Derechos de Autor en el Mundo Digital: Identificación y Análisis de Espacios para la Armonización en el Bloque Comercial Alianza del Pacífico

Tomás Rogaler Wilson**

ABSTRACT

Digital trade has been driven by the technological revolution and the universalisation of the Internet, redefining both consumption and the structure of international trade. Despite its potential benefits, the digital transformation has brought with it increasing regulatory complexity, which is implemented heterogeneously by states. A crucial aspect in this context is copyright protection, which is fundamental to stimulating creativity and innovation. This study analyses the provisions on the protection of copyright in the digital environment that the members of the Pacific Alliance (PA) have implemented in their preferential trade agreements with other states and examines the similarity between them. The study places special

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emphasis on how this similarity could influence the trade flow of digital services and the potential regulatory harmonisation among PA members. It is expected that the results will contribute to a better understanding of copyright regulation in the digital world and will serve as a basis for the formulation of more cohesive and effective policies for the benefit of the PA.

Keywords: Copyright – Digital trade – Pacific Alliance – FTAs.

RESUMEN

El comercio digital ha sido impulsado por la revolución tecnológica y la universalización del internet, redefiniendo tanto el consumo como la estructura del comercio internacional. A pesar de sus beneficios potenciales, la transformación digital ha traído consigo una creciente complejidad normativa, que es implementada de manera heterogénea por los Estados. Un aspecto crucial en este contexto es la protección de los derechos de autor, fundamental para estimular la creatividad y la innovación. Este estudio analiza las disposiciones sobre la protección de los derechos de autor en el entorno digital que los miembros de la Alianza del Pacífico (AP) han implementado en sus acuerdos comerciales preferenciales con otros Estados y examina la similitud entre ellas. El estudio hace especial hincapié en cómo esta similitud podría influir en el flujo comercial de los servicios digitales y en la posible armonización normativa entre los miembros de la AP. Se espera que los resultados contribuyan a una mejor comprensión de la regulación de los derechos de autor en el mundo digital y sirvan de base para la formulación de políticas más coherentes y eficaces en beneficio de la AP.

Palabras clave: Derechos de autor – comercio digital – Alianza del Pacífico – acuerdos comerciales preferenciales.

1. Introduction

The development of digital trade has transformed the world economy, representing between 15-25% of global GDP, with digital services playing a key role in this growth (World Bank, 2022; López González, Sorescu, & Kaynak, 2023; OECD, 2025). Technological development has enabled services, previously dependent on physical proximity, to be offered remotely, facilitating expansion into global markets at lower costs (Freund and Weinhold, 2002, 2004; Lopez-Gonzalez & Ferencz, 2018; OECD, 2018).

This growth has transformed both consumption patterns and the dynamics of international trade (UNCTAD, 2022), with online platforms enabling companies to reach global audiences and introduce new products and services that impact citizens, businesses, and governments (ECLAC, 2016). However, this shift has also introduced regulatory complexities, particularly in copyright protection, which is crucial for fostering creativity and innovation in the digital economy. While the literature extensively recognises the pivotal role of cross-border data flows in driving this expansion, the potential obstacles created by intellectual property rights (IPRs) have received comparatively less attention.

In this regard, IP—particularly copyright—plays a fundamental role in digital trade. Copyright safeguards a wide range of works, from books to software, while related rights extend protections to intermediaries involved in their production and dissemination (WIPO, 2016). In the digital era, copyright regulations have expanded to cover new areas such as satellite signals, software, and databases, which are essential components of many digital services (WIPO, 2015). However, the ease with which digital content can be copied and distributed has

posed significant challenges to protecting creators' rights. In this context, regulations must strike a balance—neither being overly strict nor too lenient—to create an enabling environment for innovation (Ferracane, 2022; IMF et al., 2023) while also ensuring equilibrium between copyright protection and public access to information (Díaz, 2008).

