

Front End Protection: How the GDPR Is Enforced

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Private information leaks harm businesses and people whose data was leaked. In 2022, IBM estimated that the average cost globally of a data breach was \$4.35 million (IBM, 2022). Data leaks even threaten individuals' lives (Thielman, 2015). Following the 2015 Ashley Madison leak, a user in Saudi Arabia who used the service "to hook up with single guys" wrote a Reddit post titled "I May Get Stoned to Death for Gay Sex (Gay Man from Saudi Arabia Who Used Ashley Madison for Hookups)" (ICouldBeStoned2Death, 2015). He stated that gay sex is "punishable by death in my home country" and he therefore had to leave Saudi Arabia permanently.

How can user information be protected? The European Union (EU) has grappled with the evolving right to privacy in the internet age. Since 2002 the EU has issued guidelines to member states (Vanberg, 2021). Nevertheless, large corporations ignored national standards, taking advantage of the EU's failure to impose an international standard (Vanberg, 2021). In 2018, the EU's new General Data Protection Regulation (GDPR) established a privacy protection floor for all EU members and their citizens (Holbl 2021). The GDPR raised the maximum fine that can be issued to 20,000,000 euros or 4 percent of the offender's global annual revenue, and delegated enforcement of fines to a Data Protection Agency (DPA) for each member state (DPM, 2021). As of February 16, 2023, DPAs have issued 1502 fines totaling €2,779,699,897 (CMS 2023).

Privacy advocates seek even stricter GDPR compliance. NOYB is a legal advocacy that helps Data Protection Commissioners investigate large corporations (O'Faolain, 2022) and sues corporations for breaking the GDPR (Hamilton, 2020). In its public project summary, NOYB claims it will "make privacy a reality" by closing the "huge gap between privacy protections on paper and in real life" (NOYB, 2017). Country-level privacy advocacies like the Irish Council

for Civil Liberties improve enforcement of the GDPR by becoming a watchdog of their country's Data Protection Authority. The Irish Council for Civil Liberties (ICCL) has filed complaints against the Data Protection Commission for its failure to investigate Google's use of Real-Time Bidding (Qureshi, 2022), and written letters to the Irish Parliament and Senate to investigate Ireland's enforcement of the GDPR (Ryan, 2022).

Industry groups have instead focused on improving understanding of the GDPR. Proton is a company that created GDPR.eu which provides information about the GDPR for small and medium-sized local business owners (Wolford, 2019). Ben Wolford, a writer for Proton, argues that "inadequate understanding of the law remains the greatest obstacle to compliance for small- and medium-sized businesses" (Wolford, 2019). Privacy Trust, another privacy focused company, created GDPR.org, which provides information on GDPR and companies GDPR compliance status (PrivacyTrust, 2018). Social groups enforce GDPR compliance through pressuring DPAs to enforce large punishments on non-compliant organizations and providing support to companies' transition to GDPR compliance.

Review of Research

Researchers have investigated how successful the GDPR is at improving privacy. Wolff & Atallah (2021) analyzed GDPR penalties from the enactment of the GDPR to May 2020 and concluded that the DPAs over time have increased their aggressiveness to prosecute the GDPR. For example, Italy failed to prosecute less important violations for the first couple months after implementation, because they needed to "take into consideration the phase of first application" (Wolff & Atallah, 2021). Holbl (2021) discovered that the decentralized nature of the EU allows for inconsistent improvement upon the GDPR from country to country. Holbl (2021) surveyed

19 EU member states and found that only Finland, Spain, and Belgium have legislation regarding anonymization of data more than GDPR, while 11 of the 19, which does not include Belgium, regulate biometry. Vanberg (2021) highlights how the conception of the right to privacy through EU regulations limits the ability to protect user information. With evolutions in online database attacks, Vanberg (2021) argues that the GDPR fails to reach information privacy because the GDPR can only punish data breaches after that data has been exposed.

Gruschka et al (2018), analyzed two big data projects, Operable Subjective Logic Analysis Technology for Intelligence in Cybersecurity, referred to as Oslo Analytics, and Secure Access Control over Wide Area Network (SWAN), to understand how big data systems need to adapt to the GDPR. They concluded that data mining would differ based upon the sensitivity of the data, and biometric and other personal information data sets require more than just anonymization to comply with the GDPR (Gruschka et al., 2018). Bateni et al. (2022) discovered using a natural language processing machine learning algorithm that privacy policies after GDPR's implementation have reduced their scope of data coverage and increased the use of specific personal information including bank and credit card details. However, GDPR's regulation on transparent word choice has not been incorporated as "the use of ambiguous words has even increased" (Bateni et al., 2022). Tsohou et al (2020) conclude that the lack of awareness is a larger issue in the enforcement of GDPR. Tsohou et al (2020) contends that software platforms need to be created around GDPR to facilitate businesses to become compliant.

