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Digital Product Passport and Administrative Burden Reduction: Potential for Streamlining Cross-legislative and Cross-jurisdiction Compliance

Kartik Chawla^{a*}, Boriana Rukanova^b, Yao-Hua Tan^b, Anh Dao^c,Carolynn Bernier^d

^aTNO, The Hague, The Netherlands

^bTU Delft, Jaffalaan 5, 2628 BX Delft, 2600 GA Delft, The Netherlands

^ce.Circular ApS, Langkildeparken 13, 3480 Fredensborg, Denmark

^dCEA, Gif-sur-Yvette, France

Abstract

The European Union has put forward an ambitious EU Green Deal with the goal to advance the green and circular transition in the EU. Digital Product Passports (DPPs) are introduced in several legislations as a powerful new tool that can enable product data sharing with downstream value chains partners, like re-manufacturers and recyclers, as well as with consumers and authorities, to enable the transition towards more circular practices. These DPPs are intended not only to pose limited additional administrative burden but also act as a mechanism to allow for generating business benefits, to incentivize companies into changing their business processes towards more circularity. At the same time, the European Commission's recent focus on EU competitiveness has highlighted the role DPPs are foreseen to play as an instrument to reduce the administrative reporting burden as well. Whether and how DPP may play a role in reducing the administrative burden is the focus of this research. To this end, a stakeholder consultation was conducted where representatives from different industries, technology providers, NGOs and academia were invited to express their ideas on the topic. Subsequently 10 high-level areas of potential for administrative burden reduction using the DPP were identified. In this paper, we zoom in further on one of these dimensions, namely the potential of DPP to streamline cross-legislation and cross-jurisdictional compliance. By performing in-depth interpretative analysis of the ideas related to this theme, a rich understanding of this potential was elaborated. While administrative burden reduction, from a theoretical perspective, has been studied before in the eGovernment and international trade literature, DPP had previously not been taken into account. This study advances this theoretical discussion by introducing DPPs as part of the scientific discourse.

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* Corresponding author. Tel.: +31-06-25198653

E-mail address: kartik.chawla@tno.nl

1. Introduction

The European Union's (EU) ambitious Green Deal has introduced Digital Product Passports (DPPs) as a core part of the Eco-design for Sustainable Products Regulation (ESPR) as a key tool for advancing the circular economy by enabling data sharing across value chains. DPPs are intended to have multiple mandates: they must pose a limited additional administrative burden, they must incentivize circularity in businesses, and recently they have also become a part of goal of increasing policy importance: bolstering EU competitiveness by in fact reducing administrative reporting burdens. This is highlighted in key initiatives, including the Competitiveness Compass [1] and in the ESPR Working Plan 2025-2030 [2]. The Single Market Strategy [3] also states that the European Commission plans on extending the use of the DPP in its efforts to simplify and digitalize procedures that are still offline or have varying digital rules and non-matching data formats, often with systems that do not talk to each other. The question, however, is whether and how the DPP has the potential to play a role in reducing the administrative burden and promoting competitiveness.

Beginning with the 10 high-level potential areas for DPP-enabled administrative burden reduction identified in a stakeholder consultation conducted in a previous study [4], this paper zooms in on one of these dimensions: the potential of DPP to streamline cross-legislation and cross-jurisdictional compliance. While we take the ESPR-defined DPP as a starting point for inspiration, in this paper we take a broad view of DPP as it has been introduced in other EU legislations like the Battery Regulation [5] and the Construction Products Regulation [6]. In addition, we also see the DPP developments in the EU as part of the broader developments around DPP taking place in the global context, such as the efforts of the UN Transparency Protocol (UNTP) [7] being developed by the UNCEFACT community to facilitate trade through increasing transparency. Interestingly, the Chinese government has also initiated a DPP development project. Naturally, there are differences among DPP initiatives, such as the voluntary approach of UNTP DPP vs. the mostly top-down, regulatory approach of EU DPP. However, while exploring the potential of DPP towards burden reduction, we kept a broad view in mind. We considered that even the EU DPP, especially the DPP system architecture for data sharing and its alignment with international developments, can serve a wider purpose. Beyond exchanging only mandatory data it can also allow for voluntary data exchange, hence supporting companies in exploiting new possibilities for advancing not only circularity but also competitiveness.

