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Towards explaining implementation and internalization of
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Towards explaining implementation and internalization of GDPR compliance practice

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Executive Summary

The purpose of this thesis is to investigate the compliance of GDPR practices in Norwegian organizations. Two dimensions are used to assess compliance: Implementation and internalization. We utilize a cross-sectional research design and collect data by the use of an online survey. After distributing the survey to all DPOs registered at Datatilsynet we ended up with an operating sample of 252 responses for our analysis. The data was analyzed with multiple linear regression models.

The results show that value-based communication, the strategic value of data, DPO involvement and being a private organization are positively related to the implementation of compliance with the GDPR. For internalization we found the most important factors to be value-based communication and the strategic value of data.

Limitations of this paper include the inability to establish causality due to research design and only having one respondent per organization with questions relying on personal judgement. This makes objective measurements challenging and limits the potential of testing the involvement construct. Future researchers should apply a longitudinal study and collect responses from more than one individual within each organization in order to get a more accurate picture of each organization's actual comprehension of the GDPR compliance.

Keywords: GDPR; adoption of practices; Norwegian organizations; implementation; internalization.

1.0 Introduction

Technological breakthroughs and new digital trends have been on the agenda for many organizations in the past decade. This has led to organizations becoming increasingly customer-focused. We interact in a world where gathering and using customer data has become critically important (Brown, Kanagasabai, Pant & Pinto, 2017). Organizations are using new technology combined with information collected from customers to increase revenues through more personalized products, marketing, and a digital journey. Fleming and Harter (2009) found that organizations applying behavioral economic principles, outperformed their peers by 25% in gross margins while 85% in sales growth. The value of customer data is vast. As we leave traces everywhere we go using our technological devices, private individuals will struggle to control their personal data without oversight and regulations. The privacy risk for users of technological devices is high. With the development of new technology and the increased focus on customer data, the old privacy regulation set by the EU needed to be updated (GDPR, 2019).

This paper examines The General Data Protection Regulation (GDPR), which is a set of rules in the EU law concerning data protection and privacy for citizens within the EU zone and the EEA (General Data Protection Regulation, 2016). It is primarily concerned with the use and storage of personal data and is intended to give more control to the individual concerning their information as well as providing an even playing field for businesses within the zones. The regulations do not only apply to organizations located within the EU zone or the EEA, but all organizations which holds or processes data of EU subjects.

Data security is becoming increasingly important as technology evolves. With the digitized world, companies can capture, store, and analyze data previously too complex to manage. Individual attitudes toward the privacy of personal data vary greatly, with some appreciating the targeted advertising and services it allows, some considering the amount of data gathering purely Orwellian, and others still being oblivious to the amount of data they leave behind. The issue of personal data and privacy has been a highly debated topic in the last few years with the establishment of cryptocurrencies and their ability to hide transactions, and social media companies coming under scrutiny for their sale of user-data. Attitudes towards the

issue of privacy vary greatly on both a personal- and national level. According to a privacy survey done by Datatilsynet in 2013, the Norwegian population does not seem to view privacy as their highest priority in many occasions (Datatilsynet, 2014). In fact, the Norwegian population tends to lean towards transparency, which can for example be shown through the Storting in Norway deciding that tax lists are to be public (Skatteetaten, 2019). Norwegians are used to transparency and in general does not view this as an issue.

The high failure rate of change processes is often cited (e.g. Ewenstein, Smith & Sologar, 2015; Gleeson, 2017). However, to answer the question of how many processes fail, one has to ask: how is failure defined? Measuring the success of change initiatives often lack accurate and objective measurements, and the GDPR is no exception. In this paper, we aimed to develop an objective measurement for the implementation of the GDPR, the objective behaviors and actions which is required by the practice (Kostova & Roth, 2002; Ahlvik & Bjorkman, 2015). We utilize adapted measures in order to test internalization, the depth beyond the minimum requirement of compliance (Kostova & Roth, 2002), in order to investigate the effect of chosen independent variables on the rate of ceremonial adoption of GDPR. It is particularly interesting to consider whether there are ways to prevent ceremonial adoption in changes that are externally mandated and is motivated by social benefits rather than financial gains.

Some of the main components of the regulations are: (Article 5) persons should be aware what their personal data is used for and have a right to access the collected data (Article 17) Persons have the right to have their personal data be deleted (Article 20) Persons have the right to have their data transferred from one organization to another in a computer readable format (Article 25) Consent must be given in a clear and understandable way in order to use personal data. Infringements can be fined by up to €20 million or 4% of revenues, meaning that non-compliance carries substantial financial risk. Enforcement of the regulations began the 25th of May 2018 for the EU zone, but not until June 20th for the EEA (Regjeringen.no, 2018a). The consequences of this externally mandated regulation are substantial for all involved organizations. The span of organizations having to comply with the new regulation is wide. There are hugely varying starting points and contexts, but

they all have to comply with the GDPR by the same set date. This context is what drew us towards this topic and lead us towards the following research question:

What factors can explain the extent of compliance with the GDPR?

We established ten hypotheses based on previous research and theories to predict the differences in organizations when it comes to: (1) more effective implementation of the GDPR (2) more internalized implementation of the GDPR. If successful, this would provide a framework for which to measure the implementation of GDPR-compliance while providing evidence on the impact of change management strategies in various sectors and contexts. The intended contributions of this study are to improve change management practices and their efficiency in an externally mandated change. We wish to study the relationship between chosen variables to implementation and internalization of the GDPR in Norwegian organizations. This is to further understand which factors make an impact on the degree of both implementation and internalization and can thus be used as a guide for change agents encountering similar change processes.

2.0 Adoption of practice dimensions

Successfully implementing a planned change is not given. With it comes substantial risks and challenges and can easily result in incomplete adoption. Moreover, if the implementation of a change is successful, it is not guaranteed that the internalization and institutionalization of the change holds, which could result in the change initiative not sticking in the long-term.

Change is not necessarily the rule in organizations both for economical and psychological reasons. There is a collective benefit in stability through efficiency and predictability. There are sunk costs in terms of both financial resources and learning time, which might prevent the adoption of new routines or systems. Humans are creatures of habit and might be resistant to change, change entails risk, and there might be political concerns. Breaking through these barriers can be a challenge even if the change comes from within the organization and promises clear benefits. One of the best ways is to make sure employees sees the benefit of the process and to involve them in the process, but this can be especially challenging

with an externally mandated change (Eby, Adams, Russel, Gaby, 2000). This poses the question of what factors can impact the level of adoption of an externally mandated change. Is the likelihood of ceremonial adoption affected by a company's complexity and its operation's proximity to data management? Can one focus on the social benefits of a change instead of the business benefits and still get the effect of better adoption? Is the likelihood simply a product of existing values and attitudes or can it be affected by how the purpose of the change is communicated?

Continuing, we know that the long-term result of an implementation is very much affected by the organization culture. According to Canato, Ravasi & Phillips (2013), the absence of forced pressure leads to a cultural overhaul of the change process, forcing organizations back to their previous practices. In order for this not to happen, the culture needs to adapt to the change initiative. If the organization already has a culture which is more open and aligned with the initiated change process, they have an advantage. In the case of the GDPR, most organizations will be affected and must implement changes in order to be compliant with the regulations. For many organizations, there are a substantial amount of required actions to reach compliance, and failure to reach it could result in substantial financial sanctions. Moreover, many organizations rely on leveraging customer data for competitive advantages. Because of the significance of this threat, playing the odds by ignoring the regulations is not an option for most organizations. Even though a successful implementation of the practice seems vital for all organizations to avoid sanctions, some organizations will have an advantage because of a more suiting organizational culture.

Although the implementation can be challenging for many organizations, there are potential benefits. Forbes (Fimin, 2018) suggested five benefits GDPR compliance will bring to an organization. There are the benefits directly tied in with the GDPR such as improving trust and confidence with their customers, improving data management, bettering their data security systems, and moving towards building a culture that values their customers and their rights. The latter can benefit the organization both in terms of external reputation and internal motivation or satisfaction. In addition to these four benefits, Fimin (2018) also talks about the

opportunity to increase marketing return on investment. Since the regulations are the same for everyone, there are opportunities for differentiation and creation of new competitive advantages. Organizations who take a holistic approach and integrate privacy into their culture can better take advantage of these benefits.

However, to fully realize these benefits, there needs to be a stronger adoption than merely fulfilling the minimum requirements at a given point in time. The GDPR can serve as a call to action that allows for these benefits to emerge, but the systems and processes need to be maintained and updated. For a strong adoption of the GDPR and to be able to benefit from the advantages it can bring, there not only needs to be structural changes within the organization, but also a shift in attitudes and competencies. To address this, we therefore focus on two main dimensions of GDPR adoption in Norwegian organizations: Implementation and internalization.

