Welcome to the dark side of web development: managing tensions between business strategy and business ethics.

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WELCOME TO THE DARK SIDE OF WEB DEVELOPMENT: MANAGING TENSIONS
BETWEEN BUSINESS STRATEGY AND BUSINESS ETHICS.

ABSTRACT

As digital technologies become more pervasive in our daily lives, both hopes and worries arise regarding their design, development, and implementation. The contrast between design choices that originate from business strategy or from ethics becomes more and more visible. While both business strategy and business ethics in the digital world are increasingly researched, the relationship between them has stayed largely unknown. To explore this further, this thesis focuses on the research question: "How do Dutch web developers manage tensions between business strategy and business ethics?".

For the context of this study web developers are defined as individuals who are involved with the designing or building of websites or web applications. The designers can be divided into three groups: User Experience (UX) designers, Interaction (IxD) designers and User Interface (UI) designers. Although these are three different specialisations, there is a lot that overlaps. The category of builders, on the other hand, consists of people who code, construct, analyse and manage websites or web applications. They are often divided into three categories as well: front-end developers, back-end developers and full-stack developers

A qualitative approach was used in this research, as this research used language to try to comprehend concepts based on the experiences of a population. A total of 11 in-depth interviews with web developers in the Netherlands were conducted. Studying this data, three themes emerged: decisions based on feelings, unfamiliarity and design choices. First, decisions based on feelings illustrates how participants use their personal feelings in decision-making when it comes to ethics, privacy and strategy. The second theme, unfamiliarity, shows the unawareness of the interviewees about guidelines, their company's strategy and ethics in web development. The last theme of design choices touches upon user-centred design, unethical design and contradicting design choices.

All in all, the results of this research show that ethics play a large role in the daily of web developers and that there is a strong relationship between ethics and business strategy.

KEYWORDS: strategy as practice; ethics as practice; web development; design choice; unfamiliarity

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1. Introduction

Imagine being on a walk with friends and one of them is enthusiastically talking about their new shoes. Back home you open your phone and start scrolling through some news sites. One of the advertisements grabs your attention. There, on your screen, without searching for them, are your friend's new shoes. The example above might already be familiar to some and shows the pervasiveness of technologies nowadays. As digital technologies become more pervasive in our daily lives, both hopes and worries arise regarding their design, development, and implementation (Cath et al., 2018). The contrast between design choices that originate from business strategy or from ethics becomes more and more visible. While both business strategy and business ethics in the digital world are increasingly researched, the relationship between them has stayed largely unknown (e.g., Bösch et al., 2016; Floridi, 2019; Galaggher, 2020; Olson et al., 2021; Tomanek et al., 2014). To explore this further, this thesis will focus on the following research question: "How do Dutch web developers manage tensions between business strategy and business ethics?".

1.1 Theoretical relevance

There are few studies that link strategy behaviour to questions of ethics as a practice in a digital setting, such as web development. Much knowledge has been gained about strategy: from military strategy (e.g., Tzǔ, 1994) to strategy in organizations (e.g., Rasche, 2008). However, this has mainly been about the effect strategy has on performance. Next to the mainstream strategy research, the area of strategy as practice focuses more on the process of strategy: an in-depth analysis of what occurs in strategy creation, planning and execution (Golsorkhi et al., 2015; Whittington, 2006). Thus, strategy as practice helps to increase understanding of what others do, what practices they follow, and how this relates to certain outcomes and contexts. The field of strategy as practice can therefore further increase knowledge about strategy use in digital settings, as little research has been conducted on the subject (Olson et al., 2021).

In the same way as strategy, business ethics can be seen as a practice. Instead of focussing on models that "define, predict or judge", ethics as practice focuses more on how ethics are ingrained differently in various practices that work in a contextualized and active manner (Clegg et al., 2007, p. 111). When looking at ethics in organisations, competitiveness can be seen as one of the reasons for unethical behaviour (Chau & Siu, 2000; Pierce et al., 2013). This is sensible, as Nietzsche (2016) early on established that ethics and power relations are intricately intertwined. In this way, ethics is linked to strategy, since corporate strategy is concerned with deciding "how to compete" (Olson et al., 2021, p. 286). Some researchers furthermore argue that business strategy should be constructed on

an ethical foundation (Freeman & Gilbert, 1988). This can be seen as a reasonable viewpoint, as workers on virtually every organizational layer come into contact with strategy (Mantere, 2005; Spender & Grant, 1996).

All in all, there is has been research conducted on both ethics and strategy in a digital setting, however literature on the relationship between them is missing. This research will help contribute to that discourse.

1.2 Societal relevance

Currently, the digital world continues to grow. IT has become an overcrowded market with a shortage of workers (Dominus, 2022; Sloyan, 2022). As a result, labourers are not aware of the possible negative consequences of their creations (e.g., Narayanan et al., 2020). One of these consequences is the issue of ethics in the digital age. Over the years, the ethical responsibility of web developers over their products has been questioned in society (e.g., Chandler & Barrett, 2019; McMullan, 2014; Pancake, 2018). That the ethical part of web development processes is being questioned is not peculiar. Online web services, like social media and e-commerce websites, are another example of unethical web products. These services are becoming increasingly skilled at tricking users into disclosing personal information (Bösch et al., 2016), despite regulations being implemented (e.g., Forbrukerrådet, 2018; Laboratoire d'innovation numérique de la CNIL, 2019).

With currently almost everyone being a user of web services, the diversity of the web service's userbases has grown. The need for development speed in combination with a high level of vacancies forces web services to cut corners and develop more towards a generic user. Because of this, the diversity of the userbase is not always matched, leaving a large part of the web services unusable for non-generic users, such as blind or illiterate people. As web applications and services are becoming more and more the backbone of society, digitalisation and the growing userbase will only demand more sophisticated products.

1.3 Practical relevance

Researching the level of tension between strategy and ethics in web development has its practical relevance as well. By gaining insights into the concepts under study, both web developers and their managers, could expand their knowledge on the subject. This could help them make more informed decisions about how strategy relates to ethics. These improved judgements will allow them to consider the ethical implications of their decisions and work.

1.4 Chapter outline

This thesis will continue after this introduction with an in-depth analysis of currently available literature on the subject. After the theoretical framework, the methods and procedures of this research are described in the methodology chapter. In the following chapter, the results are presented and interpreted. Next, the results are compared with the literature from the theoretical framework, a reflection on the conducted research, implications of the found results, limitations of the study and suggestions for further research will be shared. Finally, this thesis will end with a summarizing conclusion.

2. Theoretical framework

To better understand business strategy as a social practice and business ethics as practice, including their connection to web development, all three distinct fields of research will be outlined in this chapter.

2.1 Business strategy as a social practice

The concept of strategy has been discussed for a long time. While there are different definitions of the concept, this research uses Whittington's (2006) definition of strategy: something that individuals do with things of which the effects spread through whole societies. Therefore, it can be researched in a variety of ways (Whittington, 2007). One of those is viewing strategy as a practice. Research on strategy-as-practice (SAP) is not about theory, but more about how strategy is practised (Kohtamäki et al., 2018). As a result, SAP researchers have come up with their own definition of strategy. According to them, strategy is primarily something that individuals do, showing a strong emphasis on strategy practitioners (Jarzabkowski & Spee, 2009; Whittington, 2006).

Practitioners is one of the three concepts to understand SAP defined by Whittington (2006). The other two are praxis and practices. To begin with, strategy practitioners are individuals who create, shape and implement strategies (Whittington, 2006). Practitioners are not only the managers in organizations, as plenty of other jobs contain strategy work (Mantere, 2005; Spender & Grant, 1996). Next, the term practices refers to the "routines and norms" of strategic work (Whittington, 2007, p. 1579). Whittington mentions that these practices can be standalone (e.g., doing strategy sessions) as well as implied in strategy tools (e.g., computer software). And finally, strategy praxis is concerned with strategy actions, or what individuals do in practice (Whittington, 2006, 2007).

2.2 Business ethics as practice

Just like with strategy, there are multiple definitions of ethics. In this research Bietti's (2021) definition is used: "the study of good and bad character, appropriate behaviour, and virtue" (p. 3). When it comes to business ethics, there are different views on ethical issues as well. On the one hand, there are researchers who think ethics is an individual issue (Ibarra-Colada, 2002; Soares, 2003). Others, on the other hand, believe that ethics is ensured by as well as through bureaucratic structures (Du Gay, 2000). This research will utilize a more mixed view of ethical issues, as suggested by Clegg et al. (2007), in which ethical issues do not have a single actor. In addition, Clegg mentions that researching business ethics is difficult as there are many frameworks that individuals in organisations use to make value judgments and decisions. Together with a growth in various ethical

guidelines, their diversity creates inconsistency and misunderstanding among their users, especially in terms of which one is most suitable (Floridi, 2019). The reason for these problems is related to the origin of ethical issues. Carter et al. (2007) argue that there is no single solution for ethical problems as they arise in a variety of situations and contexts. Clegg et al. (2007) agree with this, naming subjection to contestation as a certainty of ethics. Thus, instead of analysing the existing ethical guidelines and frameworks, this research will focus more on ethics as a practice.

2.2.1 Recognising ethical issues

When ethical standards are put into practice there are threats that can undermine them. Floridi (2019) names five risks when it comes to digital ethics: shopping, bluewashing, lobbying, dumping and shirking. First, ethics shopping happens at the end of the production process. Rather than implementing and testing new behaviours (e.g., decisions, procedures and strategies) against public standards, matching parts are selected from various ethical standards to fit existing behaviours. This results in a kind of Frankenstein's monster: various pieces stitched together causing them to lose their purpose overall. Next, Floridi describes ethics bluewashing as making unjustified or deceptive statements about applied ethical standards in order to look more ethical than actually is the case. An example would be e-commerce websites showing an unobtained quality mark. Ethics lobbying can be understood as the exploitation of digital ethics in order to postpone, alter, replace or reject required regulations, or its administration, on digital processes and products. Most of the time this originates from actors that cannot or will not comply with the proposed regulations. The fourth risk is ethics dumping, which consists of two parts. First, research on digital processes and products are exported to other areas to bypass local ethical standards. The results of the unethical research are thereafter imported for the second part. This could mean that research on ethics is done in another country, one that has more acceptable ethical standards, while the results of this study are applied in a country with stricter ethical standards. Finally, ethics shirking happens when double standards are applied as the result of injustice or selfish motives. For instance, less ethical labour will be done when an actor decides not to comply with upcoming regulations. This will lead to a perception of lower ethical standards overall in that context.

2.3 Web development as a context

With the rise of the World Wide Web at the beginning of the 1990s a new profession surfaced, that of web developers. For the context of this study web developers will be defined as individuals who are involved with the designing or building of websites or web applications. The designers can be divided into three groups: User Experience (UX) designers, Interaction (IxD) designers and User

Interface (UI) designers (Robbins, 2018). Although these are three different specialisations, there is a lot that overlaps. As a result, it is not unusual for a single team member to handle more than one of these roles. Robbins describes the role of the UI designer as one that focuses more specifically on the page's functional structure and the elements that users use to navigate or complete tasks. IxD designers are concentrating their efforts more on making the site as simple, efficient, and enjoyable to use as possible. Finally, the role of UX designer overlaps with the previous ones, as all elements of a user's contact with a product are considered in UX design, including how the product is viewed, learnt, and used.

The category of builders, on the other hand, consists of people who code, construct, analyse and manage websites or web applications. They are often divided into three categories as well: front-end developers, back-end developers and full-stack developers (Wales, 2021). Front-end developers generally work on the portion of a website that the user will interact with, whereas back-end developers work on the part that controls logic, databases, servers, etc. (Borowski, 2017). Full-stack web developers work on both the front-end as well as the back-end.

The following two sections will further explore strategy and ethics and their presence in web development.

2.3.1 Strategy and web development

Since its introduction in 1970 the waterfall development method has been widely used (Tomanek et al., 2014). In this method, all requirements are defined in advance. With no option to change the scope of the project, the solution is then "designed, coded, tested and released" (Tomanek et al., 2014, p. 550). Due to the clearly defined phases of this method, managing methods started to appear that aligned with the waterfall's different phases (e.g., PRINCE2). However, this way of working did not prove to be suitable for the changing industry.

