

Civilised digitalisation

The foundations of and a guide to the ethical creation and use of digital products

Although great care has been taken in the preparation of this book, the author(s) and publisher accept no liability for the consequences of any errors or omissions. The weblinks consulted functioned correctly at the time of consultation.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, be it electronically or mechanically or via photocopy, recording or otherwise, without written permission.

ISBN: 9789403743042

Book cover: Puck Both, De Clercq Advocaten en Notariaat

<https://www.mijnmanagementboek.nl/>

Life is a strange thing.
Just when you think you learned how to use it,
It's gone.

Hello (Turn Your Radio On),
Shakespears Sister

Table of Contents

- Preface..... 5
- 1. Introduction..... 11
- 2. The value of digitalisation 17
- 3. The organisation as an ethical framework for action..... 33
- 4. Public value: utility 45
- 5. Public values: fundamental rights..... 53
- 6. The dark side of digitalisation..... 61
- 7. Humanity by design 75
- 8. Design approaches 101
- 9. Humanity by design in projects 127
- 10. What does civilised digitalisation mean for me as an IT professional? 135
- 11. Considerations and thesis statements..... 141
- 12. Questions to ChatGPT 145
- 13. About the VRI and KNVI..... 149
- 14. About the authors 151
- Appendix: From themes to standards and norms..... 155
- Index 163
- Bibliography 173

Preface

By Arda Gerkens

Technology has changed our lives at a dizzying pace. I often talk with my children about my childhood, during which we had no Internet and so could not spend the whole day online. But the digital revolution began even earlier. I remember how my grandmother, born in 1900, told me that her mother once said: ‘One day, it will become so crazy that you will press a button and the light will come on.’ Not long after that, houses were equipped with electric light. A milestone. And that same century, home automation¹ made its appearance in our homes. I myself grew up with Star Trek, a science fiction series. We now use many of the applications featured in Star Trek in our daily lives. Voice assistants, holograms and, of course, video calls. Now, we just have to wait until we can actually time travel, or say to Scotty: ‘Beam me up!’

Digitalisation: ‘Everything is technically possible’, someone once told me. ‘It might just take some time (and capacity) to reach that point.’ I wasn’t all that excited when the first personal computer entered my working environment. Just like I preferred playing records to buying CDs. I found computers to be impersonal. The typewriter did the job just fine anyway. That was, until I understood that PCs would not go away. And so the computer made its way into my home.

When I then started going online in 1995, I did so enthusiastically. A world had opened up for me. Back then, most websites were

¹ [Home automation - Wikipedia](#)

still created by academics, who distributed or published their research via the World Wide Web. I gained knowledge that enriched my world. And this world opened up not only due to the availability of so much new information, but also through the making of new contacts and the creation of new social environments. I started chatting with friends and strangers on the Digistad platform² and was amazed that I felt so connected to letters on a screen. I understood that we were dealing with something special.

The online world was full of opportunities to shape society from the bottom up. Most of us considered this the realisation of utopia. Based on the principle that the Internet was created equally and that users themselves pulled the strings, the notion prevailed back then – and still prevails today – that there should be no interference from others in the digital world. That notion then turned into dogma. For a long time, it was unthinkable that there would be any kind of regulation of the Internet, except what was needed to make it function properly, technically speaking.

During the 1990s, the PC became increasingly commonplace. Email providers, Intranet platforms and digital calendars facilitated our work. The Web 1.0, on which we only interacted with each other and otherwise had to make do with static websites created by individuals, attracted the attention of commerce. In the early 2000s, it began to be claimed that any reputable company must have an online presence. And slowly, Internet companies began to offer services we had not known in that form before. The digital world entered our home through the Internet. Applications

² De Digitale Stad opende deuren twintig jaar geleden – IT Pro – Nieuws – Tweakers

moved part of our offline lives online. And due to the infinite possibilities and apparent ease, cybercrime also increased at a rapid pace. The dark side of the digital world became visible. A tool that made our lives easier became a tool that made our lives more complex. By connecting the offline world with the online one, we invited malicious people into our home. A home that itself became increasingly connected to the online world, making it increasingly difficult to turn off. An online world that uses unknown algorithms to determine what we get to see. A world in which democratic control has fallen away and transparency is lacking.