2.1 Implementation

Implementation is the objective behaviors and actions which is required by the practice, in this case, compliance with the GDPR (Kostova & Roth, 2002; Ahlvik & Bjorkman 2015). This dimension speaks to the specific actions taken to comply with the regulations but does not investigate adoption beyond a ceremonial level. Measurements for this construct has to take into account the specific demands of the regulation that were previously described.

2.2 Internalization

Internalization is the depth of adoption beyond the minimum requirement of compliance, shown in commitment to the practice and belief within the organization that the practice is beneficial and has value (Kostova & Roth, 2002). Strong results in this dimension can be viewed as a non-ceremonial form for adoption, as the practice is valued and sparks actions and effort. While implementation deals with structure and processes, internalization is focused on the human aspect of adapting a practice.

3.0 Theory

3.1 *Value-based communication*

In the most widespread prescriptive change management models there are usually a step or two pertaining to the creation and communication of a compelling expression of a change's desired end state: a vision (Stouten, Rousseau, & De Cremer, 2018). It has been widely accepted both in the scientific literature and by practitioners that a goal or a vision is expected to be effective if it is accepted by employees (Kirkpatrick, 2009). However, content of the vision has received relatively little attention in the literature.

When it comes to most needs for change caused by external factors there are primarily two ways to consider them: as an opportunity or as a threat. Although an optimistic soul might consider the GDPR a chance to develop organizational IT capabilities, it is hard to imagine such governmental mandates causing the same kind of opportunistic enthusiasm as a shift in market trends or technology. However, we would propose that there are still two distinct ways to talk about such a need for change. An organization could speak about the threat and the difficulties that a regulation poses, or could focus on the underlying intention of said regulation, in this case an individual's right to privacy. The latter alternative is an example of value-based communication.

We would argue that the way a change is discussed and which motivations are given for it, will affect attitudes and the depth of adoption. Understanding why a change needs to happen tends to be positively correlated with the effectiveness of implementing said change (Klein, 1996). Moreover, complying with the GDPR is for many organizations a project of significant size and cost. Motivating employees in such situations can be particularly difficult. When losses are incurred by a change, understanding the reasons behind it and appreciating their legitimacy is particularly important (Rousseau, 1996).

Communication not only helps employees to make sense of the change at hand but also indicates intent and priorities. Does management emphasize the need to avoid sanctions or the value that data privacy has for individuals? Existing research

suggests that individuals will differ in their endorsement of a vision depending on the compatibility with their beliefs (Stouten, 2018). Effectiveness of adoption is not only affected by their attitudes toward the change itself, but also their attitudes toward the organization (Gregory, Harris, Armenakis, & Shook, 2009). In this case the mandate originates from the EU but is expressed through an organization's management. As previously discussed, Norwegians have historically opted to emphasize transparency over privacy. As such, they would be unlikely to be predisposed to a strong belief in the value of the GDPR. However, awareness of the regulations should be very high due to media coverage of privacy scandals in recent years and the large amount of GDPR-related emails that private citizens received from various businesses around the time of enforcement. Furthermore, awareness tends to be higher when a change is externally mandated by, for example, a government (Hiatt, 2006). It is therefore possible that Norwegian attitudes towards privacy and the need for regulation have changed in recent years.

Accepting changes tends to be more successful if the change is in line with an organization's strategy (Stouten, 2018). Emphasizing the value of the GDPR could potentially make it easier to accept by raising awareness of the issue of privacy and by signaling the organization's belief in the importance of the regulation. Moreover, as people tend to be predisposed toward altruistic behavior, emphasizing the right of the individual could contribute in bettering employees' attitudes toward both: (1) the organization due to their selfless focus (2) the EU for creating protective regulations (Warneken & Tomasello, 2009).

A study conducted in Denmark, which has a comparable culture to Norway, found that normative motivations, such as for example sense of duty, was a stronger predictor for compliance to regulations than calculated motivations such as fear of sanctions (Winter & May, 2001). Moreover, Adam Grant (2008) found that prosocial motivation was a strong predictor for productivity when the mediator of intrinsic motivation was also high. This further suggests that communication which elicits value-based motivation by emphasizing rights of the individual and the purpose of the GDPR should not only be positive for internalization but also implementation.

Ia: Value-based communication will be positively related to the implementation.

Ib: Value-based communication will be positively related to the internalization.

3.2 Operating sectors – public vs. private

Another way to distinguish organizations is to look at the public and private sector separately. A general perception towards the public compared to the private sector in Norway is that it is characterized by bureaucracy and hierarchical structures, as well as limited efficiency, resources, and willingness to change. A conceivable reason for this is that organizations operating in the public sector tend to have underlying social goals, such as health, education, and welfare while organizations operating in the private sector often are more focused on the economic viability of the organization (Troshani, Jerram & Hill, 2011). As such, they tend to focus more on economic growth and how to extract as much money as possible out of each organizational change.

According to Troshani et al. (2011) the private sector is more proactive when it comes to investing in untested innovations. The public sector is perceived to be more reactive and wait until the innovation has proved itself successful before a change is implemented. While there are differences within the public sector, the majority of organizations rely on tax funding rather than self-sustained operations. Consequently, behaviors of organizations operating in the Norwegian public sector are often characterized by limited budgets (Norges Forskningsråd, 2018). Organizations in this sector have less positive motivation to follow up on new trends and to be innovative compared to the private sector. While the sectors share the potential downsides, innovation and improved efficiency for the private sector generally leads to bonuses and stronger results, while in the public sector it is more likely to lead to resources being budgeted elsewhere in the future. According to the Norwegian Research Council the public sector in Norway shows less interest when it comes to innovation and renewal of an organization. 90% of their yearly support for new innovations goes to private organizations (Norges Forskningsråd, 2018).

When it comes to adoption of the GDPR, public sector organizations must follow the same guidelines and regulations as private sector organizations. Due to limited

resources it is likely that public organizations will have been allocated just enough money to implement the necessary steps to be compliant with the GDPR and will do so properly before the deadlines to avoid being fined. Another incentive for public organizations to be within the deadline is their social responsibility and the bad publicity it would create if they did not. Even though the regulations are given by the EU, individuals perceive public organizations as closer linked to the government and the EU and expect them to follow regulations. We do therefore not expect there to be any significant difference between the private and public sector when it comes to implementation even if private organizations are expected to be more efficient in change implementation overall.

Nevertheless, we have multiple reasons to believe that internalization of the GDPR in public sector organizations will be lower than in private organizations. Public organizations tend to be more bureaucratic than private organizations and employees do not always get a say in when a change is going to happen (Boyne, 2002). In Norwegian hospitals, doctors and caretakers are frustrated over the new regulations preventing them to share essential patient information between different departments and hospitals. They claim that the ones interpreting the complicated GDPR regulations have no juridical or medical background to make changes according to patient safety (Aftenposten, 2019). Public organizations such as health and educational institutions value privacy, but personal information is critical for public organizations and needs to be accessible for those who need it. Health and education services contribute to a relatively large part of public employees (SSB, 2019). Public companies try to safeguard peoples interests and needs. This is contrary to private organizations who want to get as much information as possible from their customers. Continuing, we argue that with today's GDPR, public organizations will in general have a lower degree of internalization than private sector organizations. This is partly because the regulation is preventing them to optimize the information flow, which is important and especially within the health sector. Private organizations are more likely to look at the potential benefits, as compliance beyond requirements can give them a competitive advantage. They will want to extract potential economic benefits from having to comply in the organization's place, and as such will move beyond required compliance.

We build a more general argument based on research done by Rambøll (2018). Yearly reports show that the digitalization of public institutions is increasing but still has a long way to go in Norway. Not until 2017 did the report show that 50% of public institutions delivered mainly digital services. This tells us that the focus on data and digital solutions is not major within organizations operating in the public sector. Since public organizations in Norway has shown a lack of innovation interest in the past and in addition to the restricted resources, it is not likely to see adoption of the GDPR beyond the minimum requirements of compliance for organizations within the public sector. Accordingly, we present our following hypothesis:

2a: Whether an organization is operating in the public or private sector will be unrelated to the degree of implementation.

2b: Public sector organizations will have a lower degree of internalization than private sector organizations.

3.3 The strategic value of data

Even though the GDPR has to be implemented on the same terms across all industries the importance of data protection varies between organizations and industries. By controlling for the industries in which the organizations are operating in, as well as the strategic value of data to the organization, we will look for systematic differences in the implementation and internalization of the GDPR.