Due to ever-changing company requirements, the modern economic climate required a faster time to market and increased flexibility (Basl & Doucek, 2012). As a result, Beck et al. (2001) came up with the Agile Manifesto. The manifesto defined 12 principles to enable teams to keep up with the fast changes in individuals, technologies and organizations (Cockburn, 2005). While there are mainly positive sounds on agile working, it has been criticized as well. Due to the brief manifesto, there is a lot up to interpretation. For instance, some experts argue that the manifesto should talk about usable software instead of working software so that the usability aspect may receive more attention (Coplien & Bjørnvig, 2011). Despite the critiques, agile working became soon an industry-standard through the Scrum framework.

Scrum's popularity rapidly increased at the beginning of the 2000s, making it the most popular agile framework around the world (Scrum.org, n.d.; Sutherland et al., 2020). Since its creation in the 1990s by two of the Agile Manifesto authors, Schwaber and Sutherland, millions of developers learned to use it through the Scrum Guide (ScrumGuides.org, n.d.; Sutherland et al., 2020). While scrum is rather simple when it comes to structure (the Scrum Guide consists of no more than 20 pages) it allows teams to extend or improve to their own preference (Sutherland et al., 2020).

In the Scrum Guide, Schwaber and Sutherland (2020) define a few roles inside a scrum team, namely: scum masters, product owners and developers. Each team can have multiple developers, but only one scrum master and one product owner. The product owner is responsible for maximizing the value of the end product, mostly by managing the scrum's backlog of tasks. Next, the scrum master is responsible for everyone's right understanding, both inside and outside the team, of scrum in a theoretical and practical way, for a smooth continuation of the process.

Aside from the individual roles in scrum, there are a few other things that shape the methodology. Sprints are the centrepiece events of a scrum. These recurrent events have a maximum duration of one month and have a fixed length. Sprints are filled with tasks from the backlog before started with no room for changes while being underway. Daily Scrum is another important part of scrum. In the 15-minute daily meeting, all team members share their progress and issues they experience in the current sprint tasks. Schwaber and Sutherland (2020) describe this as a way to "improve communications, identify impediments, promote quick decision-making, and consequently eliminate the need for other meetings" (p. 9).

In this way Scrum can be seen as consisting of multiple SAP practices, because they are frequently referred to as common practices and procedures for, among other things, acting (Whittington, 2006). Moving away from IT development approaches like the waterfall method, in which everything related to a product was defined beforehand, and towards more situational approaches like Scrum results in a shifting from top-down strategic planning towards a more SAP approach as well (Horst et al., 2019).

2.3.2 Ethics and web development

The first discussions about website ethics emerged a few years after the first websites were launched (Woodbury, 1998). Especially the issue of privacy surfaced in the mid-1990s (Bösch et al., 2016). As a response to these issues, *Privacy by Design* was formed, consisting of seven principles: proactive, not reactive (1), privacy as the default setting (2), privacy embedded into design (3), full functionality (4), end-to-end security (5), visibility and transparency (6) and respect for user privacy (7) (Cavoukian, 2011). Although these principles helped create ethical guidance, they are often

criticised for being "too unspecific to be directly applied to a development process" (Bösch et al., 2016, p. 240).

A couple of years later the interest in web ethics was sparked again. This time by the introduction of the concept of *dark patterns* (Brignull, n.d.). Brignull defines dark patterns as website and app tricks that force you to do something you did not want to do. While dark patterns are sometimes the result of something unanticipated by their creator, they are often created intentionally (Mathur et al., 2021). In addition to being the result of unethical design choices, many dark patterns are already unlawful, as regulations against them have been developed (Mathur et al., 2021; Narayanan et al., 2020).

That users can easily be manipulated by dark patterns can be explained. The aesthetic appeal of a website namely influences both consumer trust and their intentions (Swaak et al., 2009). Additionally, previous research shows that companies with a higher customer focus do better in terms of corporate social responsibility (CSR) (e.g., Jansson et al., 2017; Kiessling et al., 2016). CSR is a multidimensional concept that represents a company's reaction to a variety of stakeholders' expectations and needs (Yuan et al., 2018). Additionally, Yuan et al. note that CSR has a favourable effect on customers' opinions of companies and their buying habits. Focusing on the end user in web development might not always be easy, as it would be challenging to persuade others of its significance (Swaak et al., 2009). However, it is ethical difficulties like this in which ethics as practice serves its purpose. Ethics as practice entails a willingness to accept and discuss ethical challenges that were left out in favour of performance (Clegg et al., 2007).

3. Methodology

The following chapter describes in detail the methods and procedures of this research. To ensure this research maintains a high level of transparency, validity and reliability, this chapter will provide detailed information on methodological decisions, data collection, data analysis and quality criteria (Meyrick, 2006; Whittemore et al., 2001).

3.1 Choice of method

This research aims to understand how Dutch web developers manage tensions between business ethics and business strategy. As social relevance has shown, web development has become an important part of society. Additionally, theoretical relevance showed little research has been done on the subject. Therefore, a quantitative approach to evaluate objective theories by analysing the relations between variables (Creswell & Creswell, 2018), would not be of fit. Instead, because ethical issues are dependable on context and situations (Carter et al., 2007; Munro, 2016), this research will document web developers' individual experiences to acquire a rich knowledge of their views in connection to the concept under study (Brennen, 2017). This will be done though using language to try to comprehend concepts based on the experiences of a population. As a result, this approach will assist in understanding the various values and meanings associated with web development as well as the relationships that exist between web development and society.

In order to address the research question, it is necessary to figure out what and how web developers think about business ethics and business strategy. Conducting interviews with individuals will aid in a better understanding of how they perceive and experience the world (Kvale, 1996). More specifically, semi-structured interviews will be used since they allow comparison between participants and leave room for further exploration by using follow-up questions (Rubin & Rubin, 2005). By using these in-depth interviews it is possible to acquire a far more intimate perspective on the concept under study (Rubin & Rubin, 2005). Additionally, semi-structured interviews will allow meaning-making responses, which is vital given the exploratory nature of this study (Legarde et al., 2003).

3.2 Data collection

There are 400,000 IT professionals in the Netherlands, of which 55,000 are entrepreneurs (Centraal Bureau voor de Statistiek [CBS], 2021). Moreover, web developers account for 4,3% (17,200) of IT professionals (De Wit & Kalkhoven, 2019). In addition, a notable difference can be

observed between the number of females (16.5%) and males (83.5%) with an IT profession (CBS, 2021).

In the academic world, there is a constant discussion concerning the sample size in qualitative research. Scholars generally agree that saturation is the solution to the issue of the proper sample size (Dworkin, 2012; Malterud et al., 2016; Mason, 2010). Saturation happens when data collection ceases producing fresh, usable information. In terms of the ideal sample size, it depends a lot on a variety of factors. However, a major part of the academic literature suggests that the saturation point lies between 5 and 50 participants (Dworkin, 2012). To guarantee a good balance between in-depth observations, feasibility and saturation, this research will be using a sample size that lies in the given range.

Due to not all employed web developers being known, this research used a non-probability sampling method (Sekaran & Bougie, 2016). To ensure data relevancy, typical purposive sampling was used in which participants that meet the research's needs and are average cases are selected (Flick, 2009; Morse, 2004). In addition, snowball sampling was used for the inclusion of data sources that might have been unable to access initially (Atkinson & Flint, 2004).

Participants were initially be recruited through business-focused social media LinkedIn. LinkedIn is quite popular in the Netherlands, with even more users than the Dutch working population (CBS, 2021; NapoleonCat, 2022). It should be mentioned here that LinkedIn only blocks fake accounts, thus the number of real user accounts could be lower (Hallman, 2021). Potential candidates were searched on the social medium by using various roles web developers can have, as mentioned earlier: web developer, UX designer, UI designer, IxD designer, front-end developer, back-end developer and full-stack developer. Found web developers were filtered to include only Dutch-employed web developers with at least one year of experience, as experience can be a meaningful contribution. Next, the filtered web developers were recruited via direct messages on LinkedIn. In this message, the research and what will be expected of the participants was explained. In case of more than sufficient responses, this research selected most typical cases, while remaining positive responders were kept for backup reasons.

Interviews with participants were planned in consultation after their recruitment. Due to the continuing COVID-19 pandemic, conducting interviews in person would have been difficult. To strengthen the feasibility of this research, interviews were conducted in person or via video calls.

To ensure that the participant has knowledge of the content of the study and their rights, the participants received an informed consent form based on the Erasmus School of History, Culture and Communication's (ESHCC) template (Nariman & Domingus, 2016) and were verbally informed at the start of the interview. A copy of the unsigned consent form can be found in Appendix A. Furthermore, this study follows six other key criteria for ethically acceptable research, namely:

avoiding deception, guaranteeing and protecting privacy, correct analysis and interpretation of data, respect for participants as individuals, participant's well-being must be respected and participant's advantages and burdens should be reasonable (Flick, 2007).

In April and May 2022, 11 interviews were conducted with Dutch web developers. An overview of the participants' characteristics can be found in Appendix C. The interviews lasted 60 to 90 minutes and were all conducted using the video call application Zoom. Each interview was conducted in real-time, with the audio of each interview being recorded for transcribing purposes. All interviews were carried out in either Dutch or English (6 Dutch, 5 English). The male-female distribution is in accordance with the aforementioned figures from CBS (2011), with 10 male participants and 1 female participant. The interviewees were 26 to 44 years old (with a mean of 33.3). To protect their identities, each participant and traceable organizations mentioned were assigned a pseudonym.

3.3 Operationalization

To illustrate how practical choices were made and how data was carefully gathered to respond to the topic under study, this section will discuss the operationalization of this research. Operationalization is the transformation of abstract ideas into concrete measurements (Sekaran & Bougie, 2016). The theoretical insights presented in the last chapter served as the foundation for the interview guide for the interviews. The sub sections on strategy, ethics, and web development provide the core concepts of the interview guide. On the basis of the discoveries from the theoretical chapter, each concept was further expanded using probes (see Table 3.3). First, questions on strategy helped explore how participants view strategy, both in general and in more company-specific terms. In addition, the topic of ethics helps understand how web developers view ethical behaviour, as well as the role of ethics in their organization. Finally, the last topic focused on their daily work and how strategy and ethics play a role in it. This variety of questions helped gain a better understanding of how web developers see the relationship between business strategy and business ethics. The interview guide served as the starting point for the data gathering process, and is subsequently improved based on information obtained from the interviews. The entire interview guide can be found in Appendix B.

Table 3.3.
Operationalization of concepts.

Concept	Sub-theme	Example questions
Strategy	Definition	What is strategy to you?
		What is not strategy?

	Business strategy	How would you describe your organization's strategy?
		How would you describe strategy forming processes in your organization?
		How does your organization's strategy integrate in your everyday work?
	Challenges	Are there challenges for integrating strategy in your everyday work?
		What advice would you give other organizations about implementing strategy into IT departments?
Ethics	Definition	How would you describe ethical behaviour in your own words?
		What kind of actions would you consider unethical?
	Deciding on ethics	How do you know if something is ethical or unethical?
	Business ethics	How would you describe your organization's view on ethics?
		What is, in your opinion, the relevance of ethical behavior for your own work?
	Challenges	Are there challenges for acting ethical in your everyday work?
		What is the best way to integrate ethics into your everyday work?
Web development	User centred design	Can you explain who is, in your opinion, the most important, the client or the end user?
		Are there any challenges for acting in the client's or end user's best interest?
	Guidelines	Are there any general standards or agreements in the industry about this?
		How do you feel about privacy measurements(/guidelines) in website/software development?
	Unethical web development	How would you describe dark patterns in your own words?
		How do you feel about implementation of dark patterns in website/software development?

3.4 Data analysis

The main purpose of this research is to discover patterns in web developers' views on the bond between business strategy and business ethics. For this, recorded interviews were transcribed first, after which coding started using data analysis software ATLAS.ti (2022). Because thematic analysis helps identify, analyse and report patterns in data (Braun & Clarke, 2006), it was used for data

analysis. Along the way, insights gained from the interviews and the earlier mentioned theoretical framework further shaped this process.