Lee (2016) argues that there are two hurdles that need to be overcome to make changes in an organization: survival anxiety and learning anxiety. According to Lee (2016), individuals and organizations fear new information and change will "rob them of their personal identity" and they will "invent various excuses" to why they do not need to change right now. Szulanski

contends that “contrary to conventional wisdom, which blames motivational factors, almost exclusively for internal stickiness,” knowledge barriers most limit knowledge transfer in organizations (Szulanski, 1996). These knowledge barriers include the ability for recipients to absorb information, casual ambiguity, and the “arduousness of the relationship between source and recipient” (Szulanski, 1996).

Ireland’s Data Protection Agency has improved through NGO involvement

Ireland has made large strides recently

Ireland’s data protection agency, the Data Protection Commission (DPC), and its Data Protection Commissioner, Helen Dixon, illustrate the power activist groups have in improving GDPR enforcement. For the first two years of the GDPR being enacted, the DPC failed to issue any fine and failed to issue a fine over 1 million euros until September 2nd, 2021, when the DPC issued a 225 million euro fine to WhatsApp Ireland Ltd. (CMS, 2023). The fine was only issued after the DPC’s proposed fine of 30-50 million euros was rejected by the European Data Protection Board (EDPB) with the German data regulator arguing that companies would “conclude that even total disrespect [for] data protection laws would not lead to significant administrative fines” (Beesley, 2021). In contrast to the three-year period to deliver the first large fine, Dixon has issued 3 fines over 250 million euros to Meta Platforms in 4 months and over 1 billion euros in fines since 2021 (CMS, 2023). According to Max Schrems, the repeated large fines to Meta Platforms has given “a huge blow to Meta’s profits” (NOYB, 2023).

Ireland’s improvement was due to privacy activist groups and NGOs pressure

Privacy activist groups have pushed the DPC and Dixon to more effectively enforce the GDPR. Due to the lack of action on their complaints to the DPC, Max Schrems, representing NOYB, and Johnny Ryan, representing the ICCL, appeared in front of the Oireachtas' Committee on Justice (Ryan, J., & Schrems M, 2021). Schrems criticized the ineffectiveness of the DPC by pointing out that Austria and Spain issue over 700 decisions per year, while the “DPC argues that it will build momentum in 2021 and issue six or seven decisions this year” stating that “this is not just a European issue” (Ryan, J., & Schrems M, 2021). Ryan emphasized the importance of the efficiency of the DPC, arguing that the DPC is “the bottleneck of GDPR investigation” and that the DPC’s failure to draft decisions on 98 percent of all the cases it leads is failing “to uphold the rights of 450 million Europeans” (Ryan, J., & Schrems M, 2021).

Since the Committee of Justice hearing, the DPC has issued the most amount of money in fines of all the DPAs (CMS, 2023), but NOYB and ICCL have continued to pressure the DPC. Both groups have issued press statements on their respective websites on the failures of the DPC (Ryan, 2023; NOYB, 2022), and have engaged legally with the DPC. The ICCL has sued the DPC over failing to investigate their complaint on Google’s “Real Time Bidding” system (O’Faolain, 2022), while NOYB has issued a criminal complaint towards the DPC for requiring NOYB to sign a non-disclosure agreement, with Schrems arguing that the DPC “den[ied] us all our rights to a fair procedure unless we agree[d] to shut up” (NOYB, 2021).

Follow same steps to improve other DPAs

Privacy activist groups have begun to expand their activism to DPAs outside of Ireland. In 2022, NOYB partnered with UNI Global Union to support German, British, Italian,

Polish and Slovakian Amazon workers in filing access requests to Amazon for their personal data (UNI Global Union, 2022). Stefano Rossetti, a data protection lawyer for NOYB, stated that Amazon’s data collection of their workers is a “classic case of information and control asymmetry” and NOYB will “lift this imbalance through coordinated access requests” (UNI Global Union, 2022). Privacy International, a privacy advocacy non-profit, filed complaints to the UK and France’s DPA against Clearview AI for Clearview AI’s “mass processing of European residents' personal data,” which have led to a combined fine of over 37 million euros (Privacy International, 2022). On October 10th, 2022, the Dutch advocacy, Stichting Onderzoek Marktinformatie (SOMI), and their representative, Cor Wijtvliet, in court argued that TikTok needs to be prosecuted because “TikTok invades children's privacy on a large scale,” which violates the GDPR (Wijtvliet, 2022). However, advocacy groups are limited by the long time required to prosecute large corporations, with Wijtvliet stating that the time to declare jurisdiction “is a gift for TikTok” (Wijtvliet, 2022).