The remaining part of this paper is structured as follows. Section 2 provides an introduction to the topic of DPP and reviews earlier literature on the topic of administrative burden reduction. Section 3 presents the methodology. Section 4 describes the findings, followed by the discussion and conclusions in Section 5 and Section 6 respectively.

2. Literature review

In this section we present a state-of-the art literature review related to DPP objectives and potential benefits, followed by review of literature on burden reduction, where burden reduction has been a topic that has gained attention in earlier eGovernment and international trade literature. Such insights and theoretical models from earlier studies can be instrumental to identify more high-level and generic concepts to examine the DPP burden reduction developments as well.

2.1. DPPs: objectives and benefits

DPPs are, as mentioned earlier, a new European policy tool being implemented under the Eco-Design for Sustainable Products Regulation (ESPR) and are intended to digitally store and share information about products across their value chains. Digital Product Passport “*means a set of data specific to a product that includes the information specified in the applicable delegated act adopted pursuant to Article 4 and that is accessible via electronic means through a data carrier in accordance with Chapter 3*” (Art. 2(28) ESPR). DPPs are intended to improve transparency regarding the environmental impact of products, enable longer product lives and circular practices like repair and remanufacturing, and assist in testing and inspection to strengthen consumer rights [8]. As [9] discuss, DPPs also support informed consumer, industry and policy decision-making by providing stakeholders with reliable, comparable data. DPPs are now “*key regulatory element[s] of the latest EU Circular Economy Action Plan,*” [10],

with plans to require DPPs for many regulated products to support a carbon-neutral, circular economy. At the same time, DPPs also have significant potential in a wider context including for competitiveness, eCommerce, and the tracking of Critical Raw Materials (CRM). There is a strong research theme to link DPP to circularity improvement, whether from a sector-specific perspective such as the automotive value chain [11] or plastics value chain [10] or from a broader perspective such as DPP impact on circular supply and value chains [9,10,12].

However, in most of these discussions on the objectives and potential benefits of DPP, the interactions between the DPP and administrative reporting burdens are almost never discussed and therefore not well understood. This paper will specifically zoom in on the potential of DPP for administrative reporting burden reduction in relation to legislative compliance. Legislative compliance refers to the efforts it takes for companies to comply with certain legislation. This compliance effort typically includes administrative procedures followed by companies for reporting to inspection agencies on how they effectively complied with the regulation. When this compliance effort can be digitized and automated, it can result in compliance cost savings. Thus, if DPP implementation can contribute to the digitalization and automation of companies' legislative compliance effort, it has a strong potential to reduce administrative reporting burden reduction, specifically through streamlining cross-legislation and cross-jurisdictional compliance.

2.2. Administrative burden reduction literature and relevance to DPP

Administrative burden reduction has been gaining attention in research and practice for decades. Examining these studies can bring insights that may be useful for the DPP context as well. As a point of departure we take the general eGovernment literature where burden reduction has been extensively discussed. In a definition as found in Nielsen et al. [13, p. 140, based on [14]], administrative burden is seen as “*the cost to business or citizens of carrying out administrative activities that they would not carry out in the absence of regulation, but that they have to undertake in order to comply with it*”. In their study Nielsen et al. [13] perform structured literature review, identify research gaps, and propose a conceptual model to further understand administrative burden reduction. Building on Krimmer [15], Nielsen et al. [13] developed a conceptual model where they position administrative burden reduction at the center, surrounded by four dimensions: legal, political, social, and technological. The legal dimension considers the constitution, laws and regulations governing society. The political dimension discusses administrative and governance models and the purpose of administrative burden reduction. The social dimension examines potential impact and influence on society. Finally, the technological dimension looks at aspects such as technical infrastructure, automatization of processes and pro-active online service delivery. The conceptual model also takes the stakeholders into account, including authorities, politicians, businesses, citizens, interest groups, experts and academia. Another study examines three dimensions of burden reduction: those bearing the burden, the burden level, and burden experienced [16]. The study identifies seven distinct burden reduction strategies: *shifting, sharing, discarding, simplifying, expediting, communicating, and respecting*. Administrative burden reduction has also been considered in the eGovernment literature taking a digital government innovation flow perspective [17]. This model examines how digital government technologies (e.g. big data analytics) and pressure on government (e.g. to remove excessively complicated regulations) drive digital government innovations (such as the e.g. “Once Only” principle for reporting requirements [18]) which in turn lead to Digital Government institutionalization (e.g. administrative burden reduction, lean administration) [19].