The digital world, full of opportunities, is turning against us. Our private data is hacked, we are blackmailed with nude images, unfairly criminalised by algorithms and, instead of being of service, the “computer says no” hinders human contact. This all happened before our eyes and yet, all this time, the government has stood back and watched. Why it has done so is hard to guess. Was it because of the dogma that the government was not allowed to interfere in this world? Was it due to a lack of knowledge? Or due to sheer laziness?

This digitalisation, without democratic control and transparency, has penetrated every capillary of our society and has also been deployed by the government against its citizens, as the Dutch childcare benefits scandal painfully demonstrated. But even recent proposals from the European Commission pay little attention to any knowledge of the effects of legislation on the digital world. Perhaps this is why we are so keen for the government to keep its distance, because how can a government take proper action when it itself shows so little understanding of digitalisation?

Meanwhile, we have entered a new era: AI (artificial intelligence),³ blockchain,⁴ the Internet of Things⁵ and smart robots. As digitalisation rolls on, we sometimes look back bemusedly and begin to wonder what we are actually doing. What kind of world have we created? If everything is technically possible, shouldn't we make ethical choices before it's too late? Why have we left the digital domain to companies whose only goal is to make a lot of money? Who are thus impervious to the remedial regulations that are now increasingly being introduced. Why do we allow algorithms to determine how we should live, what we should think and what we should learn? And especially what we want to buy? How should we deal with deepfakes⁶ and ChatGPT⁷, which are causing quite a stir? Do we want the administration of our country to be advised by computers on the implementation of its policies? In recent years, such questions have been increasing rapidly. We can no longer remain neutral. We cannot continue to do nothing. Digitalisation has taken such a prominent place in our daily lives that not setting frameworks and not drawing boundaries can be disastrous, as recent undemocratic developments in our society have illustrated. If we do not digitise civilly, I fear that digitalisation will destroy our civilisation. Even now, the Internet has already degenerated into a modern-day whipping post to which people are nailed with ease. Civilised digitalisation provides guidance for the debate that is sorely needed and is thus a book that should be on the bedside

³ [Artificial intelligence - Wikipedia](#)

⁴ [Blockchain - Wikipedia](#)

⁵ [Internet of things - Wikipedia](#)

⁶ [Deepfake - Wikipedia](#)

⁷ [ChatGPT - Wikipedia](#)

table of not only every policy maker, but also of the commissioners and creators of digital facilities. After all, be it consciously or unconsciously, these people make the choices that can turn people into victims. These choices, expressed in the values 0 or 1, yes or no, true or false, determine whether our digital society slips further into a kind of dystopia⁸ or remains civilised.

⁸ [Dystopia - Wikipedia](#)

1. Introduction

By Leon Dohmen

The introduction of ChatGPT (Wikipedia, 2022)⁹ led to huge hype and media coverage in the following months. A number of passages in this book were written with the help of ChatGPT. Rarely in the evolution of digitalisation has a new product been as massively embraced and, at the same time, as heavily criticised in such a short space of time. The November 2022 launch and lightning-fast adoption of ChatGPT has significantly raised the debate on artificial intelligence and its opportunities and threats. Prominent figures even called for a temporary stop to the tool in March 2023 (NOS, 2023).¹⁰ Meanwhile, the European Union has reached an historic agreement on rules for artificial intelligence: the AI Act. The Act classifies applications of AI by their risks (De Limburger, 2023).¹¹ The greater the risk, the stricter the rules. The Act is expected to be in force by 2026. ‘Artificial intelligence is a collection of technologies that combine data, algorithms and computational power. AI technologies can help us find numerous solutions to our societal problems’ (Europa decentraal, 2021).¹² However, digitalisation comprises much more than just artificial intelligence: ‘Digitalisation is the transition of information into a digital form, that is, into a form that can be used by electronic devices such as computers. The term may refer to the data itself,

