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Digital Trade Agreements: Implications of Cross-Border Data Regulations for Services Trade Competitiveness (Literature Review)

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Abstract: *In the current digital age, digital service trade has presented numerous benefits to the global economy. However, digital trade also presents several challenges to the regulations of international trade. The study explains how and why openness or restrictiveness on cross-border data flows affects the ability of firms to export services, scale digitally enabled business models and compete in international markets. The study used a qualitative literature review to investigate how cross-border data regulations in digital trade agreements affect the competitiveness of services trade in different countries. Based on the regulatory frameworks, institutional settings and trade outcomes, the analysis synthesizes theoretical, empirical and policy-focused literature to evaluate the effects of data governance provisions on market access, cost structures and the competitive positioning of digitally delivered services. The results showed that cross-border data regulations have a significant influence on services trade competitiveness by affecting firms' ability to scale digitally, increasing transaction costs, and influencing regulatory certainty. While moderate data regulation may support trust and institutional stability, overly restrictive or fragmented regimes consistently reduce digital services trade and international competitiveness.*

Keywords: Digital trade agreements; Cross-border data flows; Services trade competitiveness; Data regulations; Digital services

Introduction

1.1 Background of the study

The interchange and reconfiguration of data elements between nations with the goal of overcoming local factor market restrictions, utilising comparative advantages, and maximising profitability is known as cross-border movement of data elements (Mercurio & Yu, 2022). Unlike other forms of service trade, digital service trade uses digital technologies to link companies, digital infrastructures, other infrastructures, and people. It also acts as a conduit for the cross-border movement of data elements, which is essential for production in the age of digitalisation (Mercurio & Yu, 2022).

Technologies like artificial intelligence and big data have emerged as key forces behind the digital transformation during the ongoing global economic recovery and the development of the digital economy (Matyushok, et al., 2021). Innovative industrial models and economic prospects have emerged as a result of these technologies (Chin & Zhao, 2022). The expansion of digital service trade has been made possible by digital technologies, which have made it easier for traditional services to be traded internationally as well as for new types of global service trade (Chin & Zhao, 2022). The United Nations Conference on Trade and Development reports that in developed nations, digitally delivered services accounted for over 60% of all services exported in 2024, compared to 44% in emerging economies and only 15% in the least developed. In 2024, developing nations exported $1.1 trillion worth of digital services, which is just a quarter of the world's total (UNCTAD, 2025). Local players are squeezed and competition is reduced when a small number of companies dominate the market. Asia receives one-third of the world's investments in digital services inside the developing countries (UNCTAD, 2025). Ten nations, the most of which are Asian, account for over 80% of greenfield investments in the digital industries in the Global South (UNCTAD, 2025).

The profound integration of digital technology with service trade has created a new style of operation called "digital service trade." A number of nations have seen the significance of this type of commerce in their national development objectives and are actively investigating models for its progress, adding a new dimension to globalisation (Chin & Zhao, 2022). For example, China's Fourteenth Five-Year Service Commerce Development Plan introduced digital commerce and promoted its creative growth as well as the increase of imports of digital services (Hao, et al., 2023). Service trade and efficient data use are strongly related (Hao, et al., 2023). Trade in digital services is intrinsically digitised due to its reliance on data transfer through the internet and

other digital technologies (Hao, et al., 2023). The most crucial aspects of digital service trade are digitisation and authorisation, which enable it to serve as a conduit for the international exchange of data elements (Xiang & Zhao, 2025).

In light of this, the influence of cross-border investments in digital services on the economic growth of nations is examined in this paper. From the perspective of the inflow and outflow of data elements to provide a decision-making basis and path choice to further unlock foreign trade potential and cultivate new growth forces, it looks at how trade barriers for digital services, as a significant institutional variable, will also impact on the competitiveness amongst nations.

1.2 Statement Research Problem

The digital economy has grown significantly as a result of widespread use of digital technology, which has produced favourable conditions for appropriate, well-organised, and cross-border international trade (Li & Wang, 2024). The exchange of digital services, which is a crucial component of commerce, is emerging as a new catalyst for future trade expansion (Li & Wang, 2024).

