Bachelor's Thesis

Digital Workplace Democracy: Assessing the value of digital participation in organizations

presented by
Alexander Clausen
s73539@bht-berlin.de
877241

in partial fulfillment of the requirements for the degree of
Bachelor of Science
in
Business Administration - Digital Economy
(Betriebswirtschaftslehre - Digitale Wirtschaft)

Department I: Business Administration and Social Sciences

Date of Submission: July 1, 2022
Supervisor: Prof. Dr. phil. Matthias Schmidt
Examiner: Prof. Dr.-Ing. Alexander Huber

Abstract

Technology has rapidly changed nearly all aspects of our lives in the past few decades. It has also changed how we receive news, how we interact with democratic representatives, and how we vote. The way we work is also changing, accelerated by the COVID-19 pandemic. We do not only have more flexibility to work from anywhere and at any time. Many employees have also started questioning their jobs, seeking more purpose at work. A participatory work environment can help achieve that. This thesis aims to find out which aspects of Digital Democracy can be applied to the workplace, which aspects of Workplace Democracy can be digitalized, and how valuable this is for organizations. To answer these questions, prior research from the fields of Digital Democracy and Workplace Democracy are analyzed. Possible advantages and disadvantages, criteria for the successful implementation, potential objectives, and corresponding approaches and Key Performance Indicators are identified in the thesis. The thesis concludes that Digital Workplace Democracy can be valuable especially for large organizations if certain preconditions are met. To verify the results of this theoretical, literature-based thesis, further research is required.

Zusammenfassung

Neue Technologien haben in den letzten Jahrzehnten beinahe alle Aspekte unseres täglichen Lebens erheblich verändert. Darunter auch, wie wir Nachrichten konsumieren, wie wir mit gewählten Volksvertretern interagieren und wie wir wählen. Wie wir arbeiten hat sich ebenfalls geändert, beschleunigt durch die COVID-19-Pandemie. Doch wir haben jetzt nicht nur mehr Freiheit, wann und von wo wir arbeiten. Viele Arbeitnehmer haben auch begonnen, ihre Arbeit stärker zu hinterfragen und suchen nach mehr Sinn im Berufsleben. Ein partizipatorisches Arbeitsumfeld kann dazu beitragen, das zu erreichen. In dieser Bachelorarbeit wird untersucht, welche Aspekte von digitaler Demokratie auf den Arbeitsplatz übertragen werden können, welche Aspekte der Arbeitsplatz-Demokratie Digitalisierungspotenzial birgt und wie wertvoll die Kombination dieser beiden Ansätze für Organisationen ist. Dazu wird bestehende Literatur im Bereich der digitalen Demokratie und der Arbeitsplatz-Demokratie analysiert. In der Arbeit werden Vor- und Nachteile, Kriterien für die erfolgreiche Umsetzung, mögliche Ziele und entsprechende Ansätze und Messwerte für digitale Demokratie am Arbeitsplatz identifiziert. Die Arbeit kommt zu dem Ergebnis, dass digitale Demokratie am Arbeitsplatz insbesondere für große Organisationen wertvoll sein kann, sofern bestimmte Voraussetzungen erfüllt sind. Um die Ergebnisse dieser theoretischen, literaturbasierten Arbeit zu verifizieren, sind weiterführende Untersuchen notwendig.

Contents

List of Figures **iii**

List of Tables **iv**

Acronyms **v**

1 Introduction **1**

1.1 Background of the topic 1

1.2 Structure and research questions 2

2 Democracy **3**

3 Digital Democracy **5**

3.1 Definition and purpose 5

3.2 E-democracy and e-governance 6

3.3 The use of digital democracy around the world 6

3.4 Gains of digital democracy 11

3.5 Challenges of digital democracy 12

4 Workplace Democracy **21**

4.1 Theoretical concept and Dahl's perspective 21

4.2 Approaches to the democratization of the workplace 22

4.3 Arguments for Workplace Democracy 28

4.4 Possible issues of Workplace Democracy 30

5 Digital Workplace Democracy **32**

5.1 Idea and purpose of Digital Workplace Democracy 32

5.2 Applicability of Digital Democracy to the workplace 32

5.3 Potential approaches for Digital Workplace Democracy 35

5.4 Evaluation of the value of Digital Workplace Democracy 39

6 Discussion of the results **45**

6.1 Conclusion and recommendations for action 45

6.2 Limitations of the study 48

6.3 Recommendations for further work 48

Bibliography **50**

List of Figures

3.1 World map indicating the percentage of the population per country that uses the internet. The visualization uses the most recent data per country made available by the International Communication Union (via World Bank Group, 2019). 13

3.2 Percentage of U.S. adults who say they have a broadband connection at home, by annual household income. The chart is based on survey data from Pew Research Center, 2021. 14

3.3 Consequences of the knowledge gap perspective for the internet. Source: Bonfadelli, 2002, p. 73 15

3.4 The sources of misinformation about COVID-19. Source: Naeem et al., 2021, p. 3 . . 16

4.1 The organizational structure of Mondragon Corporation. Source: Forcadell, 2005, p. 258 27

6.1 Visualization of the implementation process for Digital Workplace Democracy. 45

6.2 One-page overview of all the sub-question results, visualized tabularly. 47

List of Tables

3.1 Total and electronic votes in Riigikogu (national parliament of Estonia) elections since 2007, when electronic voting was first made possible in a general election (Source: Valimised, 2019) 7

3.2 Comparison of the shares of adults from the U.S. who say they use the internet and nonvoters in the U.S. in the year 2013, by annual household income. The table is based on survey data from Pew Research Center, 2014, 2021. 14

3.3 Election principles in the Republic of Estonia 17

Acronyms

AG *Aktiengesellschaft* (German, joint stock company). 24
AI Artificial Intelligence. 1
APA American Psychological Association. 29

COVID-19 Coronavirus disease 2019. 15
CQ Central research question. 2, 46

ePB e-Participatory Budgeting. 8, 39
EU European Union. 8, 11, 32

FTE Full-time equivalent. 23

HR Human Resources. 24, 42, 43

ICT information and communications technology. 1, 5, 12

KPI Key Performance Indicator. i, 38, 42, 43, 48

MEPs Members of the European Parliament. 9
MP Member of Parliament. 11
MPs Members of Parliament. 9

NGO non-governmental organization. 5, 9, 15, 38

PACs political action committees. 5
PMO Parliamentary Monitoring Organization. 9, 11, 37

Q&A Question and Answer. 40
QA Quality Assurance. 43, 44

R&D Research & Development. 26

SA *Sociedade Anônima* (Brazilian Portuguese, joint stock company). 25
SME Small and medium-sized enterprise. 40, 41
SNP Scottish National Party. 11
SQ Sub-question. 2, 45, 46

U.S. United States of America. iii, iv, 9, 13, 14, 18, 29, 32
UBI universal basic income. 1
UDHR Universal Declaration of Human Rights. 17
UK United Kingdom of Great Britain and Northern Ireland. 9–11

1 Introduction

1.1 Background of the topic

The way we work has been evolving for centuries. Technologies arise, societies change – and so do economies and labor markets. In the last fifty years alone, labor in advanced Western societies has become significantly more social, global, and digital. Major phases in the way labor is conducted and seen in society are often associated with stages of the industrial revolution (Federal Ministry of Labour and Social Affairs, 2015, pp. 34 ff.) Looking at the intervals between these phases, change is clearly accelerating.

Right now, a shift in values is apparent: many jobs with routine-intensive tasks can already be automated in many cases and this trend is expected to continue. Examples of jobs already affected or likely affected in the near future include low-skilled jobs featuring low-skilled activities as in the manufacturing sector as well as medium-skilled activities such as bookkeeping (Federal Ministry of Labour and Social Affairs, 2017, p. 47). This automation can vastly improve efficiency but also has significant social effects. On the one hand, jobs become superfluous this way. On the other hand, many of these jobs becoming redundant are often regarded as tiresome and unrewarding. This results in a paradigm shift placing more emphasis on education for high-qualification jobs.

On a larger economic scale, many of the jobs lost to developments such as automation and Artificial Intelligence (AI) are expected to be replaced by other jobs in sectors such as business services, education, information and communications technology (ICT), the social and health sectors, and more (Federal Ministry of Labour and Social Affairs, 2017, p. 52). Yet, this comes with immense challenges to affected workers whose qualifications do not match the requirements of newly created and vacant jobs. Additionally, the question arises whether new jobs will compensate those made redundant in the long run, meaning beyond the next decade. These are some reasons why the role of labor, in general, is in question for the first time in history. The public debate about universal basic income (UBI) is a striking example.

Business areas like Research & Development become more important as production is getting faster, easier, cheaper, and less reliant on human labor. Hence, employers increasingly require highly qualified, specialized, creative, and motivated staff in order to keep up with an extremely fast-paced economy. For this reason, work environments and conditions also change towards more participatory, flexible environments, including corporate policies allowing work from home, 4-day work weeks, flexible hours, and similar developments (Kelly, 2021).

Another major shift in this environment is for organizations to become more demo-

cratic. As opposed to an upside-down leadership approach, giving employees a voice can make them feel more empowered and more involved in their jobs. It can improve employees' performance as it is more motivating to work towards a goal that they have co-decided.

Some organizations apply democratic practices to give employees a voice even beyond their operational day-to-day work, utilizing tools such as representative bodies, elected executives, or democratic votes on strategic decisions. These tools are analogous to democratic instruments in nation-states or other polities where they are proven concepts but also known to create problems, namely creating societal discords and being a massive bureaucratic burden. To lessen the latter, polities worldwide have started introducing tools of digital democracy in the past few decades. This can help make democratic processes more accessible and efficient. The purpose of this thesis is to transfer and combine aspects of both Digital Democracy and Workplace Democracy and to identify the value of Digital Workplace Democracy for organizations.

1.2 Structure and research questions

This thesis gives an introduction to both digital democracy and workplace democracy, focusing on their underlying concepts and core ideas, real-world examples, and the benefits and challenges they entail. On this basis, the following central research question and sub-questions will be worked on:

CQ: **What is the value of digital participatory measures for organizations?**

- SQ 1: What are advantages and disadvantages of Digital Workplace Democracy?
- SQ 2: What are criteria for the successful implementation of Digital Workplace Democracy?
- SQ 3: What are potential objectives of introducing Digital Workplace Democracy?
- SQ 4: What are potential approaches for Digital Workplace Democracy that can be concluded from Digital Democracy in the political realm or from non-digital Workplace Democracy?
- SQ 5: How valuable are the expected effects for the organization, based on a set of evaluation criteria?

Finally, these results will be summarized in the form of recommendations for action for organization executives and further discussed regarding their limitations and suggestions for further research.

2 Democracy

The term *democracy* derives from the two Greek words *dēmos* (people) and *kratos* (power) and therefore has the root meaning *the power of the people* (Ober, 2007).

The Athenian democracy is widely considered the world's first democracy. In this original form, major political decisions in the city of Athens were made by the *Ekklesia* (assembly) which consisted of all male Athenian citizens (Blackwell, 2003, pp. 3 ff.). The eligible population in the fifth century is estimated to have been 40,000 to 60,000 citizens (Blackwell, 2003, p. 8), making the Ekklesia a mostly impractical format, even though the percentage of eligible citizens attending the assembly was considerably lower.

Although the idea of immediate participation in the political process is still a common element in modern-day democracies, the general understanding of the term *democracy* tends to be broader. The understanding and design of modern democracies are very different from the ancient Athenian interpretation of democracy, however "the basic principles of freedom and direct involvement in one's own self government remain valid today." (King, 2006, p. 16)

There is no universal definition of democracy but both Schumpeter and Merriam designed popular definitions:

The Austrian political economist and Harvard University professor Joseph Alois Schumpeter defined the democratic method as "[...] that institutional arrangement for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people's vote." (Schumpeter, 1947, p. 250)

Charles Edward Merriam Jr., an American professor of political science at the University of Chicago described democracy as "[...] a form of political association in which the general control and direction of the commonwealth is habitually determined by the bulk of the community in accordance with understandings and procedures providing for popular participation and consent." (Merriam, 1941, p. 309)

> In the context of this thesis, **democracy** is the entirety of all elements in a political entity (such as countries, states, or municipalities) that aim to provide citizens with opportunities to participate in administrative, legislative, and judicial processes, either directly or indirectly.

Typical examples of elements of direct democracy are general assemblies (typically on a municipal or sub-municipal level), referendums, or grand juries. Indirect democracy – or representative democracy – comprises elements in which the general public does not have a direct say in decisions but elects representatives to do so on their behalf. Common forms include elected legislators, government officials, or judges.

The United Nations explain the purpose of democracy as follows: "Democracy provides an environment that respects human rights and fundamental freedoms, and in which the freely expressed will of people is exercised. People have a say in decisions and can hold decision-makers to account. Women and men have equal rights and all people are free from discrimination." (United Nations, n.d.)

3 Digital Democracy

3.1 Definition and purpose

> **Digital democracy**, also known as **e-democracy** (in full *electronic democracy*), is an umbrella term for innovations in the democratic process based on ICT (information and communications technology). In this context, e-democracy instruments utilize ICT to strengthen the principles "participation, inclusiveness, efficiency, effectiveness, responsiveness, transparency, openness and accountability" (Council of Europe, 2020, p. 6) of democratic tools or a democratic system at large. It is, however, not to be interpreted as a standalone type of democracy but as a loose set of ICT-based expansions to democracy.

The central functions of e-democracy instruments are

- **Information:** instruments that aim to transparently communicate (one-to-many or few-to-many) publicly relevant information, e.g. political parties' manifestos, the contact information of politicians and candidates, information on democratic institutions, and publicly accessible political education in general (Kersting, 2012, pp. 23 ff.)
- **Communication:** instruments that aim to improve communication among citizens or between citizens and a government, a political party, or a political candidate, e.g. e-mail, virtual conferences, discussion boards, or online commenting (Kersting, 2012, pp. 23, 25 ff.)
- **Participation:** instruments that aim to enable and empower citizens to consult and influence government and legislative decisions, e.g. online voting, e-petitions, e-polling, online voter registration, or participatory budgets (Kersting, 2012, pp. 23, 28 ff.)

Access to these features can be strengthened in various ways. There may be no analog alternatives available (e.g. real-time communication such as live streams or chats), that analog alternatives would hardly be feasible on a large scale or at least significantly more expensive than digital options (e.g. newsletters or polls), or that digital solutions improve accessibility (e.g. online archives or contact information).

Digital democracy does not only include solutions that are provided directly by the leadership of a polity (i.e. the government or administration) but also other tools developed and powered by political parties, political action committees (PACs), NGOs, private businesses, educational and research institutions, individuals, et cetera. In a

broader sense, websites such as social networks or blogs are also digital democracy tools when used by politicians, governments, or activists for political purposes (Timonen, 2013, p. 104), even though it may not be the websites' original, intended, or sole purpose.