Beyond the eGovernment literature, burden reduction has received a lot of attention in the area of international trade, reflected both in the work of key international organizations as well as related scientific research. In international trade, burden reduction discussions are often linked to the topic of *trade facilitation*. Looking at OECD, trade facilitation refers to measures that streamline and simplify technical and legal procedures for products at the border [20]. The United Nations Trade and Development (UNCTAD) states that “*Trade facilitation aims at achieving simpler, cheaper and faster trade across borders. It aims to ensure that regulatory measures are implemented without becoming a burden on traders. By simplifying and harmonizing Customs and other Government agencies' border procedures, trade facilitation makes international trade cheaper and more transparent, efficient, resilient, greener and accessible for all*” [21]. In this view, trade facilitation is closely linked with burden reduction, simplification and harmonization of government procedures, customs and other government agencies. The section on trade facilitation

of the World Trade Organization (WTO) website states that “*bureaucratic delays and ‘red tape’ pose a burden for moving goods across borders for traders. Trade facilitation—the simplification, modernization and harmonization of export and import processes—has therefore emerged as an important issue for the world trading system*” [22]. The WTO has also introduced the Trade Facilitation Agreement (TFA) [23] which plays an important role in international trade. Trade facilitation has received a lot of attention from the World Customs Organization (WCO) as well. On the WCO website, we can find “*Trade facilitation, in the WCO context, means the avoidance of unnecessary trade restrictiveness. This can be achieved by applying modern techniques and technologies, while improving the quality of controls in an internationally harmonized manner*” [24]. Over the years, different concepts like Single Window, Coordinated Border Management, Authorized Economic Operators have emerged as instruments to address burden reduction and facilitate trade – and DPP systems are a potential new entrant to these instruments.

From a research perspective, a stream of research in international trade has focused on these concepts as well as burden reduction and trade facilitation [25,26,27]. For example, [27] provides insights on trade facilitation topics and experience with implementing Single Window systems. The Single Window concept addresses the issue that, at the border, there are typically multiple inspection agencies that companies have to report to when importing or exporting goods (e.g. customs, food safety inspection, product safety inspection etc.). Typically, these reports have many common elements, but the format of the reporting differs for each inspection agency. When this reporting is done on paper, it is a real difficulty for companies. Single Window developments aim to simplify this. The Single Window is “*a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single-entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once*” [28, p.3]. The idea of submitting information only once is also at the core of developments in the context of the EU’s Digital Single Market, namely the Once Only principle system [18].

While we will not go into details, the above shows the importance of burden reduction in the context of trade facilitation and that it is at the heart of the work of several key international organizations acting in the area of international trade. As supply chains are mostly international in nature, EU DPP legislation will affect, directly and indirectly, many supply chains and economic operators whose products, parts, and materials are placed on the EU market. Therefore, the discussion on DPP, whether it is EU DPP or any other DPP, has much to learn from the ongoing work in trade facilitation, especially in its approach to the simplification, modernization and harmonization of administrative processes.

2.3. Method

This research follows a qualitative research approach and builds on a high-level analysis presented in [4]. A call for ideas was disseminated among a large group of DPP stakeholders on the potential use of DPP for administrative burden reduction. As a result of this request, 49 responses were collected, and an initial quick scan analysis was performed. From the quick scan analysis, 84 topics were identified which were subsequently grouped in 10 broader categories and initial findings were made available via a high-level analysis report [4]. While these topics and broad categories provide high-level insights, to allow for a deeper understanding, in this paper we focus on one of the high-level themes identified, namely ideas for DPP burden reduction related to streamlining cross-legislation and cross-jurisdictional compliance. We gained deeper insights by making use of the rich pull of ideas that were generated. In this analysis, we paid particular attention to the specific examples and arguments that were given.