Thematic analysis consists of six phases which are clearly outlined by Braun and Clarke (2006): familiarizing with the data (1), creating preliminary codes (2), looking for themes (3), reviewing the found themes (4), defining and labelling the themes (5) and creating the report (6). The process starts in the first phase with immersing in the data and recording preliminary analytical insights. In the second phase, the first codes are created from the data. Codes are used to indicate the most basic part of the data that may be interpreted in a meaningful way in relation to the phenomena under study (Boyatzis, 1998; Braun & Clarke, 2006). The process continues with the third phase, in which similar codes are grouped into overarching themes. In addition, more complicated codes are allowed to become themes directly. Next, in the fourth phase, all codes and themes are reviewed to check whether they still fit with their corresponding data. Themes are usually further refined at this point. Following the refinement phase, themes' descriptions are created, including their primary concept and relation to other themes and the research question. At last, phase six includes a final analysis and focuses on writing everything up.

Themes from the gathered data can be formed both inductively and deductively (Braun & Clarke, 2006). This research used both inductive and deductive approaches to analyse the data. An inductive approach is common in qualitative research, as "patterns, categories and themes" are built from the bottom up by arranging the data into more and more abstract units (Cresswell & Cresswell, 2018, p. 257). Additionally, with the deductive approach, themes can emerge from literature (Braun & Clarke, 2006). Additionally, there is another deductive process happening. After the creation of themes, data linked to the created themes was reviewed to assess whether further evidence can be gathered to support the theme or whether more information is required (Cresswell & Cresswell, 2018).

3.5 Quality criteria

While conducting semi-structured interviews and doing thematic analysis, the researcher plays a significant role. When conducting interviews, the researcher's own conception of importance determines the direction of the in-depth questions (Brennen, 2017). In addition, in thematic analysis, the researcher's opinion of what is relevant is used to identify codes and themes. Because of this, the research's credibility should always be kept in mind. This research will use Silverman's (2014) tools to improve its reliability and validity.

3.5.1 Reliability and validity

Only when the standards of validity and reliability are adhered to can qualitative research become interesting (Bartunek et al., 2006; Cresswell & Cresswell, 2018). Reliability, in contrast to validity, is evaluated using internal criteria. It relates to the research method's consistency and stability, as well as the study's trustworthiness (Silverman, 2014). This research aims for a high standard of reliability by utilizing the same sample criteria for all participants, utilizing the same interview guide for all interviews and by discussing, and applying, the study methodology and data analysis in a clear and consistent manner.

Sliverman (2014) proposes five tools to validate qualitative research: "analytic induction, the constant comparative method, deviant-case analysis, comprehensive data treatment and using appropriate tabulations" (p. 105). First, analytic induction helps generate and test hypotheses "grounded" (Silverman, 2014, p. 95) in the data. In qualitative research, this helps recognise a phenomenon and create a preliminary hypothesis. Qualitative research is made up of several data collecting and analysis cycles. The constant comparative method constantly compares the results of each new cycle to the results of the preceding cycle. This helps to describe the found variation within a given phenomenon (Boeije, 2010). The third tool focuses on deviant cases: cases that do not align with the expectation. When an inconsistent or deviant case is discovered, the phenomenon under study's description should be altered to exclude the case, or the hypothesis should be reformulated (Hammersley & Atkinson, 2007). Comprehensive data treatment focuses on analysing the data till all relevant data has been accounted for. This will ensure a result is a generalization that can be as accurate "as a statistical correlation" (Silverman, 2014, p. 100). Finally, using appropriate tabulations will improve validity by assisting in developing an understanding of the variation in the data and detecting the prevalence of specific results.

3.5.2 Ethical considerations

In addition to adhering the reliability and validity standards researchers must be aware of any ethical difficulties that may occur throughout their research as research entails gathering data from individuals and about individuals (Berg, 2001; Punch, 2005). There are multiple areas of focus when it comes to qualitative research. To begin with, interviewers should be aware of the possible imbalance in the "power relations" between participants and the interviewers (Brennen, 2017, p. 31). To protect the participants, researchers should create a relationship of trust with them, ensure the integrity of the research, act honestly and fair, prevent misconduct and impropriety that might reflect negatively on their companies and adapt to new difficult situations (Israel & Hay, 2006; Kvale,

1994). There must be no misrepresentation of "the scope, intention, goals, or any other aspect of a qualitative study" (Brennen, 2017, p. 31). Furthermore, when it comes to the obtained data, researchers should be aware of any potential ethical concerns that may arise from the usage of personal information (Brennen, 2017).

4. Results

In order to answer the research question "How do Dutch web developers manage tensions between business strategy and business ethics?", a total of 11 in-depth interviews with web developers in the Netherlands were conducted. The responses given in the interviews, as well as the themes found through thematic analysis, are the focus of this chapter. Studying this data, three themes emerged, which will be covered throughout this chapter. First, *decisions based on* feelings were observed, illustrating how participants use their personal feelings in decision-making when it comes to ethics, privacy and strategy. The second theme that was observed, *unfamiliarity*, shows the unawareness of the interviewees about guidelines, their company's strategy and ethics in web development. The final theme that came out of the thematic analysis is that of *design choices*. This last theme touches upon user-centred design, unethical design and contradicting design choices.

4.1 Decisions based on feelings

The first theme that emerged from analysing the data is that of decisions based on feelings. Throughout the interviews, it became clear that all participants use their own personal feelings in decision-making in various aspects of their jobs. First, interviewees' feeling-based decision-making on ethical issues will be discussed, followed by privacy and strategical issues.

4.1.1 Ethical decisions based on feelings

The participants revealed that they mainly decide what they find ethical or unethical based on their own feelings. For example, 30-year-old Bart answered to a question on how he decides what is ethical and what is unethical the following: "Yeah, that's a, yeah, kind of your feeling, I guess.". Asking further how this takes shape, Bart continued: "Your moral compass somewhat indicating that, something you can and cannot do.". Using one's moral compass is also something 31-year-old Thijs does: "Yes, no one knows [when something is ethical or unethical]. But I have a sort of my own internal compass.". It thus makes sense for the participants to use their own point of view, or common sense, as a guidance on how to deal with ethical issues, in the absence of clear guiding rules.

Participants described that they not only looked within themselves when deciding on ethical issues, but also included a possible situational view of others. For instance, 31-year-old Sjors explains his ethical decision-making:

Yes, I think that is very much based on good feeling, assumptions and how would I deal with it myself if it happened to me? Well, now I'm not necessarily a very good guide myself, because I'm quite aware of those [unethical] techniques, even if I do fall for them. Let's be honest. But we have done a campaign on Instagram before and thought: "Yeah, what they're selling, as if it's ecological", you know. It's a sustainable brand, that's promoted, and it's actually from Thailand. So maybe a sustainable product, but you don't know what kind of factory it was. Yes, then I think: "Yes, it may be sustainable, but that material...". That was a moment when I thought: "What am I doing now?"

So, in Sjors' case, despite that he has his doubts about his own objectivity, he projects ethical issues on himself. By doing so, he moves the ethical issues towards an issue of feeling. He further dissects the issue to understand that he does not feel good about it, making him conclude it is an unethical issue. Sjors is not the only interviewee that mentions this technique. 44-year-old Matthijs refers to it as well: "I think I mainly look at how I would react to it myself.". Mark (27 years old), on the other hand, does not project the situation on himself, but bases his ethical decision directly on the reactions of the people involved: "Mostly I can see through people if I say something to them. You can see through their reaction, how they behave. Yeah, if you said something wrong, that can be unethical.". Jurgen, who is 37 years old, has a slightly different approach as well:

I would find something unethical on my own behaviour, that would be something that I would never allow someone to do to me. And, so everything. Yeah, it sounds a bit neurotic, but everything I do, I'm thinking, like, how would I like this? How would I appreciate this approach? How would I like it if someone talked to me like this? How would I like it if someone wrote an email like this to me? And that's, as we are talking about it, that's like a huge part of what I think about in my communication. And since that's the start of everything I do in communication, I don't really have like ethical issues or something. Because I'm always thinking like: "Oh, that's not how I would like it. Let's keep it down.".

Instead of only projecting an ethical issue on himself, Jurgen also turns the situation around. By exploring the situation as the subject, he uses his feelings to form his ethical viewpoint. That viewpoint is then used to shape its way of communicating. As a result, Jurgen indicates that he does not experience ethical issues.

Participants not only shared how they use their feelings when it comes to ethical issues, but they mentioned reasons for it as well. For instance, Erik (38 years old) said: "The thing with ethics, as you probably know, is that it's subjectional. So, what we think is right, someone else may think is

wrong. So, there's always a bit of interpretation there.". We can deduct from this that Erik links ethics to someone's own point of view. 31-year-old Pieter agrees with this: "Yeah, the issue there would be common sense, I would say. Which is obviously also the issue, because ethical or not, it is also based on culture and the way you were raised, nurturing.". Pieter, like other participants mentioned earlier, bases ethical decision-making on common sense. In addition, he understands that there could be different understandings of that common sense, concluding that something that he feels is ethical, someone else might find unethical. This difficulty is framed by Matthijs to make it more practical: "[…] I think the most important thing is to do what makes you feel good.".

4.1.2 Privacy decisions based on feelings

Ethical decisions were not the only decisions participants fell back on their feelings for. When it came to privacy-related decision-making, interviewees showed that their feelings had taken a prominent part in the decision-making process. Erik demonstrates this when talking about privacy guidelines:

> I think data should be owned by the people that use the software instead of the people that make the software. I'm very a vocal advocate of privacy. I do not want to be tracked. I do not want to be shown products I just bought, because I might be interested in them. Or I don't want a very thorough examination of what I do online or what I do with a program. Unless I've given my absolute permission and not being taken hostage. For example, everything you use from Google and Facebook is impossible to use without giving your data. And there are alternatives, but not for a lot of people, because they're expensive. So basically, it means that a lot of people are taken hostage by given free products, by Google or Facebook or whatever and 'can't live without them', because it's so ingrained in our society and that most people don't even know what it costs them. So, yeah, a strong vocal supporter of privacy here.

This shows how privacy is important to the participants, because they want to own their own data. Erik names two, in his opinion, critical points about privacy not being applied properly: collecting too much data and unnecessary tracking. Erik continued on the duality of web developers and privacy:

> Well, for me, what I've noticed is that the people working in web development are basically the ones that have all the trackers off and have Ghostly and Little Snitch and name them all. So for everyone working in web development, I'd say don't do it to others what you won't do to yourself.

Erik's remark shows that, although web developers seem to understand the effects some changes have on privacy, they still continue with their implementation, while protecting themselves from similar implementations. From his advice we can conclude that Erik's privacy decisions in his daily work originate from his feeling and view on privacy. In addition, Jurgen also bases his privacy decisions on his strong feelings on privacy: "So I'm pretty anal of where I leave my data. […] where I can, I try to limit it as much as much as I can. So, I'm very strong on privacy.".

Despite most participants having an opinion about implementing privacy in a user-friendly way, there were others who themselves had fewer problems with it. When talking about holding on to form data, Sjors says:

> I have to say, I feel pretty bad about doing that. Look, the data is not abused, of course, let's put that first. And it is only kept longer than necessary. And we know that you have visited the site, so we actually know commercially what you are interested in. Yes, I personally don't have much of a problem with that.

Here Sjors talks himself up, despite he does not like the idea. Additionally, he talks about tracking on websites, of which he thinks it is not a big issue. As he is talking about websites his organization creates, his feelings influence his decisions on implementing website trackers or not. Thus, showing another example of interviewees using feelings to decide when it comes to privacy issues.

4.1.3 Strategical decisions based on feelings

The third moment that emerged about feelings influencing decision-making is related to strategy. This is especially noticeable among participants of whose managing was part of their jobs. For example, Erik who is part of the management team, explains what is at the basis of the company's guidelines: "So, our own values, our own ethics, as it were, form what the guidelines are for the company.". This illustrates that Erik's company rules and guidelines are based on his own feelings.

Another moment that shows strategic choices based on feelings has its origin in feelings about working on projects for other companies. When discussing a work project Erik describes when he would stop working with an unethical agency:

> When it's something we can control. And the agency is not something we can control in the sense that it's the agency the client uses in which we have no say. And in what we do have a

say is the guidelines we adhere. So, in this case we'll make a choice in doing what we think is the right thing, instead of choosing the agency which is not an option right now.