3.2 E-democracy and e-governance

E-governance (*electronic governance*) is another term related to e-democracy. E-democracy is directly connected to digital approaches to the democratic process itself, whereas e-governance could be utilized in democratic as well as totalitarian systems as it is focused on the digitalization of government services to improve accessibility and efficiency of administrative bureaucracy (Kersting, 2012, p. 21).

There are different models of how e-governance and e-democracy relate to one another. The *complementary model* argues that they are separate approaches although both are certainly compatible and e-governance is also conducive to democratization as it renders administrative processes more transparent and accountable (Fisher, 2012, p. 571). The *evolutionary model* describes the digitalization of both administrative and democratic processes as cohesive development stages, meaning that the most developed stage of e-governance is a unified government portal offering not only a complex of government services but also the opportunity to comment on and discuss legislative bills and vote online (Fisher, 2012, p. 571).

Although some instruments may be difficult to assign to either e-governance or e-democracy, the focus of this thesis is on instruments that explicitly aim to foster the means of democracy as opposed to digitalizing typical services that would in the context of a polity be offered in resident services offices, such as renewing a driver's license, registering a vehicle, or requesting a resident parking permit.

In the following section, some examples of digital democracy are provided and described. This is helpful to grasp the wide range of different expressions of digital democracy and their contribution to a democratic society.

3.3 The use of digital democracy around the world

3.3.1 *i-Voting* in Estonia

The Republic of Estonia has a very advanced interconnected infrastructure for digital citizen services. Estonians have an ID card that is not only a legal photo ID but also the central component of identification for online and offline services. It gives citizens access to digital services such as the national tax platform, health services, and prescriptions, legally valid digital signatures, and many more e-governance services. In total, 99% of

Election	Total votes cast	Electronic votes cast	Percentage of votes cast electronically
2019	565,045	247,232	43.8 %
2015	577,910	176,328	30.5 %
2011	580,264	140,846	24.3 %
2007	555,463	30,275	5.5 %

Table 3.1: Total and electronic votes in Riigikogu (national parliament of Estonia) elections since 2007, when electronic voting was first made possible in a general election (Source: Valimised, 2019)

public services are available electronically, with marriages and divorces being the only exceptions that need to be handled in person (cf. e-Estonia, n.d.-b).

The secure verification infrastructure that can be accessed and used by every Estonian is not just useful for e-governance services but also a major enabler for electronic voting. As the first country in the world, Estonia offered internet voting for all eligible voters in local elections in 2005 and in national parliamentary elections in 2007 (SCOOP4C, 2017).

Even fifteen years after the first parliamentary election in Estonia with an internet voting option, the system called *i-Voting* is still one among very few systems for national elections that allow electronic voting. Estonia remains the only country generally allowing it for all voters (Russel and Zamfir, 2018). As can be seen in Table 3.1 on the example of national parliamentary elections, electronic voting has gained significant popularity among voters since its introduction.

Two factors are most notable for the feasibility of the *i-Voting* system. On the one hand, the high level of interoperability in the country's digital infrastructure. Identity verification and digital security measures do not need to be developed, optimized, and maintained solely for elections since a comprehensive infrastructure has already been established and in use in Estonians' lives for various other purposes. The specific development cost of electronic voting is therefore limited to the voting framework itself.

On the other hand, trust is also a crucial aspect. Citizens do not just need trust in the security of the voting system but also in the government to maintain a database of citizens' information and the digital infrastructure in a secure and responsible manner (SCOOP4C, 2017). The Estonian approach to creating a secure, peer-reviewable, and therefore widely trusted infrastructure is to develop the technology as open-source software with a publicly accessible source code (GitHub, 2019).

3.3.2 Public protests against the 2019 EU copyright reform

On April 17, 2019, the European Parliament passed the EU Directive 2019/790 (*Directive on Copyright in the Digital Single Market*). The directive intended to unify and modernize European copyright regulations aimed, among others, "to strike the right balance between the remuneration received by authors and performers and the profits made by internet platforms when they make their works accessible."

However, content creators in particular protested against parts of the controversial directive. More specifically, Article 17 of the directive essentially requires "content-sharing service providers" to prevent the publishing of copyrighted content (Council of the EU and European Parliament, 2019). Critics say the reformed copyright regulations will leave providers with no choice but to actively filter what users upload and therefore take down legitimately used content using sensitive algorithms (Fox, 2019).

Creatives and content creators who make their living with content shared online protested against the EU proposition. They managed to influence many of their followers to join them. An online petition achieved over 5.3 million supporters (Save The Internet, n.d.) and the vocal critics sparked protests with up to 40,000 participants in Munich (tagesschau, 2019). This extraordinary extent of support for the protest against an inconspicuous EU directive was only possible because an online community-initiated campaign enabled vocal critics to efficiently get their message out to large audiences.

3.3.3 E-Participatory Budgeting in Belo Horizonte

Participatory budgeting is a democratic practice allowing residents, typically of a city or municipality, to participate in the budgeting process. Residents have the opportunity to develop and present budgetary proposals that fellow residents can vote on. The winning ideas will then be funded by the government. The process is a helpful tool to allocate a part of the budget to specific projects the local community deems most important.

The city of Belo Horizonte is the sixth-largest city in Brazil and the capital of the state of Minas Gerais. The city with a population of approximately 2.5 million (Instituto Brasileiro de Geografia e Estatística, 2020) is one of the largest cities that maintain a participatory budgeting project, originally introduced in 1993. Although the number of participants could be increased from 15,216 in the first edition in 1994 to 38,508 in 1996, the participation has not gotten significantly higher since (as of 2014), peaking at 43,350 in the 2001/2002 edition (Coleman and Sampaio, 2017, pp. 9 f.).

To improve the participation, especially of under-represented and politically uninvolved citizens in participatory budgeting processes, the local government started a new e-Participatory Budgeting (ePB) project in addition to the existing face-to-face version (Coleman and Sampaio, 2017, p. 11). In the project, residents can submit their ideas on a website hosted by the local government. The initiative was allocated a total of

US$ 11 million in addition to US$ 43 million allocated to the face-to-face participatory budget in the 2006 edition (Peixoto, 2009, p. 3).

Only a small number of proposals suggested by residents of Belo Horizonte are preselected by the local government and refined to become feasible projects that can ultimately be voted on. Many residents expressed their disapproval of preselected projects (Coleman and Sampaio, 2017, p. 32). Other residents voiced their disappointment with the project altogether, especially as some of the previously selected winning projects had not yet been concluded prior to the approval of new projects (Porto et al., 2020).

3.3.4 Parliamentary Monitoring Organization Abgeordnetenwatch.de

Another popular manifestation of digital democracy is the increasingly important role of Parliamentary Monitoring Organizations (PMOs). Popular examples in the English-speaking world are GovTrack.us for U.S. Congress or TheyWorkForYou.com for the UK Parliament and the devolved legislatures of the constituent countries of the UK. These organizations foster the transparency of the political work of Members of Parliament (MPs) in representative democracies by "monitoring and assessing the functioning of parliaments or their individual members, often seeking to facilitate and promote public knowledge of, and participation in, parliamentary processes." (Agora, n.d.) The main focus of the projects is to aggregate individual MPs' voting behavior, e.g. by visualizing their accordance with their respective party lines and their attitude and consistency on specific policy matters (such as Brexit in the UK), or by simplifying access to their voting history.

Abgeordnetenwatch.de is another PMO for Members of the European Parliament (MEPs) from Germany and for MPs of the German Bundestag (the federal parliament) and of the German state legislatures. In contrast to comparable organizations, Abgeordnetenwatch.de is also a major provider of political information in elections. Voters can not only view information and visualizations about parliamentarians' previous voting behavior but they can also ask questions and see other users' questions, the politicians' responses, and statistics about their responsiveness on the platform. This is possible for both current MPs and political candidates.

All of the mentioned PMOs are non-partisan non-governmental organizations, thus politicians are free to choose whether or not to interact with voters on the platforms. Abgeordnetenwatch.de, however, is a well-known platform for digital interaction between politicians and voters in Germany. Therefore, if politicians choose not to respond to voter inquiries, it might be received as refusing to stand up for their remarks or voting behavior or at the least as not prioritizing communication with the constituents they ought to represent. This adds a new layer of accountability for elected officials and political candidates.

3.3.5 E-Petition in the UK against Brexit

One of the best-established forms of digital democracy is e-petitioning. A petition is "a document signed by a large number of people demanding or asking for some action from the government or another authority" (Cambridge Dictionary, n.d.). While petitions can be directed at any authority, the most common addressees are governments or legislatures.

Many countries' legislatures have formalized procedures and permanent legislative committees to deal with petitions. To make it easier for citizens to start a petition or to see and support petitions, online petitioning has gained increased popularity in recent years. Petitions on private websites like *Change.org* and other for-profit and non-profit services are quite commonly seen on social media. However, the more important e-petitioning services when it comes to requests for laws or government action are official online petitioning web portals, as petitions on third-party websites are sometimes not considered by official bodies.

While many legislatures in democratic countries have petitions committees and many offer ways to submit petitions digitally, not all countries have official platforms to publicly share, view, and sign petitions. Legislatures that operate such a platform include the Assemblée nationale in France (Assemblée nationale, n.d.), the House of Commons in Canada (House of Commons of Canada, n.d.), the Bundestag in Germany (Deutscher Bundestag, n.d.), and the European Parliament (European Parliament, n.d.).

Another example is the joint online petitions platform of the UK Government and Parliament. Similar to some of the other previously mentioned examples, there are formal thresholds for petitions that need to be reached (UK Government and Parliament, n.d.):

- A minimum of 5 supporters is necessary to create a petition
- The Petitions Committee reviews all published petitions (only excluding those that do not meet the standards) and can press for action from the government or Parliament
- At 10,000 signatures, the government gives an official response to the request made in the petition
- At 100,000 signatures, the petition will be considered for a debate in Parliament

One e-petition on the petitions platform that gathered an extraordinary amount of support with 6,103,056 signatures, is the *Revoke Article 50 and remain in the EU* petition (UK Government and Parliament, 2019) – making it the "the most popular petition to ever have been submitted on the UK Parliament's website - and historians say it is the biggest ever petition to parliament in history" (Cheung, 2019), The petition

was referring to the EU withdrawal process as formulated in Article 50 of the Treaty on European Union, which was triggered by the United Kingdom of Great Britain and Northern Ireland after the 2016 Brexit referendum.

The petition has gathered a number of notable supporters, including singer Annie Lennox, actor Hugh Grant, and Scottish National Party (SNP) leader and First Minister of Scotland Nicola Sturgeon (Wilkinson, 2019). As the rate of signatures was unprecedented, the petitions portal even crashed because of the petition (BBC News, 2019).

The petition was ultimately dismissed in Parliament by the Conservative Andrea Leadsom, then in her role as Leader of the House of Commons. She based the dismissal of the petition on the fact that it gathered far less support than the 17.4 million people who voted to leave the EU in the 2016 referendum (Cheung, 2019). Even though the petition remained unsuccessful, an immense amount of public support had been gathered with close to 10% of the British population and over 20% in several constituencies such as Bristol, Cambridge, and parts of London and Edinburgh (Unboxed Consulting, 2019).

3.4 Gains of digital democracy

3.4.1 Transparency and accountability

With the internet, criticizing the government is not solely the responsibility of the organized political opposition and the mainstream media anymore. Not only has the media landscape in liberal societies changed through the addition of a wide range of online news sources. It has also gotten significantly easier for individuals to voice and spread their opinions with the rising significance of social media. Governments are more directly accountable to their voters and have to act more transparently and keep them informed. PMOs such as Abgeordnetenwatch.de utilize digital means to aggregate and visualize representatives' voting behaviors and to offer a platform for voters to publicly ask elected MPs as well as political candidates their questions (see Section 3.3.4). This increases the pressure on politicians to communicate more transparently and allows constituents to hold their elected officials to account.

3.4.2 Convenience and accessibility

Adding an online mode to democratic procedures such as elections, referendums, or ballot measures can simplify the process for voters. Empirical data shows that digital voting does not seem to significantly affect voter turnout at large (Petitpas et al., 2021, p. 1). However, the willingness to vote of both occasional voters and abstainers can be increased by simplifying access, given also a heavy intensity of political campaigns (Petitpas et al., 2021, p. 9). Additionally, among those who would otherwise have

voted in person or by mail if there was no digital option, a large portion is willing to switch to online voting (see Table 3.1), implying their preference for a more convenient alternative.

3.4.3 Efficiency

Once successfully implemented and tested, digital democracy approaches are in many cases much less time-intensive than analog alternatives, even though sustainable digital services require some amount of constant maintenance and further development. For example in Estonia, government services are also - but not exclusively - available online (see Section 3.3.1). According to the Estonian government, the entirety of digital democracy and digital governance services saves over 844 years of working hours annually, and the country's *i-Voting* system alone saves over 11,000 working days per election, even though only 44% of the Estonian voters choose i-Voting (e-Estonia, n.d.-a) and the country's population is relatively low with approximately 1.33 million Estonians (Statistikaamet, 2021).

3.4.4 Profound citizen participation

One of the core goals of digital democracy is to enable citizens to directly participate in the decision-making process. Digital methods make frequent opinion polling or referendums much more feasible compared to cost-intensive alternatives such as in-person or mail-in balloting. Participation forms such as petitions or grassroots initiatives are much easier for citizens to spread widely using the internet. Subsequently, if ideas and opinions that were advocated for on the internet are being taken up by elected officials, digital democracy has the potential to lead to a system with democratic representation acting closer to the actual beliefs and demands of their constituents.

3.5 Challenges of digital democracy

3.5.1 Digital divide

The term *digital divide* can be defined as "a division between people who have access and use of digital media and those who do not" (van Dijk, 2020). This includes a gap in access to ICT and particularly the internet, consisting of both technical (i.e. the availability of broadband) and social (i.e. professional knowledge, economic resources, and technical skills required for effectual use) access (Kling, 1999 via Wei and Hindman, 2011, p. 218).