⁹ [ChatGPT – Wikipedia](#)

¹⁰ [Techprominenten pleiten voor tijdelijke rem op 'risicovolle' ontwikkeling AI \(nos.nl\)](#)

¹¹ [EU eens over regels voor kunstmatige intelligentie – De Limburger](#)

¹² [Artificial Intelligence – Europa decentraal](#)

to associated procedures or to society in general’ (Wikipedia, 2020).¹³ Almost all innovations, such as ChatGPT and digitalisation more broadly, offer opportunities but also have a downside. They create a divide in society, with people on the one side being hopeful and believing in the goodness of new technology and those on the other being critics who fear an even greater level of uncontrollability and undesirable side effects of new technology. Potential copyright violations, discrimination, the misuse of personal data and financial fraud are just some of the well-known negative examples, which have resulted in increasing regulations and legalisation in the field of digitalisation. An interesting comparison can be made here with traffic. As increasingly different modes of transport came along and as roads became busier and more dangerous, the need for regulations, such as driving on the right in the Netherlands, increased. This rule has existed since 1906 (Autosnelwegen.nl, 2022).¹⁴ Constant adjustments in infrastructure and the introduction of traffic rules have ensured that almost everyone can participate in traffic: scooters, cyclists, pedestrians, cars, buses, lorries, motorcyclists, tractors, etc. Rules promote safety and civilised behaviour in traffic. Compared to traffic, digitalisation is still relatively young. Civilised digitalisation – the title of this book – means keeping everyone in society safe in terms of advancing digitalisation and making ethically responsible choices in the development and creation of digital facilities, such as apps and websites. Ethics means thinking critically about the intent of digital applications like apps on the

¹³ [Digitalization - Wikipedia](#)

¹⁴ [Autosnelwegen.nl – 3. 1890-1927 – Opkomst van de auto](#)

part of organisations, engineers and professionals. This includes reflecting on and being aware of the (undesirable) damage an app could cause and how this could be mitigated or prevented. The human touch is central to this. For a digitally civilised society, ethical digitalisation is a necessary condition.

The AI Act that led to an historic agreement in December 2023, as reported at the beginning of this introduction, should ensure that the European Union takes a leading role in exploiting the economic opportunities of AI. But the Act should also ensure that big tech companies are prevented from violating public values, such as privacy, autonomy, justice and human dignity. Public values ‘describe what we value as a society’ (Digitale Overheid, 2023).¹⁵ Digital superpowers regularly abuse their position of power and – unashamedly – make extortionate amounts of money by doing so. They prioritise their revenue models much more than their duty of care and respect for people's rights.

The concept of public values is an important theme in this book. They cannot be separated from the question of whether we should strive to digitalise everything possible and permissible. Some public values, such as privacy, are protected by legislation that specifically addresses them, such as the General Data Protection Regulation (Wikipedia, 2022).¹⁶ For other values, such as human dignity and autonomy, this is more difficult. There is no or much less legislation for these values, resulting in a large grey area. Among other things, ethical design guidelines should ensure that new digitalisation solutions are designed, created and made available with more decency and respect for people. That is why

¹⁵ Publieke waarden centraal Toolbox Ethisch Verantwoorde Innovatie – Digitale Overheid

¹⁶ General Data Protection Regulation – Wikipedia

this book is called Civilised digitalisation. The underlying principle is that commercialising and making money from digitalisation is permissible, but only if people are not abused, discriminated or excluded. How digital facilities can satisfy this principle – in other words, can be constructed in an ethically responsible way – is the main theme of this book. To this end, we introduce humanity by design as an ethical approach to quality. Humanity by design is ‘a (design) guide to achieving apps and websites that put the fundamental dignity of individual human beings as end users at the centre’ (Dohmen, Ruoff - van Welzen, Baaijens, van Duuren, & de Pous, 2021).¹⁷ With this book, we hope to raise awareness among those involved in the design and creation of digital facilities, such as policy makers, commissioning parties, designers, programmers, product owners and user representatives. Achieving civilised digitalisation through humanity by design is no easy feat. It requires knowledge and insight from multiple (multidisciplinary) disciplines. This book is written by professionals with academic, legal and practical digitalisation backgrounds. This combination of theory and practice offers a handle on how to design and create digital facilities ethically. The first part of this book provides frameworks and tools. Those who master them will be able to apply the knowledge and experience gathered in this book in practice and have a nuanced discussion about ethical digitalisation. Chapters two to five outline the theoretical foundations. These provide insight and create an understanding regarding the tension between economic utility (revenue models) and the protection of public values and human rights. These