States have adopted different approaches to regulating copyright protection, often relying on mechanisms beyond the multilateral treaties promoted by the World Intellectual Property Organization (WIPO), such as preferential trade agreements (PTAs). In this context, international copyright regulations have evolved from a system based on national treatment—granted to WIPO Member States through several agreements established by WIPO and the WTO via the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)—to a model based on reciprocity, as seen in PTAs such as the CPTPP and the USMCA that pursue more rigorous standards, commonly known as "TRIPS-plus" (Meltzer, 2019)¹. Despite WIPO's and WTO's efforts, regulations have not been harmonised across states, and PTAs have emerged as an alternative to multilateral treaties, introducing stricter copyright protection standards.

This situation has led to a legal framework that strengthens copyright protection in the digital era, extending beyond globally agreed-upon standards. However, states have updated and expanded specific provisions in an asymmetric manner. Since countries have different objectives regarding copyright protection and diverse regulatory priorities in negotiations, the resulting regulations are often highly complex and interwoven—a

¹ The term TRIPS-plus refers both to measures designed to enhance the level of protection for right holders beyond that established under the TRIPS Agreement, and to initiatives intended to reduce the scope or effectiveness of limitations and exceptions to such rights (Musungu & Dutfield, 2003).

phenomenon sometimes described as a "spaghetti bowl"². This has created a complex web to identify when defining the copyright protections that different States employ and has had specific consequences on international trade.

Empirical evidence indicates an inverse relationship between digital trade flows and regulatory heterogeneity: as the heterogeneity of digital policies increases, trade flows decrease (Evenett & Fritz, 2022; Nordås, 2016; UNECA, 2023). This correlation has also been observed in the domain of IP rights, where regulatory heterogeneity significantly impacts the reduction of intra-regional digital trade flows (UNECA, 2023). In this context, the development of a unified regulatory framework for copyright is a strategic priority, essential for promoting trade in services related to creative works and enhancing digital trade.

However, in the case of Latin America, the existing literature on both the qualitative and quantitative aspects of copyright regulation in PTAs is limited, posing significant challenges to advancing a harmonisation process. In this context, the PA faces a unique challenge: despite being a key bloc in promoting trade and economic integration, it lacks a specific agreement on IP, hindering its ability to leverage regional synergies fully. The adoption of PTAs by PA members, with provisions that surpass international standards, highlights the urgent need for a unified IP framework.

Given this, the research question of this study is: What is the degree of similarity between the preferential provisions adopted by PA member countries for copyright protection in the digital environment? The hypothesis holds that, although there is no common regulation, PA members exhibit similarities

² The term has been employed to characterise a situation of intricate complexity (Bhagwati, 1995; López et al., 2021).

in their copyright provisions, which could facilitate regulatory harmonisation in the bloc.

To address this issue, the study proposes a comprehensive analysis of the PTAs signed by Pacific Alliance (PA) members, with a particular focus on copyright rules in the digital environment. A mixed-methods approach will be employed, integrating both qualitative and quantitative analyses to identify similarities and differences in copyright provisions. Ultimately, the study aims to contribute to a deeper understanding of copyright regulation in the digital environment and provide a foundation for the development of more cohesive and effective policies within the PA.

2. COPYRIGHT AND RELATED RIGHTS IN THE TREATIES SIGNED BY THE MEMBERS: IDENTIFICATION OF COMMITMENTS IN IP MATTERS.

This section identifies the PTAs signed by PA members, spotting which ones include IP chapters and/or digital trade chapters³. This makes it possible to establish a filter to analyse the relevant agreements and provide a summary of the PTAs adopted by the members, including the year of signature, entry into force and the presence of the mentioned chapters, an aspect not previously documented. This compendium is key to contextualising the analysis and understanding the current state of regulations in the trade bloc.

As for Chile, as shown in Table 1, the country is party to 33 PTAs, of which 12 include IP chapters, nine deal specifically

³ For the purposes of identifying the relevant copyright provisions in trade agreements, the expressions "e-commerce" and "digital trade" shall be treated as synonyms, but only within the context of identifying the chapters included in agreements adopted by members of the Pacific Alliance.

with copyright and related rights, and ten cover e-commerce chapters.