3. Results

Figure 1 below captures the findings from this research based on zooming in on the topic of legislation or the potential of DPP for burden reduction related to streamlining cross-regulation and cross-jurisdictional compliance. Cross-regulation compliance means complying with multiple regulations, i.e. disclosures required under different regulations for the same product or entity, while cross-jurisdictional compliance means complying with regulations across difference countries or regions in the world.

Across the different responses, we identified that the respondents mentioned detailed examples of legislation, or data types or standards when discussing where DPP could allow for simplification. They also provided some pointers towards specific techniques or approaches that could be pursued. Therefore, we further grouped the responses in the four categories presented in Figure 1, namely (1) example legislation, (2) examples of types of data, (3) examples of standards and frameworks and (4) examples of techniques/approaches. These are further analyzed below.

4.1. Example legislations

While the requirements for data disclosures under the ESPR are still to be set through product-group specific delegated acts, meta-requirements for these disclosures are defined in Art. 9 of the ESPR, read with Annex III, Art. 7(2)(b), Annex I and Art. 7(5), in that order.

While the DPP is specifically mentioned in several EU Regulations, including the ESPR, *Battery Regulation* and the *Construction Products Regulation (CPR)*, the consultation revealed that its potential was seen in view of much wider legislative base, as legislations like REACH, *EU Deforestation Regulation (EUDR)*, *Carbon Border Adjustment Mechanism (CBAM)*, *Corporate Sustainability Reporting Directive (CSRD)* and the *Taxonomy Regulation* were mentioned. Interestingly, the scope of these legislations is quite diverse; the ESPR relates more to ecodesign and product requirements, a scope which is relatively close to that of REACH and EUDR focusing respectively on product safety and environmental impact; whereas the respondents also mention the CSRD and Taxonomy Regulation focus on financial and investment transparency, and the CBAM focuses on duties related to the import of steel and cement. Experts, we find, see the DPP as a potential point of connection between all of these legislations.