This illustrates an unpleasant situation for Erik. Some third-party act in a way of which Erik does not feel comfortable with. Despite he cannot let the third-party go, he explains that his company makes a choice on how to handle the situation based on their feeling. In this way the company's strategy is again controlled by feelings. However, Erik does mention that it is not completely based on feelings:

Yes. Basically, when we get clients that cost us more pain than enjoyment, or when we notice that a group isn't functioning as it should, or it's basically a high empathy group. And we are as well, so it's not all down to feeling, but feeling does play a big part of it.

Despite the above acknowledgement of feeling playing a big part in strategy is not something all participants mentioned, it clearly shows that feeling affects several areas of business operations.

4.2 Unfamiliarity

The second theme that emerged out of the analysed data is that of unfamiliarity. During the interviews, it became noticeable that a significant proportion of web developers are unaware of guidelines, their company's strategy, or the role of ethics in their work.

4.2.1 Unfamiliarity with guidelines

One of the returning elements that surfaced in the interviews is that of the unfamiliarity of guidelines. The European privacy guideline The General Data Protection Regulation (GDPR) (European Commission, n.d.) was mentioned by a few participants, and the importance of guidelines was noted: "It's good that there are always guidelines, of course." (Matthijs) and "It's really important" (Mark). However, most of the participants had no knowledge of guidelines in their field of expertise. For example, Jurgen responded with "Not really, to be honest. Not really, no. No." when asked about ethical guidelines in the industry. Erik is not familiar with ethical standards as well: "I don't know if there their standard agreements.".

Additionally, participants mentioned why they are unfamiliar with any guidelines in the industry. Bart: "No, no. There will undoubtedly be. I do not doubt that. There are guidelines for everything, but I never looked them up.". Sjors explains further: "So no, I don't necessarily know all about the regulations. I'm not the one who would want to delve into that, because that sort of thing is not my area of interest, so to speak.". Mark, on the other hand, is not familiar with ethical

guidelines because he understands ethical choices are linked to personal viewpoints: "Um, no, I don't think so [that there are ethical guidelines]. I think it's mostly a personal thing". 38-year-old Tim talks about it as well:

> In youth care, you have the NEN norms that you must comply with. It is very extensive and very specified. In commercial development, it is much less present. There, we mainly look at the GDPR and how to implement it correctly, so that our clients comply with it.

This shows that there is a difference in the industry when it comes to usage, and knowledge, of ethical guidelines. Tim explains here that there is a contrast between commercial and non-commercial organisations in implementing guidelines.

When it comes to ethical guidelines, some of the respondent's companies have put something on paper for this. However, a sufficient part of the interviewees did not have such guidelines to fall back on at their work. Thijs mentions that there is nothing like that written down: "[My company] doesn't have anything on paper for that at all.", while Bart also has no ethical guidelines on paper at his work: "I don't have a manual for that.".

4.2.2 Unfamiliarity with company strategy

The second unfamiliarity that the participants described is that of their company's strategy. When asked about strategy Jurgen describes his company's strategy as unclear: "And I can immediately say that we are not a company that has a clear strategy.". A possible reason for this could be the short time an employee has been with the company, as explained by Matthijs when asked about business strategy: "That is a difficult one. I actually find that a very difficult question to ask. Because I still work there for a fairly short time.". Another reason is given by Jurgen: "Not that I'm aware of. Maybe business-wise, but since I work more or less with the website stuff and the marketing stuff there's not a real marketing strategy right now or a commercial strategy.". This implies different applied strategies in a company, and employees are only familiar with strategies that are practised in their own department.

4.2.3 Unfamiliarity with ethics in web development

The last unfamiliarity that emerged out of the data is that of being unfamiliar with ethics in web development. Although almost all participants have experience with designing user interfaces and flows, a significant part of them was not familiar with the unethical side of user manipulation. When asked to describe the concept of dark patterns, multiple interviewees responded that they did

not know the concept: "No, not really. Maybe can explain it to me?" (Jurgen). Others, like Matthijs, are familiar with the term, but do not have an understanding of it: "I have heard of it, but I don't really know what it is, no.". When asked for a definition, Matthijs continued: "Dark patterns, yes, then I assume that that is something with dark, but with criminal, yes, acts on the web. That's how I interpret it, but I wouldn't know.". He was not the only one who had a different understanding of the concept, as Pieter says:

> I think it's a behaviour that has sneaked into you or your organization or to your team, which you are not fundamentally aware of. However, if someone has a mirror and shows you your own behaviour from a distance, you may draw the conclusion that it's not in the best interest of others, and that it may be even unethical behaviour, for instance.

While Pieter mentions here that dark patterns can be not in the best interest of others, he sees them mostly as something that employees are unaware of and happens in a company.

4.3 Design choices

The third and final theme that emerged from analysing the data is that of design choices. In their daily work, web developers are constantly required to make decisions when it comes to design. This section will start with the findings on design choices related to the end user, followed by design choices based on ethics and finally, contradicting design choices.

4.3.1 User-centred design

When it comes to the focus of their end product, all participants mentioned the importance of the end user. Although the client is the one that brings in the money, the end product is created for the end user. Mark arguments why user centred design is of importance:

> Mostly because they are using the product daily. And the client is mostly only the person who is using to the application. So, the end user gives also the best feedback. If it doesn't work for them, they're not going to use it. So, you sold a product that they're not going to use. So, it's for a company a reason to get rid of you. So, I think the [end] user is the most important factor for developing new features and things like that.

Mark explains here that the end user is of great importance to the client, as there is no benefit for the client when the end users do not use the end product. Other participants agree with this, for

instance Thijs: "If the end user doesn't use it, it's no use to the client either." and Matthijs: "Because [the end user] has to buy the product or service. And it's important that you can convince the client of how you think he can best achieve his goal. Through the right strategy. To come back to that.". This shows that although the participants see greater importance in the end user, they want to get the client on board with this approach, to achieve strategical success. Focussing on the end user is the only option according to Bart: "… look in the end if you make the end user happy then you can make the client happy too. But not the other way round […] then you've got a problem.".

To achieve this, interviewees mentioned various things. First, they have to get the client to understand their approach. Sjors mentions how he does this: "Well, I always start by reformulating the client's question from the end user's point of view. Of course, it is then framed in the client's favour". Jurgen mentions that too much of the clients' influence can result in an unwanted outcome: "[…] because if I look at the stuff that we build, eventually complains that the end user has will fall back to us.". Additionally, Mark shares that focussing on the users influences his design: "But also you try to make it as friendly as possible. So, you are going to try to make it as clean as possible and as user friendly as possible.".

4.3.2 Design choices based on ethics

The second focus of the design choices of the participants is related to ethics. Due to all participants working with changing projects, sometimes they need to make decisions that spark some internal ethical issue. Thijs, for instance, talks about a project that made him question his involvement:

> We did have a project here once […] where they were looking for: "How can we develop a dashboard so that we can deplete the oil fields even further?", you know. So that's more general, so to speak. Contributing to a product that actually has some unethical impact. […] I did say no to that project.

This demonstrates Thijs' choice to not work on an unethical project. Participants' ethical decisions are often in line with that of their company: "For example fur, if a company sells fur, yes, I wouldn't want to work for that. But I have a feeling that our company, that my company, is not going to do [such projects] either." (Matthijs). It does not only stay with assumptions. Erik, for instance, looks at it from a management perspective: "If we feel as a company that indeed the project is unethical, then we'll stop and we'll stand by the employee either way. But sometimes it means another employee picks up the project […]". It is thus not always possible for a company to turn down a

project. However, it is not always easy for the company to turn down a project. When another colleague will work on the project, other problems may arise as well. Thijs:

> And then they said yes to that company, but then at a certain point it came down to hosting a certain workshop, which is something I do a lot, and that a certain knowledge was lacking to do that properly. And then it was like: "Oh, yes, but Thijs, can't you just take a look?" And then I thought: "Yes, I'm happy to do that for that colleague, because I'm happy to share my knowledge". But then when you know what it's used for, then you think: "Shit!". And then you work for the same company. So of course, I shared my knowledge, but then we all realised: we actually have to agree across the board on whether we're going to work for something or not. Because otherwise there is no point.

This illustrates that the ethical decisions of a single employee can affect the whole company (and the other way around). Although Thijs did not want to work on it, the company still decided to take on the project and assigned another team member to it. However, due to requiring his expertise Thijs later still got to get involved.

The interviewees had various arguments for when they make ethical design decisions. Pieter mentioned that designs should not take advantage of the user: "I think it's it should be respectful and also, I think it should not exploit me as an individual. I think that's where I draw the line.". In addition, Thijs discussed the ethical issue of accessibility:

> And in web development, that's what accessibility is all about: that you don't live up to it. That people who can't see can't use a page. Or not using non-binary pronouns in a form. I think it's easy to be unethical in web development.

This shows that ethics is at the heart of user-centred design. Next to the users' needs, their values are respected by the participants. However, it is not only the values of the end users that should be respected. Thijs also raises the issue of digital sustainability: "And also digital sustainability, so making sure your images are not too big and that you use fewer images, or use more dark tones.". Making design choices that result in a lighter website or app is beneficial to environmental sustainability.

4.3.3 Contradicting choices

The third thing about design choices that emerged from analysing the data is that of contradictions in design choices. When it comes to ethics in web development, the interviewees mentioned experiencing difficulties with standing their ground. Thijs for instance talks about this: "But then at a certain point it was like: 'Can we actually say no?'. Because we all work in a certain company, we also have to achieve a certain turnover.". That there is not always a clear solution for such cases is explained by Sjors in his example:

> Mmm yes, we have had requests for an assignment, yes, drop shipping, things like that. And yes, I also consciously said no to those right away. On the one hand, because they are clients who you don't really want to have anything to do with, in terms of personality - I'm not saying it right - but more because they are clients who are all about the quick money. Yes, then you also make ethical choices to earn quick money, while what you are doing is actually indirectly more of a scam. You sell a product as if it's ready to go and you disguise the fact that the delivery time is five weeks, or seven weeks. It has also been an ethical mission that you thought: "We're not going to take this on". But I have to be honest and say that I also had to convince my employer at the time and then the decision was made to simply put the amount so high that we said: "Well, if he wants it, then for this amount", and then we'll do it, fine. But that was not his choice.

This shows that even though Sjors thought of the project as unethical, it could still have been accepted. Instead of rejecting the potential client and assignment, the company decided to ask for a much higher rate than normal. Therefore, leaving the door open for working on unethical projects. Erik argues why it is not always an easy decision to be made:

> There is always nuance to that, I think, because there's bills to be paid. You have the luxury of only thinking about the end user when you're not the one responsible for feeding families or for the salaries of families that need to be fed.

The above illustrates the potential difficulty web developers and their companies might experience. Although all participants did not experience any problems with a shortage of work at this moment, when it does happen, unethical projects are less likely to be rejected. In this sense the ethical side of web development is linked to the income of web developers. However, money is not the only influence that leaves room for contradictions.

Other contradictions can be found when looking at privacy. Although web developers do know about ethical approaches in web development, they are still not always used. Pieter described the development of applications that could have privacy issues, despite knowing about ethical frameworks: "So privacy by design, privacy by default as well. Such things are really important because we have been making applications that do exactly the opposite.". In addition, most interviewees made remarks about using ad and tracking blockers. Nevertheless, they continue to work on advertisements and implementing trackers: "Yeah, for websites it's customary to have some form of analytics. Which I sort of get, believe in, I believe in the power of data and making decisions through data, I'm just not a fan of how they get the data." (Erik) and "But, if you get a cookie notification, always ignore it, always block it." (Sjors).

Finally, contradicting design choices emerged that related to strategy. When talking about online marketing campaigns for their products, Jurgen describes the fast-changing, and contradicting, choices in strategy:

> And on our side, it's more the soup of the day. So: "Oh today it's glass fibre. I have a feeling, a good feeling about glass fibre. Let's promote glass fibre." But, when we then see, for instance, a huge glass fibre campaign of a competitor, that maybe costs a few million euros, this idea immediately gets thrown out of the window. "Oh no, oh no, it's not needed." So, it's not that we strategize our guerrilla tactics let's say. It's really how the wind is blowing that day.

