

Fairness and Data Protection Impact Assessments

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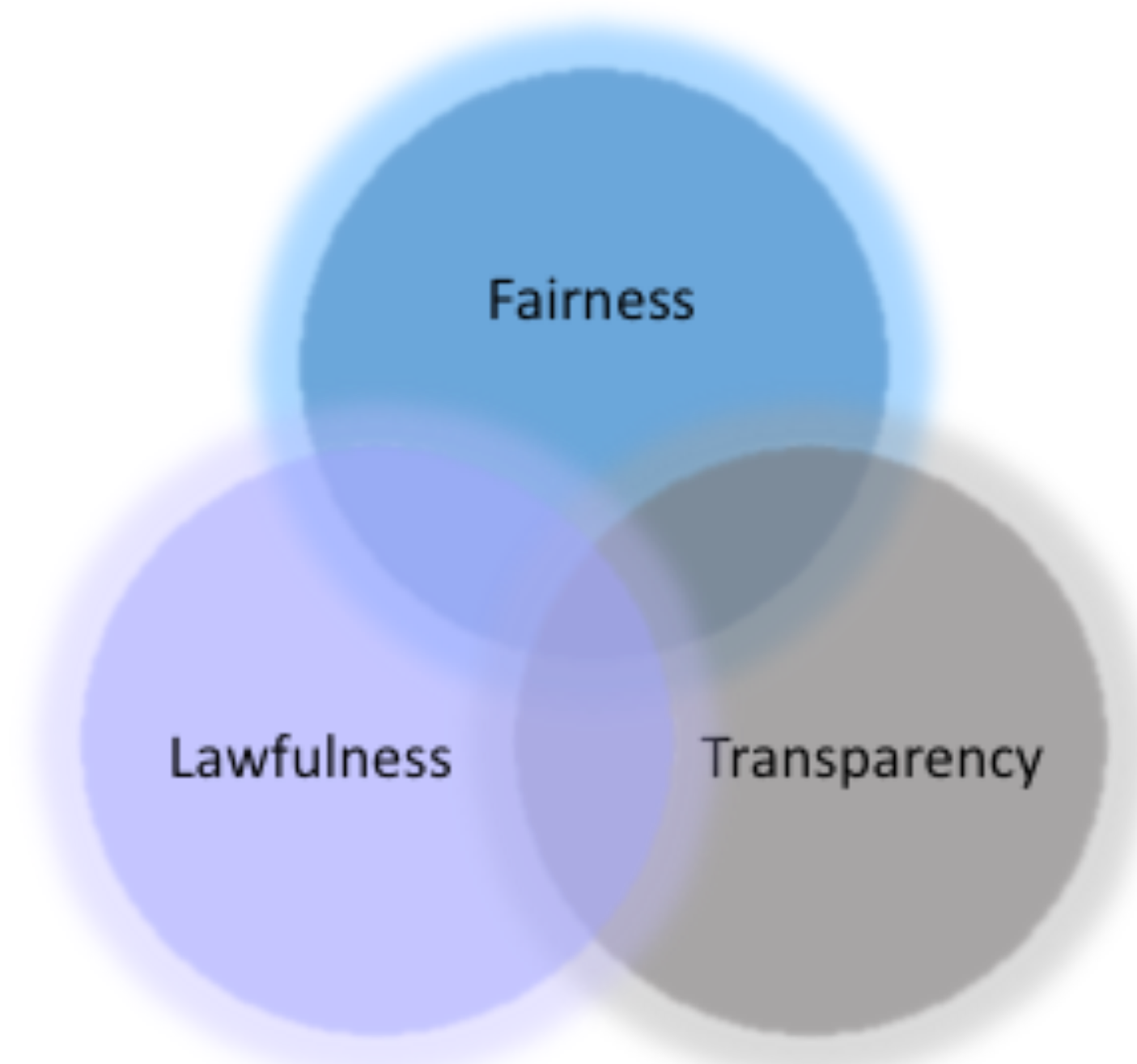
Contribution

An examination of the role of the fairness principle provided for in Article 5(1)(a) of the General Data Protection Regulation (GDPR) in the requirement to conduct a Data Protection Impact Assessment (DPIA) in Article 35 of the Regulation and the potential for fairness metrics to operationalise this core principle.

1. Although there is a significant theoretical role for the considerations of fairness in the DPIA process, an analysis of the various guidance documents issued by data protection authorities on the obligation to conduct a DPIA reveals that they rarely mention the fairness principle in practice.
2. Given the positioning of the fairness principle as core to the framework, we question this omission and assess the capacity for fairness metrics to operationalise its role within DPIAs.

Overlap between fairness, lawfulness, and transparency principles in Article 5(1)(a) of GDPR

The data protection fairness principle plays an important role in the requirement to conduct a DPIA and the operation of this process. Fairness however, is rarely mentioned in the literature exploring the requirement to conduct a DPIA.



The fairness principle is mentioned alongside the lawfulness and transparency principles in Article 5(1)(a) of the GDPR and is strongly linked to these principles (see Figure 1).

The fairness principle is inherently linked to balancing rights and interests in a socio-technical ecosystem dictated by asymmetrical information power.

At least three places where fairness principle is manifested in the operationalization of GDPR by conducting a DPIA

1. In the determination of what is meant by 'high risk' in Article 35(1) where a failure to conduct a DPIA properly (or indeed at all) would seemingly breach the fairness principle.
2. In the interpretation of the situations identified as being specific cases of high risk in Article 35(3).
3. In the content of a DPIA including the items listed in Article 35(7) and for example, the assessment of the proportionality and necessity of the processing operations, required under Article 35(7)(b).

There is a need to **bridge the gap between the high-level abstract formulation of the fairness principle in the GDPR and the literature on the variety of fairness metrics** for making artificial intelligence systems fair.

Interpreting the fairness principle in light of fairness metrics

A indicative list of these metrics:

Fairness through blindness
Disparate impact
Statistical parity
Equality of opportunity
Counterfactual fairness

Impossibility results show that the simultaneous satisfaction of some of the fairness metrics (except in some trivial cases) is mathematically impossible.

The abundance of the choice for metrics: if we base the interpretation of the data protection fairness principle in the literature on algorithmic fairness metrics, data controllers will have a high degree of liberty in claiming a "fair" personal data processing ecosystem.

Conclusion

Although the fairness principle is key to the operation of DPIAs, it is unlikely to cater for all our concerns related to the processing of personal data in particular in the context of the employment and deployment of Artificial Intelligence.

Fairness metrics are useful tools but not sufficient.

Algorithmic fairness does not equate to the GDPR fairness principle as algorithmic fairness metrics either fail to achieve fairness in a broad sense or are flawed in other ways.

The arguments in this paper justify the need for a more open debate regarding the role of the fairness principle, DPIAs and the intersection of data protection with different policy agendas in the determination of what processing operations should be deemed de facto unfair.