Many parts of the world have insufficient access to ICT which manifests in an extreme disparity in the percentage per country of individuals using the internet. As visualized in Figure 3.1, the percentage of internet users is considerably lower in most developing

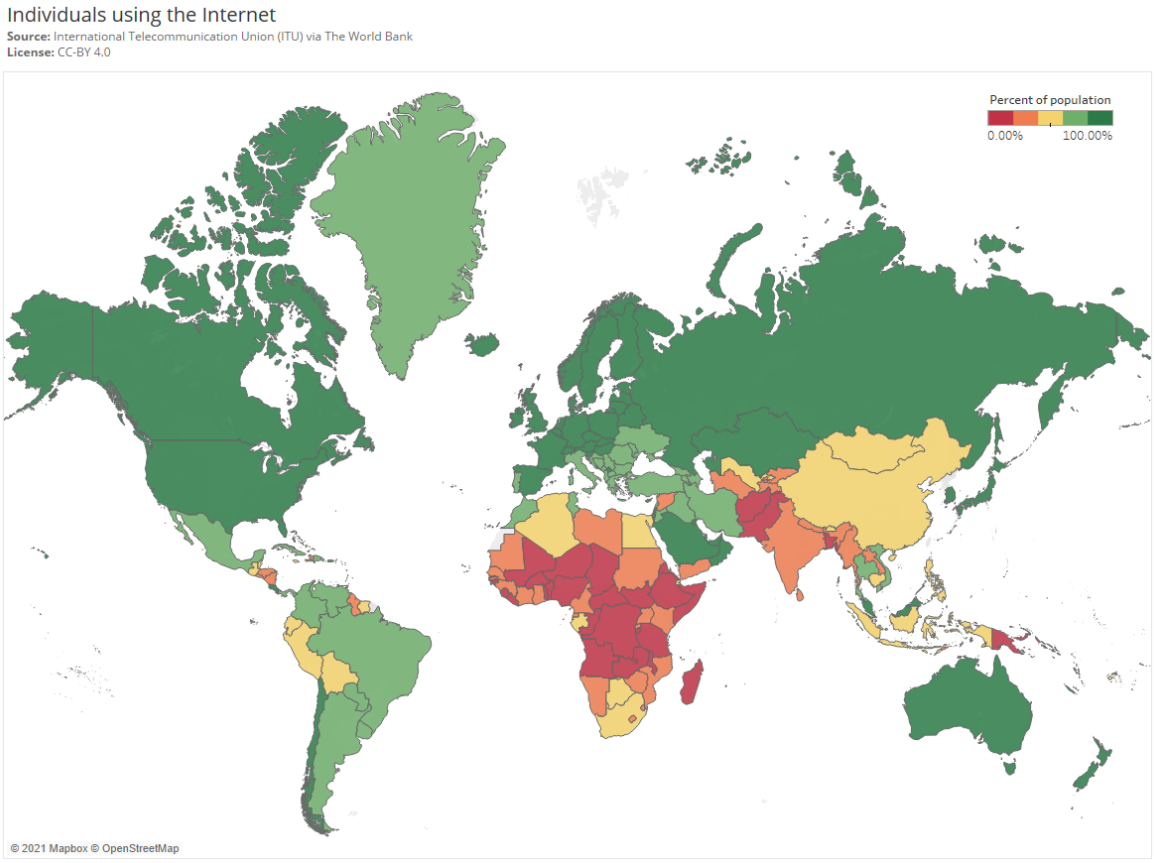

Figure 3.1: World map indicating the percentage of the population per country that uses the internet. The visualization uses the most recent data per country made available by the International Communication Union (via World Bank Group, 2019).

countries than in developed countries. Most notably, the percentage of internet users in Sub-Saharan Africa is 18.7% compared to 88.5% in North America (World Bank Group, 2019).

In a democratic system in a country with poor access (both technical and social) to the internet, a high degree of digitalization of participatory tools would in many cases also entail a higher disparity in the access to democratic participation. Those without access to the internet would have higher barriers to vote in elections or referendums, they cannot communicate with politicians as easily, and even receiving updates on political debates and decisions is more complicated. As access to the internet is typically influenced by socioeconomic factors, this would mean that persons with low socioeconomic status are less likely to be able to use the advantages of digital democracy. This hampers access to democracy on its full scale.

The effect is likely to be most consequential in countries with a generally low number of internet users. However, even in wealthy countries such as the U.S., the digital divide should be taken into consideration. As visualized in Figure 3.2, the gap between the share of high-income and lower-income Americans using the internet has generally narrowed from 2000 to 2021. Yet, there is still a noticeable gap in 2021, with 99% of

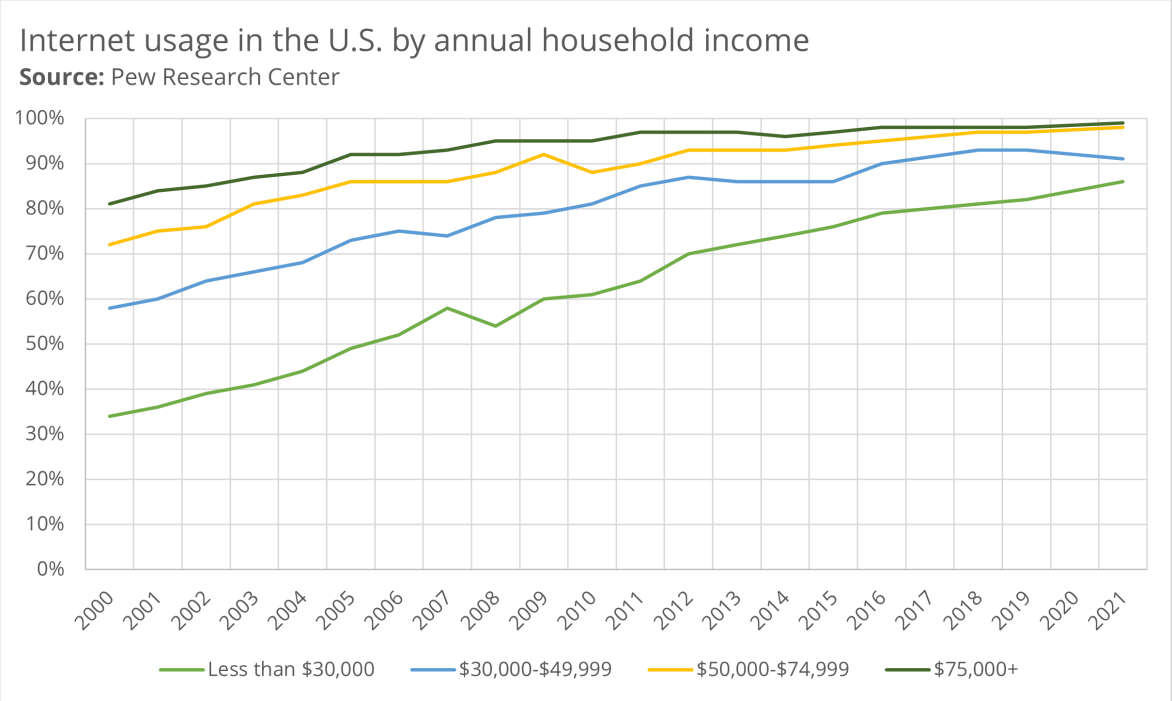

Figure 3.2: Percentage of U.S. adults who say they have a broadband connection at home, by annual household income. The chart is based on survey data from Pew Research Center, 2021.

Americans with an annual household income of at least $75,000 having internet access versus only 86% of Americans with an annual household income of less than $30,000 (Pew Research Center, 2021). Similar discrepancies can be seen between urban/suburban and rural communities and between Americans of different educational levels. Table 3.2 shows the coherence between Americans with internet access and Americans who choose not to vote. More extensive digital democracy tools could even intensify this trend and increase political apathy among socioeconomic cohorts that are already underrepresented.

	Less than $30,000	$30,000-$74,999	$75,000+
Internet access	74%	90% *	96%
Nonvoters	46%	27%	18%

* Due to differing categorization of the household income in the two used studies, this value could deviate slightly from the reality as it is the aggregated average of two categories within this range.

Table 3.2: Comparison of the shares of adults from the U.S. who say they use the internet and nonvoters in the U.S. in the year 2013, by annual household income. The table is based on survey data from Pew Research Center, 2014, 2021.

3.5.2 Digital literacy and knowledge gap

The information function of digital democracy includes information from governmental institutions, NGOs, political parties, and candidates, but also any information published by private companies and individuals not affiliated with any political body. As distributing information on the internet is mostly independent of limitations of resources, or transmission, far more people can actively publish information online than in traditional, analog media.

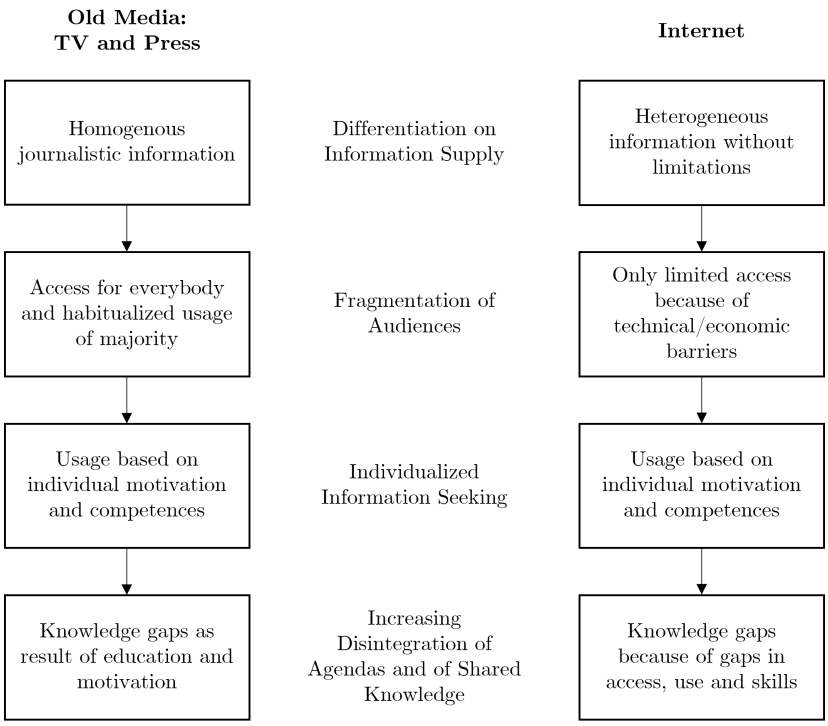

Figure 3.3: Consequences of the knowledge gap perspective for the internet. Source: Bonfadelli, 2002, p. 73

Editors in their role as gate-keeping instances in traditional media do not exist in many online publishing channels, such as on social media platforms. This multitude of information available on the internet is also generally difficult to handle. Gaps in access, use, and skills in dealing with information on the internet accelerate gaps in knowledge, as visualized in Figure 3.3 (Bonfadelli, 2002, p. 73).

The mostly unregulated spreading of publicly available information on the internet leads to a large amount of misleading, false, and unproven information. If this information is disguised as news and aims to push a certain agenda, to damage political opponents, or to simply create chaos, this is so-called *fake news*. A study first published on July 12, 2020 explored the effects of fake news regarding the COVID-19 pandemic. The study found that more than half (50.5%) of the analyzed fake news stories were spread through social media as visualized in Figure 3.4 (Naeem et al., 2021).

These fake news stories can heavily influence public opinion and therefore have an effect on political decisions. In some cases, consuming fake news can lead to spiraling

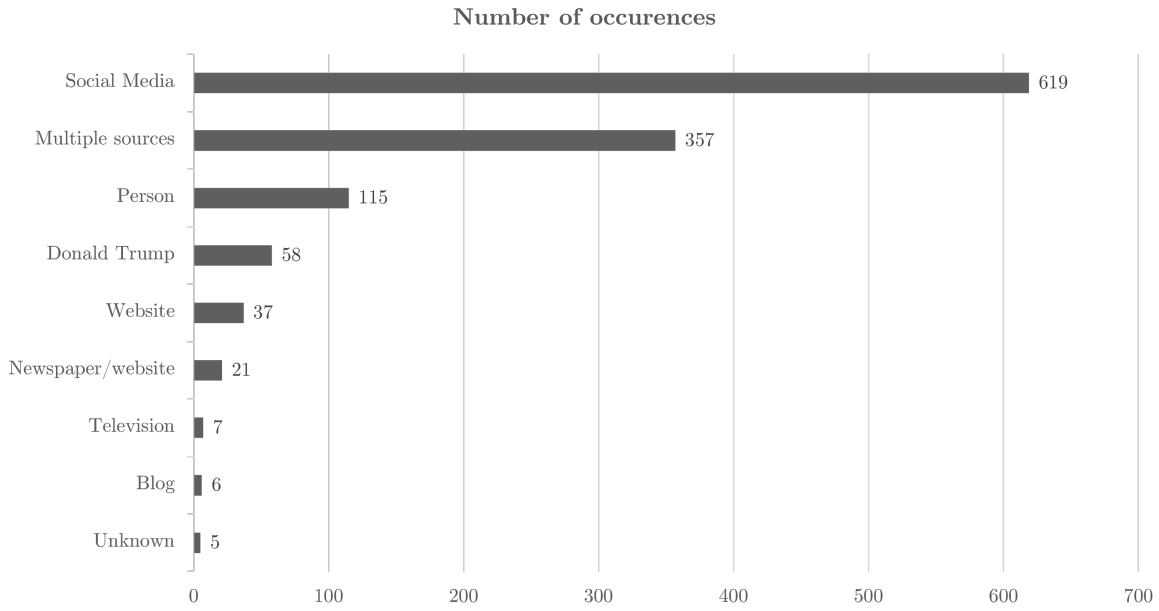

Figure 3.4: The sources of misinformation about COVID-19.
Source: Naeem et al., 2021, p. 3

into conspiracy theories. For example, several conspiracy theorists including QAnon supporters took up the debunked idea that 5G radiation has caused the coronavirus (Broderick, 2020; Naeem et al., 2021, p. 1). Readers who believe this fake news may be attracted to conspiracy theories and more receptive to other components and false claims supporters of the respective theory spread.

Jeff Johnson, a professor of Computer Science at the University of San Francisco, concludes the danger of false information as follows: "Today's social media encourages the spread of unverified information, which can skew policymaking and elections. People tend to be lazy and do not even read most of the articles they comment on, much less check the truth of the articles. In the TV era, before social media, putting out false information about a political opponent or ballot measure was expensive and subject to laws against 'false advertising.' Political hit pieces had to be well-funded, vaguely worded and carefully timed (to just before the election) in order to sway elections. That is no longer true. Strong regulation of social media could perhaps mitigate this, but such regulation seems unlikely in the foreseeable future." (Anderson and Rainie, 2020, p. 55)

Finding the best solutions to societal issues in a civilized discourse as should happen in a democratic system requires a common base of facts. Communities of easily manipulable and uninformed or misinformed citizens are therefore a threat to democracy. For this reason, the increased danger of the spreading of false information in an increasingly digital society is a challenge that needs to be taken into consideration and addressed.