The issue of cultural fit can be used as an argument behind the motivation to implement the GDPR and thus also how well the organization is complying with the new regulations, as cultural fit is affecting the outcome of practice adoptions (Ansari, Fiss & Zajac, 2010). Ansari et.al (2010) define cultural fit as “the degree to which the characteristics of a diffusing practice are compatible with the cultural values, beliefs, and practices of potential adopters”. Thus, certain organizations will feel a greater cultural fit towards the GDPR implementation as it suits their values and practices and potentially also a more positive attitude towards the GDPR process. However, for many Norwegian organizations, the GDPR is nothing more than unnecessary work and new routines for registration of customer data. In general, Norwegians does not tend to be particularly concerned with data protection

(Datatilsynet, 2014). Therefore, it is conceivable that the average Norwegian will be more restrictive towards the GDPR. An organization operating in an industry with data focus or an organization where data is central in the strategy will likely have a different opinion than the average Norwegian.

Studies have shown that for a change to be successful it is necessary that the organization understands the urgency and need for change (Kotter, 1995). As mentioned above, acceptance of a change tends to be more successful when the change is in line with the organization's strategy (Stouten, 2018). It is likely that individuals working in an organization where data is a more discussed and valued topic will have more insight and understand the importance of data protection to a greater extent than an organization where data is not as valuable. Moreover, looking from the GDPR initiators point of view they are more likely to look at the GDPR as an opportunity if the topic interests them and can be beneficial for the organization in the future. The potential for action taking increases when the issue is being looked at as an opportunity, thus leading to an organizational change (Thomas, Clark & Gioia, 1993).

Industries handling large amounts of customer data will be increasingly competitive when it comes to protecting their own data. Customer data is more valuable now than ever and will arguably just become more valuable in the future due to new technology and personalized marketing. Securing the data and making it so that the customer knows the data is stored safely will be important for many of the organizations operating in industries where data is a central part of the company. Hence, the GDPR should be more of an opportunity for these organizations compared to those without a central data focus.

According to Meyer & Herscovitch (2001) an individual with a strong affective commitment to a change process would be willing to do more and go beyond requirements to achieve a goal or initiate a change. Their article also states that for those contributing to change only due to obligations or because compliance with the initiative leads to lower cost, will be less willing to go beyond the minimum requirement. Companies where the strategic value of data is higher will arguably have more insight into the importance of data security. Because each individual in

such an organization will be more aware of technology, its future trends and threats, it is likely that they will have a stronger sense of affection towards the new EU regulations and collectively do more than the minimum requirements of the GDPR compliance. We present the following hypothesis:

3a: The strategic value of data to the organization will be positively related to the implementation of GDPR.

3b: The strategic value of data to the organization will be positively related to the internalization of GDPR.

3.4 Educational background of the Data Protection Officer (DPO)

The GDPR calls for the appointment of a DPO who will be responsible for the oversight of data protection strategy and implementation to ensure compliance with the GDPR (EDPS, 2019). The appointment is mandatory for EU bodies and companies that administrates or stores a large amount of personal data. The DPO should preferably be granted both the power and independence to act out her duties, and for her to be placed in the hierarchy in such a way that her only supervisor is top management. However, most organizations of any notable size would likely have had someone responsible for IT security, data privacy or similar prior to the GDPR. It is therefore plausible that many organizations expanded the scope of an existing role instead of the creation of a new one. Additionally, several other organizations seem to have delegated this role externally instead of having appointed someone in their own structure. Both of these scenarios lead to a situation where the DPO is unlikely to be someone well-known within the organization. If this is the case, the DPO might initially be of limited credibility and impact their ability to convince others of the importance of the GDPR. An educational background within a technical field might aid in building credibility.

Afzalur Rahim (1989) found that legitimate, or formal, power of a leader was a very strong predictor of compliance, but that referent and expert power was considerably stronger predictors for satisfaction. Additionally, Ahlvik & Björkman (2015) found that a high level of formality in a parent-subsidiary implementation process was related to a strong level of compliance but was unrelated to the internalization of the change. These findings lend credence to the idea that a technically

knowledgeable DPO would aid in the internalization of practices. However, as referent and expertise power is based on beliefs in capabilities and admiration, it is unlikely to be strong in a situation where the responsibilities of DPO is delegated either externally or to someone unknown in the organization. Moreover, the practice of implementing a change process on this scale is likely to have a stronger correlation with change management capabilities and formal power than technical expertise of the DPO and we therefore expect this to be unrelated to the level of implementation. We expect someone with a technical background to have a better understanding of the use-cases of personal data and the ease of which to gather it. Because of this, we expect DPOs with a technical background to both better see the value of the GDPR, and to be more successful in convincing others of its importance.

4a: Technical background of DPO will be unrelated to the implementation.

4b: Technical background of DPO will be positively related to the internalization.

3.5 Involvement

We wanted to measure employee's involvement in the GDPR, and whether it would impact compliance with the GDPR. According to Wooldridge and Floyd (1990) middle management involvement leads to improved implementation and following improves organizational performance. By involving middle managers, Dess (1987) argues that the managers are more likely to reach consensus and share an understanding of the strategic decisions that are being made. Since middle managers are often responsible for the implementation this tends to work in favor of organizational performance. By including middle managers in the GDPR process of the organization, they are likely to have greater motivation and understanding of what their employees need to do to comply with the new regulation. Arguably, this inclusion should assist in a smoother implementation process.

According to Kotter (1995) the most successful changes happens when managers manage to establish a sense of urgency in the organization. To achieve this communication and information flow is important. The topic of GDPR should therefore to achieve good results be a known topic in an organization before the implementation is enforced from top management level. The change will be carried

out by employees and middle managers who might have valuable insights on how the regulation could be handled.

Jørgensen, Owen & Neus (2009) argues that top managers sponsorship, as well as participative leadership is important to achieve a successful project. By delegating power and decision-making rights down in the organization, a culture of empowerment starts to grow. Leaders who manage to delegate power to subordinates had according to empirical research done by Jørgensen et. Al, 2009, 46% project success rate, compared to 39% for those who only consult with their subordinates. Thus, involving managers at lower levels and give them the right to make decisions about how the GDPR is being implemented in their department could have a positive impact on the internalization of the GDPR.

5a: Involvement will be positively related to the implementation.

5b: Involvement will be positively related to the internalization.

4.0 Method

4.1 Procedure

For the purpose of this paper we found a cross-sectional study to be the best fit. A cross-sectional research design entails the collection of data on more than one case, at one point in time. It is the preferred choice when one is examining the relationship between variables (Bryman & Bell, 2015). This design was chosen for this paper because it allows for a good comparison between variables and because it is economical and time efficient. By using an online survey, we got answers able to be analyzed in R, the data analytics tool used in this paper, by converting them to numerical values. To control for potential confounding variables we asked the respondent questions regarding organization size, internationalization, and industry. See appendix 4 for the full survey with all items. Continuing, we checked for multicollinearity by the use of a Pearson Correlation and found that there was no reason to exclude any dependent nor independent variables.

To avoid any misunderstandings there were two language options for the survey, English, and Norwegian. When translating the survey, we sent the questions in one

language to two different individuals, asking them to translate to Norwegian and/or English. We did this to ensure the wording and the sentences would be understood the same way in both languages without the bias of seeing the other version. The respondents provided nearly identical translations with only minor stylistic differences. Moreover, this helped us identify whether the questions were understandable to individuals that had not been involved in the process of writing this thesis and did not have the same educational background. Later, the same individuals, as well as two more, were asked to read through the entire survey in both languages and notify us of anything they did not understand. The test group had varied ages, English comprehension levels, and educational backgrounds. When it was time to distribute the survey, it was done by e-mail to each participant. Without knowing when the e-mail was opened, the deadline to answer the survey was one week and three days after the distribution date. As an incentive to get a higher response rate the participants were given the option to leave an e-mail address if they wished to receive information on their industry average. Respondents who requested this will receive the industry average after the research period is over.

4.2 Participants

The data in this research was obtained by an online survey using Qualtrics. It was sent to Data Protection Officers (DPOs) in Norwegian organizations of different sizes and in different industries. The data in this study is collected from a wide range of organizations. Datatilsynet, The Norwegian Data Protection Authority, has a list where all DPOs in Norwegian organizations are encouraged to register. Contact information to potential participants was found in this registry and all registered DPOs were asked to participate through the supplied e-mail address. The survey was sent to 1148 unique e-mail addresses though some had not been updated in the registry. With a response rate of approximately 26.5 % we received 304 responses, however, before applying the data in our analysis we eliminated responses that were incomplete. This left us with an operating sample size of 252 responses.

When receiving the e-mail the DPO was asked to either participate himself or forward the survey to an individual who has been highly involved in the process. In the survey, they were asked questions to identify the status of the GDPR

implementation and internalization in the organization as well as some control questions we found relevant to consider. Respondents were to answer each statement by the use of a 1 to 7 likert-scale for most of the questions. See Figure 1 for an overview of the characteristics of the respondents. Small deviations in sample size N occurs in cases where a respondent did not fill out every answer, as they were not forced to answer all questions. This is also the case for educational backgrounds as five respondents claimed their DPO was external and therefore did not give their educational background. However, overall the sample size variation is limited.

