their career development. Instead, general references are made here to coaching and training offers. Most of the consulting programs mentioned more specifically seem to be initiated by female interest groups or companies themselves. When implementing the DIGIGEN course program, it would be a good starting point to enter into concrete discussions with associations and organizations as well as with the companies themselves.

HK 6: Q6 We would like you to briefly describe your counseling approach to best support women in management positions career-wise.

SK 18: Q6 focus: personality (22)

SK 19: Q6 focus: value / awareness (8)

SK 20: Q6 focus: be happy / emotions (6)

In their approach to counseling, the target group members seem to focus primarily on developing and strengthening the individuals' personalities. This is conclusive, as a personal approach is preferred in counseling. However, raising awareness also seems to be a fundamental approach to counseling. Therefore, it would have to be

evaluated more precisely whether awareness for oneself or others is equally meant here or for both aspects.

Category - System Questionnaire - Indirect Target Group

HK1: Q1. Describe in up to 5 sentences what the changes in the management sector are triggered by digitalization. Is there a difference between men and women in management positions? If so, what would these be specifically? Please assume your preferred definition for the term digitalization.

SK 1: Q1a. Changes

- Easier, faster (more information), Increased efficiency (42)
- increased complexity, more technique / tools (32)
- more stressful, harassing & complicated (9)

SK 2: Q1b Comparison men & women

- men more receptive to digital solutions / techniques (11)
- women explain more / more personally (23)
- no difference (16)

Similar to the survey of the direct target groups, it is also apparent in the indirect target group that digitization and digital transformation bring both bright and dark sides. However, higher efficiency is also offset by a perceived higher level of complexity. Regarding women and men, the responses from women in management also show that systemic thinking is functional when approaching challenges with digitization and digital transformation. This ability is probably more attributable to women in self-perception.

HK 2: Q2. What digital skills are needed today to fill management positions successfully?

SK3: Q2 confident use of Software/digital technologies/tools

- IT knowledge (13)
- digital technologies / tools (16)
- use of enterprise systems (8)
- microsoft knowledge (Excel, PPT, etc.) (14)

SK4: Q2 management of digital communication / conferences (50)

SK5: Q2 management of digital content / social media (29)

SK6: Q2 digital affinity / Openness & willingness towards new technique (12)

The answers here remain rather generic. However, it is noticeable that the indirect target group has also developed a strong awareness of digital communication technologies. It seems to see considerable potential in the further development of these technologies, both in the present and future, which probably also necessitates further training in this area.

HK3: Q3. Is there a difference between men and women in management positions? If so, what would these be specifically?

SK7: Q3. no difference (22)

SK8: Q3. men more receptive to digital solutions / techniques (10)

SK9: Q3. women explain more & more quickly (5)

SK10: Q3. Generation / Age (2)

The responses show that women in management positions do not see any difference between men and women in terms of digital knowledge and digital skills. However, women see men as having an advantage here, if at all, due to their affinity for digital tools.

HK 4: Q4. What digital skills do you think are needed in the future to fill management positions successfully?

SK11: Q4. usability robotics / AI / VR (13)

SK12: Q4. Standardized use of digital tools / creating content (42)

SK13: Q4. Digital coordination & communication (28)

SK15: Q4. self and change management (16)

On the part of the interviewees, the essential aspect of digital competence is the standardized (probably routine) use of digital tools and the ability to achieve added value with these tools and skills. However, it is also evident that digital coordination and communication are essential for women in management positions. Therefore, it is also important to strengthen this through additional knowledge and skills acquisition.

HK 5: Q5. Are there differences between men and women in management positions (2 sentences)? If so, what would these be specifically?

SK16: Q5 no difference (65)

SK17: Q5 men more receptive to digital solutions / techniques (11)

SK18: Q5 difference in Age / Generation (3)

SK19: Q5 women more creative / social skills (3)

When asked which digital skills will play a unique role in the future, no difference is seen between men and women on the part of women in management positions. If anything, it could be deduced from the answers that women see men more as pioneers for trying out new technologies.

HK 6: Q6. Explain in up to 5 sentences what skills training you think is needed to improve digital skills. What do you think these qualification measures should look like in concrete terms?

SK20: Q6. Learning by doing (self-training) (30)

SK21: Q6. self-management & soft skills training (15)

SK22: Q6. digital training for digital tools/software applications (38)

SK23: Q6. digital skills development into education (5)

While in other contexts, face-to-face interaction for learning new skills has been mentioned, in the context of digital skills learning by doing via IT-supported platforms seems to be preferred. Women in management positions probably do not see any possibility of integrating a program with personal interaction.

HK 7: Q7. What legal norms and initiatives are you aware of to promote women in management positions (2 examples)?

SK 24: Q7. Legal standards related to gender equality /quotas (49)

SK25: Q7. Leadership training for women (3)

SK26: Q7. none knew / no answer (34)

Most respondents seem aware of the legal framework linked to quotas. However, they are also very often unaware of them, which is surprising given the sometimes controversial public debate.

HK 8: Q8. Do you know any specific counseling approaches for women in management positions, and which ones do you consider most promising?