Contradictions in thoughts and choices are quite common when it comes to online marketing campaigns, as Sjors mentions an example as well:

> But, we have done a campaign on Instagram before and you thought: "Yeah, what they're selling, as if it's ecological.", you know. It's a sustainable brand, that's promoted, and it's actually from Thailand. So maybe a sustainable product, but you don't know what kind of factory it was. Yes, then I think: "Yes, it may be sustainable, but that material...". That was a moment when I thought: "What am I doing now?" Anyway, that campaign wasn't necessarily very successful either. It was also a kind of: well look, beautiful, that's also nice for my own peace of mind.

In the above example Sjors describes an online campaign of which he questioned the ethical side. Despite doubting the client's product promises, the campaign was made and run online. It was only after, when the campaign turned out to be unsuccessful, that Sjors felt that the unethical project was rectified.

5. Discussion

The discussion chapter will evaluate the findings of this study by comparing them in light of prior research. After comparing the findings with the literature, the conducted research will be assessed. The chapter will continue by looking at the implications for practice, before it reviews the limitations of the research and ends with an advice on further research.

5.1 Comparison with the literature

With the results from this research in mind (see Table 5.1 for an overview), how do they relate to literature? In the following section each found theme will be compared with previously established literature.

Table 5.1.
Main findings

Theme	Sub-theme	Findings
Decisions based on feelings	Ethical decisions based on feelings	Web developers use own point of view, or common sense, as a guidance on how to deal with ethical issues
		Web developers project ethical issues on themselves
		Web developers shape their understanding of ethical issues based on the reactions of others
		Ethics can be different to someone else
	Privacy decisions based on feelings	Web developers believe that users should own their own data
		Web developers do not want to collect too much data
		Web developers do not want to track unnecessary
		Web developers continue with less positive privacy implementations when they protect themselves against it
		Web developers create privacy adoption based on their own preferences
		Web developers think they are not that much of an influence when it comes to privacy
	Strategical decisions based on feelings	Company rules are based on feelings
		Company direction and/or situational handling is based on feelings

		Feelings affect business operations
		Business strategy and ethics overlap
Unfamiliarity	Unfamiliarity with guidelines	Web developers have knowledge of GDPR due to new law
		Web developers are not familiar with ethical standards in the industry
		Web developers are not familiar with guidelines due to lack of interest
		There are no ethical guidelines created by the companies
	Unfamiliarity with company strategy	Their company's strategy is unclear to web developers
		The company strategy is unclear due to short time with the company
		The company strategy is unclear because there are different strategies for different departments
		The company strategy is unclear due to working in a different department than marketing
	Unfamiliarity with ethics in web development	Web developers are unfamiliar with the unethical side of user manipulation
		Web developers are unfamiliar with dark patterns
Design choices	User centred design	End user of great importance to the client
		Product should be created for the end user as they are the ones using it
		The client should be convinced of the end users' importance
	Design choices based on ethics	It is not always possible to turn down unethical projects
		Management follows employee decisions about not working with unethical projects or clients
		Web developers do not want to exploit the user
		Web developers do not want to work with unethical projects or clients
		Web products should be accessible for everyone
		Web products should be environmental sustainability
	Contradicting choices	Privacy by design not used by web developers
		The ethical side of web development is linked to income
		Web developers are familiar with good privacy measurements, but they are not using them

	Web developers experience fast, contradicting changes in strategy
	Web developers find it difficult to stand their ground when it comes to ethics
	Web developers implement tracking, but block it by default themselves

5.1.1 Decisions based on feelings

The first theme that emerged from the data consists of three sub-themes: ethical decisions based on feelings, privacy decisions based on feelings and strategical decisions based on feelings.

5.1.1.1 Ethical decisions based on feelings

The sub-theme of ethical decisions based on feelings consisted of a few findings. To begin with, web developers use their own point of view, or common sense, as a guidance on how to deal with work-related ethical issues. This is mostly in line with the literature. When looking at product quality in web development, it is generally based on the instinct, the common sense and the skills of the developer (Conte et al., 2007). This is because ethical choices arise from challenges that cannot be resolved beforehand to by rules (Clegg et al., 2007). In other words, since ethical issues occur in a variety of circumstances and situations, there is no one-size-fits-all solution (Carter et al., 2007). However, there is some critique as well. The fundamental nature of ethical dilemmas, according to Munro (2016), is that they come from existing standards, which can demand conflicting things of an individual. Knowing that things might be good or bad is what ethics entails. It does not, however, imply understanding which things are good and which things are bad (Bauman & Tester, 2001).

In addition, two other findings are related to the sensemaking of ethical issues. Web developers were found to project ethical issues on themselves and look at other people's reactions to shape their understanding of ethical issues. In order to improve one's coping of ethics it is necessary to be self-critical (Clegg et al., 2007). According to Clegg et al. this may be achieved through open conversation and the creation of ethical environments where such topics can be explored. When it comes to web design, Friedman et al. (2013) describe that collecting values that matter to the web developer will guide the creation of their design. This can be viewed as being in compliance with web developers projecting ethical issues on themselves when deciding on ethical issues. Clegg et al. (2007) explain that ethics is considered a social phenomenon, of which individuals rely on "to define and defend who they are" (p. 115).

Finally, web developers understand that because feelings play a role in decision-making when it comes to ethics, ethics could be understood differently by other people. Clegg et al. (2007)

acknowledge this struggle, as they mention that ethics are constantly up for debate. They also highlight that there are theories, based on theoretical normativism, that claim that an observer may assess whether or not someone's or something's actions are ethical. Kant (2004), for instance, devised at an early stage a method for determining whether or not a certain action is ethical. However, his method was criticised as well (Clegg et al., 2007).

5.1.1.2 Privacy decisions based on feelings

In the second sub-theme of privacy decisions based on feelings, the findings were a bit less overlapping with the literature. The findings showed that web developers prefer to not collect too much data on users. When talking about dark patterns, Bösch et al. (2016) name something related to this: shadow user profiles. Shadow user profiles are records on individuals that do not use the service to which the records in question are used. That this principle is being named a dark pattern can be seen as an example of data being collected too much. Another finding in this sub-theme is that web developers continue with less positive privacy implementations, while they are familiar with the issues and protect themselves against those implementations. A corresponding dark pattern is that of bad defaults (Bösch et al., 2016). In a web service or application that has bad defaults, the default settings could result in an increase in unknowingly shared personal information.

The other emerged findings of privacy decisions based on feelings are more in relation to the own preference of the web developer and their influence. To begin with, due to the lack of using privacy guidelines as found in the second theme, web developers mainly base their privacy adoption on their own preferences. The relevance of cognitive information processing for privacy issues has been demonstrated in previous studies (e.g., Angst & Argarwal, 2009; Kobsa et al., 2016; Lowry et al., 2012). In addition, the practice of ethics, which is part of privacy decision-making (Mathur et al., 2021), connects "subjectivity and discourse" (Clegg et al., 2007, p. 115). This supports the finding of web developers think about their own privacy preferences and apply them in their work. However, literature shows us that there are well-established solutions when it comes to privacy, namely privacy patterns (Doty & Gupta, 2013; Hoepman, 2014). Privacy patterns refer to reusable solutions for often arising privacy problems (Bösch et al., 2016). While web developers may create reusable solutions for their work-related privacy issues, the reusable solutions from privacy patterns contradict with the findings of this study, as they are not based on the preferences of the web developer. Web developers furthermore think that they are not that much of an influence when it comes to privacy decisions. However, this contradicts with the influence a web developer has according to Mathur et al. (2021). They describe that designers do have a significant influence, and additionally, their design decisions may potentially have unintended repercussions.

5.1.1.3 Strategical decisions based on feelings

The final sub-theme of decisions based on feelings is that of strategical decisions based on feelings. Various findings surfaced. First, this research showed that the company rules of web developers were sometimes based on feelings. This is in line with the field of SAP, because strategy is something individuals do rather than something a company has (Whittington, 2006). Furthermore, nowadays top-down strategic planning, which is based on predetermined assumptions, must frequently make way for more situational alternatives, in which strategy evolves through local adjustments and responses (Horst et al., 2019). Another finding that emerged is that web developers' company direction and situational handling are often based on feelings. This contradicts the suggestion that by combining business strategy and efficiently deploying IT, organizations with a well-planned IT strategy may boost their overall competitiveness (Yeh et al., 2012). On the other hand, dealing with complexity and differentiating crucial impacts from those that are merely significant, as well as achieving a balanced conclusion, all while dealing with ambiguity and incomplete knowledge, is the essence of strategy (Horst, 2020).

Another finding is that of feelings affecting business operations. The influence that feelings have on strategy can also be found in the literature. Jarzabkowski et al. (2021) mention that strategy is widely defined as a situational, socially performed action. Additionally, strategic decision-making entails moral decision-making and consideration of many options (Maitlis & Christianson, 2014). Decision-making in its turn entails interpreting and adapting norms and concepts to local conditions. This implies that there is a role for feelings in strategy, as they are situational, socially performed and adapted to norms.

Finally, the last finding in this sub-theme is that strategy and ethics overlap. Strategy entails not just "the implementation of plans, tools, decisions, and actions" that have significant implications for the company's future performance (Horst, 2020, p. 31). In addition, strategy is as well a practice with inherent ethical responsibility towards individuals, companies, and society. Therefore, ethics and strategy are linked to each other (Freeman & Gilbert, 1988). However, as Horst (2020) mentions, the concept of strategy and ethics as intertwined components of the same practice is currently not well established.

5.1.2 Unfamiliarity

The data revealed a second theme, that of unfamiliarity, which is divided into three sub-themes: unfamiliarity with guidelines, unfamiliarity with company strategy and unfamiliarity with ethics in web development.

5.1.2.1 Unfamiliarity with guidelines

The first finding, that web developers are not familiar with ethical standards in the industry, contradicts mostly with the literature. While web developers are familiar with the GDPR standard due to legal requirements, they are not familiar with other standards despite regulations are being made (e.g., Forbrukerrådet, 2018; Laboratoire d'innovation numérique de la CNIL, 2019). Alonso-Virgós et al. (2019) furthermore mention that there are guidelines that are commonly used. Additionally, when it comes to UX guidelines, various international standards are named. For instance, ISO 9126 and ISO 25010 consider usability to be one of the most important aspects of software quality (Alonso-Virgós et al., 2019; Conte et al., 2007). Despite a large number of ethical guidelines available, it is because of this amount that inconsistency and confusion arise (Floridi, 2019). One of the reasons web developers gave for being unfamiliar with guidelines is that they had no interest in looking into it. While there are no direct contradictions mentioned in the literature, a lot has changed for web developers over time. Where in 2008 web developers were mainly focused on HTML, CSS and some backend coding, their work has become more and more complex over the years that followed (Connolly, 2019).

Next to unfamiliarity with commonly used guidelines in the industry, web developers were also unaware of any ethical guidelines created by their companies. This is in direct opposition to what has been published in the literature. The creation and application of ethical guidelines through values statements and codes of conduct are still largely regarded empirically as the most usual formal action done by companies to cope with ethical challenges (Clegg et al., 2007). Codes of conducts are created by companies to justify their actions (Brunsson & Jacobsson, 2002).

5.1.2.2 Unfamiliarity with company strategy

When it comes to the sub-theme of unfamiliarity with company strategy the literature is more divided. Web developers are mostly not familiar with the strategy of their company. This seems to be correct, as very few companies have a meaningful strategic plan for a successful future of the company or determining the path they want to take (Tracy, 2015). Furthermore, when it comes to business-level strategy, it is mainly the area of the managers (Olson et al., 2021; Whittington, 2006). Vaara and Whittington (2012) describe that middle managers still have a critical role in their companies as strategy "creators, interpreters and communicators" (p. 308). Moreover, below the management levels, Mantere (2005) reports a regularly unwanted desire for increased strategic participation. With most web developers not having management roles, this is in line with the findings of this study. However, other sounds are heard as well. Whittington (2006) argues that a

company always "has a strategy of some kind or other" (p. 613). Whittington furthermore names strategy practitioners as those who create, shape, and execute strategies. Strategy practitioners aren't only top executives whose work revolves around strategy, lots of other people engage in strategic work (Spender & Grant, 1996; Mantere, 2005). An explanation for this is the versatility of strategy (Vaara, 2010). This complies with one of the reasons web developers gave for their unfamiliarity with their company's strategy: the company has different strategies for different departments. Because there are different strategies in the company, web developers are only familiar with the ones they come in contact with.