3.5.3 Complexity and trust

The democratic process must be made as transparent and comprehensible as possible to its citizens. Electoral practices are subject to core principles to fulfill the promise of enabling citizens to make political decisions bottom-up, either directly or by electing representatives. These core principles are that elections "shall be by **universal** and **equal** suffrage and shall be held by **secret** vote or by equivalent free voting procedures" (Article 21, Universal Declaration of Human Rights (UDHR)). Additional principles are set by many countries, many of which guarantee these rights in their respective supreme laws. Elections for the German Bundestag for example, in addition to the core principles as recorded in the UDHR, shall also be direct (Article 38, Basic Law for the Federal Republic of Germany/Grundgesetz für die Bundesrepublik Deutschland). National Council elections in Austria shall additionally be personal (Article 26, Federal Constitutional Law/Bundes-Verfassungsgesetz).

Even though the manual and analog election processes are prone to failure (e.g. unrecognizable ballot intentions by voters, counting mistakes by poll workers, etc.), the process is advantageous in that the adherence to the previously mentioned election principles is easily comprehensible and transparent. Citizens who are worried about the integrity of election principles can choose to observe the conduction and tallying of an election in most democratic countries.

Digitalizing the process and making it at least partly autonomous from human poll workers and manual counting makes this process less comprehensible and traceable for the average voter which might lower public trust in the democratic process.

An example is the i-Voting system in Estonia (see Section 3.3.1). Members of the Estonian legislature, the Riigikogu, "are elected in **free** elections according to the principle of proportional representation. Elections are **general**, **uniform** and **direct**. Voting is **secret**" (§ 60, Constitution of the Republic of Estonia/Eesti Vabariigi põhiseadus). Table 3.3 provides brief explanations for the core principles.

Election principle	**Description**
free	Voters can independently choose whom to vote for or not to vote at all, without external influence or pressure
general	Any citizen aged 18 or older is eligible to vote, regardless of gender, profession, income, beliefs, etc.
uniform (equal)	Every vote is equal in weight
direct	There is no intermediate body, such as an electoral college
secret	No one can observe any voter's choice

Table 3.3: Election principles in the Republic of Estonia

In-person voting systems are conceptually simple and the accordance with election

principles is easily comprehensible. For example, voters mark their ballot choice in a segregated booth and drop their ballot into a ballot box where it remains until the voting period is over. This way, voters can be sure that the vote is secret. If they choose to watch the vote-tallying, they can assure themselves of the equality of votes.

Electronic remote voting, on the other side, is not as tangible. Even though digital voting systems have the potential to be even safer and more accurate than hand-tallied voting systems, the system is complex and consists of many technologies (e.g. voter authentication, encryption, protocols, etc.). Even with publicly available and peer-reviewable open-source software, end users seldom have the knowledge or the capacity required to reassure themselves of its quality and security.

Therefore, in order to have full trust in the digital voting process and software, users need to trust the governmental bodies to design a fair electoral system abiding by the core principles (see table 3.3) as well as government agencies and private organizations involved in the design, development, testing, operation, and evaluation of the technological components to create a secure and well-functioning electronic voting system (Ehin and Solvak, 2021, p. 78). On the example of Estonia, these parties include:

- Commissioned companies, software developers
- Server operators
- Cyber security specialists
- Ministry of Economic Affairs and Communications and other government bodies involved
- The Estonian government at large
- The electoral committee

Ehin and Solvak, 2021 (pp. 78 f.) argue that citizens tend to seek guidance from political elites they trust, especially on complex issues. In democracies, this phenomenon most typically manifests in party attachment and taking cues from the preferred political party. The study confirmed the hypothesis that trust in the electronic voting system in Estonia is in fact highly influenced by the voters' party preference. This means that trust is significantly lower for voters of parties that oppose electronic remote voting than for parties supporting the system.

This circumstance can be problematic if parties' stances towards digital democracy tools are not solely based on factual concerns over the security or integrity of elections but political reasons (e.g. populism, general opposition to government activities in a divisive political culture).

In the most recent presidential election in the U.S., claims of former president Donald Trump and his Republican Party that there was a software glitch in certain voting machines (Giles and Horton, 2020) have led to many Republican voters questioning

the integrity and the outcome of the vote at large. Even though the accusations have been debunked, the effect on public trust is a telling example of the issue of digital democracy tools being too complex to comprehend, making it easy to create distrust.

3.5.4 Security and privacy

Data privacy in the context of democracy is almost exclusively extraordinarily sensitive. Not just in elections but also referendums, opinion polls, and other votes could a security issue have drastic effects.

In traditional hand-tallied elections, privacy protection is easy to reconstruct (see section 3.5.3) but intentional manipulation or negligence of election workers can be a threat to the proper conduction of an election and tally.

First, vulnerabilities could lead to data leaks. If individually assignable voting data would be available to political candidates, parties, or other domestic or international entities, this information could be used to manipulate specific voters in a more tailored way. Totalitarians and authoritarians could potentially even use this information for the persecution of political opponents.

Second, other security issues might open an opportunity to directly manipulate the result of a vote. For example, if identity verification in a digital election can be bypassed, fake votes could be submitted to influence the election outcome. If undetected, this could lead to parties illegitimately taking power.

Additional risks are also possible, including identity theft or blocking specific votes from being submitted.

3.5.5 Control and transparency of systems

A major aspect of concern when it comes to digital democracy is the control over used systems. Social networks and other platforms used for digital communication have previously been the focus in this regard (cf. Vaheesan, 2021).Governments around the world are concerned about private companies providing these spaces, enforcing their own policies that may interfere with freedom of speech on the one hand and regulations against the spreading of misinformation on the other hand (cf. Illing, 2021).

In many cases, said private companies operate from other countries. This not only complicates efforts to regulate such guidelines on a legal level. It can also give the respective foreign government a handle on the information citizens do and do not receive – which can be used to manipulate public opinions.

Likewise, digital environments provided by and under the exclusive control of government bodies can be seen as similarly questionable. If systems are released as proprietary software and without options for the public to review the source code, systems could be flawed, malicious, or vulnerable.

If, for instance, an online voting system was released under these conditions, no non-governmental parties had any way to review that the software casts and counts votes correctly, that votes cannot be viewed or changed by unauthorized persons (i.e. anyone except the voter), and that the system is not vulnerable to cyber-attacks aiming to manipulate the tally.

4 Workplace Democracy

4.1 Theoretical concept and Dahl's perspective

The political theorist and Sterling Professor of Political Science at Yale University, Robert A. Dahl, was a major defender of the concept of *economic democracy*. Dahl proposed workplace democracy as a solution to corporate capitalism which he had previously described as a rising threat to free Western societies (Zirakzabeh, 1990, pp. 110 f.).

Dahl essentially has five distinguishable reasons for his interpretation of the rise of corporate capitalism as a troublesome development:

1. **Political influence:** Inequalities between corporations' managers and workers in terms of money, information, and status lead to unequal political influence as corporate representatives have considerable lobbying resources that workers do not have (Zirakzabeh, 1990, p. 113).

2. **Authoritarian hierarchy:** Similar to governmental policy decisions, decisions of businesses can have massive effects on many subordinates' lives. For this reason, Dahl directly compares the organizational order in corporations to those in nation-states, coming to the conclusion that the top-down manner of decision-making (e.g. wages, prices, investments, hirings, firings, technological innovations) can be described as a tyranny with no room for affected people to oppose or safely resist the decisions (Zirakzabeh, 1990, p. 114).

3. **Low productivity:** Benefits such as job guarantees and high salaries and pensions allegedly protect managers from personal consequences of bad decisions, leading to decisions that are more focused on short-term career advancement as opposed to the long-term well-being of the organization. Additionally, managers have minimal or no contact with the day-to-day business and the products or services. The combination of these two factors has led to a declining level of productivity in large corporations (Zirakzabeh, 1990, p. 114).

4. **Workers' demoralization:** According to Dahl, workers with no say in organizational policies, carrying out orders from managers with only minimum connection to the product, processes, or workers, tend to feel victimized and helpless in a workplace environment. This leads to decreasing pride, initiative, versatility, energy, productivity, enthusiasm, and creativity among workers (Zirakzabeh, 1990, pp. 114 f).

5. **Class struggle:** Dahl projected that corporate capitalism would ultimately cause emotional alienation and personal grievances, subsequently leading to polarization between classes. This development could go beyond the workplace, expressed in support of more radical political parties, not only endangering social peace but also encouraging authoritarian backlash (Zirakzabeh, 1990, p. 115).

To combat these problems, Dahl came up with the idea of economic democracy as a solution to corporate capitalism. The core idea is that each worker in a firm legally owns shares of that firm and also has the right to help elect many of the firm's highest officers (Zirakzabeh, 1990, p. 117).

Both factors combined – employee ownership and participatory management – appear to be particularly powerful to boost corporate performance while either approach alone achieves, "at best, spotty or short-lived results" (NCEO, 1994 via Winther, 1999, p. 273; cf. NCEO, 2018).

> However, for the purpose of this thesis, the focus is on only one of the two aspects. As opposed to economic democracy which can be seen as a holistic concept to transform enterprises into democratic quasi-cooperatives, workplace democracy includes approaches that apply democratic practices, such as voting, debate, and participatory decision-making systems, to the workplace (Center for Learning in Action, n.d.).

4.2 Approaches to the democratization of the workplace

4.2.1 Classification of democratic approaches in the workplace

Just as in political entities, workplace democracy can be approached in a direct or indirect (representative) way.

In representative methods, employees vote for people to delegate power to – this can be either the power to represent employees' interests in codetermination bodies or direct decision power in the form of elections of executives.

In contrast, direct methods are those that allow workers to influence and co-decide on subject-matter issues, such as major investment decisions, workplace guidelines, or the like.

Some of the following examples of direct and indirect approaches are well-established concepts (e.g. labor unions, see section 4.2.2.1) and may even be required by law in some countries (e.g. works council, see section 4.2.2.2). More radical concepts are typically still very uncommon and can only be found in certain individual companies.

4.2.2 Representative participation

4.2.2.1 Labor unions

A labor union (also trade union or simply union) is an organization representing workers in a certain trade, especially those who are members of the labor union. The purpose of unions is to increase workers' bargaining power in negotiations with employers by organizing a large portion of employees working in that trade. Labor unions primarily negotiate labor conditions with employers' associations or individual employers on behalf of the union members. The negotiations typically aim to result in collective labor agreements, regulating labor conditions such as salary, working hours, paid vacation days, social security benefits, and more. Union funds are used to organize strikes among other measures to put pressure on the employers' side.

4.2.2.2 Workplace codetermination in Germany

A works council represents the workforce of an individual operational workplace (e.g. a plant) of a company. Works councils can be found in different shapes or forms across different countries. A popular example is the *Betriebsrat* in Germany. All German companies with a workforce of at least 5 Full-time equivalent (FTE) employees aged over 18 years are legally required to establish a works council (§§ 1 ff., Works Constitution Act/Betriebsverfassungsgesetz). Employees elect fellow workers as councilors to represent their interests in this body. The size of the council depends on the size of the workforce. Members have special privileges in order to be able to represent the workforce without any fear of facing consequences imposed by the management (§ 78, Works Constitution Act/Betriebsverfassungsgesetz). The main tasks of works councils include monitoring the compliance with labor laws and labor agreements, they have a say in social decisions such as those affecting labor conditions, recruitment and dismissal decisions, and other socially relevant issues (Bundeszentrale für politische Bildung, 2016).

4.2.2.3 Board-level codetermination in Germany

A democratic principle common in companies around the world is codetermination at the company level. Not all countries legally require such a system and those that do have different approaches. In Germany, corporations with a workforce of at least 500 employees are legally required to establish a supervisory board (*Aufsichtsrat*) consisting to two-thirds of representatives of the company's shareholders and to one-third of employee representatives (§§ 1, 4, One-Third codetermination Act/Drittelbeteilungsgesetz). Corporations with over 10,000 employees need a supervisory board that equally represents shareholders and the workforce (§§ 1, 7, codetermination Act/Mitbestimmungsgesetz). The main tasks of members of supervisory boards include monitoring the

management board (*Vorstand*) and receiving regular management reports, appointing the management board, and setting its pay, as well as far-reaching economic decisions that require action of the supervisory board (Fulton, 2020, p. 8).

4.2.2.4 Elected executives at Haufe-umantis

A more radical approach compared to employees electing some kind of representation is electing the company leadership. Although this practice is still rare, a popular example is Haufe-umantis AG. The Swiss HR software company has been acquired by the German Haufe Group in 2012. Following the acquisition, the company's co-founder and then-CEO Hermann Arnold held a democratic vote to select his successor (Arnold, 2013). Marc Stoffel won the election and was re-elected three times. The practice of democratically elected business executives adds a factor of accountability and ownership for the employees.

However, the organization voted in 2019 to abolish the leadership elections and instead introduce a new decision-making model called Advice Process. The main reasons for leaving the democratic elections behind are that open feedback and the executives' ability to act and decide were impaired by the election (Rotzinger, 2020), as pointed out in sections 4.4.2 and 4.4.3.

4.2.3 Direct participation

4.2.3.1 Advice process at Haufe-umantis

New models to empower employees in the workplace have risen in the most recent years. One concept is the advice process as it has been introduced at Haufe-umantis AG as a replacement for its democratically elected leadership.

Rather than voting for executives who keep having superordinate decision-making power, this new process ought to enable every employee to independently enact policies at their workplace without formal decision-making power. For instance, the Haufe-umantis employee Verena Köppel introduced a work-from-home mandate for all employees before the Swiss or cantonal government enacted any regulations of the kind. Even though she had no formal responsibility or management position at the time, she suggested the idea and asked her colleagues for advice and feedback, especially those who are experts in the matter. Since the feedback was positive, she was able to enact the policy independently – and on her own responsibility (Bös, 2020; Rotzinger, 2020). The concept can be seen as a hybrid of democratic participation (as everyone can bring in ideas and enact them on one's own account) and technocracy (as internal or external experts have to be on board with the idea). However, traditional executives co-exist with the advice process. They continue making most day-to-day decisions and are appointed by the board instead of a democratic election (Bös, 2020).

4.2.3.2 The Semco philosophy

Brazilian businessman Ricardo Semler took over his father's traditional manufacturing business Semco SA in the 1980s, at the brink of bankruptcy and amid a period of hyperinflation in Brazil. Throughout the years, he introduced a new leaner corporate structure, made to foster employee participation.

Semler found that size, hierarchy, lack of motivation, and ignorance are the four biggest obstacles to effective participatory management (Semler, 1989). Therefore, the new structure he introduced is a circle rather than a pyramid. A small circle is the corporate circle and only comprises five experienced managers called *Counselors*. The second circle consists of the heads of every business division, called *Partners*. The last circle contains the whole rest of the workforce. That includes *Associates* working on operative tasks as well as some *Coordinators* leading teams or tasks either permanently or temporarily. Another principle is that those employees whose knowledge and experience is worth more to the company are also paid more. This means that oftentimes associates have higher salaries than the coordinators and partners they report to.