Big data has aided in the widespread of commercialization of cloud computing and other information technologies, and data has become an essential strategic asset in both the society and economy (Kshetri, et al., 2017). In addition to data being a form of financial resource for businesses to aid in improving market competitiveness, data are important production tools for the advancement of social and individual ideals (Li & Wang, 2024). Also, in addition to the commercial value, data are often used to uphold essential national security goals, protection of individual privacy and human rights, and the promotion of social consensus on decision-making.

The Countries' legislative and policy responses to data collection, storage, and transmission have varied due to the wide variety of data kinds. The fragmentation of current cross-border data transmission rules cannot be resolved by a unified worldwide framework (Bolatbekkyzy, 2025). In an attempt to capitalise on the potential economic value of big data, the governments of some countries have promoted regional or international digital commerce dialogues to regulate cross-border data flows (Hao et al., 2023). Big data has led to the widespread commercialisation of cloud services and other information technologies, and data has emerged as a crucial strategic resource for the economy and society. Data are important production tools that helps in promoting not just personal values but societal values too in addition to being a financial resource for businesses which aids them to succeed in the market (Li & Wang, 2024). Apart from their economic value, data are often used to assist essential national security goals, protection of individual privacy and rights for human, and the promotion of social consensus on decision-making (Li & Wang, 2024).

It is easy to see that the control of cross-border data flows through commercial agreements has become the norm when looking at the significant trade agreements achieved in recent years. Hence, this study seeks to examine the effect of cross-border regulations in digital trade agreement influences the services trade competitiveness of countries.

1.3 Research Objective

The aim of this research is to examine how cross-border data regulations in digital trade agreements can have an effect on the competitiveness of service trade across various countries. The specific objectives are listed below;

1. To review existing literature on digital trade agreements and cross-border data regulation policies
2. To examine how data localisation laws, privacy rules and data transfer laws impact on service trade performance and competitiveness
3. To analyse the benefits of cross-border data regulations for service exporters and digital service providers
4. To identify key themes, gaps, trends on service trade competitiveness and propose policies for designing digital trade agreements that will aid in balancing regulation and competitiveness.

1.4 Research Question

The research questions to be answered are as follows;

1. How do cross border data regulations influence service exporters and digital service providers?
2. What type of data regulations most strongly affects service exporters and digital service providers?
3. What are the main benefits and limitation of cross border data regulations for service trade competitiveness according to existing literature?
4. What gaps exist in current research and what policy lessons can be drawn from future digital trade agreements?

1.5 Significance of the Study

This is beneficial because service trade is increasingly driven by digital data flows and restrictive regulations that can directly shape a country’s ability to improve their level of competitiveness globally. This research will help policy makers to better understand the trade-offs that exit between the protection of data privacy and supporting the service sector growth, while also highlighting the best practices for the design of an effective digital trade rules. It will also contribute academically by helping to identify gaps in research on how data regulations shape competitiveness across different service industries.

Literature Review

2.1. Conceptual Framework

This section defines the key concepts underpinning your topic and sets the foundation for linking digital trade agreements, cross-border data regulation, and services trade competitiveness.

Digital trade refers to economic transactions that are digitally enabled, including electronically delivered services and digitally ordered goods and services. The scope of digital trade goes beyond conventional trade in physical products and includes such modern business activities as communication of requirements and delivery of services at a distance, using digital intermediaries and transferring data that are all essential for the contemporary business models. Digital Trade Agreements (DTAs) are trade treaties that can be bilateral, plurilateral, or regional, with the specific objective of liberalising and regulating digital trade activities by including among their terms provision for electronic commerce and data-related measures. It is common for DTAs to include commitments around issues such as cross-border data flow, data localisation, privacy, cybersecurity, consumer protection, and intermediary liability (UNCTAD).