<i>Characteristics of measures</i>		
	Category	%
<i>Firm size (no. employees)</i> N = 251	0-50	25
	51-100	11
	101-500	28
	501-1000	9
	1001-5000	22
	5000+	6
<i>Education of DPOs</i> N = 246	Business	25
	Engineering	4
	IT	13
	Law	3
	None	2
	Other	24
<i>Firms operating sector</i> N = 252	Public	50
	Private	44
	Other	6
<i>Industries</i> N = 252	Business Services	4
	Construction	1
	Education	3
	Finance and Insurance	12
	Healthcare	10
	Industry	2
	Information and communication	4
	IT and tech. services	5
	Merchandising	2
	Oil, gas and energy	1
	Public Administration	39
	Transportation	2
	Other	15

Figure 1: Descriptive model of respondents

4.3 Measures

The measures used in this paper was partially based on previous literature and partially created specifically for this paper (Ahlvik & Bjorkman, 2014; Kostova & Roth, 2002). The items used to measure implementation were created after e-mail

correspondence and conversations with individuals central in the GDPR process at Datatilsynet, Manpower Norway, and Ekornes. These sources were used to get a deeper and broader understanding of the extensiveness of the change processes and the practical adoptions needed in the organizations as a result of the GDPR. The implementation measures are intended to capture whether an organization has the necessary competencies and established systems and roles to live up to the requirements posed by the GDPR.

To measure internalization we adapted measurements from Kostova & Roth (2002). In addition to the dependent variables, we measured five independent variables to answer our hypotheses. Unless otherwise specified, a 1-7 Likert-scale was used for the measures. To test hypotheses the measures were aggregated into one variable.

4.3.1 Dependent variables

Implementation

As GDPR affects a very large range of organizations who possesses different routines and capabilities, the processes that are caused by the regulations varies quite a bit. Common for everyone is the need to map out the need to identify relevant data in the organization, gain an understanding of the specific requirements of the regulations and delegate responsibility for carrying out the implementation process. A successful lasting implementation would require a clear understanding of the regulations, new roles and responsibilities, new internal processes, internal competencies and capabilities, as well as IT-systems that can be compliant through data transfer/deletion possibilities.

To measure this construct the respondents answered to what degree they believed that the organization possessed: (1) A thorough understanding of the requirements posed by GDPR (2) Clearly defined roles and responsibilities in regards to use, storage and gathering of personal data (3) Well developed internal control processes such as DPIAs and documentation requirements (4) Sufficient knowledge and competency in data protection (5) IT-systems capable of both deleting personal data as well as providing said data to either customers or other organizations on request. Finally, to what extent they believe that: (6) My organization finished the processes necessary to be compliant with GDPR within the deadlines given by the EU.

Internalization

The internalization construct intends to measure the internal commitment and value assigned to the practice. To measure this, we have adapted measures used in previous empirical literature utilizing the same construct (Ahlvik & Bjorkman, 2014; Kostova & Roth, 2002). The respondents were asked (1) I can clearly see the need for the new requirements set by GDPR. (2) I am willing to put in a great deal of effort beyond what is normally expected in order to help GDPR related projects (3) I find that my values and the values promoted by the GDPR are very similar (4) I am extremely glad that I am involved in working with GDPR (5) I really care about GDPR and its future (6) I often find it difficult to agree with what GDPR suggests and requires. (Reverse-scored).

*4.3.2 Independent variables**Value-based communication*

The respondents were asked how much they agreed that in their organization (1) We often talk about the financial consequences of non-compliance (reverse-scored) (2) We often talk about why data security is important for our customers (3) We talk about the GDPR more as an opportunity than a threat.

Public sector vs. Private sector organization

In order to identify whether an organization operates in the public or private sector, we used a binary measure. The respondents were asked to select the best suitable option to answer: (1) Is your organization part of the private sector or the public sector?

The strategic value of data

We measured the strategic value of data in each organization by asking the respondent to indicate to what extent he agrees on the following statements: (1) We strongly rely on customer/client/users data to serve and understand the needs and possible next actions of customer/client/user segments (2) We strongly rely on algorithms to profile customers.

Educational background of DPO

The respondents were first asked the binary question: (1) In your organization, is the role of DPO covered internally or externally (e.g. by a consultancy)? If the DPO was internal they were further asked to indicate the educational background of their DPO by choosing the best fitting category. The categories were: (1) IT, Computer science or similar (2) Non-IT engineering (3) Law (4) Business and/or administration (5) Other (Please specify) (6) None (7) I don't know.

In this paper a technical background is defined as either an engineering or an IT education for the purposes of testing hypotheses regarding educational backgrounds. This is respondents who answered either (1) IT, Computer science or similar (2) Non-IT engineering to the question above.

Involvement

To measure involvement we use measures used in previous empirical research conducted by Wooldridge & Floyd (1990). Respondents were asked to rate on a four-point scale their involvement in five aspects of the strategic process: (1) Identifying problems and proposing objectives, (2) generating options, (3) evaluating options, (4) developing details about options, and (5) taking the necessary actions to put changes into place. The scale ranged from “fully involved” to “not at all involved”

*4.3.3 Control variables**Organizational size*

To be able to effectively respect the GDPR, a good understanding of the requirements posed, resources, and IT competencies are needed. The size of an organization can greatly influence access to these factors by for example having dedicated legal- and IT departments. Moreover, size could greatly affect the complexity of the organization and consequently the required routines and processes as well as alter the cost-benefit equation for implementation. The chosen metric for assessing the organization's size is its estimated number of employees. The respondents answered by selecting a size category out of 0-50, 51-100, 101-500, 501-1000, 1001-5000 or higher than 5000. The categories were converted to numeric values and used in a scale from 1 to 6.

Industry

The industry of an organization can be influential in determining to what extent it has to adapt in order to be in compliance with the GDPR. Although the strategic value of data construct intends to capture the most important variances, an industry variable was included in order to control for this possibility. The respondent was able to choose what industry she felt best represented their organization from a predetermined list. Every industry on this list was given a dummy variable in the first tests to see if the industry impact was large enough to warrant further study and whether to include them in the final model.

Internationalization

The level of internationalization will vary amongst organizations which will alter how the GDPR affects them. The structure, organizational culture, and attitude toward the GDPR can be affected by for instance having an American parent company, or by exchanging personal data outside of the euro-zone. We therefore ask the respondent to answer these binary questions: (1) Does your company have subsidiaries in other countries? (2) Does your company collect customer data outside of the EU? (3) Is your company a subsidiary of a foreign-owned corporation? In the final model, the measurements were aggregated into a single measure.

4.4 Ethical reflections

Participation in this study has been entirely voluntary. If a participant wished not to participate, they had the option to simply ignore our inquiry and only a single e-mail was sent to each address. The purpose of the study and what types of questions they would be answering was outlined both in the e-mail as well as the front page of the survey itself. The participants were informed that if they provided an e-mail address, this would be visible to us in order for us to be able to provide feedback. Participation in this was entirely voluntary and only intended as an incentive for those who wished to receive some compensation for their time. If the e-mail provided was of an identifiable nature, this was the only identifying information in the survey. The data was then aggregated for the purposes of analysis. Due to the large population size used we would be unable to connect answers with a given organization. Some participants elected to let us know they

had answered the survey, which would let us know that their answer was in the sample, but not which answer belonged to them specifically.

Some recipients elected to inform us that they were unable or did not wish to participate. In these cases, they were thanked for their time and not pressured in any way to continue. The participants had a full right to withdraw until the complete answer was sent in. Due to the nature of anonymous answers, if someone wished to withdraw after this point, we would be unable to remove their answers unless they had provided us with an optional e-mail to use for identification. However, this issue did not come up.

Given the subject matter and the occupation of the participants, it was not surprising that several participants had questions pertaining to the handling of the data, anonymity and similar. These inquiries were all handled with high levels of transparency and answered in a timely manner prior to the survey deadline.

5.0 Results

The questionnaire yielded 304 responses with 252 being used in the analysis after removing all incomplete ones. 247 respondents had the role of either project manager or DPO, with 139 being both, 100 only being DPOs and 8 being only project managers. 126 of the observations was from public organizations and 111 from private organizations. The industries represented are given in Figure 2.