5.1.2.3 Unfamiliarity with ethics in web development

Finally, the last part of the unfamiliarity theme is about the unfamiliarity of web developers with ethics in their work. Earlier research does not comply with the findings of this study. It became clear that web developers are unfamiliar with dark patterns. However, dark patterns are quite common in the world of web development. Recent studies have shown that dark patterns were discovered on almost 1,200 e-commerce websites and 95 per cent of the popular Android apps contain dark patterns (Di Geronimo et al., 2020; Mathur et al., 2019). This would mean that, because they are so commonly used in web development, web developers should be familiar with those patterns. However, this is not the case, as findings from this study have shown. This could mean that web developers are unfamiliar with the concept, or are unfamiliar but do recognise the patterns.

5.1.3 Design choices

The last theme that emerged from the data consists of three sub-themes: user-centred design, design choices based on ethics and contradicting choices.

5.1.3.1 User-centred design

There are a few findings that emerged from analysing the data that support the sub-theme of user-centred design. To begin with, web developers believe that an end product should be created for the end user, as they are the ones using it. That the end user is more important than the client is supported by the literature. According to previous research, companies with a higher customer focus do better in terms of CSR (e.g., Jansson et al., 2017; Kiessling et al., 2016). Yuan et al. (2018) furthermore mention that CSR has a positive impact on consumers' perceptions of companies and consumer buying behaviour. Thus, focussing on the end user will have a positive outcome business-wise. However, there are some areas that need focus as well. For instance, when it comes to usability, the quality assessment of it is dependent on the abilities and expertise of the web

developer (Conte et al., 2007). Therefore, the usability of a web service is mostly subjective to the creators.

Additionally, web developers consider that the focus on the end user is important to the client as well. This is supported by research by Swaak et al. (2009), which shows that website design elements may have a major impact on an organization's performance. Swaak et al. furthermore mention the difficulty of persuading people of the necessity of a well-considered web design, that pays close attention to the end users' experiences.

5.1.3.2 Design choices based on ethics

When it comes to design choices based on ethics, previous research is both in line with and contradicts with this research's findings. First, web developers do not want to work with unethical projects or clients. According to a recent study, there is an important link between the quality of a product and the well-being and happiness of the developers (Novielli & Serebrenik, 2019). However, some experts in the industry are of the opinion that you have to do something yourself to make the world a better place (Rand-Hendriksen, 2018). On the other hand, turning down unethical projects sparks the discussion of ethical issues, which in turn is one step forward to "more ethically informed management" (Clegg et al., 2007, p. 117).

Another finding in the sub-theme of design choices based on ethics is that of web developers not wanting to exploit the end user. Dark patterns fit this description as they are defined as an established method of exploiting and misleading consumers (Bösch et al., 2016; Mathur et al., 2021). Consumer trust in markets can be harmed by dark patterns, and organizations that participate in lawful and honest procedures might suffer as a result (Mathur et al., 2021). However, despite wanting to not exploit the user, it sometimes happens. For example with what Bösch et al. (2016) call "address book leeching" (p. 251): when service providers store the user's contacts for future processing, including for reasons that were not previously specified. This also surfaced from analysing the data of this study.

The last two findings of this sub-theme are about accessibility: web developers want the end product to be accessible for everyone. This implies that they have to design with a more diverse user group in mind, including for instance blind individuals. This contradicts with earlier research, as it was found that not all web developers and organizations are aware of the negative consequences of inaccessible websites, as usability has an impact on users' trust and behaviour (Swaak et al., 2009). Furthermore, excluding users can reduce the user's their sense of well-being, their belief in a purposeful life, and their self-esteem (Williams et al., 2000).

5.1.3.3 Contradicting choices

The last sub-theme of design choices is that of contradicting choices. Although web developers have a strong opinion when it comes to ethics, they experience difficulty with standing their ground on the subject. This contradicts with the literature. While more companies are switching toward data-driven designs, web developers still hold tremendous power when it comes to design (Narayanan et al., 2020). Another contradiction lies in not using privacy by design, despite web developers seem to be advocates of privacy. It could be that the findings should be interpreted differently, as one may have an opinion on certain ethical principles, it is how one acts in response to them that establishes ethical practice (Clegg et al., 2007). When it comes to web developers not using privacy by design, despite their preference for it, there is literature that shares their view. For instance, Bösch et al. (2016) name a common criticism of the privacy by design method is that the seven key principles are too broad to be used directly in development. Additionally, web developers named another contradiction. Despite they block all website tracking themselves with extra software, they keep implementing tracking software into their websites. Developers are typically aware of problems; they talk about them over coffee and lunch, and occasionally during evaluations and retrospectives (Ozkaya, 2019). When scheduling and resource difficulties arise, however, developers may or may not be motivated to discuss some of the product's flaws.

Another finding related to contradicting choices is that web developers experience fast, contradicting changes in strategy. This complies with earlier findings as the current corporate climate necessitates a faster time to market and more adaptability to changing company needs (Tomanek et al., 2014). Furthermore, the rapid changes in online technology are widely recognized, and the challenge of developing projects in such a constantly changing environment has been a common issue in the existing literature on web development education (Connolly, 2019).

5.2 Reflection on the conducted research

This research used a qualitative approach to explore a possible tension that web developers in the Netherlands have between business strategy and business ethics. As ethics is something that emerges depending on the context and the situation, it is difficult to unravel it using rules (Carter et al., 2007; Clegg et al., 2007). It thus makes sense to use language to get an understanding of the concept through the experiences of web developers (Brennen, 2017).

This research is based on 11 interviews with web developers in the Netherlands. The number of interviews is rather limiting, even though useful material has emerged and saturation started happening. As a consequence, the results' generalizability could be limited. It proved to be harder

than anticipated to recruit interviewees. While enough potential participants were found through LinkedIn, most turned down the invitation due to their busy schedule.

Something that made the recruitment phase a bit harder was the choice to not interview multiple individuals from the same company. Although this was possible in multiple occasions, the thought behind this choice was to have a diverse sample as possible. The final sample contained no web developers working for the same employer.

Another point of interest is the interview guide. The interview guide contained a lot of questions resulting in long interviews. While this did not matter to some interviewees, others were on a stricter schedule and started to shorten their answers the longer the interview lasted. In the end a lot data was gathered, but the extensive interview guide limited the room for more in-depth questioning.

5.3 Implications for practice

As this research shows, web developers do have knowledge and opinions about ethics in their field of work. The origin of the problems related to not putting 'enough' ethics into practice seems to be mostly related to insufficient time and disinterest. Because the task list of web developers has grown in size throughout the years (Connolly, 2019) their available time to focus on other things has become less and less. This affects the time web developers can spend on practising ethics and strategy. Because there is a shortage when it comes to web developers (Dominus, 2022; Sloyan, 2022) this situation does not seem to change anytime soon. Thus, maybe the way web development is practised offers possibilities. Right now, a lot of web projects are based on frontend and backend frameworks such as Google's Angular, Meta's React and Otwell's Laravel (Angular, n.d.; Laravel, n.d.; React, n.d.). These frameworks have shown to speed up and increase the quality of web development (Kaluža et al., 2018). But can it be improved further?

Recently, low-code development is growing rapidly (Costelllo & Rimol, 2021). Low-code development platforms are user-friendly visual environments that enable the creation of software products without the need for programming experience (Sahay et al., 2020). Because this method of development allows non-developers to create software products, it could be a solution to the shortage of developers. Furthermore, these low-code platforms have a given set of design patterns that can be used. Therefore, if these patterns are created following the right ethical guidelines, all products that come out of these low-code platforms will follow these guidelines as well.

Another possibility for improvement is related to the disinterest web developers have when it comes to ethical guidelines. One of the possible explanations for this is the lack of clarity due to the huge number of different guidelines (Floridi, 2019). If this number can be brought down it might

become clearer and more manageable for web developers, which in turn could spark the interest of web developers. A possible favourable side effect could be that a single guideline becomes an industry standard. Additionally, in case such a guideline becomes required by law, it would result in a greater interest as well, as happened with the GDPR. All in all, the current tension between ethics and strategy can certainly be reduced.

5.4 Limitations

Looking back on this research, despite the fact that useful information was discovered and saturation occurred, several limitations should be addressed. To begin with, due to the ongoing restraint on COVID-19, all interviews were held online instead of face to face. Even if properly carried out in the most effective manner feasible, it is plausible that due to being held online not all opportunities for probing or other responses. In addition, this research has a possible limitation in the sampling of experts interviewed. With the searching and recruitment process clearly explained in the methodology, the problem lies within the searching of the sample source: LinkedIn. Because LinkedIn shows its search results of individuals sorted from first-degree connection and up, almost all participants of this study were first- or second-degree connections of the researcher. This, in a way homogenous sample, might have had an impact on the study's findings. Additionally, the results of this study cannot be applied to the entire population of web developers due to the nonprobability sampling design (Sekaran & Bougie, 2016).

Another limitation might be related to the language barrier. Although both the participants and the researcher have Dutch as their native language, some interviews were held in English, while the others were translated to English. As a result, some participants may have been less secure speaking in a second language, which may have influenced how they expressed themselves. Additionally, when it comes to the interviews held in Dutch, there is a possibility that elements were lost in translation.

5.5 Suggestions for further research

Although saturation was reached, future research could include participants from other nationalities to increase the generalizability of the results. Currently only Dutch web developers were recruited for this study. Further research could focus on a more global sample to see if the results of this study are globally replicable. International orientated research would furthermore be interesting as it will allow comparison between different countries and cultures. As both ethics and strategy (practices) are linked to norms of behaviour (Clegg et al., 2007; Whittington, 2006), researching

participants of different cultural backgrounds could result in different outcomes. As a result, it could be that companies active in different cultural areas need different strategical approaches.

Additionally, further research could focus more on web developers with a role in management. While some web developers in this study had those professional responsibilities, more insight in their decision-making process could be gained from specifically focusing on that group. Although the group might be more difficult to recruit due to their extra tasks, insights that might arise from such study can potentially be turned into practice more quickly, as the participants under study already hold decision-making features in their companies.

One of the main findings of this research is that of unfamiliarity. It is presumable that because web developers are unfamiliar with guidelines and the company's strategy, they make more decisions based on feelings in both those areas. Further studies could concentrate on what can help make web developers familiar with guidelines and their company's strategy.

The results of these studies will help understand the role of ethics and strategy in web development, and perhaps, in the future, improve the process and quality of web development.

6. Conclusion

This research sought to explore a possible tension that web developers in the Netherlands have between business strategy and business ethics. According to the qualitative analysis of interviews, there is a significant tension between business strategy and business ethics for Dutch web developers.

To begin with, web developers in the Netherlands use on multiple subjects their feelings in decision-making. Letting feelings decide when it comes to ethics is in line with research by Clegg et al. (2007). Additionally, web developers use their feelings as well when they make decisions related to privacy. Their feelings direct them in various cases to solutions that comply with privacy patterns, as mentioned by Hoepman (2014). However, despite Mathur et al. (2021) found that designers have significant influence, results of this study conflict with those earlier findings, as web developers think they have little to no influence when it comes to privacy. Web developers furthermore use their feelings when it comes to strategical decision-making. That feelings affect business operations were discussed in earlier studies as well (Jarzabkowski et al., 2021; Maitlis & Christianson, 2014). Overall, the use of feelings in decision-making does not seem to influence web developers negatively and demonstrate a strong relation between ethics and strategy.

Next, the unfamiliarity that web developers have deviates more from previous studies. Although web developers were familiar with some guidelines, such as the GDPR, they were mostly not familiar with guidelines overall, which contradicts with earlier research (Alonso-Virgós et al., 2019; Conte et al., 2007). When it comes to the unfamiliarity of web developers with their company's strategy on the other hand, it mostly corresponds with earlier research (Tracy, 2015). However, the unfamiliarity of web developers with ethics in their work contradicts with previous findings (Di Geronimo et al., 2020; Mathur et al., 2019). In relation to unfamiliarity, there seems to be a weak relationship between ethics and strategy. Due to the unfamiliarity with guidelines and strategy, web developers are forced to make their own choices. As these choices are based on ethics and their choices can be seen as strategical, there seems to be a noticeable relationship between ethics and strategy.