A layer of accountability is added through the hiring and promotion process at Semco: every prospective new hire or promotion has to be interviewed and accepted by all their future subordinates. Major business decisions are also made in a democratic manner. Semler mentioned the acquisition of a new factory for which the whole workforce was bused to three potential properties to view them. The employees chose a plant the Counselors did not want. But the company bought the employees' choice and let the employees design the layout of their manufacturing system in the new plant.

Other components of the philosophy include transparent and easily comprehensible business reports, a profit-sharing program, and a high amount of freedom, trust, and flexibility at work (Semler, 1989).

4.2.3.3 Democratic salary negotiations at 10Pines

10Pines is an Argentinian software company that works with a sociocratic culture based on Ricardo Semler's ideas. A core feature of their interpretation is to let employees decide over everyone's salaries. All employees except for new hires still on probation can ask for a raise in three annual *rates meetings*. The raise is then openly discussed within the workforce. Therefore, every employee receives a salary that is regarded as fair by the workforce. Whoever feels their own income is out of balance with their colleagues' salaries can come forward with a quest for a pay rise.

Additionally, the organizational structure at 10Pine is similar to the one at Semco, they have also introduced a consent-based hiring process, and trust the employees' ability to think and work on their own account (Shaw, 2021).

4.2.3.4 Mondragon worker cooperatives

The Mondragon Corporation may be one of the most successful and most holistic examples of a democratically led and collectively owned organization. The enterprise based in the Basque Autonomous Community in Spain is a "collective of self-managing and legally independent co-operatives" (Mondragon Corporation, 2021a). The group is composed of 95 cooperatives and 79,931 employees working in the group's key areas industry, retail, finance, and knowledge (Mondragon Corporation, 2021b).

Mondragon claims in its mission that it is "driven by a commitment to solidarity, applying democratic methods in its organisation and management" and "boosts people's engagement and involvement in the management, performance and ownership of its companies" (Mondragon Corporation, 2019). Mondragon works on the basis of its 10 basic principles (Mondragon Corporation, 2019):

1. **Free adherence:** Openness to anyone who accepts the principles
2. **Democratic organization:** "One person, one vote" system as a principle for elections of governing bodies and democratic decisions on important issues
3. **Sovereignty of labor:** Profit allocation based on the work contributed
4. **Instrumental and subordinated nature of capital:** The capital factor is subordinate to labor and does not confer the right to vote
5. **Participation in the management:** Members are involved in managing the business
6. **Wage solidarity:** Wages are in accordance with the cooperative's possibilities
7. **Inter-cooperation:** Mechanism for solidarity between cooperatives and business efficiency
8. **Social transformation:** Contribution to the development of the local area
9. **Universality:** Support of economic democracy and the international cooperative movement
10. **Education:** Promotion of the education and development of Mondragon members and the public

It must be noted that the Mondragon Corporation is not the owner or parent company of its affiliated cooperatives but rather functions as an agreement to share certain management areas (Forcadell, 2005, p. 258) to promote the principles mentioned above. For this purpose, inter-cooperative training facilities are set up, notably including the degree-awarding private cooperative university Mondragon Unibertsitatea (Mondragon Unibertsitatea, n.d.). The Corporation also has a network of 15 Research & Development (R&D) centers to foster innovation in the group (Mondragon Corporation,

2021b). The individual cooperatives that are affiliated with the Mondragon group are also owned and managed democratically within the frame of their individual structures.

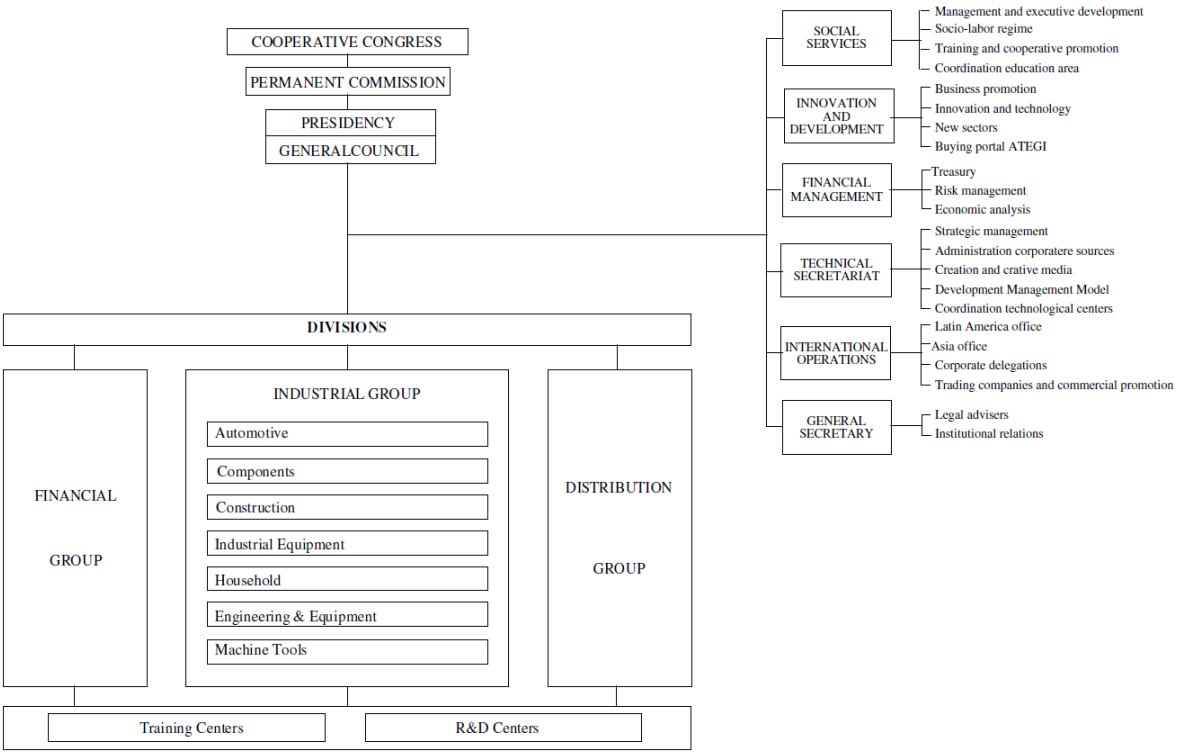

Figure 4.1: The organizational structure of Mondragon Corporation.
Source: Forcadell, 2005, p. 258

The group features an organizational structure of governing bodies with representatives from its affiliated cooperatives. There are three central governing bodies within the Mondragon Corporation as visualized in Figure 4.1:

- The **Cooperative Congress** is the primary body of sovereignty and representation within the corporation, consisting of a maximum of 650 delegates from all affiliated cooperatives. It is responsible for approving the General Policies and the Corporate Strategic Plan, and for updating the Basic Principles and Corporate Values (Forcadell, 2005, p. 259).

- The **Permanent Commission** is comparable to a board of directors or the supervisory board as described in section 4.2.2.3. It consists of 18 elected members. It acts on behalf of the Cooperative Congress and its main tasks are to "drive and control the implementation of policies and agreements adopted by the Cooperative Congress, continuously monitoring the Group's development and the management of the General Council Presidency, and the coordination of the different sectorial activities" (Forcadell, 2005, p. 259).

- The **General Council** is the executive body, led by the president. Its members are named by the Permanent Commission. It is responsible for "the elaboration,

proposal to the Permanent Commission and application of the corporate strategies and objectives, coordinating and controlling the strategies of the different divisions, sectorial clusters and cooperatives" (Forcadell, 2005, p. 259).

At its core, Mondragon and its affiliated cooperatives are not just managed democratically but also owned democratically as proposed by Dahl in his concept of economic democracy (see section 4.1), making it the most holistic approach to Workplace Democracy presented in this thesis.

Mondragon Corporation is often named as a prime example of worker cooperatives and workplace democracy. The principles, values, and mission as well as the structure of the group are continuously evolving to properly represent the will of the employees of the federation. Furthermore, it is one of the most successful enterprises in Spain as several of the Mondragon cooperatives are leading companies in their field, including bicycle manufacturer Orbea and the Spanish supermarket chain Eroski. Mondragon shows that democratic principles can successfully work in a business context to a high degree, even on a large scale.

4.3 Arguments for Workplace Democracy

4.3.1 Economic Argument

Although conclusive field studies on the economic effect of workplace democracy remain rare, research suggests an effect on the organizational outcome (cf. Foley and Polanyi, 2006, pp. 175 f.). Experiences made in democratically structured organizations as presented in section 4.2 – most notably the Mondragon Corporation presented in section 4.2.3.4 – show the potential for successful, profitable outcomes.

The economic effects of Workplace Democracy can be different in nature. Measures that, for instance, allow workers to co-design their workplace and processes may lead to more effective operational workflows. Other measures can affect workers' morale. Some methods have a stronger impact on morale than on productivity or vice versa (Sagie and Koslowski, 2000 via Foley and Polanyi, 2006, p. 175) while others have these positive effects when coming along with high attrition rates or little long-term feasibility (Osterman, 2000 via Foley and Polanyi, 2006, p. 176). Other economic benefits despite an immediate effect on the organizational outcome can include an increased openness to change, lower absence rates due to work-induced health issues (see section 4.3.4), and others.

4.3.2 Citizenship Argument

Another argument is that the workplace is a highly significant place for workers to "develop the individual attitudes and psychological qualities necessary for broader and

more genuine political democracy [...].” Since workers spend a considerable part of their lives at the workplace, having control and experiencing participation in this domain also increases the understanding of democratic participation as a duty and right of citizenship in a broader societal context. Hence, the values and skills developed by participating in the workplace also extend into the political domain where they “form the basis of a functioning democracy” (Foley and Polanyi, 2006, p. 176).

4.3.3 Ethical Justification

In a similar manner, Robert A. Dahl (see section 4.1) argues that “*if* democracy is justified in governing the state, it must *also* be justified in governing economic enterprises,” citing a universal moral right to autonomy manifested in having a voice in the firm (Dahl, 1985 via Foley and Polanyi, 2006, pp. 176 f.). Although opponents argue on philosophical, legal, and practical grounds against an ethical obligation to give employees a voice beyond their own work, others agree with Dahl and argue with a “moral right to a humane, non-alienating work environment” (Foley and Polanyi, 2006, p. 177)

4.3.4 Health-based Argument

A survey on work and well-being commissioned by APA in the U.S. in 2021 found that more than 71% of those workers who feel tense or stressed out during the workday intend to seek employment elsewhere in the next year, compared to only 20% of those who do not typically feel tense or stressed out (American Psychological Association, 2021). The considerable costs of attrition are not the only thing employers need to consider economically. According to the “2021 Mental Health at Work Report”, 77% of the American respondents say that their productivity at work was impacted by their mental health, most commonly manifesting in difficulties concentrating (38%), avoiding social activities (32%), difficulties thinking, reasoning or deciding (24%), being less responsive to email and other communications (23%), and taking longer to do tasks (21%) respectively (Mind Share Partners and Qualtrics, 2021, p. 13). Additionally, respondents were absent due to sickness for an average of 8 working days in a year, accounting for an 85% increase compared to an average of 4.3 days in the 2019 edition of the Report (Mind Share Partners and Qualtrics, 2021, p. 14).

Workplace Democracy can help reduce these costs while naturally also increasing the workplace attractiveness of the employer and – apart from economic factors – the quality of work and life for employees. While many aspects can factor into work-induced mental health issues, the American Psychological Association (2021) identified low salaries (56%), long hours (54%), lack of opportunity for growth or advancement (52%), too heavy workload (50%), lack of paid time off or sick leave (50%), and commuting (50%) as the most significant workplace stressors. Except for commuting, all of these

aspects would more likely be addressed if the workforce were more involved in the process of designing their own workplace and fair labor conditions. 48% of employees said a lack of involvement in decisions itself is a very or somewhat significant contributor to stress in the workplace (American Psychological Association, 2021), showing a high demand among employees for a more democratic workplace.

4.4 Possible issues of Workplace Democracy

4.4.1 Sizeable organizational units and hierarchy

Ricardo Semler identified some "big obstacles to effective participatory management" (Semler, 1989), the first one being size. While Semler says that there are also limits to how many very small teams can effectively work together, he claims that very large units of several thousand employees make individual involvement an illusion, saying that people in a large unit "feel tiny, nameless, and incapable of exerting influence on the way work is done or on the final profit made" (Semler, 1989).

Additionally, preexisting power structures intensify this issue. Managers refusing to give up power and letting their employees make decisions is another major obstacle. Many businesses would likely face resistance from previous managers whose roles and powers would be jeopardized with typically necessary reorganization efforts when transitioning to a democratic workplace.

4.4.2 Impaired decision-making ability through democratic accountability

If workplace democracy manifests in a representative model that is as far-reaching as the former Haufe-umantis leadership model elaborated in section 4.2.2.4, the same problems apply that can also be observed in representative democratic systems in the political sphere. One major problem is that elected officials sometimes tend to avoid decisions with effects that are unpopular with their electorate. If a democratic representative faces re-election and sees it jeopardized, they might decide in favor of inferior alternatives with a positive or neutral short-term effect rather than more sustainable decisions that have considerably better long-term effects but unpopular immediate effects (such as increased taxes, energy prices, or social security contribution).

Likewise, elected business leaders may feel they cannot make the decisions that they think are best for the business because they are immediately accountable for their actions and cannot make decisions that are majorly unpopular among the electorate if they want to be re-elected or progress into higher positions. Haufe-umantis co-founder Arnold (2020) describes that some leaders feel the "tyranny of employees." Haufe-umantis board member Rotzinger (2020) also writes that executives were afraid of

being punished by the voters for unpopular decisions.

4.4.3 Limiting feedback and participation to the ballot

The issue depicted in section 4.4.2 is even intensified by a shift in the feedback culture. Regular top-down management cultures often lack ways for employees to feel safe about criticizing their superiors without fearing consequences for their job. However, if employees can express their disapproval in a democratic vote, this might also negatively affect the general feedback culture. In his memo, Arnold argues that "people just vote out leaders without even giving feedback/reasons on the voting ballot. Not to talk about going into conflict to improve a situation midterm" (Arnold, 2020).

This might lead to people coming to terms with just voting for the candidate aligning most closely with their own ideas rather than working out solutions and contributing. This is in line with Arnold's description of "a stronger participation from bottom up but also from top down" (Arnold, 2020) back when the team was smaller and had no elections.

4.4.4 Entitlement argument against Workplace Democracy

A position directly opposing the ethical justification for workplace democracy as described in section 4.3.3 is that business owners simply are entitled to the power they hold for various reasons. Other than employees, they have a greater stake in the success of their business. The argument is that employees voluntarily trade their labor for money and that they are able to withdraw from that contract at any time. Hence, the business owners who risk their capital are the ones who should decide on how the employees' labor is used (Foley and Polanyi, 2006, p. 177).