Cross-border data flows refer to the transfer of data between different countries, which is the basis for nearly all digitally delivered services and trade in digital services. In the digital economy, data is viewed as a vital resource for production, innovation, and trade, particularly in those areas that very much rely on data like cloud computing, fintech, and information and communication technologies (ICTs). The decision to allow or prohibit cross-border data flows directly impacts the firms' capability to reach foreign markets, manage supply chains, and provide services that are competitive on a global scale (OECD).

Data regulations comprise rules related to data protection, privacy, security, and data localisation (the concept of storing or processing data only within a country's borders), and these are becoming more and more widely accepted by nations as a way to realise their policy objectives like protecting privacy or claiming digital sovereignty. Even though these regulations might be directed towards fulfilling some national purposes, they can at the same time be major obstacles for the free data flow, hence, increasing the compliance costs and restricting the market entry of international digital service providers.

Conceptual connection between these factors is based on data's function as a trade-prompting factor: free and compatible international data flows lower the cost of transactions, promote creativity, and make online services easier to use. Conversely, restrictive data measures can fragment digital markets, inhibit cross-border digital services, and distort competitive conditions (OECD). Within this framework, services trade competitiveness is defined as the extent to which a country's service firms can successfully participate and expand in foreign markets, relative to competitors, under a given policy environment. Competitive outcomes are influenced by the regulatory environment for data, the depth and orientation of DTAs, and technological and institutional capacity. To summarise, this very structure places international data flows and regulatory obligations in Double Tax Agreements (DTAs) as the primary factors influencing the competitive performance of services exporting companies in the digital economy. It underlines the point that the manner in which data governance is interwoven with trade agreements, either by making the flows easy or by allowing restrictions, constitutes the very environment in which service providers work globally. This conceptual framework is then developed into the basis for explaining the mechanisms and causal relations in the coming frameworks.

2.2. Theoretical Framework

This section explains why and how cross-border data regulations and DTAs affect services trade competitiveness by drawing on relevant economic and institutional theories. First, New Trade Theory (NTT) offers insight into the role of scale economies and product differentiation in the modern trade of services. Digital enabled services are often characterised by substantial economies of scale: once created, digital services can be copied and delivered across borders with minimal marginal costs. The lowering of data flow barriers allows firms to more effectively leverage scale effects by linking global markets and increasing services exports. Conversely, data-prohibitive policies prevent the realisation of scale economies by blocking redundant infrastructure and preventing access to large global pools of data which would help in scaling competitively. While NTT originally focused on goods, its principles apply to digital services by emphasising how reduced trade costs and enlarged markets enhance competitiveness (Classic studies on services trade in digital contexts embed this logic) (OECD).

Second, Transaction Cost Economics (TCE) posits that firms seek institutional environments that minimise the costs of coordinating and conducting transactions. Cross-border data restrictions create transaction costs through compliance burdens, duplicated local storage and processing, and regulatory heterogeneity. These costs erode competitiveness by increasing the cost of service delivery and limiting firms' ability to leverage global data inputs. Empirical evidence shows that cross-border data restrictions and localisation mandates increase the costs of digital services and hinder trade performance (Pasadilla et al., 2020).

The Institutional Theory explains how formal rules and norms and standards drive firms to select specific strategic paths. Trade agreements function as more than mere documents because they establish binding obligations which decrease risk elements and demonstrate ongoing policy consistency. Digital trade agreements with comprehensive digital and data regulations create pathways for businesses to operate in a more stable regulatory environment while eliminating institutional barriers. The new framework enables organizations to develop their investment strategies with greater efficiency. The situation becomes difficult when treaties contain provisions which enable nations to protect their authority over domestic lawmaking activities. You can observe this pattern in current digital trade agreements. There exists an ongoing conflict between two opposing forces which

demand market access yet require some degree of domestic control. The tension between these two forces determines how businesses evaluate potential threats and advantages according to Ferracane and van der Marel (2021).