Industry	N	Avg. Implementation	Avg. Internalization
Business services	10	6,0	4,8
Construction	3	5,9	5,4
Education	7	4,5	6,2
Finance and Insurance	30	5,5	5,5
Healthcare	26	5,8	5,6
Industry	4	5,9	6,3
Information and com.	10	5,8	5,0
IT and tech services	12	5,9	5,9
Merchandising	5	5,7	5,7
Oil, gas and energy	3	5,6	5,9
Other	38	5,0	5,3
Public Administration	99	4,7	5,6
Transportation	5	6,0	5,7

Figure 2: Descriptive model of the industry means

This paper utilizes two main models: (1) A model utilizing backwards stepwise elimination (2) A full model including all independent variables and size and internationalization as control variables. We did not find strong enough results during our pretests to include industries in our final main model. The tables that will be presented contains the data of the latter model, see appendix 1 for the former. In order to create the second model, we ran a full regression with all dummy variables including one for each industry group before we removed all industry dummies for the final model. Although stepwise regression is a method that has received some critique in the literature (e.g. Henderson & Denison, 1989), Peter C. Austin (2008) found that these critiques did not hold in larger sample sizes such as in this paper. The purpose of using different techniques was to ensure that the results stayed consistent across different methods to strengthen our confidence in the findings. We also ran a Pearson correlation matrix and added the mean and standard deviation to the model below.

Variables	1	2	3	4	5	6	7	8	9	10	11
Mean	5,19	5,55	4,08	3,18	4,95	0,44	0,50	0,13	0,04	0,29	0,25
Sd	1,09	0,90	1,52	0,70	0,80	0,50	0,50	0,34	0,20	0,46	0,44
1. Implementation											
2. Internalization	0,10										
3. StrategicValue	0,36 ***	0,18 **									
4. Involvement	0,28 ***	0,86	0,04								
5. Communication	0,41 ***	0,21 ***	0,10	0,18 **							
6. private	0,39 ***	-0,04	0,26 ***	0,22 ***	0,03						
7. public	-0,42 ***	0,01	-0,27 ***	-0,26 ***	-0,09	-0,89 ***					
8. dpoIT	0,10	0,08	0,03	0,06	0,02	0,15 *	-0,11 .				
9. dpoEngineering	0,00	-0,01	-0,07	-0,04	-0,01	0,01	0,02	-0,08			
10. dpoLaw	-0,07	-0,02	-0,03	-0,04	-0,02	-0,08	0,10	-0,25 ***	-0,14 *		
11. dpoBusiness	0,04	-0,04	0,06	0,00	-0,03	0,05	-0,04	-0,23 ***	-0,12 *	-0,38 ***	

* 6-11 are dummies 0 to 1. Correct =1 and false =0
 . p<0.1
 * p<0.05
 ** p<0.01
 *** p<0.001

Figure 3: Mean, standard deviation and Pearson Correlations

The independent variables are not strongly correlated with each other outside of mutually exclusive ones. The public and private sector are almost perfectly negatively correlated with 0.89, which is why we only included public in our main model. Following this, our models do not seem to suffer from multicollinearity, as Kline (2015) argues multicollinearity is present when correlations are above 0.85. Interestingly, internalization and implementation are only mildly correlated at 0.10 in our dataset and without statistical significance.

	Scale	Mean	Std	Model 1. implementation			Model 2. internalization		
				β	Std. Error	t-value	β	Std. Error	t-value
Value-based communication	1 to 7	4,95	0,80	0,47	0,07	6,76 ***	0,23	0,07	3,41 ***
Public sector	dummy	0,50	0,50	-0,45	0,14	-3,31 **	-0,08	0,13	-0,63
Strategic value of data	1 to 7	4,08	1,53	0,17	0,04	4,71 ***	0,10	0,04	2,80 **
DPO tech	dummy	0,17	0,38	0,11	0,15	0,76	0,21	0,14	1,48
Involvement	1 to 7	3,18	0,70	0,22	0,08	2,65 **	0,01	0,08	0,15
Size	1 to 6	3,08	1,61	-0,05	0,04	-1,39	0,15	0,04	4,11 ***
Internationalization	0 to 1	0,11	0,22	0,63	0,28	2,22 *	-0,42	0,28	-1,51
Adj. R ²				0,4			0,12		
F				23,43 ***			5,66 ***		
N				252			252		

. p<0.1
 * p<0.05
 ** p<0.01
 *** p<0.001
 "-" not included in model

Figure 4: Main regression model

Both of our main models were highly significant and were therefore used as a basis for analyzing our result on implementation and internalization (F= 23.43, p<0.001 and F= 5.66, p<0.001, respectively). Our models for implementation showed a higher R-squared than for internalization which is similar to the results found in Ahlvik & Björkman (2015) and Kostova & Roth (2002). These findings suggest that contextual factors and management practices are more effective at affecting implementation practices than internal judgements of processes.

5.1. Value-based communication

Our results support hypothesis 1a and 1b ($\beta=0.47$, p <0.001 and $\beta=0.23$, p <0.001, respectively). This suggests that value-based communication is positively related to both implementation and internalization. We observed the same results when using the backwards elimination method ($\beta = 0.49$, p < 0.001 and $\beta = 0.25$, p < 0.001).

5.2. Private vs. public sector

The sector was tested by one indicator variable due to the low frequency of “Other” responses and thus the close to perfect negative correlation between private and public. We hypothesized that the two sectors would have similar implementations while internalization would be lower for public organizations. However, hypotheses 2a and 2b were not supported as we have $\beta = -0.45$, p < 0.01 for the public sector in model 1 and $\beta = -0.08$, p > 0.1 in model 2. By running a regression that considers the subsets of public vs. private organizations (see Appendix 2) we observe that the beta of value-based communication on implementation is $\beta=0.68$ (p < 0.001) and $\beta=0.38$ (p < 0.001) respectively. For value-based communication and

internalization there are significant observations for public organizations ($\beta = 0.15$, $p < 0.1$) while we have no significant relationship between value-based communication and internalization for private organizations.

5.3. The strategic value of data

Both hypotheses of positive relations with the strategic value of data were supported ($\beta = 0.17$, $p < 0.001$ and $\beta = 0.10$, $p < 0.01$) for hypothesis 3a and 3b, respectively. Our backwards regression model (see Appendix 1) show the same significant results for the strategic value of data's relativeness to both implementation and internalization ($\beta = 0.17$, $p < 0.001$ and $\beta = 0.10$, $p < 0.01$ respectively).

5.4. Background of DPO

Our models were unable to establish a connection between the education of a DPO and either of the dependent variables. Hypothesis 4a of educational background being unrelated was confirmed ($\beta = 0.11$, $p > 0.1$). We have no support for a positive relation for hypothesis 4b as we have $\beta = 0.21$, $p > 0.1$. A technical background was defined as either engineering or an IT education. There was no statistical significance in this definition or when testing the two educational backgrounds separately. The same conclusions were drawn in the total dataset as well as the private and public subsets. Moreover, education of the DPO was found to be unrelated to all other independent variables.

5.5. Involvement

We found evidence to support hypothesis 5a but was unable to establish a significant relationship in the case of 5b ($\beta = 0.22$, $p < 0.01$ and $\beta = 0.01$, $P > 0.1$ respectively). The same observations were also made in the stepwise regression model with the implementation model showing $\beta = 0.21$, $p < 0.01$ while it was eliminated in the internalization model ($P > 0.1$).

As the dataset contains only the level of involvement of a single respondent, we elected to control for whether the respondent was the project manager and the DPO or only the DPO. There were not enough observations to establish a statistically sufficient sample of the other roles and combinations. The positive relationship between involvement and value-based communication was only maintained in the case of only DPO ($P < 0.05$). Interestingly, the involvement level was only found

to be significant ($P < 0.1$) to implementation when the respondent was only the DPO. Internalization was not significant in either scenario.

Unfortunately, with the dataset containing very limited responses from non-management positions we are unable to explore the “involvement” construct fully. We can therefore not conclude one way or another whether the involvement of employees in decision-making, idea generation etc. impacts implementation and internalization. Another study with a different dataset would have to test these hypotheses to examine their validity.

6.0 Discussion

6.1 General discussion

Our research provides evidence for factors influencing the implementation and internalization of the GDPR in Norwegian organizations. The results show that value-based communication is positively related to both implementation and internalization of the GDPR. Furthermore, we found that whether an organization operates in the public or private sector will be unrelated to the degree of implementation. Moreover, when it comes to the strategic value of data we found this factor to be positively related with both implementation and internalization of the GDPR. We confirmed that the technical background of the DPOs was unrelated to implementation. Lastly, we found involvement to be positively related to the implementation, but this last finding must be taken with a grain of salt due to the dataset mostly containing managerial positions. Below, we first discuss our findings concerning the impact of value-based communication, the strategic value of data, and involvement on implementation and internalization. Then, we discuss and visualize the importance of implementation and internalization before looking at findings related to organization size and internalization. Our analyses and hypotheses are in the upcoming discussion supplemented with descriptive data gathered from the respondents. To finish off, we address some of the limitations of this paper as well as implications for future research.