¹⁷ [Humanity by design – ManagementSite](#)

chapters lay a solid foundation for the second part of the book, from chapter six onwards, which addresses wrongdoings and explains humanity by design, and can be applied as a practical tool for safeguarding public values. References to current and forthcoming legislation and norms and standards are cited here. Discussions, choices and the prioritisation of values in the design process are linked to risk analyses and privacy impact assessments, resulting in a plan of measures. From this, relevant design approaches, standards and norm systems are proposed. This makes the safeguarding of public values testable and verifiable in the subsequent creation process. Chapter ten discusses what civilised digitalisation means for registered computer scientists (RI) and chapter eleven presents a number of considerations and propositions. Chapter twelve comprises a dialogue with ChatGPT on the topic of humanity by design. Chapters thirteen and fourteen present the authors and the professional associations to which they belong. The appendix at the end of this book contains an overview of public values, ethical questions to be posed and the relationship to the standards and norm systems to be applied.

The terms digital product, digital application and digital facility are used interchangeably and have the same meaning in this book. Apps and websites are often used as concrete examples. Readers are free to consider other digital products in their place, such as smartphones or cameras in public spaces. The authors decided to use as many publicly accessible references as possible, including Wikipedia articles. From here, further scientific and professional literature can be accessed. The terms IT, ICT (Wikipedia, 2021)¹⁸

¹⁸ [Information technology - Wikipedia](#)

and digitalisation (Wikipedia, 2020)¹⁹ have the same meaning in this book. Emphasising abuses and violations may give the impression that this book tries to paint a negative picture of advancing digitalisation. However, that is certainly not the intention: ‘The question is not whether we want digitalisation in our society, but how civilised we want it.’ The authors hope you enjoy reading this book!

Leon Dohmen, Roermond, February 2024.

¹⁹ [Digitalization - Wikipedia](#)

2. The value of digitalisation

By Leon Dohmen

Digitalisation has evolved in recent decades from a unilateral tool for improving the efficiency of administrative processes, like payrolls, financial administrations and inventory management, to a dynamic, sort of virtual sense that evokes different emotions and social value perceptions simultaneously (Dohmen, 2018).²⁰

Emotional and social value

Emotional value relates to enjoyment, satisfaction and attachment in the use of digital facilities such as Facebook, Instagram, TikTok and video games. A virtual visit to the Rijksmuseum by means of virtual reality glasses elicited emotional responses, such as ‘Goodness, how fun!’ and ‘I really felt like I was there in that museum!’ from elderly people in a nursing home (KPN, 2021).²¹ Another long-standing, well-known example is the robotic emotional support seal Paro, who causes people with dementia to feel happy more often and reduces symptoms of depression (Wikipedia, 2022).²²

Social value is about standing out and profiling yourself in relation to others, and maintaining your identity or image through, for example, LinkedIn and vlogs on YouTube. During the COVID-19 pandemic, digitalisation was of critical importance. Working from home and ordering online kept large parts of the

²⁰ [De evolutie van IT: waar gaat het heen? – Blogit](#)

²¹ [Bewoners verpleeghuizen met VR-bril ‘op bezoek’ in het Rijksmuseum – YouTube](#)

²² [Paro \(robot\) – Wikipedia](#)

economy going. Video calling enabled visual contact with family members, friends and acquaintances and allowed psychologists to provide care to their clients. These are just some examples of the value of digitalisation during societal lockdowns. Digitalisation was a part of vital processes in the Netherlands (Nationaal Coördinator Terrorismebestrijding en Veiligheid, 2023).²³