Table 1: PTAs signed by Chile, 2024⁴

Table 1: PTAs signed by Chile, 2024						
Year of Signature	Agreements	Entry into Force for Chile	PI Chapter	Copyright and Related Rights (IP Chapter)	E-Commerce Chapter	
1993	Chile - Bolivia ECA (ECA No. 22)	06-04-1993	-	-	-	
1993	Chile - Venezuela ECA (ECA No. 23)	01-07-1993	-	-	-	
1996	1996 Chile and MERCOSUR ECA (ECA No. 35)		-	-	-	
1996	Chile - Canada FTA	05-07-1997	-	-	-	
1998 Chile - Mexico FTA (ECA No. 41)				Yes (Art. 15.09 - 15.12)	-	
1999	1999 Chile - Cuba FTA (ECA No. 42)		6	-	-	
1999	1999 Chile - Central America FTA		-	-	-	
2001	Chile - Vietnam FTA	01-01-2014	-	-	-	
2002	Chile - European Union EPA	01-02-2003	6	Yes (Art. 169)	-	
2003	EFTA: Chile - Iceland - Norway - Liechtenstein - Switzerland	01-12-2004	4 and Annexes 12 and 13	Yes (Art. 1 (Annex XII)	-	
2003	Chile - South Korea FTA	01-04-2004	16	No	-	
2003	Chile - U.S. FTA	01-12-2003	17	Yes (Art. 17.7 - 17.11)	15	
2005	Chile - Singapore - New Zealand - Brunei (P-4) EPA	08-11-2006	10	Yes (Art. 10.3)	-	
2005	Chile - China FTA	01-10-2006	-	-	-	
2006	Chile - Panama FTA	07-03-2008	-	-	-	

⁴ Free Trade Agreement (FTA); Trade Integration Agreement (TIA); Economic Partnership Agreement (EPA); Trade Promotion Agreement (TPA); Economic Complementation Agreement (ECA); Comprehensive Economic Partnership Agreement (CEPA); Partial Scope Agreement (PSA).

13

2006	Chile – Peru FTA	01-03-2009	-	-	-
2006	Chile - Colombia FTA	08-05-2009	-	-	12
2007	Chile - Japan EPA	03-09-2007	13	Yes ⁵	-
2008	Chile - Australia FTA	06-03-2009	17	Yes (Art. 17.28 - 17.40)	17
2010	Chile - Malaysia FTA	18-04-2012	-	-	-
2011	Chile - Turkey FTA	01-01-2011	4	No	-
2012	PA Framework Agreement: Chile, Colombia, Mexico, Peru	nt: Chile, , Mexico,		136	
2012	Chile - Hong Kong FTA			-	-
2013	Chile - Thailand FTA	05-11-2015	-	-	-
2016	Chile - India PSA	17-08-2007	-	-	-
2016	Chile - Uruguay FTA	13-12-2018	10	Yes ⁷	8
2017	Chile - Indonesia CEPA	10-08-2019	-	-	-
2017	Chile - Argentina FTA	01-05-2019	-	-	11
2018	CPTPP: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Singapore, Vietnam and Peru.	21-02-2023	18	Yes (Art. 18)	14
2018	Chile - Brazil FTA	25-01-2022	-	-	10
2019	Chile - Great Britain - Northern Ireland EPA	01-01-2021	-	-	-
2020	DEPA: Chile - New Zealand - Singapore	23-11-2021	-	-	3
2020	Chile - Ecuador TIA (ECA No. 75)	16-05-2022	-	-	10

Source: Author based on Undersecretariat for International Economic Relations of Chile (known by the Spanish acronym SUBREI) data, 2024.

⁵ In the case of the Agreement with Japan, copyright and related rights are not addressed in specific sections but are mentioned generally in terms of enforcement: "1. Each Party shall establish procedures for the suspension, by its customs authorities, of the release of goods that infringe patents, utility models, industrial designs, trademarks, copyrights or related rights, intended for import into, or export from, the Party".

⁶ Incorporated in the Additional Protocol to the PA Framework Agreement.

⁷ For the Agreement with Uruguay, copyright and related rights are not addressed in specific sections, but are mentioned as part of the definition of intellectual property: "Intellectual property refers to all categories of intellectual property covered by Sections 1 to 7 of Part II of the TRIPS Agreement, namely: copyright and related rights; trademarks; geographical indications; industrial designs, patents, layout designs (topographies) of integrated circuits, and protection of undisclosed information.