Value-based communication, Involvement and Strategic Value of Data

Our predictions were correct, value-based communication was positively related to both implementation and internalization. The questions regarding communication of customer security, financial consequences (reversed) and speaking of the GDPR as an opportunity instead of a threat were on average 5.7, 3.9, and 5.1 respectively on a scale of 1 to 7. This means that while talk of financial consequences is definitely present, most respondents believe they are to a larger extent communicating in a value-based manner. Although the content of a compelling vision will vary individually, focusing on fear of punishment is unlikely to yield strong results (Stouten, 2018). We also found that these connections were stronger in public organizations by observing a much higher beta value in the public subset (see appendix 2). This suggests that while value-based communication can be a useful tool for both sectors it is particularly important in the public sector.

The results show that the implementation's correlation with value-based communication was significantly higher compared to internalization. This is a case where establishing a probable causal effect is extremely challenging. Although there is a strong likelihood of value-based communication having an effect on implementation and internalization, it is also very likely that the relationship works both ways. The dataset includes a very large portion of project managers and people responsible for deciding on a communication strategy. As such, internalization is particularly likely to be two-sided; a person who believes strongly in the GDPR is more likely to speak of it in a positive manner. For implementation it also seems plausible that organizations who are more effective at implementation or had well-established routines and systems prior to the GDPR may be inclined to view the regulations as a competitive advantage or simply levelling the playing field which in turn could impact how it is communicated. This concern is somewhat mitigated, however, by the fact that larger organizations tended to have a higher internalization but were not more likely to have finished by the deadline according to their own standards.

Due to the sampling of the respondents in the study, testing the general involvement of employees was not feasible. Interestingly however, we observed a statistically significant impact of involvement on implementation when the respondent was only

the DPO and not also the project manager. This means that DPOs who believed they were more involved in the project had a more positive view on the implementation status than DPOs who were less involved.

Further, we found that DPOs working in private organizations believed they were more involved in the GDPR than employees of public organizations. Boyne (2002) found in his research that public organizations tended to be more hierarchical and as such it is more difficult to get a say in decisions made by top management. The possible difference in organizational structure can therefore be an explanation to the tendency we are observing here. Another reasonable explanation could be the organizational culture. Private organizations have historically been more open to untested innovation and is known for being more proactive than public organizations (Norges Forskningsråd, 2018; Rambøll, 2018). Employees are aware of these tendencies within an organization, and it is likely to affect their attitudes when change is happening around them. As a result of this, it is not unlikely that a DPO working for a public organization will find it more difficult to contribute and involve himself in the change process, unless his involvement is specifically requested. On the other side, the DPO working for a private organization might find it more natural to get more involved and tries to involve himself more, even though not specifically asked to.

We found that the strategic value of data is positively related to both implementation and internalization, which are interesting findings in themselves. However, they are not easy for the management of an organization to act upon. The strategic value of data is closely linked to an organizations business model and its vision. Either way, it can be important for managers to know, as it is possible to adapt an organizations business model accordingly. Not all business models would benefit from having data as a priority, but aligning strategic goals with necessary adoptions might promote more successful results. This will depend on the context in which the organization operates. These days we see more and more established traditional organizations switching to data and/or technology-driven business models, take DNB and Schibsted for an example (Eilertsen, 2014; Fantoft, 2016). These organizations are examples of how it is possible to adapt a traditional customer-centric business model towards gathering and leveraging large amounts of data.

Furthermore, we see that the strategic value of data has a positive correlation with private organizations, while it has a negative correlation with public organizations. As shown in the Rambøll (2018) report, public institutions as of 2017 still had a long way to go when it comes to delivering digital services. This can be seen as an indication that they do not necessarily value data as much, as a digital service would make it much easier for these institutions to handle and store data. Besides being behind on digital services, public organizations, as mentioned previously, has shown less willingness to innovate. Private organizations on the contrary are likely to adapt to the technological changes more rapidly, and as such, the strategic value of data naturally increases. This would be a reasonable explanation behind our findings and why private organizations show a positive correlation to the strategic value of data.

Importance of implementation and internalization

At first glance, the connection between the two dependent variables does not seem obvious with the variables showing a fairly small correlation of 0.10 in the dataset. Moreover, it is tempting to cynically think that the implementation practices are what gives results and avoids fines and thus is the only important factor. We would propose that internalization is important for the long-term health of practice adoption. IT-systems need to be renewed, regulations change, and competencies need to be maintained.

		Internalization	
		Low	High
Implementation	High	Short-term value	Long-term value
	Low	Detrimental	Detrimental

Figure 5: Implementation vs. internalization matrix

If we examine the questions that were used to measure internalization it becomes apparent that these are things that are more likely to be followed up on when internalization is high. For example, willingness to work beyond what is needed should translate directly into results and caring about the future of the GDPR is likely to make a person keep more up to date with alterations to the regulations. Furthermore, as this paper uncovered there is a likely relationship between value-based communication and both implementation and internalization. As previously explained the causality of internalization and value-based communication is not something we can be sure of based on our dataset. However, if one assumes that there is a backwards relationship, internalization affecting the chosen communication, the positive relationship between implementation and value-based communication provides further connections between the two variables.

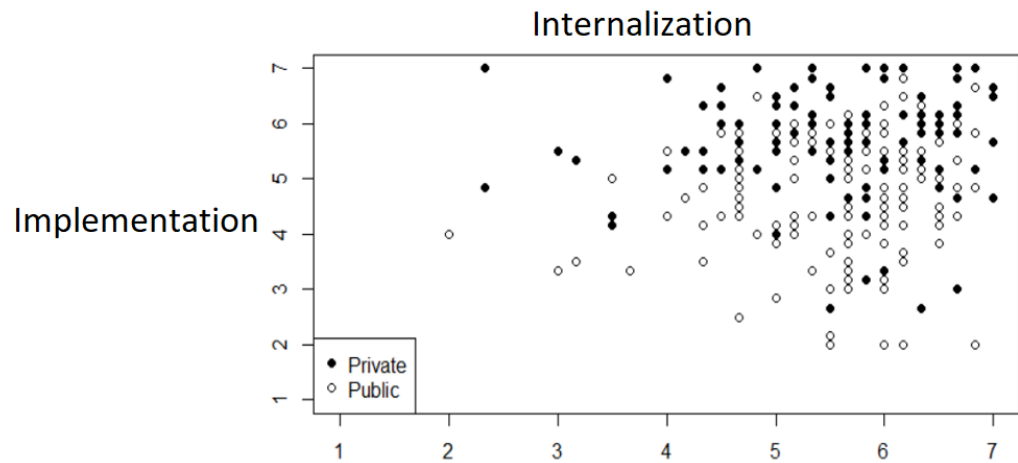


Figure 6: Self-reported current status - implementation vs. internalization matrix

As everyone must comply with the new regulations, one can consider this a question of making the best of the situation. Not complying is detrimental to the organization regardless of the level of belief in the regulations. Ceremonial adoption will avoid fines and thus create value in the short term. Full adoption will create value in the short term, but also help lower the risk of becoming uncompliant over time as well as pave the way for creating competitive advantages.

The impact of organization size on internalization

Only two out of our five hypotheses were supported in the analysis of dimensions of internalization of the GDPR in Norwegian organizations. However, looking

more closely at the data we observe a strong significance level between internalization and the control variable size. Size is positively related to internalization, meaning that the more employees an organization has the more likely they are to have a positive attitude towards the GDPR. In other words, these organizations have a non-ceremonial approach to the adoption of the regulations. To investigate further we looked into the individual questions asked in the survey on internalization. We broke them down into unique scores and compared them to the categories of organization size. Our first observation is in line with the observations in Figure 4; the mean score of internalization increases with the number of employees in the organization.

MEAN OF IMPLEMENTATION AND INDIVIDUAL QUESTIONS ON INTERNALIZATION - SIZE SUBSETS

Category	N	Implementation	Internalization	See need of GDPR	Willingness	Values Glad involved	Care about GDPR	Difficult to agree(reversed)	
0-50	62	5,33	5,30	5,92	5,05	5,61	5,97	5,40	4,77
51-100	27	5,57	5,28	5,78	5,11	5,56	5,30	5,37	4,56
101-500	70	5,31	5,62	6,04	5,44	5,79	5,74	5,81	4,89
501-1000	23	4,73	5,70	6,09	5,70	5,96	5,70	5,70	5,09
1001-5000	55	4,88	5,74	6,24	5,64	5,95	5,75	6,00	4,86
5000+	14	5,06	5,94	6,29	5,79	6,21	6,36	6,43	4,57

Figure 7: Descriptive model of internalization questions (means)

Second, the respondent can increasingly see the need for the new requirements set by the GDPR as the organization size category increases. We propose two non-mutually exclusive ideas for why this may be the case. First, larger organizations will have more people throughout the organization working with personal information and who need to comply with the GDPR. Thus, informing and teaching employees about the new guidelines and routines that come with the GDPR requires more work in larger organizations. As a result of this, employees should know more and may also be more motivated when the change is initiated. Second, regulations and routines are more emphasized in larger organizations as they are an important part of the organizational structure. Larger organizations need regulations and routines to follow in order to avoid chaos. It is therefore very likely that regulations and rules are more widely accepted in the culture of larger organizations and is more embedded in their roots. In smaller organizations, regulations tend to be looser which makes it easier for management to intervene and solve problems as they appear.