Fines and threat of fines are not enough to force corporate changes

Large companies have adapted prior to the enforcement of GDPR

Between the enactment and enforcement of the GDPR, many large corporations have changed how they handled data. For example, Steve Schmidt, Chief Information Security Officer for Amazon Web Services (AWS), announced that AWS had launched a GDPR compliant data processing agreement available for all AWS customers (Schmidt, 2017), and was applied automatically to users who operated in the EU three days before the GDPR was enforced (Woolf, 2018). According to Google’s chief privacy officer, Keith Enright, Google spent “hundreds of years of human time” to become compliant with GDPR (Rodriguez, 2018),

which includes updating more than 12 million contracts (Bergen, 2018). In 2018, prior to GDPR enforcement, Apple launched [privacy.apple.com](https://www.apple.com/privacy), which allows for users to view and delete personal data, and at launch it was only available to users in EU countries, and affiliated states like Norway and Switzerland (Russell, 2018).

Fined companies have not changed their policies

Although the large fine totals are notable, changes have mostly not been made by corporations fined, because many fines over 1 million euros are still in appeal. Amazon, who was fined 746 million euros by Luxembourg's DPA, Commission Nationale pour la Protection des Données (CNPD), has yet to pay the fine due to appealing the fine. Amazon won on the first appeal because CNPD's orders were not "sufficiently clear [and] precise" (Bodoni, 2021), and will face trial again on January 2024 (Newman, 2022). Meta, after being handed three multimillion-euro fines, released a statement stating that they are appealing their fines, and arguing that their personalized ads on Facebook and Instagram are a "necessary and essential part of that service" (Meta, 2023). There is one exception to the pattern of appeals preventing corporate changes which is Commission Nationale de l'Informatique et des Libertés (CNIL)'s enforcement of cookie consent rules against Google (CNIL, 2022). Google was fined 150 million euros due to "users of [google.fr](https://www.google.fr) and [youtube.com](https://www.youtube.com) can't refuse or accept cookies as easily," according to CNIL's decision (CNIL, 2022). Google "completed a full redesign" of their handling of cookies and user's consent based on the guidance of the CNIL and launched the format for European users in April 2022 (Adhya, 2022).

DPA's are not able to enforce GDPR compliance on every company

Limited budgets and priorities have prevented DPAs from enforcing GDPR compliance on every non-compliant company in their jurisdiction. Even before the GDPR became enforceable multiple DPAs released public statements arguing that they do not have enough funding to fulfill their obligations (Meyer, 2017). Pawel Makowski, a deputy director at Poland's DPA, stated that at their 2017 budget it would "not be feasible to fulfill all obligations according to the GDPR", while Clara Guerra, a senior consultant at Portugal's DPA, stated that the DPA "has been facing a huge problem for some years concerning the lack of human resources" (Meyer, 2017). As of April 2020, half of all DPAs had budgets of less than 5 million euros and had less than 10 tech investigation specialists on staff (Ryan & Toner, 2020). An increased budget and investigation specialists correlate with a larger number of fines shown by Spain, France, and Italy, who in 2020 were top 3 in investigative specialists on staff and top 7 in DPA budgets (Ryan & Toner, 2020). These three countries make up 3 of the top 4 countries in total number of DPA issued fines as of 2023 (CMS, 2023).

Most companies have not sufficiently adapted to the GDPR.

Many companies have avoided shutting down their business to European citizens due to GDPR enforcement. Prior to GDPR enforcement, most companies were not prepared or aware of the GDPR, with 79 percent of companies surveyed not having a plan in place, and over half not even being aware of GDPR (HyTrust, 2017). This unpreparedness was shown the 1st day of GDPR enforcement with many American companies completely shutting off access to their website to EU citizens (Cerulus, 2018). This includes the Los Angeles Times and history.com hosting static webpages for EU citizens (Cerulus, 2018) and marketing

companies like Drawbridge and Verve announcing their exit from Europe (Hercher, 2018; Shields, 2018). By the beginning of 2019, most companies were confident they are compliant with GDPR with only 30% of companies admitting they were not yet GDPR compliant (RMS & European Business Awards, 2019). However more detailed studies into how GDPR compliance was implemented showed that over 90 percent of companies are not compliant with GDPR, because they were still using manual methods to handle user data (CYTRIO, 2023).