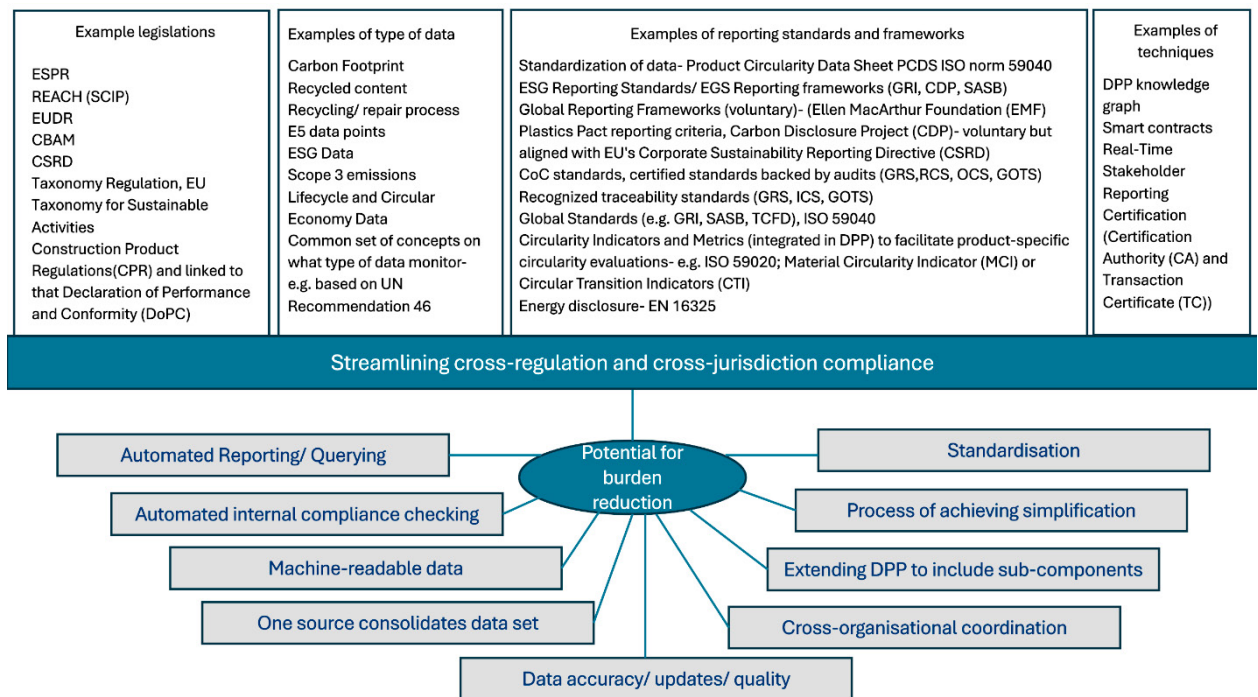


Figure 1. Potential of DPP for Burden reduction- focus on streamlining cross-regulation and cross-jurisdiction compliance

4.2. Examples of types of data

To comply with these diverse legislations, reporting data is needed – data that can be integrated voluntarily into the DPP by entities complying with a variety of reporting requirements, or explicitly required by the legislator in delegated acts under the ESPR. Examples of reporting data provided by the respondents include data about carbon footprint,

recycled content, recycle and repair process, which can align with requirements under Annex I and Art. 7(2)(b) of the ESPR. Others referred more generally to lifecycle and circular economy data, as well as scope 3 emission data, which can also align with Annex I and Art. 7(2)(b) of the ESPR. Reporting obligations under EU law can also, crucially, be optionally but directly be added into the reporting requirements of the ESPR in product-group specific delegated acts under Anx III (a). These examples are not exhaustive but provide an indication of the diversity of data disclosures that are required for several legislations and could potentially be captured by the DPP as well. Suggestions were made also to look at a more generic set of concepts regarding what governments want to monitor via diverse legislations by using concepts from e.g. UN Recommendation 46 which covers a comprehensive survey of most circularity relevant aspects [29]. Therefore, the respondents argued that the DPP can potentially help to reduce administrative burden by capturing data that are required by different legislations, an example of cross-regulation alignment. However, careful consideration is needed to deal with concepts that seem similar but may still require different treatment, e.g. CO2 reporting might differ considerably across legislations in how it is actually measured.

4.3. Examples of techniques and approaches

The experts also provided examples of techniques and approaches that can be used in the context of DPP’s opportunities for burden reduction by streamlining cross-regulation and cross-jurisdiction compliance. Examples included the use of smart contracts (i.e., computer programs used for automated execution of agreements or parts thereof) and real-time stakeholder reporting (i.e., linking DPPs to dashboards that provide real-time updates on product sustainability metrics). An important aspect that was mentioned was the use of verification techniques with respect to certifications across the supply chain in the context of both Certification Authorities (CA) that store, sign and issue digital certifications and Transaction Certificates (TCs) that attest that goods being shipped from one company to another conform to a given standard.

4.4. Examples of reporting standards and frameworks

However, for the DPP to allow the streamlining of regulations, the use of data standards and reporting frameworks was considered very important. On this aspect, the respondents provided very rich insights, going into details of specific standards and frameworks that can be used. To better understand what these standards and frameworks are, and what they aim to achieve, an internet search was conducted as summarized in the table below.