Furthermore, opponents argue that there is not enough time to involve workers in all or many decisions in the current rapidly changing environment and that employees may be unable to make meaningful contributions to higher-level decisions as they lack the necessary expertise (Poole, 1986 via Foley and Polanyi, 2006, p. 177).

5 Digital Workplace Democracy

5.1 Idea and purpose of Digital Workplace Democracy

The core idea of Digital Workplace Democracy is to gather ideas and established practices in the Digital Democracy field in the political sector and translate them for meaningful usage in the economic sector. The underlying purpose is to eliminate or lower the issues and disadvantages of Workplace Democracy as found in section 4.4 using digital solutions presented in section 3.3 or inspired by them. The applicability and severity of the challenges of digital democracy presented in section 3.5 to the workplace context must be analyzed and discussed.

5.2 Applicability of Digital Democracy to the workplace

5.2.1 Preconditions for responsible initial implementation of Digital Workplace Democracy

5.2.1.1 Legal requirements

The first requirement is to check the legal framework in the corresponding country. For instance, an approach like the democratic salary negotiations presented in section 4.2.3.3 – regardless of whether it is digitalized or not – requires that all salaries or at least a ranking of salaries are disclosed within the company. Sharing sensitive information like this is highly regulated in some countries and needs to be checked.

Another example is IT privacy where companies are required to adhere to certain security and privacy standards. Multinational organizations may face a particularly challenging situation in some cases as laws differ between countries. If an European Union country is involved, data protection is much more regulated than in other countries including the U.S.. Personal data on EU residents can only be transferred within the EU, Norway, Liechtenstein, Iceland, and third countries the European Commission recognizes as providing adequate protection (European Commission, 2017a). Most third countries, most notably the U.S., are not on that list. As an alternative arrangement certifying the U.S. adequacy, the *EU-US Privacy Shield* was also invalidated by the Court of Justice of the European Union (European Commission, 2017b), the situation for transfers of personal data between EU countries and the U.S. is currently

considered a gray area. Fringe cases like this must be figured out in advance.

5.2.1.2 Technical requirements

One key factor to responsibly implementing Digital Workplace Democracy measures is to have reliable tools at hand. Whether it is a system for digital voting or anonymous feedback inside an organization, the minimum requirement is a system that can ensure the security and anonymity of participating where it is provided by design. It must therefore be

- robust – able to cope with erroneous input and higher than expected demand,
- secure – able to authenticate users and verify their right to use the software while minimizing exposure to hackers and manipulation, and
- transparent – developed in a way that is only as complex as necessary and ideally adhering to the open-source principle.

Furthermore, every member of the organization or the democratic unit must have equal technical access to the tool. This means that a connected solution has to be found in units with employees in different locations or even in different countries and the necessary hardware and connection must be made sure of.

Everything in this section is the minimum viable requirements for a system that would – for instance – be able to adhere to the election principles as outlined in section 3.5.3.

5.2.1.3 Social requirements

Equal access is not just a technical requirement as elucidated in the previous section 5.2.1.2 but also a social requirement. While the internet makes the globally accessible implementation of software fairly simple, access still is not necessarily as simple for everyone. Not every member of an organization is equally equipped with technology to use the tools and participate in the digitalized democratic process, nor is every member equally skilled to effectively use the tools (see section 3.5.1). It should hence be seen as a basic requirement to ensure equal access to technical means as well as to training resources for using them.

It is also important that relevant stakeholders overwhelmingly support the transition to Digital Workplace Democracy. The most central group of stakeholders are employees that should self-evidently be in favor of the change as intrinsic motivation is important for significant and serious participation. But other groups of stakeholders should also support the change, including current management and shareholders. These groups in particular often carry a high level of power to disparage or stop the efforts and they might also have motives to do so if Digital Workplace Democracy would mean they would lose certain powers or positions in the organization.

Lastly, a high level of trust in the e-democracy systems is also crucial. For the reasons thoroughly outlined in section 3.5.3, it is important to develop systems transparently (see section 5.2.1.2) and to establish an open feedback culture while doing so.

5.2.2 Factors contributing to a successful transition to Digital Workplace Democracy

5.2.2.1 Proper size of the democratic unit

For some approaches to digital workplace democracy, the entirety of an organization must be considered. For example, if a committee is to be established that would represent employee interests against the management or shareholders on the organization-wide level, or if top-level executives like the CEO are elected in a direct-democratic manner. However, being only a single vote out of thousands of employees in some large enterprises could for some feel just as small and meaningless as in a national election. Casting this vote in just a few clicks might add to this issue.

Other democratic approaches can only function in a comparably small unit. For example, employees interviewing and approving future superordinates as done at Semco (see section 4.2.3.2) or democratic setting of salaries like at 10Pines (see section 4.2.3.3) are only possible in small organizations or sub-divided teams. Ricardo Semler (1989) concludes that "it's clear that several thousand people in one facility makes individual involvement an illusion."

Digitalizing in this context also means formalizing a process as software solutions are programmed to follow a specific process. In small organizations with a very social and personal communication culture, it may seem almost ridiculously formal and over-engineered to have an online-voting system, for instance, instead of just coming together and raising the hand. These cultural contexts must be considered, too.

5.2.2.2 Degree of participation

It is quite obvious that low levels of participation make most (digital) democratic tools redundant. Low participation would translate to an equally low level of democratic legitimization of the decisions made. It could be a sign that the approach is not accessible, trusted, or accepted by the workforce (see section 5.2.1). In addition to most likely not reaching the intended goals, it could also be regarded as an attempt to appear more democratic and employee-friendly in the public eye.

However, if a very high level of participation is granted to and used by the employees, this can also be negative as it may be hard to manage, i.e. uncontrollable democratic decisions can make it hard for corporate leadership to steer the organization towards aligning with strategic goals or any coherent path.

5.2.2.3 Changeability of the organization

As implied in section 5.2.1.3, all parties involved in the organization need to at the very least accept the proposed organizational shift towards digital workplace democracy. Most crucially, this includes the workforce, the management, and shareholders. A higher level of support, however, will lead to a higher motivation to adopt the change and immerse in the new culture of democratic participation.

Therefore, the readiness of the organization to change is a likely determinant of the level of success of such an endeavor. Just as importantly, the least supportive of the central stakeholder groups – workforce, management, shareholders – could alone disrupt the success of the effort: The workforce can simply participate less, shareholders may have the power to block the implementation before it happens, or managers can either diminish the granted level of participation or the public image of the effort by denigrating it. This means that all off these stakeholder groups must agree with the plans.

5.2.2.4 Communication strategy

To achieve a high level of support for the implementation of Digital Workplace Democracy and a high level of participation once implemented, a culture-appropriate communication strategy is likely crucial. If all stakeholder groups are integrated in the process from the beginning and given the chance to shape it, the likelihood of them agreeing with the plans and ultimately participating through the selected approaches is higher. Any contributions brought up by employees after the successful implementation should also be accompanied by constant communication. For instance, if an employee gives a suggestion, they should always know what the status is and made feel valued for their contribution regardless of the outcome.

5.3 Potential approaches for Digital Workplace Democracy

5.3.1 Community-based online participation in codetermination bodies

Some of the suggestions in this section introduce an entirely new democratic element to the workplace that is digital by design. However, the digital aspect can not only enable new democratic elements in organizations. It may also improve existing democratic elements to make them more accessible, more efficient, more secure, or easier to manage.

One example is the community-based participation in codetermination bodies. Works councilors (see section 4.2.2.2), employee representatives on supervisory boards (see

section 4.2.2.3), as well as labor union officials (see section 4.2.2.1) all represent employees' interests on different levels of the organization and industry. A study by Krings et al. (2015) investigated the communication between the Austrian company's works council and its workforce. The Austrian and German *Betriebsrat* systems and the legal frameworks around them are closely comparable. Even though the overwhelming majority of the workforce seems to see the works council very positively (Krings et al., 2015, pp. 12-15, 19), only about half of the workforce (varying by the mode of employment) views a works councilor as an important reference person (Krings et al., 2015, pp. 11 f.). However, a few reasons seem to bar employees from contacting their works councilors in some cases:

- they do not believe the works council can change their situation,
- they feel they might be skipping their direct supervisor,
- they do not have time to get in touch with the works council while at work,
- they are afraid of talking about their problems, and
- the works council is difficult to get in touch with (although less than 5% agreed with this last statement).

An online platform could help alleviate these barriers. Such a platform could include several features that would make it more accessible for employees who are not elected representatives themselves to raise their concerns, voice their interests, and contribute more directly to the codetermination bodies. Examples of possible functionalities could be

- easy, informal, and anonymous submission of complaints (e.g. about workplace regulation violations, unjust treatment of employees, management misconduct), feedback, and suggestions,
- transparent communication about current issues and codetermination body initiatives, and
- online polling on certain decisions such as changes in labor conditions so councilors can represent the workforce better and maximize their democratic legitimization in negotiations.

Many works councils may not have the resources to develop such an online platform. However, works councils and labor unions often cooperate closely, in some countries including Germany (§ 2, Works Constitution Act/Betriebsverfassungsgesetz) they are even legally obliged to work together. For this reason, labor unions could develop a platform like this as an open-source project and provide it to works councils to put employees in a better position.

5.3.2 Digital election of business executives

While executives are already chosen democratically in some organizations (see section 4.2.2.4), holding an election adhering to the standards that make them fair and just is not simple. Holding a quick vote of who is in charge can be easy in a close team of a few people. In the context of a larger organization, on the other hand, it can be highly complicated since

- choosing executives can be a consequential decision that should be treated seriously and ensuring a fair and just election requires careful preparation of processes that adhere to election standards (see section 3.5.3),
- manually tallied elections are time-intensive and therefore costly since poll workers and ideally poll watchers are needed to monitor the voting process and employees need to spend some time going to a physical polling station and vote, and
- not all employees know all candidates and it can be complicated, if not impossible depending on the size and geographic spreading of the organization, to rally for their platform in-person to all employees.

Digital elections, however, can help weaken these challenges. There is electronic voting software already available that is trusted and proven to adhere to election standards. Digital voting allows employees to vote in a few clicks, no matter where they are located. It also reduces the monitoring effort to one or few impartial specialists verifying and monitoring the integrity of the election (see section 3.4.3).

A universal campaigning platform can also be a helpful tool for candidates to introduce the platform they rally for and themselves organization-wide. Similar to PMOs as presented in section 3.3.4 and voting advice applications such as the German *Wahl-O-Mat*, such a platform can account for equal chances in the form of a standardized profile for candidates to present their ideas, answer questions, and position themselves.

5.3.3 Digital democratic decision-making

There is a range of possibilities to incorporate democratically-driven change in an organization, some of which have already been discussed in this thesis.

- **Referendums:** employee-submitted proposals that gather majority support within the organization must be executed by the management
- **Petitions:** employees can petition for change and if a certain threshold of support within the organization is reached, the management is compelled to consider the petition and publicly state its intention and position toward the petition (see section 3.3.5)

- **Advice Process:** employees can come up with ideas they want to see enacted in their workplace and discuss them with coworkers who are experts on the topic. If the idea resonates and gathers support, it can be moved forward under the responsibility of the person whose idea it was, even without formal decision-making power (see section 4.2.3.1)

The ideas have room for modification. For example, certain decisions (such as investments over a certain amount) could be excluded, certain executives' or teams' approval could be made a requirement for publishing a proposal, and the management can be given anything from no to complete rights to overrule the democratic decision.

The ways mentioned above or almost any variation or combination can conceptually easily be digitalized and applied to the workplace domain. For something like the advice process, a digital version could prevent ideas from not properly being peer-checked as everyone could see, vote on, and give feedback on the proposal. The other forms would also be easier to conduct and keep track of in a digitalized way in large organizations.

5.3.4 Transparency platform

Only 15% of frontline managers and frontline employees feel like they can live their purpose in their day-to-day work (Dhingra et al., 2021). Because of that, they're less satisfied both at work and in life and it also negatively affects their energy and health as well as their engagement, achievement, excitement and many other aspects at work (Dhingra et al., 2021). Only approaches like the ones presented in sections 5.3.1 and especially 5.3.3 actually give employees a framework for participating and influencing the course of the organization.

A key requirement for engaging employees in business decisions is to provide a sound knowledge of organizational strategies, goals, and KPIs, available to everyone on demand. Only if employees know about what the organization aims to achieve and why, they can contribute informed and thus valuable suggestions. The goal of such a platform should be to transparently communicate goals, the reasoning behind them, and the same set of KPIs that the management bases its decisions on.

In addition to being a knowledge basis for other forms of participation, a platform comprehensibly communicating strategy, goals, and up-to-date KPIs is great for employees to get a better understanding of what they work towards and how the organization is performing. Investors, NGOs, and the general public will also appreciate the transparency as it adds an extra layer of responsibility for the management to actually try and achieve goals, including not only economic but also social, environmental, quality, and other goals.

5.3.5 E-Participatory Budgeting for Organization Investments

e-Participatory Budgeting (ePB) is used in polities like the city of Belo Horizonte, as presented in section 3.3.3. The concept could be transferred completely analogously to the workplace setting. The organization could create a special budget for the ePB and host a platform where employees can suggest how to spend the money. Depending on the use case and objectives, this could be applied to different levels (organization-wide, branch-wide, department-wide), different topics (from office equipment to strategic investments), and the management can decide whether they want to have the final say or democratize the decision entirely. It is therefore a highly adjustable and conceptually simple tool to crowd-source monetary decisions.

5.4 Evaluation of the value of Digital Workplace Democracy

5.4.1 Intended outcomes for the proposed approaches

To examine how valuable Digital Workplace Democracy and specific approaches are for an organization, it is crucial to first determine what the objective is. The approaches presented in section 5.3 are just examples, yet they represent the wide variety of possible methods. Not all of these approaches are equally suitable for both objectives.

While the real goals organizations might have for introducing Digital Workplace Democracy are likely much more nuanced, the two core goals for the scope of this thesis are:

1. **Social goals:** Letting employees decide over their own workplace can be a (social) goal in itself. It arguably changes the workplace in their favor, improving the quality of work and therefore also positively impacting the quality of life of employees. A strong degree of employee involvement improves employee engagement (Robinson et al., 2004, pp. 21 ff.), meaning an employee's relationship with and attitude towards their workplace. Although this might improve their willingness to intrinsically bring up ideas or work harder which may also have economic benefits, the goal here is simply for the employees to be happier.

2. **Economic goals:** The other way to look at Digital Workplace Democracy is that it has the potential to improve business outcomes. Based on the premise that all staff is more likely than the management and/or the boards to represent larger groups such as the customer base or society at large, it can be helpful to enable employees to learn more about the business context, proactively offer suggestions, and participate in business decisions in order to make more agreeable and appealing business decisions. In a broader sense, giving employees a stronger voice in decisions can improve employee engagement and therefore increase the

employees' morale, improve productivity, and/or decrease attrition (see section 4.3.1).