Finally, the different design choices web developers make is more balanced when it comes to earlier research. Earlier research shows as well a more important end user, compared to the importance of the client (Jansson et al., 2017; Kiessling et al., 2016). It furthermore agrees with the duality of design choices based on ethics, for instance when turning down unethical projects (Novielli & Serebrenik, 2019). Moreover, web developers have to deal with contradictions when it comes to design choices, something that earlier research is divided over (Bösch et al., 2016; Narayanan et al., 2020). The pondering on which strategy to go with when it comes to contradicting choices, shows the

importance of ethics for web developers. On the whole, there seems to be again a strong relationship between strategy and ethics.

All in all, the results of this research show that ethics play a large role in the daily of web developers and that there is a strong relationship between ethics and business strategy.

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Appendix A

Informed consent form

Project Title and version	Master thesis business strategy and ethics, v. 01-2022
Name of Principal Investigator	Maarten Brakkee
Purpose of the Study	I am inviting you to participate in this research project about web developers. The purpose of this research project is to understand how web developers manage work, business strategy and ethics.
Procedures	You will participate in an interview lasting approximately 45-60 minutes. You will be asked questions about web development, strategy and ethics. Sample questions include: "How does your organization share its strategy with its employees?" and "Can you give an example of a work situation that consisted of both business strategy and ethics?".
	You must be at least 18 years old.
Potential and anticipated Risks and Discomforts	There are no obvious physical, legal or economic risks associated with participating in this study. You do not have to answer any questions you do not wish to answer. Your participation is voluntary and you are free to discontinue your participation at any time.
Potential Benefits	Participation in this study does not guarantee any beneficial results to you. The material from the interviews and observation will be used exclusively for academic work, such as further research, academic meetings and publications.
Sharing the results	If desired, the research's findings can be shared with you.
Confidentiality	Your privacy will be protected to the maximum extent allowable by law. No personally identifiable information will be reported in any research product. Moreover, only trained research staff will have access to your responses. Within these restrictions, results of this study will be made available to you upon request.
	As indicated above, this research project involves making audio recordings of interviews with you. Transcribed segments from the

audio recordings may be used in published forms (e.g., journal articles and book chapters). In the case of publication, pseudonyms will be used. The audio recordings, forms, and other documents created or collected as part of this study will be stored in a secure location in the researchers' offices or on the researcher's password-protected computers and will be destroyed within ten years of the initiation of the study.

Compensation There will be no monetary compensation for your participation.

Right to Withdraw and Questions Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify.

If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the primary investigator:

Maarten Brakkee, 580076mb@student.eur.nl

Statement of Consent Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree that you will participate in this research study. You will receive a copy of this signed consent form.

If you agree to participate, please sign your name below.

Audio recording I consent to have my interview audio recorded

(if applicable) ☐ yes

☐ no

Secondary use I consent to have the anonymised data be used for secondary analysis

(if applicable) ☐ yes

☐ no

Signature and date *Name participant* *Name principal investigator*

Signature   *Signature*

Date   *Date*

Appendix B

Interview guide

Interviewing web developers in the Netherlands on tensions between business strategy and business ethics.

1. Introduction
    - How are you doing?
    - Explain confidentiality. Explain recording. Assure questions may be skipped and the interview may be stopped at any moment.
    - Any questions before we start?

2. General

    Points to cover:
    - Can you tell me a bit about yourself?
        i. How old you are, how long are you a web developer, what you specialization is, can you tell me anything about your employer/organization, what is your highest educational degree, etc.?
    - How would you describe your organization's structure?
    - How would you describe a normal workday?

3. **Strategy**

    Points to cover:
    - What is strategy to you?
    - What is not strategy?
    - How would you describe your organization's strategy?
    - How would you describe strategy forming processes in your organization?
    - How does your organization share its strategy with its employees?
    - How does your organization's strategy integrate in your everyday work?
    - Are there challenges for integrating strategy in your everyday work?
    - What advice would you give other organizations about implementing strategy into IT departments?

4. **Ethics**

    Points to cover:
    - How would you describe ethical behaviour in your own words?

- What kind of actions would you consider unethical?

- How do you know if something is ethical or unethical?

- Are there any general standards or agreements in the industry about this?

- How would you describe your organization's view on ethics?

- Are you discussing ethical issues openly in your team, organization, etc.? And what does that mean for you?

- What is, in your opinion, the relevance of ethical behaviour for your own work?

- Are there challenges for acting ethical in your everyday work?

- What is the best way to integrate ethics into your everyday work?

- How do ethical guidelines affect your everyday work?

- What advice would you give other web developers about ethics?

5. **Web development**

Points to cover:

- Can you explain who is, in your opinion, the most important, the client or the end user?

- How would you describe your organization's view on the importance of the client?

- How would you describe your organization's view on the importance of the end user?

- Are there any challenges for acting in the client's or end user's best interest?

- Can you give an example of a work situation that consisted of both business strategy and ethics?

- How do you feel about privacy measurements(/guidelines) in website/software development?

- How would you describe the role of privacy measurements in your everyday work?

- What advice would you give other web developers about privacy measurements?

- How would you describe dark patterns in your own words?

- What is the benefit of dark patterns? Why could it make sense to use them? Or not use them?

- Has this changed over time?

- Have you seen the use of dark patterns? Where specifically?

- How do you feel about implementation of dark patterns in website/software development?

- How would you describe the role of dark patterns in your everyday work?

- What advice would you give other web developers about dark patterns?

6. Ending
    - Before we wind up the interview, is there anything else you would like to know from us?
    - Thank you for your valuable time. Switch of recording. Make sure the participant is comfortable. Reassure about confidentiality and interest, chat, etc.

In case you have any questions or queries about this interview or the research, please feel free to contact me via email: 580076mb@student.eur.nl.

Appendix C

Respondents' characteristics

Appendix C1.
Respondents' characteristics

Pseudonym	Sex	Age	Highest educational degree	Work experience
Bart	Male	30	Secondary vocational education	Started as a web designer 10 years ago. Switched to UX/UI designer after a few years and is now product owner.
Erik	Male	38	Higher vocational education	Started as a front-end developer 18 years ago. Switched after 10 years to a more interaction design role, and is currently busier with (online) branding.
Jaap	Male	33	Higher vocational education	Started as a web developer 12 years ago.
Jurgen	Male	37	Higher vocational education	Started as a designer 16 years ago. After 8 years some front-end work became part of his daily tasks. Has currently the role of art director in which brings together front-end and design.
Mark	Male	27	Secondary vocational education	Started as a front-end developer 3 years ago.
Marloes	Female	26	Higher vocational education	Started as a web/UX designer 7 years ago.
Matthijs	Male	44	Higher vocational education	Started as a designer 23 years ago. Since switching to his current employer about a year ago, making websites became part of his job as well.
Pieter	Male	31	Master of science (MSc)	Started as a web developer 12 years ago. Switched to the role of product manager after 4 years. Currently holds the position of CEO in a web development start-up.
Sjors	Male	31	Higher vocational education	Started as a graphic designer 10 years ago. Quickly after started focussing more on the online part, making UX design and front-end development part of his job.
Thijs	Male	31	Master of science (MSc)	Started as an interaction designer 7 years ago. Switched to UX Designer and researcher after 5 years.
Tim	Male	38	Senior general secondary education	Started as a web developer 15 years ago. After 3 years back-end development became more prominent.

Appendix D

Coding tree

**Appendix D1.
Coding tree**

Theme	Sub-theme	Code	Example quote from data
Decisions based on feelings	Ethical decisions based on feelings	Ethical decisions based on moral compass	**Bart**: Your moral compass somewhat indicating that, something you can and cannot do.
		Ethical decisions based on internal compass	**Thijs**: Yes, no one knows [if somethings is ethical or unethical]. But I have a sort of my own internal compass.
		Ethical decisions based on personal feelings	**Bart**: Yeah, that's a, yeah, kind of your feeling I guess.
		E how would I react?	**Matthijs**: I think I mainly look at how I would react to it myself [when deciding if something is ethical or unethical].
		E ethical /unethical based on reaction	**Mark**: Mostly I can see through people if I say something to them. You can see through their reaction, how they behave. Yeah, if you said something wrong, that can be unethical.
		Don't do to others what you wouldn't do to yourself	**Erik**: So for everyone working in web development, I'd say don't do it to others what you won't do to yourself.
		Ethics is subjectional	**Erik**: The thing with ethics, as you probably know, is that it's subjectional. So what we think is right, someone else may think is wrong. So there's always a bit of interpretation where.
		E ethical /unethical based on culture	**Pieter**: Yeah, the issue there would be common sense, I would say. Which is obviously also the issue, because ethical or not, it is also based on culture and the way you were raised, nurturing.
		E advice: do what feels good	**Matthijs**: Yes, I think the most important thing is to do what makes you feel good.
	Privacy decisions based on feelings	Advocate of privacy	**Jurgen**: So I'm pretty anal of where I leave my data. I don't have a bonus card, I don't have a like the smart CV heater at home. I don't do anything of that type stuff. Of course, and I always get the comments like: "Yeah, but you have a Google phone and you have a Google this.", of course. But where I can, I try to limit it as much as much as I can. So I'm very strong on privacy, well, privacy for a private person.
		Developer's choice for privacy	**Erik**: Well, for me, what I've noticed is that the people working in web development are basically the ones that have all the trackers off and have Ghostly and Little Snitch and name them all.
		Data storage	**Tim**: Well, for example, going back to the WOZ value. I could have stored WOZ values in our database. But then you run the risk that, at the moment your database is hacked, you lose particularly sensitive personal data. And I don't think we would make the necessary investments to secure that in a responsible way.

	Privacy: tracking	**Jurgen**: What we do have is a lot of tracking stuff. We are tracking a lot of activity on our website. But that's all, the user is free to do on the website what he or she wants. It's not that we force them to do anything on our website. But also that stuff is for me personally it's privacy. I'm thinking of, I'm looking at complete recordings of people how to go to our website, how to type in their information. I'm like: "Do these if people know that we are doing this?". I'm also very curious of how this will look in the year or two. Because I think the privacy will be much more improved for end users.
	Unethical use of privacy	**Jurgen**: Other stuff, for instance, we're working on a job page for Company CC. One area where we are going to post all the jobs that we have available for all different labels. And we're also building a solicitation process into that page. With the solicitation process also comes the question like: "Hey, do you allow us to hold on to your resume for a couple of months, for the next, maybe a half year or something?". That also involves privacy and you also think of how are we going to give the end user of this website the privacy that they need or deserve or the privacy legally needed? So it comes comes around quite a lot.
	Holding data longer than necessary	**Sjors**: I have to say, I feel pretty bad about doing that. Look, the data is not abused, of course, let's put that first. And it is only kept longer than necessary. And we know that you have visited the site, so we actually know commercially what you are interested in. Yes, I personally don't have much of a problem with that.
	Privacy: already sharing, here is the rest	**Thijs**: And I think it's, yeah, I live a bit in the group of: "Okay, well, they already know so much about me, so here it is.". But I do think that everyone should have access to it. So I think it's very good that this GDPR is in place and that we are complying with it.
	Privacy advice: only do good	**Pieter**: Because in the end I think that's much more important and it also comes down and comes back to don't do evil. Only do good, and then eventually the law should comply with the things that you are doing because they should be in line.
	Privacy advice: block cookies	**Sjors**: And yes, if I did, it would be more towards the end user and then it would be more like: "Don't let all those cookies drive you crazy, because there are already tons of other tools that track everything about you." But, if you get a cookie notification, always ignore it, always block it.
Strategical decisions based on feelings	S personal view as guidance	**Erik**: So, our own values, our own ethics, as it were, form what the guidelines are for the company.
	S based on feeling	**Erik**: Yes. Basically when we get clients that cost us more pain than enjoyment, or when we notice that a group isn't functioning as it should, or it's basically a high empathy group. And we are as well, so it's not all down to feeling, but feeling does play a big part of it.
	Strategy changes	**Bart**: Well, yes, yes it changes, it changes as the objectives change too.
	Strategy based on feelings	**Erik**: When it's something we can control. And the agency is not something we can control in the sense that it's the agency the client uses in which we have no say. And in what we do have a say is the guidelines we adhere. So in this case we'll make a choice in doing what we think is the right thing, instead of choosing the agency which is not an option right now.
	Strategy and ethics are intertwined	**Erik**: But our strategy is doing things ethically, so it's intertwined. So for us to do our work, and for me to be able to sleep at night doing it, I need to do it the way I do it right now, because I believe in authentic communication and being an authentic brand and being what you say you are instead of what you want to be. So for me it's intertwined. Everything I do is on the intersection of strategy and ethics.