Advocacies and Business groups have reduced the cost of becoming GDPR compliant

Becoming GDPR compliant is expensive

Companies take on large expenses to become GDPR compliant and maintain their compliant systems. On average, companies budgeted over 1.3 million euros to become ready for GDPR (Veritas Technologies, 2017), and according to a PwC report, 12 percent of companies spent over 10 million dollars to become GDPR compliant (Irwin, 2022). This does not include the over 2,000 hours on average spent in meetings preparing for GDPR (Datagrail, 2020) or the cost to maintain GDPR compliance with 88 percent of companies spending over a million dollars on continuous compliance (Irwin, 2022). Companies justify the prohibitive cost of change due to compliance being a “less expensive option than ignoring [their] requirements,” with millions being lost responding to data breaches (IBM, 2022), DPA fines (CMS, 2023) and the “unquantifiable negative effects of security incidents, such as reputational damage” (Irwin, 2022). However even with the benefit of changing to being compliant, according to Poes et al, organizations will even resist beneficial changes depending on the “changes' magnitude” (Poes et

al, 2009). Poes et al argue that the more the change “disrupts their routines,” the harder organizations will resist the changes (Peus et al, 2009).

Advocacies support transition through improved awareness of the GDPR

The first hurdle to becoming GDPR compliant is becoming aware of the GDPR. Before the enforcement of the GDPR, most companies were not aware of the GDPR (HyTrust, 2017), so in response, advocacies have developed websites displaying and explaining the GDPR. On May 24th, 2018, PrivacyTrust launched GDPR.org, which provides the full text of the GDPR and the most important provisions and allows for companies to check their compliance status (PrivacyTrust, 2018). According to Proton Mail, not enough had been done to help businesses become compliant, because when they surveyed over 100 businesses, they “discovered that even six months after the law went into effect, a majority of businesses are not fully compliant,” so they created GDPR.eu (Wolford, 2019). GDPR.eu adds upon the work of GDPR.org by providing templates to forms needed for compliance, a checklist for GDPR compliance with the reasoning for each entry, and articles describing updates to the GDPR (Wolford, 2019). To improve understanding of GDPR’s enforcement, NOYB created GDPRhub, which is a Wikipedia for GDPR enforcement information that is continuously updated (NOYB, 2020). GDPRhub is separated into a database for GDPR knowledge, which stores member state GDPR information including their privacy laws and DPA information, and a database for GDPR decisions, which stores GDPR decision summaries from DPAs and national courts (NOYB, 2020).

Creation of frameworks for data governance

To reduce the changes required of companies for handling data, business groups have developed open-source frameworks. While working on handling their own customers' data, mParticle discovered an "industry-wide issue" of companies separately developing the same set of tools for handling API calls and data transfers, which Tim Norris, general manager at mParticle, compared to "banging their heads against the wall" (Chiavetta, 2018). Therefore, they partnered with Braze, Amplitude, and AppsFlyer to create an open-source data governance platform called OpenGDPR, which provides a public API for businesses to communicate GDPR requests between each other without having to "translate requests across provider-specific APIs" (Hoxie, 2018). After the enforcement of the GDPR started, researchers from universities across Europe began development on a comprehensive GDPR compliant data governance platform called DEFEND (Tsohou et al., 2020). The DEFEND platform would offer data scope, data process, and data breach management Service and GDPR planning and reporting so companies would only need the DEFEND platform to become compliant (Piras et al., 2019).

Conclusion

Because the GDPR is the first large scale codification of data security and privacy principles, states across the US are implementing data privacy laws like the GDPR, including California's Consumer Rights Privacy Act (CRPA), Virginia's Consumer Data Protection Act, Colorado's Protection of Personal Data Privacy Act, and many more states (Maddox et al., 2022). As more states implement separate privacy laws, it is becoming more likely that the United States will implement a data security and privacy law like the GDPR. Therefore, it is important to adapt the techniques of pressuring the federal authority governing privacy rights and

providing resources to companies, so they are not limited by the cost of changing. This technique of pressuring regulatory authorities and providing resources to become compliant can also be applied to any substantial change enacted by a regulatory body. Moreover, the principle of strict enforcement combined with resources to change can be applied to systems improving individuals lives and behaviors including addiction relief programs (St. Pierre, 1971) and deradicalizing Islamic extremists (Rabasa et al., 2010). Further research into GDPR enforcement is needed showing the impact of the multiple over 100-million-euro fines once the fines have concluded their appeals process. So far, the only 100 million euro fine that has been denied appeal was the Google cookies fine brought by the CNIL, so it is necessary for the Amazon and Meta fines to be resolved to gain a more detailed understanding of how the exceptionally large fines impact their business.

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