The world of service sectors displays different results when researchers study comparative advantage. Countries that really lean into data-heavy services can pull ahead if they make the most of cross-border data flows. When you establish data barriers, you create restrictions which prevent those countries from achieving their full development potential. The countries lose their ability to succeed internationally because their business operations depend on local resources, which leads to the breakdown of any possibility for maintaining comparative advantage. The digital age has brought about multiple theories which demonstrate that services trade competitiveness requires more than just market size and price competitiveness because data governance systems and trade agreements plus institutional frameworks which determine operational expenses, business growth and strategic decision-making processes create major influences on market performance.

2.3. Empirical Framework

The empirical framework which researchers have established, studies existing research which examines the impact of data regulations on cross-border data flows and the resulting effects on services trade. The body of empirical research shows that cross-border data flow regulations create barriers which decrease the volume of digital services trade between countries. Ferracane and van der Marel (2021) demonstrate that countries which impose data flow restrictions experience a decline in their digital services trade with both developed and developing nations. López-González et al. (2022) demonstrate that restrictions create domestic ICT services demand but result in increased input expenses for various sectors which ultimately creates negative impacts on trade. Researchers who apply gravity models to their trade studies discover that open data transfer regulations which combine with robust data protection standards in specific free trade agreements lead to reduced trade expenses and improved digital services trade performance. The US International Trade Commission serves as an illustrative example. The researchers demonstrated that USMCA open data flow commitments permit a trade cost reduction of approximately 1.1 to 1.4 percentage points (López-González et al. 2022).

Other studies back up the claim that barriers like data localisation make it tougher to trade digital services. The regulations increase expenses for businesses which hinders their ability to develop new products while they divide their operational resources. Small businesses experience the greatest impact from these challenges because they lack the capacity to manage additional operational demands. The story about this matter shows different outcomes in various locations. Different industries experience different results when digital service regulations are relaxed. The computer and information services sector experiences significant benefits from digital service rule relaxation but financial services face greater obstacles because capital restrictions and stringent data protection regulations impede their operations (Pasadilla et al., 2020).

There is a limited number of research studies that examine data policies and digital trade in developing regions, particularly in Africa, according to existing academic work. The research fields have not yet developed enough to provide researchers with the specific evidence they need to study how data regulations affect competition in the market (Burri, 2024).

Methodology

3.1 Research Design

This study has used a qualitative literature review research method to investigate how cross-border data regulations in digital trade agreements shape service trade competitiveness in different countries. A literature-focused methodology is particularly important in the context of the study because its focus is set on regulatory frameworks, institutional arrangements and trade outcomes rather than firm-level primary data. The methodology allows for an in-depth review of existing theoretical, empirical and policy-focused research into how data governance instruments shape market access, cost structures and competitive positioning in digitally delivered services.

3.2 Sources of Literature

The materials reviewed in this study were sourced from peer-reviewed academic journals and authoritative policy publications to ensure both scholarly rigour and policy significance. Some of the academic databases accessed include Google Scholar, Scopus, Web of Science and JSTOR while institutional sources entailed reports and working papers from the OECD, WTO and UNCTAD. These sources were chosen based on their broad coverage of digital trade agreements, cross border data flows and services trade dynamics across economic contexts.

3.3 Search Strategy

A formal search strategy was utilised to identify significant literature in line with the objectives of the research. Searches were done using a combination of keywords including digital trade agreements, cross-border data flows, data localisation, data governance and services trade competitiveness. Boolean operators were used to optimise search results and gain more precision with regard to themes. To maintain relevance, this literature review was limited to English sources between 2016 and 2026, which spanned the period during which digital trade agreements and data regulatory matters have been raised with increasing frequency within global trade.

3.4 Inclusion and Exclusive Criteria

The choice of studies to be included in the research was informed by pre-set inclusion and exclusion criteria. The

studies taken into consideration in this literature search include articles that appeared in refereed journals and policy studies in institutions between 2016 and 2026 that specifically focused on the outcomes of digital trade, regulations on data and services trade. Studies that were non-academic, lacked analytical depth, or did not directly address services trade or cross-border data governance were excluded to maintain analytical focus and quality.