5.4.2 Advantages compared to non-digital participation methods

An important question is why organizations should bother with digital democracy when they could also, for example, just hold a paper-based vote, have in-person round tables, or get a feedback mailbox.

After all, it can be quite complicated, expensive, and time-consuming to introduce a technology-based solution, especially if it has to be newly developed or modified for an organization's specific requirements.

The following are some advantages of digital participation methods compared to non-digital methods:

1. Location independence: Many organizations nowadays are decentrally organized, ranging from SMEs (Small and medium-sized enterprises) where some or all employees work from home, to large multinational corporations. This would make in-person formats like roundtables or votes involving all employees less viable. With digitalized approaches, it is much easier executable given the preconditions in section 5.2.1 are met.

2. Time flexibility: Non-digital dialog formats in particular are typically synchronous. But any set time will in almost any case be inconvenient to some members of the organization or it is simply not possible to have no employees available for other tasks. Digital formats can – for instance – replace traditional Q&As or campaign rallies with a website where questions can be submitted at any time and all responses are publicly visible (see section 5.3.2).

3. Scalability: While hand-tallying votes or giving feedback in person is easily viable in small organizations or organizational units, it is disproportionately harder to scale manual modes of workplace democracy in large enterprises with many employees, subdivisions, locations, cultures, and languages. Digital tools need to be able to handle these challenges too, for instance in that they must be able to cope with the traffic and are available in all the required languages. But they have the potential to save both time and money and work more efficiently than non-digital alternatives on a large scale.

In addition to these comparative advantages, all the benefits identified in section 3.4 for Digital Democracy and in section 4.3 for Workplace Demoracy also apply to Digital Workplace Democracy.

5.4.3 Disadvantages of Digital Workplace Democracy

Similar to the advantages, the disadvantages contain all the factors found in sections 3.5 and 4.4 for Digital Democracy and Workplace Democracy, respectively. Additionally, there are more disadvantages that need to be taken into consideration:

1. Costs and long development time: While market-proven solutions for elections and polls are already available, many cases will likely require at least a fair amount of customization of the solutions to case-specific requirements (who is eligible to vote, multiple elections at the same time with different electorates, branding, and security and privacy requirements are just a few examples). In many other cases, including most of those presented in section 5.3, an entirely new solution must be developed, coming along with a considerable amount of development time and costs.

2. Not suitable for all organizations: The high costs and long development time are certainly more of a barrier for SMEs or non-profit organizations than for large enterprises. But even besides that, Digital Workplace Democracy is not equally suitable for all organizations. While formats like round-tables, a feedback mail-box, or informal in-person votes are simply not feasible for large enterprises with many employees, maybe even based decentrally, those approaches are perfectly sufficient in many smaller organizations where developing an online platform for participation could even be seen as over-engineered or unnecessarily impersonal.

3. Substantial failure potential: There is also a considerable risk of a Digital Workplace Democracy project failing. Even if all the preconditions (see section 5.2.1) and success factors (see section 5.2.2) seem good, there is basically no empirical data on how successful Digital Workplace Democracy is or can be. Therefore, organizations need to be aware of the high risk of failure.

5.4.4 Metrics for measuring the success of Digital Workplace Democracy

5.4.4.1 Preliminary notes

For this thesis, four categories of measures with a few examplary generic key metrics in each of the categories have been identified. These categories and examples are presented and explained in this section. It is important to acknowledge that the relevance and emphasis of each category must be determined in every individual case based on the particular set of goals (see section 5.4.1). Additionally, the success indicators have to be specifically adjusted to the requirements of an organization or organizational unit. For example, a charitable non-profit organization would likely measure success differently

than a for-profit enterprise, and in a similar manner would a service sector company measure quality differently than a manufacturing company.

5.4.4.2 Employee participation indicators

The first level of metrics is to measure not the effect but the acceptance and penetration of the Digital Workplace Democracy offerings. Only if employees know about and use the opportunities to participate digitally, it can actually affect their workplace. While some categories are only applicable to either one of the two key goals (see section 5.4.1), assessing the knowledge about usage and acceptance of Digital Workplace Democracy tools prior to that is an essential first validation step. Examples of how to measure this basic level are:

- Anonymous employee surveys
  - What would you do if you felt unwell about a management decision or organization policy?
  - How well do you feel represented in this organization?
  - Do you feel you can have meaningful influence on important business decisions?
- Technical usage metrics recorded in the participatory tools, including
  - number of page views
  - rate of active users among all staff
  - turnout (when voting is involved)

5.4.4.3 Employee engagement and happiness

If making employees feel better and more comfortable in their workplace by giving them a say is at least part of the intended outcomes (see section 5.4.1), this category of success metrics is crucial. The purpose is to measure how engaged employees are by asking them engagement-related questions (about pride, endorsement, and commitment) and analyzing KPIs from HR that are typically associated with employee engagement.

- Anonymous employee surveys
  - Are you proud to work in this organization?
  - Do you rather approve or disapprove of the current management of the organization?
  - Would you accept a job offer from another company with responsibilities similar to your current role?

  - If a close friend considered applying to this organization and asked you to rate it as an employer on a scale from one to ten, what would you rate it?

- HR key metrics related to employee engagement and happiness
  - Turnover rate
  - Early attrition rate
  - Absenteeism rate

5.4.4.4 Quantitative performance

Quantitative performance indicators are a key metric group given that one of the intended outcomes (see section 5.4.1) is to bring about change that improves processes and products by crowd-sourcing ideas or democratizing business decisions. The specific metrics should depend on what kind of change is expected. For instance, improvements in the production process would more likely improve the production output while crowd-sourcing innovative and new product ideas would rather increase revenue. The goal of these metrics is to analyze whether the ideas coming out of the Digital Workplace Democracy ultimately affect the organization positively or not. Exemplary KPIs in this category include:

- Examples of context-specific productivity improvement indicators (from implementing process or investment suggestions)
  - Number of deals closed in Sales
  - Production output
  - Downtime or idle time of technical equipment and machinery
- Financial Key Performance Indicators
  - Revenue
  - Profit margin
  - Revenue per team/employee

5.4.4.5 Qualitative performance

Lastly, qualitative performance indicators are a crucial category that should be measured no matter what the intended outcome is (see section 5.4.1). It should be considered either a step that improves customer satisfaction and hence customer loyalty – or a consequence of the (ideally) increased employee engagement for example in the Customer Support, Design, Manufacturing, and Quality Assurance (QA) departments. Examples of metrics to be used for qualitative performance measuring are:

- Quality testing
  - Rate of QA tests passed
  - Rate of products returned by customers
  - Number of product quality complaints
- Customer satisfaction
  - Customer support quality feedback
  - Average online rating of products or the organization
  - Customer Lifetime Value (amount of money spent by one individual customer overall)

6 Discussion of the results

6.1 Conclusion and recommendations for action

In section 1.2, the research question – "**What is the value of digital participatory measures for organizations?**" – has been defined and sub-divided into five sub-questions (SQ) aimed to answer the question systematically. These five sub-questions have been analyzed in detail in the previous sections and will be summarized in this section in the order they would be needed if an organization would implement Digital Workplace Democracy. Hence, figure 6.1 shows the order in which business executives could look at and work on Digital Workplace Democracy. The order of the sub-questions is based on these steps:

1. Weigh up advantages and disadvantages: SQ 1 – What are advantages and disadvantages of Digital Workplace Democracy? (see section 5.4.2 for advantages and section 5.4.3 for disadvantages)
2. Analyze suitability: SQ 2 – What are criteria for the successful implementation of Digital Workplace Democracy? (see section 5.2.1 for hard preconditions and section 5.2.2 for factors that could influence the level of success)
3. Set goals: SQ 3 – What are potential objectives of introducing Digital Workplace Democracy? (see section 5.4.1)
4. Plan the approach: SQ 4 – What are potential approaches for Digital Workplace Democracy that can be concluded from Digital Democracy in the political realm or from non-digital Workplace Democracy? (see section 5.3)
5. Monitor the success: SQ 5 – How valuable are the expected effects for the organization, based on a set of evaluation criteria? (see section 5.4.4)

A one-page summary featuring a tabular overview of the research results for all these sub-questions can additionally be found in figure 6.2. This overview can be used as an orientation for business executives interested in implementing Digital Democracy methods. The tabular overview also shows the relationship between the goal (SQ 3)

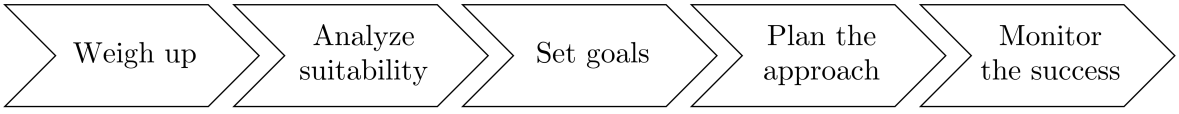

Figure 6.1: Visualization of the implementation process for Digital Workplace Democracy.

and the subsequent SQs as it affects which approaches and metrics are suitable for only social, only economic, or for both goals.

Ultimately, the Central research question cannot be answered with certainty. However, the thesis successfully identifies many arguments supporting and opposing both Digital Democracy in the political realm as well as Workplace Democracy. If the requirements in section 5.2.1 are met and the success factors identified in section 5.2.2 also favor Digital Workplace Democracy, most of the disadvantages and challenges (see figure 6.2) are addressed. Although there is no reason to believe that the advantages and disadvantages of Digital Democracy and Workplace Democracy do not apply to Digital Workplace Democracy, there is no empirical evidence for the success of such measures specifically. Hence, refer to the last point in section 5.4.3 ("Substantial failure potential") and sections 6.2 and 6.3.

SQ 1: Pros and Cons

	Advantages	Disadvantages and Challenges
Digital Democracy	• Transparency & Accountability • Convenience & accessibility • Profound participation	• Digital Divide • Digital Literacy/Knowledge Gap • Complexity and Trust • Security and Privacy • Control and Transparency
Workplace Democracy	• Citizenship argument • Ethical justification • Efficiency • Health-based argument	• Size and hierarchy • Decision-making impairment • Limiting feedback to the ballot • Entitlement argument
Digital Workplace Democracy	• Location independence • Time flexibility • Scalability	• Costs and long development time • Non-universal method • Substantial failure potential

SQ 2: Success criteria

Requirements • Accordance with legal requirements • Technical requirements (robust, secure, and transparent software) • Social requirements (equal access and training, stakeholder approval, high level of trust)
Success factors • Size of the organization or democratic entity within the organization • Degree of participation among employees • Changeability of the organization

SQ 3: Objectives		
	Social Goals Strengthen employee engagement and therefore make employees happier at work and in life	**Economic Goals** Crowd-source new innovative ideas and strengthen employee performance through employee engagement
SQ 4: Approaches	• Community-based online participation in codetermination bodies	• Digital Elections of business executives • Digital democratic decision-making • Transparency platform • E-Participatory Budgeting for Organization Investments
SQ 5: Key metrics	• Employee engagement and happiness - Anonymous employee surveys - Key metrics related to employee engagement and happiness	• Employee participation - Anonymous employee surveys - Technical usage metrics • Qualitative performance - Quality testing - Customer satisfaction • Quantitative performance - Context-specific productivity improvement indicators - Financial KPIs

Figure 6.2: One-page overview of all the sub-question results, visualized tabularly.

6.2 Limitations of the study

There are several points limiting the generalizability and practical transferability of this thesis that need to be pointed out:

1. The thesis is extensively based on prior research in the fields of Digital Democracy and Workplace Democracy. The purpose of this thesis is to theoretically transfer and combine these findings to Digital Workplace Democracy. However, there is practically no empirical data available on how this concept. Therefore, the results of the thesis is based on the unproven assumption that the effects of Digital Democracy can be transferred to the workplace domain and that the effects of Workplace Democracy generally also apply in a digital form.

2. The complexity of the topic and the great deal of required research on various aspects of both Digital Democracy and Workplace Democracy did not allow to give a complete list of possible approaches, advantages, disadvantages, challenges, goals, KPIs, et cetera. It is impossible to make general statements about these aspects of the thesis as they can vary greatly in different scenarios. Therefore the thesis only worked with a few selected examples that the author thought would represent the variety as good as possible within the scope of the thesis.

3. The exemplary KPIs given in section 5.4.4 can be heavily influenced by other internal and external factors as well. Depending on the degree of participation, Digital Workplace Democracy could affect these metrics to some degree and the KPIs can give an implication on how effective Digital Workplace Democracy is. But it is, of course, unlikely to be the only factor.

4. The implementation process mentioned in section 6.1 and visualized in figure 6.1 should only be seen as a broad orientation and as the basis for a logical order for the presentation of results. It is highly simplified and would likely not qualify as a guide to implement Digital Workplace Democracy in an organization. The implementation itself is not mentioned as it is not part of the scope of this thesis.

6.3 Recommendations for further work

In a next step, the results of this thesis should be verified in business scenarios. Studies in real organizations need to be conducted, accompanying the implementation process, documenting issues and challenges coming up during the implementation, surveying the readiness of the organization to change towards more democracy and the acceptance of Digital Workplace Democracy plans among the workforce, and monitoring the usage and effects of it afterwards. It would be particularly helpful to see studies in multiple organizations in different sizes, different countries and work cultures, and tackling

different challenges and goals, for example trying to reduce a lack of motivation and high attrition in one organization and trying to innovate leadership and find new ideas with the collective creative help of their workforce in another organization. A meta-study could ultimately identify which organizations, goals, and challenges Digital Workplace Democracy is more or less suitable for.