In the case of Colombia, as shown in Table 2, of the 18 PTAs signed, seven include IP chapters, all with provisions on copyright and related rights. In addition, nine agreements include e-commerce chapters.

Table 2: PTAs signed by Colombia, 2024.

			l by Colombia			
Year of Signature	Agreements	Entry into Force for Colombia	PI Chapter	Copyright and Related Rights (IP Chapter)	E-Commerce Chapter	
1969	Cartagena Agreement: Bolivia, Colombia, Ecuador and Peru	16-10-1969	-	-	-	
1993	Colombia - Panama 22- 12-1994 PSA		-	-	-	
1994	Colombia - Mexico FTA	31-12-1994	188	Yes (Art. 18.02 - 18.07)	-	
1994	CARICOM: Colombia - Caribbean Community	1-01-1995	-	-	-	
2000	2000 Colombia - Cuba ECA 10-0 (No. 49)		-	-	-	
2006 Colombia - U.S. FTA		15-05-2012	16	Yes (Art. 16.5 - 16.6)	15	
2006	Chile - Colombia FTA	08-05-2009	9		12	
2007	Colombia - Northern Triangle FTA: El Salvador, Guatemala and Honduras	03-06-2008	-	-	14	
2008	EFTA: Colombia - Iceland - Norway - Liechtenstein - Switzerland	26-11-2009	6	Yes (Art. 6.8)	-	
2008	Colombia - Canada FTA	09-12-2009	-	-	15	
2011	Colombia - Venezuela PSA	19-10-12	-	-	-	
2012	PA Framework Agreement: Chile, Colombia, Mexico, Peru	20-07-2015	-	-	139	
2012	Colombia - Ecuador - Peru - EU EPA	18-07-2013	Title VII,	Yes (Art. 215)	Title 4, Ch. 6	
2013	Colombia - Costa Rica FTA	15-07-2015	9	Yes (Art. 9.6)) -	
2013	Colombia - South Korea FTA	15-07-2016	15	Yes (Art. 15.7)	12	

⁸ Corresponding to the former Group of Three Agreement (G3 FTA), comprising Mexico, Colombia and Venezuela.

⁹ Incorporated in the Additional Protocol to the PA Framework Agreement.

2013	Colombia - Israel FTA	11-08-2020	-	-	Annex-B
2017	MERCOSUR ECA: Colombia, Argentina, Brazil, Uruguay, Paraguay (ECA No. 72)	20-06-2017	-	-	-
2019	Continuity Agreement: Colombia - United Kingdom	24-03-2022	Title VII	Yes (Art. 215)	Title IV

Source: Author based on Ministry of Trade, Industry and Tourism of Colombia (known by its Spanish acronym MINCIT) data, 2024.

For Mexico, of the 20 PTAs signed, nine include IP chapters, and of those, eight include copyright and related rights rules. In addition, five agreements have specific chapters on e-commerce (see Table 3).

Table 3: PTAs signed by Mexico, 2024

Year of Signature	Agreements	Entry into Force for Mexico	PI Chapter	Copyright and Related Rights (IP Chapter)	E-Commerce Chapter
1983	Ecuador - México PSA (PSA No. 29)	06-08-1987	-	-	-
1993	México - Paraguay PSA (PSA No. 38)	01-07-1994	-	-	-
1994	Colombia - Mexico FTA	01-01-1995	18	Yes (Art. 18.02 - 18.07)	-
1997	Mexico - European Union EPA	01-10-2000	-	-	-
1998	Chile - Mexico FTA (ECA No. 41)	01-08-1999	15	Yes (Art. 15.09 - 15.12)	-
2000	Israel - Mexico FTA	01-07-2001	7	No	-
2000	Mexico - EFTA: Mexico - Iceland - Norway - Liechtenstein - Switzerland	01-07-2000	6 and Annex 21	Yes (Art. 3 - Annex XXI)	-
2002	MERCOSUR - Mexico ECA (ECA No. 56)	05-01-2006	-	-	-
2002	MERCOSUR (ECA No. 55) - Automotive sector agreement	15-01-2003	-	-	-
2002	Mexico - Brazil ECA (PSA No. 53)	02-05-2003	-	-	-