Framework of values

The value perceptions of digitalisation (or of IT or ICT) are intertwined and dynamic. They may compete yet also complement or overlap with one another. They are techno-economic or socio-technical oriented. In the former orientation, the focus is on the economic performance or economic benefit of digitalisation. The latter orientation is concerned with the social aspects of technology in its relationship and interaction with humans. The framework of values distinguishes eight core values. In addition to emotional and social values, it also comprises the following core values and their subdivisions (Dohmen, 2015):²⁴

- Utility: convenience, safety, quality, efficiency, service;
- Cognitive: stimulating activity, excitement and curiosity, knowledge growth;
- Universal: well-being, protection and sustainability;
- Traditional: loyalty to a product;
- Spiritual: luck and superstition;

²³ [Overzicht vitale processen | Vitale infrastructuur | Nationaal Coördinator Terrorismebestrijding en Veiligheid \(nctv.nl\)](#)

²⁴ [Dynamic IT Values and Relationships: A Sociomaterial Perspective | SpringerLink](#)

- Singularity: superhumanity, such as superintelligence and immortality.

The concept of dynamic values is derived from three basic theories:

1. Sociomateriality (Wikipedia, 2021)²⁵ assumes the permanent and inseparable connection between technology, people and work (organisations);
2. The identification of public values and their interrelations and prioritisation (Jørgensen & Bozeman, 2007);²⁶
3. User values as seen from multiple perspectives: anthropology, sociology, philosophy, business and economics (Boztepe, 2007).²⁷

Our work and private spheres used to be strictly separated. By now, almost everyone is connected and reachable by mobile devices any time and anywhere (Dohmen, 2012).²⁸ Organisations have improved their reach and performance by deploying so-called social tools (Bughin, Hung Byers, & Chui, 2011).²⁹ The convenience of being accessible any time, anywhere simultaneously increases psychological strain and stress. Greater efficiency – as an economic objective – leads to greater monotonous work and comes at the expense of enjoyment and

²⁵ [Sociomateriality – Wikipedia](#)

²⁶ [Public Values: An Inventory – Torben Beck Jørgensen, Barry Bozeman, 2007 \(sagepub.com\)](#)

²⁷ [User Value: Competing Theories and Models \(ijdesign.org\)](#)

²⁸ [De waarde van IT: van bedrijfsmiddel tot virtueel zintuig – Blogit](#)

²⁹ [How social technologies are extending the organization | McKinsey](#)

challenge (Orlikowski, 1992).³⁰ A laboratory coordinator at Maastricht UMC+ complained about this during a strike for a lower workload and increased wages in October 2021 (Jeuken, 2021).³¹ However, complaints do not solely revolve around workload and wages: ‘It’s not just the workload. People are missing a challenge. The analytical work is getting less and less, as this is all becoming automated.’ The pursuit of too much efficiency in digitalisation by an organisation’s management can thus simultaneously have negative consequences for job satisfaction. Other notable side effects include panic (nomophobia) when people forget or lose their smartphones. Being attached to your smartphone can lead to compulsive use or even addiction (Dohmen, 2015).³² In addition, the problem of cybercrime is becoming an increasing threat to society and to the economy (Dohmen & Schekkerman, 2015).³³ Values such as efficiency, ease of use and safety are in almost permanent competition with each other. Digitalisation that is not secure is not trusted, and thus not used. In contrast, there are growing concerns and complaints that – increasingly stringent – security comes at the expense of workability and accessibility. Finding the right balance is a major challenge and varies from situation to situation. The value of IT is not absolute but a sum of positive and negative value perceptions, also expressed as net value.

³⁰ [SWP-3141-22161783-CCS-TR-105.pdf \(mit.edu\)](#)

³¹ [Hiervoor staken deze werknemers van MUMC+: ‘Het voelt niet g... – De Limburger](#)

³² [Dynamic IT Values and Relationships: A Sociomaterial Perspective | SpringerLink](#)

³³ [CGI: Cybercrime bedreigt samenleving en economie \(consultancy.nl\)](#)