Bibliography

Agora. (n.d.). Parliamentary Monitoring Organisations. Retrieved August 20, 2021, from https://www.agora-parl.org/resources/aoe/parliamentary-monitoring-organisations

American Psychological Association. (2021). The American workforce faces compounding pressure: APA's 2021 Work and Well-being Survey results. Retrieved March 12, 2022, from https://www.apa.org/pubs/reports/work-well-being/compounding-pressure-2021

Anderson, J., & Rainie, L. (2020). Many Tech Experts Say Digital Disruption Will Hurt Democracy. Retrieved August 31, 2021, from https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2020/02/PI_2020.02.21_future-democracy_REPORT.pdf

Arnold, H. (2013). The first ever, from ALL employees democratically elected CEO. Retrieved November 13, 2021, from https://hermannarnold.me/2013/06/05/the-first-ever-from-all-employees-democratically-elected-ceo/

Arnold, H. (2020). Why we have replaced leadership elections in a basic-democratic process with an actual "We are boss". *LinkedIn*. Retrieved November 13, 2021, from https://www.linkedin.com/pulse/why-we-have-replaced-leadership-elections-manner-actual-arnold

Assemblée nationale. (n.d.). Plateforme des pétitions de l'Assemblée nationale. Retrieved June 28, 2022, from https://petitions.assemblee-nationale.fr/

BBC News. (2019). 'Cancel Brexit' petition passes 2m signatures on Parliament site. Retrieved March 5, 2022, from https://www.bbc.com/news/uk-politics-47652071

Blackwell, C. W. (2003). Athenian Democracy: a brief summary. Retrieved May 18, 2021, from https://www.stoa.org/demos/democracy_overview.pdf

Bonfadelli, H. (2002). The Internet and Knowledge Gaps. *European Journal of Communication*, *17*(1), 65–84. https://doi.org/10.1177/0267323102017001607

Bös, N. (2020). Demokratie im Büro. *Frankfurter Allgemeine Zeitung*. Retrieved November 16, 2021, from https://www.faz.net/aktuell/karriere-hochschule/buero-co/partizipation-der-mitarbeiter-demokratie-im-buero-16800958.html?printPagedArticle=true#pageIndex_2

Broderick, R. (2020). A Conspiracy Theory That 5G Is Causing The Coronavirus Is Spreading Alongside The Pandemic. Retrieved August 27, 2021, from https://www.buzzfeednews.com/article/ryanhatesthis/conspiracy-theory-5g-coronavirus-qanon

Bundeszentrale für politische Bildung. (2016). Betriebsrat. Retrieved November 6, 2021, from https://www.bpb.de/nachschlagen/lexika/lexikon-der-wirtschaft/18880/betriebsrat

Cambridge Dictionary. (n.d.). Meaning of petition in English. Retrieved June 28, 2022, from https://dictionary.cambridge.org/dictionary/english/petition

Center for Learning in Action. (n.d.). What is Workplace Democracy? Retrieved May 24, 2021, from https://learning-in-action.williams.edu/breaking-the-mold/what-is-workplace-democracy/

Cheung, H. (2019). Brexit debate: Do petitions ever work? *BBC News*. Retrieved March 5, 2022, from https://www.bbc.com/news/world-47693506

Coleman, S., & Sampaio, R. C. (2017). Sustaining a democratic innovation: a study of three e-participatory budgets in Belo Horizonte. *Information, Communication & Society*, *20*(5), 754–769. https://doi.org/10.1080/1369118X.2016.1203971

Council of Europe. (2020). E-Democracy Handbook. Retrieved May 23, 2021, from https://rm.coe.int/11th-cddg-session-10-11-september-2020-e-democracy-handbook/16809f5a72

Council of the EU, & European Parliament. (2019). Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC. Retrieved July 12, 2021, from https://eur-lex.europa.eu/eli/dir/2019/790/oj

Deutscher Bundestag. (n.d.). Petitionen: Startseite. Retrieved June 28, 2022, from https://epetitionen.bundestag.de/

Dhingra, N., Samo, A., Schaninger, B., & Schrimper, M. (2021). Help your employees find purpose—or watch them leave. *McKinsey & Company*. Retrieved July 1, 2022, from https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/help-your-employees-find-purpose-or-watch-them-leave

e-Estonia. (n.d.-a). i-Voting — e-Estonia. Retrieved August 18, 2021, from https://e-estonia.com/solutions/e-governance/i-voting/

e-Estonia. (n.d.-b). Solutions — e-Estonia. Retrieved July 1, 2021, from https://e-estonia.com/solutions/

Ehin, P., & Solvak, M. (2021). Party Cues and Trust in Remote Internet Voting: Data from Estonia 2005–2019. In R. Krimmer, M. Volkamer, D. Duenas-Cid, O. Kulyk, P. Rønne, M. Solvak, & M. Germann (Eds.), *Electronic Voting* (pp. 75–90). Springer International Publishing. https://doi.org/10.1007/978-3-030-86942-7_6

European Commission. (2017a). Adequacy decisions. Retrieved July 1, 2022, from https://ec.europa.eu/info/law/law-topic/data-protection/international-dimension-data-protection/adequacy-decisions_en

European Commission. (2017b). EU-US data transfers. Retrieved July 1, 2022, from https://ec.europa.eu/info/law/law-topic/data-protection/international-dimension-data-protection/eu-us-data-transfers_en

European Parliament. (n.d.). Home | PETI | Committees. Retrieved June 28, 2022, from https://www.europarl.europa.eu/petitions/en/home

Federal Ministry of Labour and Social Affairs. (2015). Re-Imagining Work: Green Paper Work 4.0. Retrieved February 3, 2022, from https://www.bmas.de/SharedDocs/Downloads/DE/Publikationen/arbeiten-4-0-green-paper.pdf

Federal Ministry of Labour and Social Affairs. (2017). Re-Imagining Work: White Paper Work 4.0. Retrieved February 7, 2022, from https://www.bmas.de/EN/Services/Publications/a883-white-paper.html

Fisher, E. (2012). E-Governance and E-Democracy: Questioning Technology-Centered Categories. In D. Levi-Faur (Ed.), *The Oxford Handbook of Governance* (pp. 569–583). Oxford University Press.

Foley, J. R., & Polanyi, M. (2006). Workplace Democracy: Why Bother? *Economic and Industrial Democracy*, *27*(1), 173–191. https://doi.org/10.1177/0143831X06060595

Forcadell, F. J. (2005). Democracy, Cooperation and Business Success: The Case of Mondragón Corporación Cooperativa. *Journal of Business Ethics*, *56*(3), 255–274. https://doi.org/10.1007/s10551-004-5094-5

Fox, C. (2019). What is Article 13? The EU's copyright directive explained. *BBC News*. Retrieved July 12, 2021, from https://www.bbc.com/news/technology-47239600

Fulton, L. (2020). Codetermination in Germany: A Beginner's Guide (M. Maschke, Ed.). https://www.boeckler.de/pdf/p_mbf_praxis_2020_32.pdf

Giles, C., & Horton, J. (2020). US election 2020: Is Trump right about Dominion machines? *BBC News*. Retrieved October 22, 2021, from https://www.bbc.com/news/election-us-2020-54959962

GitHub. (2019). Vvk-ehk/ivxv. Retrieved July 9, 2021, from https://github.com/vvk-ehk/ivxv

House of Commons of Canada. (n.d.). Petitions. Retrieved June 28, 2022, from https://petitions.ourcommons.ca/en/Home/Index

Illing, S. (2021). Democracy and free speech: The First Amendment has a Facebook problem. *Vox*. Retrieved June 28, 2022, from https://www.vox.com/policy-and-politics/22356339/free-speech-facebook-twitter-big-tech-first-amendment

Instituto Brasileiro de Geografia e Estatística. (2020). Cidades@ | Minas Gerais | Belo Horizonte | Panorama. Retrieved August 16, 2021, from https://cidades.ibge.gov.br/brasil/mg/belo-horizonte/panorama

Kelly, J. (2021). The Future Of Work Will Be Five-Hour Days, A Four-Day Workweek And Flexible Staggered Schedules. *Forbes*. Retrieved June 27, 2022, from https://www.forbes.com/sites/jackkelly/2021/05/28/the-future-of-work-will-be----------five-hour-days-a-four-day-workweek-and-flexible-staggered-schedules/?sh=34c257416f10

Kersting, N. (2012). *Electronic democracy*. Barbara Budrich Publishers.

King, J. (2006). Democracy in the Information Age. *Australian Journal of Public Administration*, *65*(2), 16–32. https://doi.org/10.1111/j.1467-8500.2006.00479.x

Krings, T., Bönisch, M., Hofer, B., Kreismayr, K., Prieschl, L., & Weslp, L. (2015). Die Kommunikation zwischen Betriebsrat und Belegschaft am Beispiel der SKF Österreich AG. Retrieved May 26, 2022, from https://www.jku.at/fileadmin/gruppen/119/WOS/Working_Papers/Abschlussberichte_Forschungspraktika/AbschlussberichtSKF.pdf

Merriam, C. E. (1941). The Meaning of Democracy. *The Journal of Negro Education*, *10*(3), 309. https://doi.org/10.2307/2292736

Mind Share Partners, & Qualtrics. (2021). 2021 Mental Health at Work Report. Retrieved March 12, 2022, from https://mindshare.box.com/shared/static/dl36pf2ii3f6zlmoccyk5pd3ebxffgo9.pdf

Mondragon Corporation. (2019). Introduction, MONDRAGON Corporation. Retrieved March 11, 2022, from https://www.mondragon-corporation.com/en/about-us/

Mondragon Corporation. (2021a). Annual Report 2020. Retrieved March 11, 2022, from https://www.mondragon-corporation.com/urtekotxostena/?l=en

Mondragon Corporation. (2021b). Media Kit. Retrieved March 11, 2022, from https://www.mondragon-corporation.com/wp-content/uploads/docs/MONDRAGON-media-kit-EN.pdf

Mondragon Unibertsitatea. (n.d.). Cooperative university. Retrieved March 12, 2022, from https://www.mondragon.edu/en/meet-mu/cooperative-university

Naeem, S. B., Bhatti, R., & Khan, A. (2021). An exploration of how fake news is taking over social media and putting public health at risk. *Health information and libraries journal*, *38*(2), 143–149. https://doi.org/10.1111/hir.12320

NCEO. (2018). Research on Employee Ownership, Corporate Performance, and Employee Compensation. Retrieved May 24, 2021, from https://www.nceo.org/articles/research-employee-ownership-corporate-performance

Ober, J. (2007). The original meaning of "democracy": Capacity to do things, not majority rule. Retrieved May 14, 2021, from https://www.princeton.edu/~pswpc/pdfs/ober/090704.pdf

Peixoto, T. (2009). Beyond Theory: e-Participatory Budgeting and its Promises for eParticipation. *European Journal of ePractice*, (7). Retrieved August 16, 2021, from https://ecas.issuelab.org/resources/29689/29689.pdf

Petitpas, A., Jaquet, J. M., & Sciarini, P. (2021). Does E-Voting matter for turnout, and to whom? *Electoral Studies*, *71*, 102245. https://doi.org/10.1016/j.electstud.2020.102245

Pew Research Center. (2014). Demographic Profile of Nonvoters. Retrieved August 26, 2021, from https://www.pewresearch.org/politics/2014/10/31/the-party-of-nonvoters-2/10-31-2014_06/

Pew Research Center. (2021). Internet/Broadband Fact Sheet. Retrieved August 26, 2021, from https://www.pewresearch.org/internet/fact-sheet/internet-broadband/

Porto, H., Oliveira, M. R., & Silva, P. (2020). Social participation of the Constitution to the city: the participatory budget in Belo Horizonte. Retrieved August 17, 2021, from https://cjt.ufmg.br/en/2020/11/04/social-participation-of-the-constitution-to-the-city-the-participatory-budget-in-belo-horizonte/

Robinson, D., Perryman, S., & Hayday, S. (2004). *The drivers of employee engagement*. Institute for Employment Studies.

Rotzinger, J. (2020). Advice-Prozess: Entscheiden statt wählen. *Capital.de*. Retrieved November 13, 2021, from https://www.capital.de/karriere/advice-prozess-entscheiden-statt-waehlen

Russel, M., & Zamfir, I. (2018). Digital technology in elections: Efficiency versus credibility? Retrieved July 9, 2021, from https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2018)625178

Save The Internet. (n.d.). Stoppt die Zensurmaschine – Rettet das Internet! #Uploadfilter #Artikel13. Retrieved July 12, 2021, from https://www.change.org/p/stoppt-die-zensurmaschine-rettet-das-internet-uploadfilter-artikel13-saveyourinternet

Schumpeter, J. A. (1947). *Capitalism, socialism, and democracy* (Second edition). Harper & Brothers Publishers.

SCOOP4C. (2017). Estonian Internet voting. Retrieved July 9, 2021, from https://scoop4c.eu/cases/estonian-internet-voting

Semler, R. (1989). Managing Without Managers. Retrieved November 16, 2021, from https://hbr.org/1989/09/managing-without-managers

Shaw, D. (2021). The company where colleagues decide your salary. *BBC News*. Retrieved November 19, 2021, from https://www.bbc.com/news/business-56915767

Statistikaamet. (2021). Population figure. Retrieved August 18, 2021, from https://www.stat.ee/en/find-statistics/statistics-theme/population/population-figure

tagesschau. (2019). EU-Urheberrechtsreform: Zehntausende fordern Aus für Artikel 13. *tagesschau.de*. Retrieved July 12, 2021, from https://www.tagesschau.de/inland/eu-urheberrechtsreform-protest-101.html

Timonen, A. (2013). Digital Democracy in the Eu. *European View*, *12*(1), 103–112. https://doi.org/10.1007/s12290-013-0263-5

UK Government and Parliament. (2019). Archived Petition: Revoke Article 50 and remain in the EU. Retrieved March 5, 2022, from https://petition.parliament.uk/archived/petitions/241584

UK Government and Parliament. (n.d.). How petitions work. Retrieved March 5, 2022, from https://petition.parliament.uk/help

Unboxed Consulting. (2019). Petition Map. Retrieved March 5, 2022, from https://petitionmap.unboxedconsulting.com/?petition=241584

United Nations. (n.d.). Democracy. Retrieved July 1, 2022, from https://www.un.org/en/global-issues/democracy

Vaheesan, S. (2021). How Biden's FTC Can Go After Google and Facebook. Retrieved June 28, 2022, from https://democracyjournal.org/arguments/how-bidens-ftc-can-go-after-google-and-facebook/

Valimised. (2019). Riigikogu Elections | Elections in Estonia. Retrieved July 9, 2021, from https://www.valimised.ee/en/archive/riigikogu-parliament-elections/riigikogu-elections

van Dijk, J. (2020). *The digital divide*. Polity.

Wei, L., & Hindman, D. B. (2011). Does the Digital Divide Matter More? Comparing the Effects of New Media and Old Media Use on the Education-Based Knowledge Gap. *Mass Communication and Society*, *14*(2), 216–235. https://doi.org/10.1080/15205431003642707

Wilkinson, B. (2019). Revoke Article 50 petition to stop Brexit hits 3m signatures. Retrieved March 5, 2022, from https://edition.cnn.com/2019/03/22/uk/uk-brexit-petition-may-intl-scli-gbr/

Winther, G. (1999). Theory O-Is the Case Closed? *Economic and Industrial Democracy*, *20*(2), 269–293. https://doi.org/10.1177/0143831X99202006

World Bank Group. (2019). Individuals using the Internet (% of population) | Data. Retrieved August 24, 2021, from https://data.worldbank.org/indicator/IT.NET.USER.ZS

Zirakzabeh, C. E. (1990). Theorizing about Workplace Democracy Robert Dahl and the Cooperatives of Mondragón. *Journal of Theoretical Politics*, *2*(1), 109–126. https://doi.org/10.1177/0951692890002001005