Tomás Rogaler Wilson

Copyright in the Digital World: Identifying and Analysing Spaces for Harmonisation in the Pacific Alliance Trade Bloc

	1				
2004	Japan - Mexico FTA	01-04-2005	-10	-	-
2004	Mexico - Panama FTA	01-06-2015	15	Yes (Art. 15.9)	14
2006	Mexico - Argentina ECA (ECA No. 6)	01-01-2007	-	-	-
2010	Bolivia - Mexico ECA (ECA No. 66)	17-05-2010	-	-	-
2010	Mexico - Uruguay ECA (ECA No. 60)	15-07-2004	15	Yes (Art 15.08 - 15.13)	-
2011	Mexico - Central America FTA	01-09-2012	XVI	Yes (Art. 16.7)	XV
2011	Mexico - Peru TIA (ECA No. 67)	01-02-2012	-	-	-
2014	PA Framework Agreement: Chile, Colombia, Mexico, Peru	20-07-2015	-	-	1311
2018	USMCA (Canada- United States-Mexico)	01-07-2020	20	Yes (Section H)	19
	CPTPP: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Singapore, Vietnam and		18	Yes (Art. 18)	14
2018	Peru.	30-12-2018			

Source: Author based on Foreign Trade Information System of the Organization of American States data, 2024.

Finally, **Peru** is a party to 22 PTAs, of which 12 include IP chapters, 11 of these deal with copyright and related rights rules, and nine agreements include an e-commerce chapter (see Table 4).

¹⁰ In the case of the Agreement with Japan, intellectual property protection is not addressed in a specific chapter but is mentioned in the investment chapter in its Art. 73: "1. Nothing in this Chapter shall be construed to derogate from the rights and obligations of the Parties as parties to multilateral agreements on the protection of intellectual property rights; 2. Nothing in this Chapter shall be construed to require either Party to extend to investors of the other Party and their investments the treatment accorded to investors of a non-Party and their investments under multilateral agreements on the protection of intellectual property rights to which the Party is a party".

¹¹ Incorporated in the Additional Protocol to the PA Framework Agreement.

	Tab	le 4: PTAs sig	ned by Peru, 2	2024	
Year of Signature	Agreements	Entry into Force for Peru	PI Chapter	Copyright and Related Rights (IP Chapter)	E-Commerce Chapter
1969	Cartagena Agreement: Bolivia, Colombia, Ecuador and Peru	16-10-1969	-	-	-
2000	Cuba - Peru ECA (ECA No. 50)	09-03-2001	-	-	-
2006	Chile - Peru FTA	01-03-2009	-	-	-
2006 U.S Peru TPA		01/02/2009	16	Yes (Arts. 16.6 - 16.8)	15
2011	Mexico - Peru TIA	01/02/2012	-	-	-
2005	MERCOSUR - Peru ECA (ECA No. 59)	06-02-2006	_12	-	-
2008	Canada - Peru FTA	01-08-2009	-	-	15
2008	Peru - Singapore FTA	01-08-2009	-	-	13
2009	China - Peru FTA	01-03-2010	11	No	-
2010	Peru - Thailand FTA	31-12-2011	-	-	-
2010	EFTA - Peru: Iceland - Jorway - Liechtenstein - Switzerland	01-07-2012	6	Yes (Art. 6.8)	-
2011	Japan - Peru EPA	01-03-2011	11	Yes (Art. 178)	-
2011	South Korea - Peru FTA	01-08-2011	17	Yes (Art. 17.7)	14
2011	Panama - Peru FTA	01-05-2012	9	Yes (Art. 9.7)	-
2011	Costa Rica - Peru FTA	01-06-2013	9	Yes (Art. 9.6)	-
2012	Colombia - Ecuador - Peru - EU EPA	18-07-2013	Title VII	Yes (Art. 215)	Title IV
2012	Peru - Venezuela PSA	01-08-2013	-	-	-
2012	PA Framework Agreement: Chile, Colombia, Mexico, Peru	20-07-2015	-	-	13 ¹³
2015	Honduras - Peru FTA	01-01-2017	9	Yes (Art. 9.6)	-
2018	Australia - Peru FTA	11-02-2020	17	Yes (Section G)	13

¹² The agreement does not include a specific chapter but does mention the protection of intellectual property rights in Art. 32.