3.5 Literature Selection Process

The criteria of selecting literature were carried out by screening the title and abstract of the literature to determine relevance to the research questions, and later by thoroughly scanning the literature for relevance to the conceptual and analytical framework of the study. Only studies which provided direct viewpoints into the nexus of cross-border data rules, trade agreements and competitiveness of services trade were utilised. Such a systematic screening also helped in the attainment of transparency.

3.6 Analytical Approach

The selected literature was assessed using thematic analysis entailing the identification of themes, regulatory mechanisms and systematic perspectives across the studies. The examination laid emphasis on how various data governance techniques including data localisation requirements, privacy protections and cross-border data flow obligations affect service exporters' competitiveness through trade costs, innovation capacity and access to foreign markets. Particular attention was paid to sectoral and regional disparities, as well as the trade-offs between economic openness and public policy goals that have been emphasised in the literature.

3.7 Ethical Considerations

Since the current research relies entirely on secondary data, there is no need to seek any kind of ethical approval. The ethical standards are maintained through proper citation and recognition of the authors whose works are being quoted. The research highlights all the available findings on the concerned topic.

3.8 Limitations

While the literature review methodology provides a broad overview of current knowledge, it is subject to certain constraint. The analysis is limited by the availability of studies within the 2016-2026 period which remains uneven across regions and service sectors, especially in advancing economies. Also, differences in regulatory definitions, data measurement and methodological techniques across the study may affect direct comparability. These issues are recognised and entails the careful interpretation of findings and identification of future research directions.

Synthesised Findings and Discussion

4.1 Overview of the Synthesised Findings

In this chapter, literature reviewed is synthesised to investigate how data regulations in cross-border data flows in digital trade agreements impact services trade competitiveness. The chapter will utilise theoretical and empirical framework to provide evidence of how data localisation requirements, privacy, data protection and cross-border data flow obligations affect services exporters and digital service firms in terms of trade costs, market access, innovation capabilities and regulatory predictability. The chapter will also derive benefits as well as weaknesses of various regulations, while pointing to areas in literature still considered as research gaps in forming balanced digital trade agreement regulations.

4.2 Influence of Cross-Border Data Regulations on Service Trade Competitiveness

From the literature analysis, it is evident that there is a strong agreement that cross-border data flow regulations have a significant impact on services trade competitiveness in the digital economy. Aligning with New Trade Theory, cross-border data flow restrictions make it difficult for a firm to achieve economy of scale in digitally delivered services, hence affecting cross-border competitiveness. Empirical gravity-based research provide support for this relationship. Gao, Kang & Zhang (2024) find that cross-border data flow restrictions have a statistically significant negative impact on total digital services trade in all policy areas, indicating that regulatory constraints systematically hinder service trade performance.

From the viewpoint of Transaction Cost Economics, data restrictions raise compliance and coordination costs for service exporters through the imposition of local data storage, duplicated infrastructure and regulatory adaptation across markets. Gupta, Ghosh & Sridhar (2022) present evidence that stricter data regulations imposed by partner countries reduce IT services exports and illustrate how regulatory fragmentation erodes competitiveness in data-intensive service sectors. Higher transaction costs thus appear to undermine directly the ability of firms to compete internationally.

The literature further indicates that the influence of data regulation is not strictly linear. Yang & Tian (2023) investigation reveals an inverted U-shape relationship between cross-border data restrictions and digital services export, implicating possible support for institutional stability and trust when regulation is limited, and strong suppression when it is overly regulated. This is in accordance with Institutional Theory which promotes a predictable regulation framework while assuring against over-regulation, which is detrimental to market engagement.