| Standards and frameworks | Disclosure requirements | Comments |
|---|--|---|
| Global Reporting Initiative (GRI) [30] | Covers broad ESG topics via modular Universal, Sector, and Topic Standards, including on governance, strategy and management of material topics. Sector Standards include, for example, oil and gas, coal, and agriculture, aquaculture and fishing. Topic Standards include, for example, waste, occupational health and safety, biodiversity, energy diversity and equal opportunity. Apply to all organization sizes. | Voluntary standard, aligns with UN SDGs. |
| Carbon Disclosure Project (CDP) [31] | Companies disclose data about the impact their business activities have on environmental themes such as climate change, deforestation and water security via the CDP Portal. Cities, states and regions can similarly report qualitative and quantitative data on various themes including governance, climate hazards and adaptation, and water security. | Voluntary standard |
| Sustainability Accounting Standards Board (SASB) [32] | Sector-based (77 industries) sustainability topics likely to impact financial results (e.g. emissions in energy, labor safety in mining). Establishes industry-specific disclosure standards across ESG topics for financially-material information, about sustainability related risks and opportunities that could reasonably be expected to affect cash flows or acquisition of capital. | Voluntary; SASB standards have been incorporated into the new IFRS Sustainability Standards (IFRS S1/S2). |
| Task Force on Climate-related Financial Disclosures (TCFD) [33] | Covers the reporting of climate-related financial information, including the governance, actual/potential climate impacts on strategy and cash flows, processes to manage climate risks, and climate metrics (e.g. Green House Gas (GHG) emissions, renewable energy use). | Voluntary, but now mandatory in some jurisdictions. Now incorporate into IFRS S1 and IFRS S2. |
| Product Circularity Data Sheet (ISO 59040) [34] | Provides standardized product-level disclosures, intended to ‘provide information to help understanding the circularity aspects of a product’ [34]. It also provides a methodology for establishing and maintaining a PCDS. | Voluntary, but potentially links to Sustainable Business Development Reporting Directive, ESPR and Green Claim Directive. |

| | | |
|---|---|---|
| EMF Plastics Pact Reporting Criteria (PPRC) [35] | A collection of voluntary country- and region-level agreements on increasing circularity for plastic waste and eliminating unnecessary plastic, including in packaging. Commitments vary across regions but are paired with mandatory requirements for participants. These reporting requirements can vary between the different agreements. | Voluntary |
| Global Recycled Standard (GRS) [36] | Standard to enable tracking and verifying the content of recycled materials in a final product. It sets requirements for third-party certification of recycled content as well, along with chain of custody requirements and social and environmental requirements. The standard applies to the full supply chain - each stage of production (recycler, converter, manufacturer, etc.) must be certified. | Voluntary, aligns with the Recycle Claims Standard. |
| Organic Content Standard (OCS) [37] | Sets criteria for ‘ <i>third-party certification of organic materials and chain of custody</i> ’ [37]. Requires certification of farms. | Voluntary, aligns with IFOAM’s Family of Standards. |
| Global Organic Textile Standard (GOTS) [38] | Textile processing standard for organic fibers, including environmental criteria and criteria for third-party certifications, applicable across all stages: harvesting, processing, manufacturing, packaging, and labeling. | Voluntary. |
| Circular economy – Measuring & Assessing Circularity Performance (ISO 59020) [39] | Organization-level circularity: sets requirements and guidance for metrics for circularity performance, including monitoring goals and actions, performance, and impacts, and measuring resources inflows and inflows (mandatory) and energy, water and economic indicators (optional). | Voluntary, and designed to complement other sustainability assessments. |
| Material Circularity Indicator (MCI) [40] | A tool for measuring how circular the material flows of a product are, i.e., the degree to which it has been decoupled from consuming non-renewable materials. Focuses on an assessment of the inputs and outputs of the product’s lifecycle. Can be used to assess and compare individual products, product portfolios, or aggregated company level data. | Voluntary |
| Circular Transition Indicators (CTI) [41] | Company-level circularity, including assessment of material flows, water circularity, renewable energy, critical inflow, and recovery type. | Voluntary, but potentially aligned with the CSRD and the European Sustainability Reporting Standards. |
| Guarantees of Origin – Energy (EN 16325:2013) [42] | A European standard for Guarantees of Origin (GOs) of electricity. Defines the terminology and process for registration, issuance, transfer and cancellation of GOs. Does not establish any sustainability criteria. | Mandatory, aligns with RES, Energy Efficiency and IEM Directives. |

Looking at the standards we see that, similarly to responses on legislations, they differ in terms of focus – e.g., some relate to materials, some to products, and some to financial information. Some standards are cross-sectoral while others focus on specific product categories (e.g. plastics, textiles). There may be disclosures required by these legislations that overlap, e.g. two different regulations requiring the same environmental footprint data, or one regulation requiring environmental footprint data and a second regulation requiring a disclosure that is calculated on top of the environmental footprint data. However, what is very interesting is that the majority of the standards and frameworks that were mentioned by the respondents are voluntary ones. The fact that many respondents went deep into details, providing names and listing relevant standards and frameworks in the context of DPP and reporting burden reduction, shows that they see the DPP as a potential means to support and further develop these voluntary initiatives. Overlaps between such voluntary disclosures and mandatory reporting requirements should be explored further to identify where these reporting processes can be explored to reduce administrative burdens, and potentially even to generate new business value and models.