		E not familiar with ethical guidelines	**Bart**: No, no [I'm not familiar with ethical guidelines in the industry]. There will undoubtedly be. I do not doubt that. There are guidelines for everything, but I never looked them up.
		Unfamiliar with ethical standards	**Erik**: I don't know if there their standard agreements.
Unfamiliarity	Guideline unfamiliarity	Not interested in all regulations	**Sjors**: So no, I don't necessarily know all about the regulations. I'm not the one who would want to delve into that, because that sort of thing is not my area of interest, so to speak.
		No manual for ethics	**Bart**: […] I don't have a manual for that.
		No product ethical guidelines	**Thijs**: Company HC doesn't have anything on paper for that at all.
	Strategy unfamiliarity	S no clear strategy	**Jurgen**: And I can immediately say that we are not a company that has a clear strategy.
		S go with the flow	**Erik**: In emails, it might be written down sometimes. We try to define clear goals and set it on paper, but we do not really have a culture that's big on reports or papers. So basically it's what we decide that it is, and it's not like there are certain targets we need to meet or measurables that we need to look at to see if the strategy is working. It's basically just we'll know when we see kind of thing.
		S only communicated to specific employees	**Jurgen**: So in case of the example I gave, for this case we communicated very clear with the department that's involved. Like: "Hey, we're setting up this video, we're setting up this email with an infographic that we're going to send to the customer.", so that they know what the processes will be. But that's only communicated to those five, six colleagues. It's not a company-wide strategy that we spread to each and everyone so that everybody knows it and is aware of it.
		S working towards creating strategy	**Jurgen**: […] but it's not that we have a clear marketing strategy or that we have a clear marketing team set up. But that's in the making.
		S not well thought out	**Jurgen**: So, they have a clear thought of what they want, but there's no strategy behind it for whatsoever.
	Unfamiliarity with ethics	DP unfamiliar	**Marloes**: I don't know what it is anymore.
		DP only heard of	**Matthijs**: I have heard of it, but I don't really know what it is, no.
		DP wrong understanding	**Pieter**: Yeah, I think it's a behaviour that has sneaked into you or your organization or to your team, which you are not fundamentally aware of. However, if someone has a mirror and shows you your own behaviour from a distance, you may draw the conclusion that it's not in the best interest of others, and that it may be even unethical behaviour, for instance.
Design choices	User centred design choices	User centred design example	**Sjors**: Because if you talk to the client, look at a truck company, yes, what are you going to show? And from the client's point of view, he wants to show his truck, because he's very happy with it, he's proud of it. But from the visitor's point of view, that's not what you're there for. You just want your package to be delivered from A to B as quickly as possible and for a good price. Yes, and so yes, the [end user] is what we make the site for.
		Product is for the end user	**Sjors**: But I always say clearly: "We're not making the site for you, but for your customers, your visitors. So we always take the end user as our starting point when creating the website. But that doesn't necessarily have an ethical point of view, it mainly has a commercial point of view, I'll be very honest about that.

		E user centred design	**Mark**: But also we try to look when we design new features or redesign current features we mostly think about what does the customer want and how do they want to use it? How does it need to look? We can make the application for them instead of for ourselves, in that way.
		End user most important	**Pieter**: So they are eventually your main audience and your target audience as well. Which means that you need to start making decisions and focusing on the MVP, the minimum viable product, for the end user. So, yeah, that would make your end users the most important.
		End user uses it	**Thijs**: If the end user doesn't use it, it's no use to the client either.
		End user buys the product	**Matthijs**: Good, I think the most important thing is the end user. Because he has to buy the product or service. And it's important that you can convince the client of how you think he can best achieve his goal. Through the right strategy. To come back to that.
		Reformulate the client's question	**Sjors**: Well, I always start by reformulating the client's question from the end user's point of view. Of course, it is then framed in the client's favour.
		Build stuff for the end user	**Jurgen**: To me, the end user, because if I look at the stuff that we build, eventually complains that the end user has will fall back to us.
		E end product: user friendly	**Mark**: But also you try to make it as friendly as possible. So you are going to try to make it as clean as possible and as user friendly as possible. So the users also feel delighted when they use the application.
	Unethical choices	E unethical end product	**Jurgen**: We are starting with a new product. Maybe that's relatable. It's called 'safe internet'. It's a product that we are setting up right now, which involves an application for companies that can monitor their internet traffic. For instance, if you have an organization that helps psychiatric patients, you might want to shield them of their triggers, to stop the triggers. You might want to shield them off with those triggers and we are providing those organizations with a product that they can monitor their own internet traffic. So that could be something that's a bit involved with ethics. Personally [I would consider that product] unethical. But that's my opinion, because I'm a very strong believer of free speech, free internet, free everything. But, I understand that there's a, there may be an urge to help people and to, as I said, they tried to shield of people from the triggers that they have, customs these people have, the problems that these people have maybe an actual disease and you want to help these people. So I understand why. But still from that deep from within my core values, I would always say free Internet for everyone.
		Unethical: abuse	**Matthijs**: "I want this, I don't want to make this, I don't agree with how it is made now." But, suppose now, that is that I have come up with certain design, which I like, then I would say of: "I don't agree with it, but I'll make it." But if it really is racism or animal abuse, then I think I would refuse it. I don't want to attach my name to that. Or trafficking in women, or #metoo. Yes, I think that if people do harm to someone with it, then yes, I would have a problem with it.
		Unethical: ignoring the law	**Erik**: Okay. For example, we're trying to make a video for a client. And that client is, he has a group accommodations and he hosts school camps. So we're making a video centred around a boy age 12 ish. So we need to cast someone that is 12 ish or looks 12 ish, which means it's a child, with child labour laws, which means he can only work for 4 hours on a school day. You can't work past a certain time at the end of the day. Which is all something I believe in, and is right. One way I would say that is unethical is for the casting agency to say: "Well, if you don't say anything, we won't say anything.". For me, that's a no go.

		Unethical: lying	**Sjors**: Yes, look, I am in favour of not lying, you can frame but not lying.
		E unethical project	**Thijs:** We did have a project here once by Company HK, where they were looking for: "How can we develop a dashboard so that we can deplete the oil fields even further?", you know. So that's more general, so to speak. Contributing to a product that actually has some unethical impact. But that's just in my opinion.
		E don't work with fur	**Matthijs**: No, I don't think that's acceptable. For example fur, if a company sells fur, yes, I wouldn't want to work for that. But I have a feeling that our company, that my company, is not going to do that either. But those are certain things I would oppose, shall we say.
		Cancel unethical projects	**Erik:** If we feel as a company that indeed the project is unethical, then we'll stop and we'll stand by the employee either way. But sometimes it means another employee picks up the project, and sometimes it means that we'll stop the project or even cancel the relationship with the client.
		E working for unethical projects	**Thijs:** And then they said yes to that company, but then at a certain point it came down to hosting a certain workshop, which is something I do a lot, and that a certain knowledge was lacking to do that properly. And then it was like: "Oh, yes, but Thijs, can't you just take a look?" And then I thought: "Yes, I'm happy to do that for that colleague, because I'm happy to share my knowledge". But then when you know what it's used for, then you think: "Shit!". And then you work for the same company. So of course, I shared my knowledge, but then we all realised: we actually have to agree across the board on whether we're going to work for something or not. Because otherwise there is no point.
		Unethical: exploiting	**Pieter:** An example might be that I sign up for a newsletter somewhere and suddenly I get three other newsletters as well. That may be something that where I draw the line and feel exploited. Then I don't allow this organization to have my data anymore.
		Unethical: accessibility	**Thijs:** And in web development, that's what accessibility is all about: that you don't live up to it. That people who can't see can't use a page. Or not using non-binary pronouns in a form. I think it's easy to be unethical in web development.
		E digital sustainability	**Thijs:** And also digital sustainability, so making sure your images are not too big and that you use fewer images, or use more dark tones.
	Contradicting choices	Money driven design choices	**Bart**: Yes, I think to generate turnover. If dark patterns by definition are something that is not in the interest of the end consumer, then I can't really think of any other good reason than purely to make money. It's not as if they suddenly arrive at a page where they think: "Hey, that's nice! I can also take a package deal like that". Do you see that as a dark pattern as well?
		E can't turn down unethical projects	**Thijs**: But then at a certain point it was like: "Can we actually say no?". Because we all work in a certain company, we also have to achieve a certain turnover.

		Not turning down unethical projects	**Sjors:** Mmm yes, we have had requests for an assignment, yes, drop shipping, things like that. And yes, I also consciously said no to those right away. On the one hand, because they are clients who you don't really want to have anything to do with, in terms of personality - I'm not saying it right - but more because they are clients who are all about the quick money. Yes, then you also make ethical choices to earn quick money, while what you are doing is actually indirectly more of a scam. You sell a product as if it's ready to go and you disguise the fact that the delivery time is five weeks, or seven weeks. It has also been an ethical mission that you thought: "We're not going to take this on". But I have to be honest and say that I also had to convince my employer at the time and then the decision was made to simply put the amount so high that we said: "Well, if he wants it, then for this amount", and then we'll do it, fine. But that was not his choice. So that was the way it was handled at the time. Not necessarily the best story.
		Making better choices due to income	**Erik**: There is always nuance to that, I think, because there's bills to be paid. You have the luxury of only thinking about the end user when you're not the one responsible for feeding families or for the salaries of families that need to be fed. So yes, always the end user and yes, we'll always try to get a project that is more in line with what we feel is our ethics or our culture, even if that means that it won't make as much money. But there's the nuance that there are still bills to be paid. So, that's not a black and white issue.
		Privacy: knowing better	**Pieter**: So privacy by design, privacy by default as well. Such things are really important because we have been making applications that do exactly the opposite
		Data driven decisions	**Erik**: Yeah, for websites it's customary to have some form of analytics. Which I sort of get, believe in, I believe in the power of data and making decisions through data, I'm just not a fan of how they get the data.
		Strategy as dish of the day	**Jurgen**: And on our side, it's more the soup of the day. So: "Oh today it's glass fibre. I have feeling, a good feeling about glass fibre. Let's promote glass fibre." But, when we then see, for instance, a huge glass fibre campaign of a competitor, that maybe costs a few million euros, this idea immediately gets thrown out of the window. "Oh no, oh no, it's not needed." So, it's not that we strategize our guerrilla tactics let's say. It's really how the wind is blowing that day.
		Questioning own work	**Sjors**: Well, now I'm not necessarily a very good guide myself, because I'm quite aware of those techniques, even if I do fall for them. Let's be honest. But we have done a campaign on Instagram before and you thought: "Yeah, what they're selling, as if it's ecological", you know. It's a sustainable brand, that's promoted, and it's actually from Thailand. So maybe a sustainable product, but you don't know what kind of factory it was. Yes, then I think: "Yes, it may be sustainable, but that material...". That was a moment when I thought: "What am I doing now? Anyway, that campaign wasn't necessarily very successful either. It was also a kind of: well, look beautiful, that's also nice for my own peace of mind
		Cookies don't really work	**Sjors**: And that there are cookie notifications everywhere and that you have to indicate that you only want to use the functional cookies, not all the others. Good that they are there. There are tons of tools out there that actually ask for them, but don't even apply them, and still keep track of everything about you.
		Manipulation not bad	**Bart**: But maybe manipulation is not necessarily a bad thing. It does have, I think, a negative association. But look, yes, such an interface, so to speak, that we make for a grower to perform a task, yes, we put it in like that. So yes, the buttons that he probably has to press are larger and of a certain colour. And ultimately, we help him with that too. What's more, it is appreciated. But yes, you do manipulate him. And I think, in that context, it is not something bad.