Policy-oriented studies further underpin these conclusions by stressing the trade-off between regulatory objectives and economic openness. According to the OECD (2026), although data regulations could strengthen trust and better guarantee public interests, they result in specific trade costs that heavily impact service firms that are data-dependent. As further argued by Chin & Zhao (2022), data regulation heterogeneity

constitutes an uneven basis for competition, and this results in fragmentation and affects the ability of countries to take advantage of their comparative advantage in data-driven services.

In sum, available literature suggests that cross-border data regulations have a major impact on services trade competitiveness through trade costs, regulatory certainty and ability to scale. Moderate levels of regulation can act as drivers for institutional outcomes, but excessive data regulatory approaches often act as strong anticompetitive drivers for international competitiveness for digital services.

4.3 Differential Effects of Data Localisation, Privacy, and Data Transfer Rules

The reviewed literature established that data localisation policies, privacy laws, and cross-border data transfer policies differ in the degree to which they affect the competitive environment in the trade in services. While all three forms of regulation shape data governance, their economic implications varied significantly in terms of scale efficiency, transaction costs, and regulatory certainty.

Studies emphasising data localisation achieved consistent results, which indicated more prominent trade-restrictive effects. Potluri, Sridhar & Rao (2020), as well as Sridhar, Potluri & Rao (2021) concluded that data localisation requirements led to higher compliance burdens because of replicated infrastructure, which in turn reduced companies' ability to use international data resources. Applying New Trade Theory, such requirements impeded companies' use of scale economies inherent in digital services delivered across international markets. Although, Potluri et al. (2020) found that localisation can temporarily increase the competitiveness of the domestic industry by geographically congregating the consumers in the region to the domestic service providers, this was done at the cost of decreased consumer choice, increased prices, and decreased service standards. In contrast, the rules of privacy and data protection produced more nuanced results. Kalin (2024) demonstrated how the heterogeneous national privacy regimes that fragmented the global data environment engender regulatory uncertainty and raise trade costs for service exporters. Nevertheless, privacy regulations were not inherently trade-prohibitive, unlike localisation mandates. Islam & Khan (2024) suggested that data localisation policies in privacy regulation were not effective in boosting real data security, hinting that a rigorous localisation regime could be an inefficient regulatory option. Institutional Theory can be used to understand these different outcomes. This is because privacy norms which are trusted and predictable can be useful in market participation, whereas privacy norms which are non-congruent are not supportive of market participation.

Finally, the regulations surrounding the flow of data across borders, when combined with legislative safeguards, were found to be rather trade-facilitative. Tehrani, Sabaruddin & Ramanathan (2018) depicted how the use of adequacy decisions, standard contractual clauses and binding corporate rules as instruments alleviated uncertainty while promoting the facilitation of the flow of data. From the Transaction Cost Economics perspective, the lower coordination and compliance costs created by the instruments used were less than in the case where localisation was the norm.

Overall, the literature indicated that data localisation harboured the greatest limitations on service trade competitiveness, while the regulations on the protection of privacies and data transfer manifested conditional limitations depending on the degree of regulatory harmonisation.

4.4 Benefits and Limitations of Cross-Border Data Regulations for Service Trade

The literature indicates that cross-border data regulations yield both advantages and constraints for services trade competitiveness, with outcomes dependent on the type, scope, and coherence of regulation.

As for the positive side, trust-enhancing regulations regarding data protection promise greater certainty, which is likely to positively influence investments. This is further described by Institutional Theory, indicating that trust-enhancing regulations will trigger cooperation within cross-border digital markets since these regulations convey stability and credibility (Kalin, 2024; Chin & Zhao, 2022).
Binding corporate rules, standard contract clauses, and adequacy decisions have made mechanisms for the legal transfer of data possible. These have reduced the cost of coordination, which was the case in general localisation policies (Tehrani, Sabaruddin & Ramanathan, 2018). There is evidence to show that pro-privacy rules, when proportionate, can enhance market confidence, rather than impinging the flow of service trade in the data-driven industries (Islam & Khan, 2024). On the flip side, the shortcomings in cross-border data regulation laws are more obvious in the case of strict data localisation laws. Potluri, Sridhar & Rao (2020) and Sridhar, Potluri & Rao (2021) have proven that this generates huge costs of compliance, the need to create additional infrastructure and limits the access to worldwide data resources. This further hampers the scale economies in the digitally delivered services provided by these global players. Similarly, Kalin (2024) pinpointed that fragmented privacy regimes across countries raise trade costs and erode the competence of global service delivery, illustrating the risk of regulatory divergence. Chin & Zhao (2022) further stressed that the conflicting national approaches; the US's free flow orientation and the EU's GDPR, along with interventionist strategies in some developing economies can fragment the digital trade system, reducing interoperability and market access.