Next, the willingness to put in a great deal of effort beyond what is normally expected in order to help GDPR-related projects also increases with organization size. It is likely that larger organizations have more specialized resources and

people to use in the process of complying with the GDPR. Large organizations are also more visible to the public and often have more at stake in terms of reputation and status which could also be an explaining factor. Employees working for larger organizations where it is more important that the GDPR is enforced might be more committed to the change process than employees of smaller organizations, where this is not the case. Employees with a strong affective commitment to a change process are likely to do more and go beyond the minimum requirements to initiate a change (Meyer & Herscovitch, 2001). As such, this could be an explanation for why employees in larger organizations put more effort into the change process than employees in smaller organizations.

We also see that the larger the size category the organization is in the more they agree with the two following statements: “I find that my values and the values promoted by the GDPR are very similar”, and “I really care about the GDPR and its future”. We believe this is caused by the same factors. Individuals are often influenced or aim to work for an organization with values and a culture they can identify with and relate to. It is easier for employees to accept a change that is in line with the organization’s strategy (Stouten, 2018), and employees accepting the change are arguably more likely to work beyond the minimum requirements of GDPR compliance.

Our findings further showed a positive relation between the strategic value of data and internalization. Looking more into the measure strategic value of data it is difficult to establish a strong pattern between organization size and the importance of the strategic value of data. Organizations with under 500 employees had an average of 5.10 (N = 159) on the statement of strongly relying on customer data to serve and understand the needs and next actions of customers, while organizations with above 500 employees had an average of 5.18 (N = 92). As for the statement of the organizations’ reliance of algorithms to profile customers, organizations with under 500 employees on average replied 3.77 (N = 159) while organizations with more than 500 employees replied 3.36 (N = 92). We can see that while both the contextual factors of the strategic importance of data as well as organization size affect internalization they are not necessarily connected. One could assume that a larger organization is more likely to conduct international business, but this does not seem to be the case in our dataset. This could be because smaller organizations

tend to be newer, and many organizations that are recently founded have an international profile. Another explanation is that since public organizations tended to be bigger in this dataset there could be a strong representation of relatively large public organizations in industries such as public administration.

6.2 Limitations and future research

We have several limitations in this study that need to be considered in future research. The study intends to identify certain factors that affect the implementation and internalization of the GDPR. Our chosen design allows us to see the effects across a large population and range of organizations at one point in time. It does not give a picture of the effect over time. We are unlikely to see all aspects of compliance so shortly after the deadline, and as we hypothesize the link between implementation and internalization would strengthen in a long-term perspective this would be interesting to study. Moreover, we cannot infer causality with a cross-sectional design, which means that any assumption of causality is educated speculation. We try to emphasize this point in the most relevant cases where the difference between correlation and causation is particularly important. A longitudinal study design would have allowed us to study the effect over time and could be interesting for future research. However, this was not realistic for us to accomplish within the timeframe given for us as students.

In our study the respondents are mainly DPOs and there is only one respondent for each organization. Considering this, a limitation is the subjectivism of our respondents. Although they are asked to be as honest and objective as possible, achieving this is very challenging both due to competence and human nature. To answer that one is lacking in certain areas requires that the respondent is actually aware of this fact. Moreover, the respondent's answer might be effected by their personal pessimistic or optimistic views of the situation and the GDPR in general. This means that any non-objective data given is not necessarily generalizable to the entire organization. In this dataset it is apparent that most respondents answered very positively, as can be seen in the mean scores in figure 2 typically ranging from 5-6 on a 7-point scale. Another possible explanation for this positivity could be that the sample is biased in that DPOs who are experiencing a lot of issues neither wish

to benchmark themselves or risk exposing the situation or they simply wish to focus on the actual project rather than give out information on its status. These possibilities cannot be dispelled with voluntary sampling. Future researchers can increase objectivity by asking multiple individuals within the organization and hold different roles and get multiple points of view. This, in addition to applying the longitudinal study design as mentioned above, would eliminate some of the main weaknesses of this study.

Another limitation is the common method bias. Common method bias exists when the variance is due to the measurement method used instead of the constructs presented by the measures. These errors are often one of the main sources of measurement errors and threaten the validity of conclusions drawn between measures (Podsakoff, 2003). The sampling done in this research is mainly from DPOs in Norwegian registered organizations. It is likely that we have a bias in terms of their connection to GDPR as well as their relationship to the organization they are representing. When answering our questions they might have the desirability to present their business in a different state than it is actually in. Also, it is important to keep in mind that the respondents had to answer on a 1-7 Likert-scale in most of the questions. This way the answers are relative and will not be 100% accurate as the respondents do not necessarily have the same cognitive scale and judgement of the questions. However, for the purpose of this study and with the sample size we had, this was the most effective and accurate way for us to collect data.

The issue of construct validity is that the measures are not measuring what they were meant to measure (Bryman & Bell (2015)). This is something that needs consideration in this paper as well. We asked one employee within each organization to answer our survey, this is a subjective measure and will vary from individual to individual. While for instance internalization tries to uncover internal feelings, implementation wants to uncover the factual state. It is not certain that our list of items are able to uncover someone's sentiment towards the GDPR as it may miss what is most important for individuals in various contexts. For implementation, we believe the issue of validity does not necessarily lay within our questions themselves but rather in the subjectivity of those responding. What our items measure is not necessarily the objective state, but the perceived state of our

respondent. Meaning that while we believe that our measures, especially in the case of implementation, functions as a robust check-list, the objectivity is in question. Optimally, we should have had an external expert with knowledge of all these organizations, answering one survey per organization to get a more accurate view of the state.

6.3 Practical implications

The hypotheses in this paper can be divided into two main categories. Hypotheses 2 and 3 relate to contextual factors of the organization whereas hypotheses 1, 4 and 5 relate to decision-making related to the project. While organizations can decide whom to hire to fill a specific role and what kind of change management practices to utilize, they cannot easily change their context. We have therefore elected to divide this section into social- and business implications before we examine implications for research.

Implications for society

Results from research such as this is not only important for organizations who have to adapt to a new playing field, but also for those who set the parameters in the first place. Laws and incentives are made to cause desired behavior, and as such it is important that lawmakers and politicians are made aware of what works and what does not. Although economic incentives such as taxation can help reduce undesired behavior, this is not always the case if altering behavior is unfeasible. A heavy tax on all foods for instance, will not make people require less foods and are unlikely to have a very heavy effect on its consumption but will rather create ripple effects to other parts of the economy. In this paper we have seen that organizations that rely heavily on data for their strategic goals do in fact have both higher implementation and internalization rates. This suggests that in the case of the GDPR the regulations do in fact create the desired effect as the companies with the most data also seem to be taking the regulations the most seriously.

The public sector had a significantly lower average implementation than the private sector in our data sample. It was particularly dragged down by the high response rate and low score from public administration. However, the internalization for public administration was quite high indicating that they do not have a bad attitude,

but their relatively poor results might be due to lack of resources or competency to fulfill the requirements to a satisfactory degree. This is cause for some concern. Private organizations usually require people to give up their own information whereas the public sector inherently possesses a vast pool of personal information. Moreover, the information held by the public sector is often more sensitive and dangerous if leaked, such as social security, tax information, medical records, criminal records and so on. Our results suggest that perhaps more public funding should be allocated towards data security in order to develop the necessary competencies and systems.

Implications for practitioners

Our findings suggest that communication practices that emphasize the positive aspects of the GDPR can aid immediate implementation and might also be beneficial for the long-term health of the project. Practitioners should refrain from focusing on the negative aspects of the GDPR and rather consider it an opportunity for growth. The GDPR is a case where almost all organizations are affected. Handling an equal challenge better than peers is an opportunity both for growth and competitive advantage. These results should be transferable to other similar cases with an externally mandated change.

The educational background of a organizations DPO does not seem to be a key factor for the success of GDPR projects based on our findings. It may be that understanding technical requirements are not as key as project management skills, or that the required technical understanding can be obtained through experience or additional courses. Our findings therefore suggest that hiring managers should not emphasize educational background when looking for DPOs. While competencies are important, they can often be specific to a project and could be obtained in other ways. It may be more important to hire DPOs who has a genuine interest in data security and privacy and who are able to communicate its importance.