4. Discussion

The potential for DPPs to reduce administrative burdens presents both a significant opportunity and a complex challenge, hinging on the deliberate integration of policy and technology. On the policy side, success requires regulatory harmonization of information requirements to create a "report-once" system that identifies overlaps between diverse regulations with diverse scopes (including diversity in product definitions, the functional unit of the disclosures, and jurisdictions). It also arguably requires incentives for voluntary compliance that align with existing industry reporting standards.

To further reap the benefits of regulatory harmonization of information requirements, however, the practical application of these policies also depends on the technical foundation for information exchange. The ultimate goal—

enabling strategies like automated compliance checking and real-time reporting—is only achievable through the standardization of data exchange protocols, and the application of semantic interoperability principles to facilitate reuse. It may also require digitization in areas lacking the necessary technological infrastructure, to ensure data collection and to encourage the adoption of machine-readable data and requirement formats. Without such standardized, machine-readable formats, data remains siloed, preventing the very automation that promises to slash administrative overhead.

Therefore, while policy choices like regulatory harmonization, and balancing making reporting requirements suitable to specific jurisdictions or industries while still allowing them to align and enable report-once systems, set the stage, the reduction of administrative burden is also a technical outcome; without a robust digital infrastructure that ensures data can be seamlessly shared and understood by different systems, the policy ambitions remain purely theoretical.

As the other topics that were identified cover other elements that need to be in place to be able to explore further simplification, exploring these connections further would be important. On the data level, important aspects identified in the other themes and needed to be in place for this to work include the *one consolidated data set* and the *data accuracy/ data quality dimensions*, which are the starting point to achieve data that can be reused for the purposes of multiple legislations. But if the data is there, in a standardized and interoperable machine-readable form, it opens up possibilities for automated compliance checking and reporting, which can then serve to address different legislative concerns. The in-depth insights gained by zooming in the legislative dimension also pave the way for further examination of the other dimensions when these additional details are taken into account. An important question that this analysis raises is how the disclosures made in these existing voluntary frameworks and standards can be aligned with the disclosure requirements of different legislations, especially given their aforementioned diversity, in the topics they cover, their scopes, and potentially even varying methods of measurement. A second important question that this raises is how this alignment can be implemented into a consolidated data set, and whether different techniques and approaches could be used to map the same data to varying disclosure requirements.

This analysis raises important questions on this point at a market level as well. For instance, what opportunities does this provide for business-government collaboration and facilitation? How could parties that have been investing in complying with voluntary standards show better compliance and be adequately incentivised? And how could authorities potentially benefit from this additional, voluntary data? Would they gain from working with companies that are already taking extra measures that go above and beyond what is legally required? Each of these questions is important to ensure that DPPs have the impact on administrative burden that they are intended to have. Decades of experience in the international trade domain reflected in the work of international organizations as well as prior research have led to developments like single window for businesses to provide data for multiple government procedures, or business-government collaboration models such as Authorized Economic operators (a partnership program between a customs authority and economic operators), which may also serve as an inspiration for the DPP and burden reduction.