In summary, the research highlights that service trade will gain from regulatory methods designed for trust, predictability and proportionality while majorly restrictive and fragmented regulatory methods will include costs and

affect scale economies and competitiveness. This suggests the need for digital trade agreements created for preserving regulatory diversity while ensuring cross border data flows.

4.5 Research Gaps, Emerging Trends and Policy Implications for Digital Trade Agreements

Notwithstanding the increased volume of literature available regarding cross-border data regulations and competitiveness in services trade, there are a number of gaps in the current research. Empirical evidence is heavily biased toward developed economies; thus, there is limited comprehension of how developing countries navigate data localization, privacy and transfer rules in digital services (Islam & Khan, 2024; Chin & Zhao, 2022). In addition, most literature perceives services trade as homogeneous, excluding the differences sectoral in data intensity, regulatory sensitivity and scale requirements (Potluri et al., 2020).

The relationship that exists between the differing regulatory systems such as the combined impact of data localization requirements and privacy regulations on firm competitiveness, and the capacity of a firm for innovation after the digital trade agreement, is relatively uncharted (Kalin, 2024; Tehrani et al., 2018).

Interestingly, an emerging literature trend hints at regulatory interoperability and harmonisation, as more countries take heed of the economic burden of dispersed data regimes (Chin & Zhao, 2022). Currently, more digital trade agreements specify mechanisms, such as adequacy decisions, standard contract provisions and binding corporate rules to facilitate the free flow of data, but in a way that respects the integrity of private data (Tehrani, Sabaruddin, & Ramanathan, 2018). This resonates with the tension between regulatory autonomy and certainty, as postulated in the Institutional Theory.

The results are policy-relevant in terms of designing an efficient digital trade agreement. According to the New Trade Theory, the goal of trade agreements should be to allow companies appropriate the rents from economies of scale and secure market access. Based on Transaction Cost Economics, cost reduction in terms of compliance and coordination in a consistent manner is essential. Grounded on the theory of Institutional Theory, the presence of the rules of play as a guarantee is important in building investor trust and facilitating their participation in international digital services trade. In this respect, policymakers should make provisions or regulations that balance privacy without raising unnecessary impediments, which might limit the capacity of developing countries, with the objective of facilitating innovation, trade cost reduction, as well as the enhancement of the competence of services exports in the digital world that is emerging.

Conclusion and Recommendation

5.1 Summary of the Study

This study aimed to examine the impact of cross-border data regulations in digital trade agreements on services trade competitiveness between countries. The increased use of digital technologies in international trade has led to a transformation in services trade from data-intensive trade to data-driven trade. This has made cross-broader data flows an integral part of service exportation and digital service delivery.

Despite the rapid growth of digital trade, particularly in advanced/developed countries, different data regulations in digital trade agreements, particularly data localization, data privacy, and data transfer regulations, have created new regulatory barriers affecting services trade performance.

This study was motivated by the lack of a comprehensive international regime for cross-border data flows and the reliance of countries on digital trade agreements in data movement regulations. The research in its quest aims to explore how these regulatory instruments affect services trade competitiveness, their benefits and limitations, and lessons for future trade negotiations.

This study used a qualitative literature review method. Relevant literature was obtained from peer-reviewed academic journals and authoritative policy organizations such as the WTO, OECD, and UNCTAD. The literature was conducted between 2016 and 2026. The literature review was conducted by focusing on digital trade agreements, data governance, and service trade outcomes. A systematic screening and selection process ensured that only literature directly relevant to cross-border data regulations and services trade competitiveness was included.