SK27: Q8. none known / no answer (53)

SK29: Q8. (team)coaching (20)

SK30: Q8. A special program (3)

- Lust for Leadership program (1)
- FIF Qota of women (1)
- Modern Enterprise Program (1)
- Dale Carnegie - Leadership Masterclass (1)
- Franklin Covey - The four key roles of a leader (1)
- Kürt Academy - Agile leaders in the digital age (2)
- special foundation (1)

Interestingly, many respondents were unaware of any specific support programs for their career development. This reinforces the impression that there is a lack of offers here and that the government measures for the person from the target group are probably too abstract and do not generate any significant benefit from the point of view of the indirect target group. The individual mentions suggesting, however, that at least in isolated cases, there appear to be specific company-related programs for female career development in management positions.

HK 9: Q9. How would you envision the perfect approach to best support their career?

SK 31: Q9. personal (team) coach / mentor (by women for women) (40)

SK32: Q9. individual training (22)

SK33: Q9. no answer (13)

The responses suggest that women in leadership positions want a personal coaching approach paired with a mentoring program where appropriate. However, it is essential to find an individual approach on the part of the career counselor and HR members. However, not being able to specify the robust variants of how the indirect target group imagines a perfect support approach is surprising.

All results (from the direct target groups and the indirect target groups) were also reviewed for possible country influence. In no case was there any visible correlation in the answers from the different countries, which is quite pleasing given the conversion idea of the European Union in economic and social terms.

5 CONCLUSION

Experts on the side of career consultants, HR members, and women in management positions see opportunities in Digitalization and considerable efforts to keep pace with the accompanying changes in digital terms. A concrete definition of how women in management positions could be promoted, particularly concerning Digitalization, has been vague and not very specific. Nevertheless, the teaching-learning environment is formulated: Elements of individual and personal (online and offline)

interaction are desired on both sides. Based on our results, it also seems clear that there are no significant differences in career development between men and women in connection with Digitalization. It is, therefore, essential to use the best approaches to find a clever way of interacting to leverage the benefits of Digitalization, especially for women in management positions. A mix of an understanding of organizations, digital communication, and interaction on a personal level could be a key here, rather than the IT-specific knowledge of a single software program or IT platform. The results indicate that support programs for women in leadership should more strongly pursue systems thinking-driven skill acquisition as an outcome.

There is great potential in the Erasmus+ project DIGIGEN to enter "undiscovered territory", so to speak, to set standards and present a comprehensive course program geared to personal interaction and to have it run through in an initial pilot.

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APPENDIX

„Interview Target Group"

The socio-demographic variable „gender" and the category HR practitioners OR career counselors are to be recorded at the beginning of the interview by the interviewer. We distinguish the following age categories. The interviewee's affiliation is to be queried.

a) <20-30 years

b) 31-40 years

c) 41-50 years

d)51-60 years

e) 61 above

Interview Questions:

1. Work experience in years (own estimation, but only part-time and full-time jobs should be considered)
2. Leading position experience in years (own estimation, but only part-time and full-time jobs should be considered)
3. Which of the three industries listed are most closely associated with your employment (Public Sector, Private Services Sector, Production Sector)?
4. What are the changes in the management sector because of Digitalization? Is there a difference between men and women in management positions? If so,

what would these be specifically? Please assume your preferred definition for the term digitalization. We do not assume our framework here.

5. What digital skills do you think are needed today and will be increasingly needed in the future to fill management positions successfully? Is there a difference between men and women in management positions? If so, what would these be specifically?

6. What skills training is needed to improve digital skills? What do you think these qualification measures should look like in concrete terms?

7. What legal norms and initiatives do you know to promote women in management positions?

8. Do you know any specific counseling approaches for women in management positions, and which ones do you consider most promising?

9. We would like you to briefly describe your counseling approach to best support women in management positions career-wise.

"Survey Indirect Target Group"

Questionnaire Indirect Target Group

Age	☐ <20-30 years ☐ 31-40 years ☐ 41-50 years ☐ 51-60 years ☐ 61 and above

Work experience in years (own estimation, but only part-time and full-time jobs should be considered)	

Leading position experience in years (own estimation, but only part-time and full-time jobs should be considered)	

Answering the questionnaire will take about 5-7 minutes. Please try to stick approximately to the given number of sentences in the free text answers.

Which of the three industries listed do you feel most closely associated with your employment:

- ☐ Public Sector
- ☐ Private Services Sector
- ☐ Production Sector

Which Management Position:

- ☐ Women in management positions (executive, top management with responsibility for human resources)
- ☐ Women in management positions (operative management without noteworthy responsibility for human resources)

1. Describe in up to 5 sentences what the changes in the management sector are triggered by digitalization. For example, is there a difference between men and women in management positions? If so, what would these be specifically? Please assume your preferred definition for the term digitalization.
2. What digital skills do you think are needed today and will be increasingly needed in the future to fill management positions (3 per each) successfully? Are there differences between men and women in management positions (2 sentences)? If so, what would these be specifically?
3. Explain in up to 5 sentences what skills training you think is needed to improve digital skills? What do you think these qualification measures should look like in concrete terms?

4. What legal norms and initiatives are you aware of to promote women in management positions (2 examples)?

5. Do you know any specific counseling approaches for women in management positions, and which ones do you consider most promising?

6. How would you envision the perfect bearding approach to support them career-wise?

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