While our analysis was mainly driven by the input from the respondents, looking back at the more general reduction of administrative burden literature, models and frameworks that have been developed may be helpful to structure and advance our understanding of DPP and burden reduction as well and moving towards further theorizing on the topic. Looking at the conceptual model of administrative burden reduction of Nielsen et al. [13] introduced earlier, the topic explored in this paper related to the legal dimension of this model. Many of the other dimensions identified in the report [4] can be mapped to the technical dimension of the Nielsen et al. [13] model. However, the political or social dimensions with respect to administrative burden reduction were not the primary focus of the responses received. These dimensions did not appear to be a primary focus in the data collected, possibly because respondents were more concerned with offering practical suggestions for how DPP can reduce burdens. However, these broader social and political dimensions remain relevant in the context of DPP-related administrative burden and merit further exploration in future research. In addition, the model of Nielsen et al. [13] is limited to some extent for the DPP context and should be further extended when it comes to the stakeholder level, as DPPs affect international supply chains and additional levels of actors, who are also active in the international domain and need to be added explicitly. In the earlier research on burden reduction, we also identified research on identifying burden reduction strategies [16]. This is something that did not come forward clearly in discussing the cross-regulation and cross-juridical compliance and in the other topics identified but may be an area that deserves further attention for further research and stakeholder consultations. Finally,

earlier research has also pointed out that burden reduction can be seen from the point of view of digital government innovation flows [17], in our case digital government innovations enabled by DPP.

Veiga et al. [17] also provide some critical reflection on the role of standardized processes and the effect they could have on burden reduction, which must be carefully considered in the DPP context and burden reduction discussion as well. As Vaiga et al., [17, p. 325] point out “*a common belief in the DG community is that standardized ICT-enabled processes somehow fit with different sectors and levels of public administration. However, standardized, generic processes may fail to comply with some implicit requirements, i.e. practices and processes emerging from the local organizational culture that may play a major role in building confidence in the new DG (digital government) solutions among public workforce and the public itself, and even constrain local context-specific requirements. The discussion about scalability and adaptability of the DG solutions, and the integration versus autonomy decisions are very relevant to the ABR (administrative burden reduction) debate*”. This point will be very important to consider further in the DPP context as well and search for the balance between making reporting requirements suitable for specific contexts but also aligned across contexts. Especially in the view of all the voluntary standards and frameworks that are already in use and were brought to our attention in the consultation, as well as the discussion of voluntary and mandatory data, there is a great potential for governments and businesses to explore on how to build on this rich available heritage that some businesses have already put in place on voluntary basis because of business drivers and whether and how this can be utilized in the DPP administrative burden reduction to go beyond compliance but also boost competitiveness and sustainability.

5. Conclusion

DPPs were introduced in the EU regulations as the essential instrument to implement the Green Deal, and related policies and regulations to help facilitate the transition towards a more circular and sustainable future. With the changing geo-political landscape and priorities, including strategic autonomy, security of supplies, and competitiveness in recent official communications, DPPs are mentioned and considered as an important instrument for other policy objectives besides circularity. The consultation that was performed to obtain feedback from experts on the potential of DPP for burden reduction led to identification of several broad themes. In this paper we focused on one of the themes related to DPP and burden reduction from the angle of cross-regulation and cross-jurisdictional compliance. This topic was one of the topics that got the most input from the participants in the consultation, because many of the parties consulted in the consultation are businesses, industry associations, or service providers. They operate in global supply chains and are subject to multiple regulations not only in the EU but also abroad, so they are familiar with this complexity and in constant search of solutions.

Further research can continue in three directions. First, expand the consultation to include representatives of more stakeholder groups that will be affected by DPP developments in the future, including more government actors and policy makers. Second, develop more formal theoretical frameworks. There is already a body of knowledge in the general eGovernment literature and in the international trade domain which has developed models, frameworks and concepts to address issues such as administrative burden reduction in general, or trade facilitation in particular. Such more theoretical understanding will be highly valuable to provide further structure and guidance for the discussion with the different stakeholders. Third, expand the consultation in the direction of the complementary digital toolset being deployed for the digitalization of the European internal market, including, e.g., the European business wallet and eInvoicing for public procurement. Such a study would inform the ongoing efforts of the European Commission for embedding the ‘*digital-ready*’ principle into policy design and further promoting the ‘*once-only*’ principle thanks to machine-readable and structured data formats and interoperability across IT systems. Clearly, the reporting burden potential of such an ecosystem of interoperable digital business systems automating real time sharing of business data between companies and governments would amplify that of the DPP alone.

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