The findings indicate that while cross-border data regulations can enhance trust, security, and consumer protection, overly restrictive measures such as stringent data localisation requirements can increase compliance costs, reduce market access, and weaken the international competitiveness of service exporters, particularly in developing economies.

5.2 Conclusion

The conclusion drawn from this research is that regulations on data flows across borders are a significant factor that determines services trade competitiveness in the digital economy. With digitalization taking center stage in trade in services, it has been established that regulations on data flows play an equivalent role to tariffs and other non-tariff barriers that influence trade in physical goods.

Digital trade agreements have been identified as an important tool for managing regulations on data flows. The success, however, depends on striking a balance between trade liberalization and autonomy.

From an analysis of literature, it has been established that data restrictions, especially those that enforce data localization, are detrimental to services trade competitiveness. Conversely, regulations that promote data flow while protecting national interests are favorable for trade.

Overall, the study contributes to growing body of knowledge on digital trade governance by synthesising existing research on the nexus between data regulation and services trade performance. It reinforces the view that coherent, transparent, and interoperable data governance frameworks are essential for unlocking the full potential of digital services trade.

5.2 Recommendation

Following a comprehensive review of existing literature on digital trade agreement and cross border data regulation policies as well as examination of how data localisation laws, privacy rules and data transfer regulation affect services trade performance and competitiveness, the study proposes the following recommendations.

Strengthen Multilateral Trade Rules on Digital Trade

It is recommended that WTO members prioritise the modernisation of GATS rules to better reflect the realities of Internet-based trade and cross-border data flows, particularly given the limitations of existing WTO disciplines in addressing digital trade barriers. The first reform required in GATs is to improve and update the commitments of WTO members. WTO can virtually adopt cluster tactics in classifying digital services and products or agree with its members on service scopes covered in chapters of W/20. GATS can be reformed to expand their commitments on matters related to technology sectors (Benz & Rozensteine, 2021).

Promote Inclusive Plurilateral Services Agreements

Countries negotiating plurilateral services agreements should expand participation to include major digital economies such as China and India, ensuring that future digital trade rules reflect global trade patterns rather than a limited group of advanced economies.

Leverage Regional and Bilateral Trade Agreements through Flexible and Utilisation-Oriented Design

Governments should utilise free trade agreements (FTAs), including mega-regional initiatives, as platforms for developing advanced and flexible rules on cross-border data flows and Internet-enabled services trade. However, the economic benefits of FTAs can only be realised if exporters actively utilise these agreements. Evidence suggests that FTA under-utilisation is often driven by restrictive Rules of Origin (ROO), high documentation costs, and limited awareness among firms (Bajaj & Sharma, 2022). For example, the experience of India illustrates that when ROO are too stringent, this has limited the effectiveness of FTAs in terms of trade benefits, even when these agreements offer preferential market access (IIM Bangalore, 2016). Although ROO is necessary for legitimate reasons such as the avoidance of trade deflection and the promotion of domestic industries, too stringent ROO increase costs of compliance and limit sourcing flexibility, thereby reducing the efficiency of trade. (Augier et al., 2005). To improve the effectiveness of FTAs, especially in the context of digitally enabled services and data-driven trade, governments need to adopt flexible ROO approaches that are sector or product-specific and take into account the fragmented global value chains, rather than adopting a one-size-fits-all approach (Conconi et al., 2018). Empirical evidence indicates that relaxing ROO requirements can significantly boost export performance in selected sectors (Tanaka & Fukunishi, 2022).

Use Non-Binding Forums for Regulatory Dialogue

Governments supportive of open digital trade should actively engage forums such as Asia-Pacific Economic Cooperation (APEC) and the G20 to promote dialogue, regulatory cooperation, and consensus-building on data governance, privacy, and cybersecurity (APEC, 2019).

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