7.0 Conclusion

This thesis aimed to develop objective measurements for the implementation of the GDPR and together with adapted measures for internalization to investigate the implementation and internalization of GDPR in Norwegian organizations. To do so we looked at differences in organizations when it comes to value-based communication, sector, the strategic value of data, educational background of DPOs, and involvement throughout the process.

Our findings suggest that one should focus on positive communication within the organization in the effort to become compliant with the GDPR. We found a strong relationship between value-based communication and both implementation and internalization implying that speaking in a positive manner about the GDPR is important. Further, we found that organizations where the strategic value of data was ranked as high, scored higher on both implementation and internalization. This can be a result of the organization culture in the respective organizations, as they might be more aligned with the GDPR's vision. Continuing we found that the background of the DPOs and whether an organization operates within the public vs. private sector, is not necessarily important for the adoption of GDPR. Involvement is however something project managers should emphasize as its positively related to the implementation of the GDPR. The same cannot be said for internalization as we did not find evidence to support this assumption.

We believe we have with this thesis given future researchers a good framework for which to measure implementation of the GDPR-compliance. We bring forward multiple aspects that can be improved by future researchers, as they may be able to perform more thorough and objective research of what impacts the compliance of the GDPR. In addition to this we believe we have given insight for practitioners into how to face the adoption of an externally forced change process.

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Appendices

Appendix 1: Backwards elimination method

	Backwards elimination method					
	Model 3. implementation			Model 4. internalization		
	β	Std. Error	t-value	β	Std. Error	t-value
Value-based communication	0,49	0,07	7,37 ***	0,25	0,07	3,80 ***
Strategic value of data	0,17	0,04	4,72 ***	0,10	0,03	3,02 **
Involvement	0,21	0,08	2,64 **	-	-	-
Size	-	-	-	0,01	0,03	3,42 ***
Business Services	-	-	-	-0,81	0,27	-2,99 **
Public Administration	-0,69	0,13	-5,30 ***	-	-	-
Other	-0,58	0,16	-3,68 ***	-0,26	0,15	-1,75 .
Education	-0,25	0,33	-3,85 ***	-	-	-
Information and communication - Internationalization	-	-	-	-0,70	0,27	-2,59 *
	0,56	0,25	2,20 ***	-	-	-
Adj. R ²	0,42			0,16		
F	27,77 ***			9,04 ***		
N	252			252		

. p<0.1
 * p<0.05
 ** p<0.01
 *** p<0.001
 "-" not included in model

Appendix 2: Regression models with public and private subsets

	Only public firms					
	Model 5. Implementation			Model 6. internalization		
	β	Std. Error	t-value	β	Std. Error	t-value
Value-based communication	0,677	0,098	6,922 ***	0,152	0,089	1,710 .
Strategic value of data	0,061	0,057	1,070	0,106	0,050	2,125 *
DPO Business	0,139	0,211	0,660	0,066	0,189	0,350
DPO Law	0,117	0,192	0,612	0,021	0,174	0,119
DPO Engineering	0,188	0,399	0,472	0,169	0,339	0,498
DPO IT	0,266	0,284	0,936	0,101	0,256	0,395
Involvement	0,243	0,109	2,230 *	0,005	0,098	0,051
Size	-	-	-	0,200	0,046	4,370 ***
Other industry	-	-	-	0,676	0,231	-2,923 **
Healthcare	0,679	0,336	2,020 *	-	-	-
Finance and insurance	1,919	0,599	3,206 *	-	-	-
Transportation	1,070	0,937	1,141	-	-	-
Internationalization	-2,217	0,824	-2,691 **	-	-	-
Adj. R ²	0,409			0,24		
F	8,865 ***			5,392 **		
N	126			126		

. p<0,1
 *p<0,05
 **p<0,01
 ***p<0,001
 "-" Not included in model

Only private firms							
	Model 7. Implementation			Model 8. internalization			
	β	Std. Error	t-value	β	Std. Error	t-value	
Value-based communication	0,376	0,105	3,590 ***	0,312	0,128	2,446	
Strategic value of data	0,194	0,053	3,650 ***	0,132	0,064	2,058	
DPO Business	0,431	0,218	1,980 .	0,026	0,261	0,099	
DPO Law	0,213	0,219	0,972	0,050	0,267	0,188	
DPO Engineering	0,448	0,396	1,131	0,384	0,481	0,799	
DPO IT	0,400	0,237	1,688 .	0,352	0,286	1,231	
Involvement	0,263	0,125	2,107 *	0,055	0,151	0,362	
Internationalization	0,823	0,282	2,917 **	-	-	-	
<i>Adj. R²</i>	0,289			0,038			
F	6,591 ***			1,616			
N	111			111			

, P<0,1

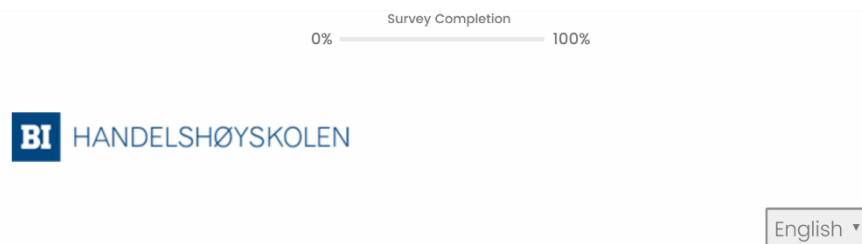
*P<0,05

**P<0,01

***P<0,001

"- " Not included in model

Appendix 3: Survey sent out to organizations



Thank you for taking the time to answer this survey. This will not take you more than 5 to 10 minutes.

The survey is part of the research we are conducting for our master thesis on the implementation and internalization of the GDPR in Norwegian firms.

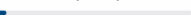
Your answers will not be traced back to you or your firm in any possible way. If you wish to receive feedback regarding your results and the industry average we ask you to provide an e-mail address at the end of the survey. The results will be shared with you when the study is over and all data will be deleted on the 15th of July 2019.

We ask you to answer the questions as precisely and honestly as possible.

If there are any questions, please do not hesitate to contact Lisa Marie ~~Lovoll~~ at Lisa.M.Lovoll@bi.student.no or Sindre Ræstad at Sindre.C.Rastad@bi.student.no.

I agree that my provided answers can be used in the research of this master thesis



0%  100%
Survey Completion

BI HANDELSHØYSKOLEN

English ▾

Which industry does your firm operate within?

What is the size of your firm (number of employees)?

Is your firm part of the private or the public sector?

Private

Public

Other (Please specify)

What is your role in the implementation of the GDPR in your organization?

Data Protection Officer (DPO)

Project manager

Contributing employee

Non-contributing employee

Is the DPO in your organization also the project manager for GDPR-related implementation?

Yes

No

We do not have a DPO

Does your company have subsidiaries in other countries?

Yes

No

I don't know

Does your company collect or store customer data outside the EU?

Yes

No

I don't know

Is your company a subsidiary of a foreign-owned corporation?

Yes

No

I don't know



English ▾

To what extent do you believe your organization has:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
A thorough understanding of the requirements posed by the GDPR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clearly defined roles and responsibilities in regards to use, storage and gathering of personal data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well developed internal control processes such as DPIAs and documentation requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient knowledge and competency in data protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT-systems capable of both deleting personal data as well as providing said data to either customers or other organizations on request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you agree with the statement:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strong disagree
I can clearly see the need for the new requirements set by the GDPR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to put in a great deal of effort beyond what is normally expected in order to help GDPR-related projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find that my values and the values promoted by the GDPR are very similar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am extremely glad that I am involved in working with the GDPR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really care about the GDPR and its future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often find it difficult to agree with what the GDPR suggests and requires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization finished the necessary processes to be compliant with the GDPR within the deadlines given by the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

→

To what extent do you agree that in your organization:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
We often talk about the financial consequences of non-compliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We often talk about why data security is important for our customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We talk about the GDPR more as an opportunity than a threat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you agree with the following statements:

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
We strongly rely on customer/client/user-data to serve and understand the needs and possible next actions of customer/client/user segments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We strongly rely on algorithms to profile customers/clients/users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In your organization, is the role of the DPO filled internally or externally (e.g. by a consultancy)?

- Internally
- Externally
- I do not know

If internally, what is the educational background of the DPO?

IT, computer science or similar
 Non-IT engineering
 Law
 Business and/or administration
 Other (Please specify)

 None
 I don't know

To what extent have you been involved in these aspects of the strategic process:

	Fully involved	Mostly involved	Somewhat involved	Not at all involved
Identifying problems and proposing objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generating options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluating options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing details about options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking the necessary actions to put changes into place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[→](#)

English ▾

OPTIONAL:

Please leave a contact e-mail in the field below if you want to receive the results after the analyses are done

