

Using a data sharing framework for regulatory oversight

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Introduction

A recent article published by the Guardian (a UK news-provider) suggested that the food system was becoming like the banking system before the 2008 crash, with the possibility of systemic collapse¹. Contributory factors cited were dominance by too few firms (4 firms control 70% of the global agricultural market²), a sense of producers being too big to fail in turn leading to moral hazard, a strongly connected global system, activities and products that the regulator did not fully understand or could not cope with, the presence of fraud, and implicit self-regulation.

The motivation for this study is to explore the ways in which data sharing and reuse in a structured framework can address some of these issues, with the associated research question being: How to use shared data to improve regulation? The contribution of this paper is to describe how the mutual and common sharing of data, itself properly regulated, can provide insights to the regulator.

Methodology

We have adopted/followed/adapted a practitioner-researcher exploratory case study method to directly observe the topic of interest (Yin, 2003, Shaw and Faulkner, 2006). Drawing on recent practitioner activity, observation and data have been analysed as a prelude for a later substantial study which will draw upon fresh original data. The exploratory case study serves to define further research questions. The purpose of the exploratory study is to better understand the context and role of the intermediary, and to help identify real-world examples and contexts where intermediaries might be needed.

Building on these exploratory findings, we apply the conceptual data sharing trust framework that has been developed to enable secure permissioned exchange of data amongst collaborating partners to specifically support the role of intermediaries in the Regulator - Intermediary – Target (R-I-T) model. (Abbott et al, 2017). This will be achieved by presenting a trial socio-technical system to participating actors in a fresh case study incorporating representative candidates from across the R - I - T model.

Literature /Background

We have based this analysis around the emerging literature examining the use of intermediaries in regulation, especially in “*monitoring and enforcement functions*” (Carter, 2016) which form a connection between the regulator (of a particular system) and the regulated, described as **Regulator - Intermediary – Target (R-I-T)**, designed to increase capacity and reach for R (Abbott et al 2017).

These models have evolved into a system of hybrid governance with a multiplicity of actors, increasing complexity and emergent outcomes (Havinga and Verbruggen 2017), and “potentially conflicting incentives” and interests (Carter, 2016). Abbott et al. (2017) recognise that the model

¹ <https://www.theguardian.com/commentisfree/2022/may/19/banks-collapsed-in-2008-food-system-same-producers-regulators> retrieved 24/05/2022

² <https://www.theguardian.com/news/2022/may/23/food-and-energy-billionaires-453bn-richer-oxfam-davos-wealth-tax-soaring-prices> retrieved 26/05/2022

can develop “pathologies” and that care must be taken in the selection of intermediaries, and the assessment of their “characters goals and origins”, since these may conflict or not always align with the public interest, “a messy concept hard to define and operationalise”. They suggest that these issues can be addressed through a rigorous design process.

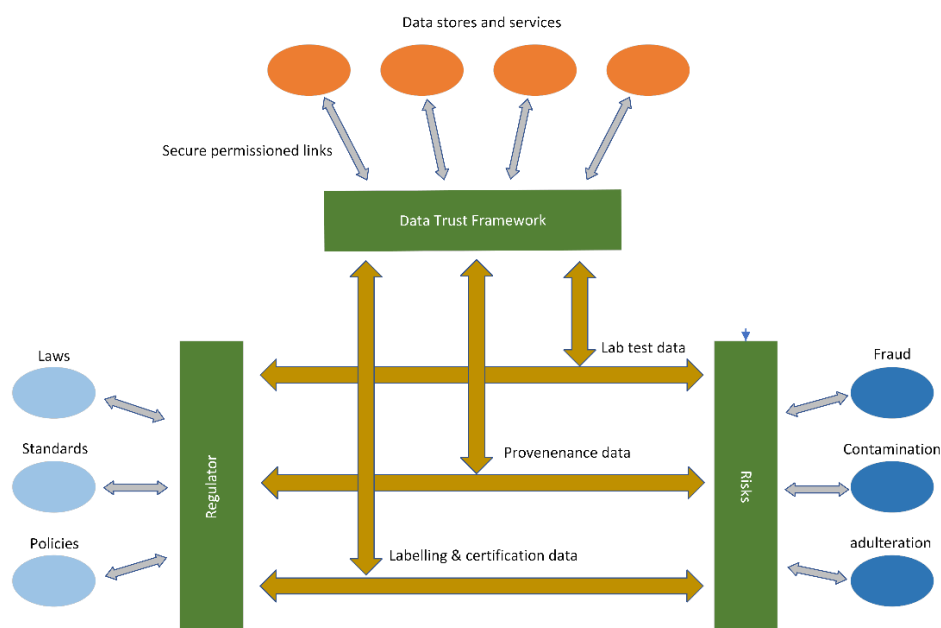
The RIT model is particularly useful in the context of food where there are multiple actors operating in all three functions, and furthermore, as described by Verbruggen and Havinga (2017) multiple dimensions of activity encompassing national, international, public and private axis. For example, the Codex Alimentarius Commission (Codex) has an influence on national standards, laws and policies, and competing with this commercial and trade associations themselves have been active in developing and applying standards and certification. Verbruggen and Havinga (2017) talk about the hybridisation of food governance and activities that transcend state boundaries. A related example of this is the complexities that the UK is experiencing in interacting with EU regulations and regulatory bodies even having left the European Union. The complexities of supply chains draw in correspondingly complex networks of regulatory dependencies associated with food products and their constituent ingredients.

Findings and Discussion

Regulations are predicated on a desire to reduce or at least address risk (Wolff, 2021), and certainly not either increase risk or introduce unintended consequences with side effects that may even be outside the terms of the regulations. Wolff (2021) also calls for transparency and an appreciation of the challenges of addressing risk in the context of smart technologies and a more data-driven world. The application of data entails us addressing the associated social and ethical risks associated with data, even if that data is beneficial for addressing known and existing risks.

The trust framework-based approach to sharing and exchanging data amongst independent but interdependent organisations therefore becomes an attractive platform upon which to develop and implement new rules and regulations, but also the review and revise regulatory policy going forward.

The following diagram illustrates how the Data Trust Framework (FSA Report, 2021) can act as an intermediary, enabling the secure permissioned exchange of data. Data relating to risks may contribute to the monitoring of risks as well as contributing to risk mitigation where applicable.



Data flows between regulator and risk sources with Data Trust Framework acting as Intermediary

Case study analysis has revealed how existing data can contribute to risk analysis and mitigation but only if sufficient trust can be associated with the relevant data. Applicable data sources range from laboratory tests, packaging and labelling, as well as multiple business transaction data from businesses, support agencies (intermediaries) and regulatory authorities.

We suggest that regulation to date has been based around organisational structure rather than for using data flows, and that data driven regulation, using intermediaries within a framework to facilitate that data sharing and re-use, should be explored.

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