¹³ Incorporated in the Additional Protocol to the PA Framework Agreement

2018	CPTPP: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Singapore, Vietnam and Peru.	19-09-2021	18	Yes (Art. 18)	14
2019	Continuity Agreement: Peru- United Kingdom	21-12-2020	Title VII	Yes (Art. 215)	Title IV

Source: Author based on Ministry of Foreign Trade and Tourism of Peru (known by its Spanish acronym MINCETUR) data. 2024.

In summary, the analysis of the PTAs in the PA countries shows the following:

- Chile: 33 agreements, 12 include IP chapters (nine with copyright rules), and ten include e-commerce chapters.
- Colombia: 18 agreements, seven of which include IP chapters (all with copyright rules), and nine of which include e-commerce chapters.
- Mexico: 20 agreements, nine include IP chapters (eight with copyright rules), and five include e-commerce chapters.
- Peru: 22 agreements, 12 include IP chapters (11 with copyright rules), and nine include e-commerce chapters.
- 3. Presence of specific rules on copyright and related rights related to the digital environment.

This section takes a closer look at how PA Member States have updated their copyright commitments in the digital economy. It identifies the presence or absence of specific rules, such as: (i) Technological Protection Measures (TPMs); (ii) Safe Harbors for Intermediaries and Internet Services Providers (ISPs); (iii) Protection against Decoding of Satellite Signals; (iv) Protection on Computer Programs; (v) Protection on Databa-

ses or Compilations of Data; (vi) Appropriate Use of Software by the Government (Government Use of Software); and (vii) Non-Discriminatory Treatment of Digital Products. The analysis focuses on identifying which rules are most relevant in the agreements and the degree of similarity between the treaties signed by PA members¹⁴.

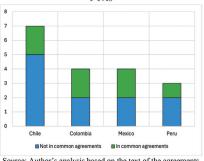
Leading on to the development and analysis of specific rules on copyright and related rights, it can be found that, of the specific rules, the ones that feature most prominently in the chapters on IP and e-commerce are the Non-Discriminatory Treatment of Digital Products and Protection of Computer Programs provisions, both of which are present in 14 of the 47¹⁵ chapters on e-commerce and IP.

As for the distribution of the provisions to apply a Non-Discriminatory Treatment of Digital Products in PA countries, as shown in Figure 1, this rule features in 14 of the 47 agreements. Chile includes it in seven agreements, followed by Colombia and Mexico with four, and Peru with three. There are three common agreements among the member states: the Chile-Colombia FTA, the Colombia-Mexico FTA and the CPTPP.

¹⁴ For more information see Annexe II.

¹⁵ These consider all IP chapters that incorporate copyright and related rights provisions, in addition to the e-commerce chapters included in the parties' PTAs.

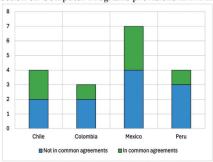
Figure 1: Non-Discriminatory Treatment of Digital Products provisions in PA members **PTAs**



Source: Author's analysis based on the text of the agreements.

On the other hand, Computer Program Protection provisions, as shown in Figure 2, are present in 14 agreements. Mexico leads with seven of them, followed by Peru and Chile with four agreements each, and Colombia with three. The common agreements are the Chile-Mexico FTA, the Colombia-Mexico FTA and the CPTPP.

Figure 2: Protection on Computer Programs provisions in PA members' PTAs



Source: Author's analysis based on the text of the agreements.

The rule with the second largest presence is to protect the Decoding of Satellite Signals. This is established in 13 agreements, with Mexico being the one that includes the most (6), followed by Colombia (5), Chile (4) and Peru (2). There are also three common agreements: Chile-Mexico FTA, Colombia-Mexico FTA and the CPTPP.

6 3 Chile Colombia Mexico Peru ■ Not in common agreements
■ In common agreements

Figure 3: Decoding of Satellite Signals provisions in PA members' PTAs

Source: Author's analysis based on the text of the agreements.

Subsequently, the rule with the third largest presence is the Protection of Databases or Compilations of Data, which is present in 11 of the 47 chapters on e-commerce and IP. Regarding the distribution of this rule, as shown in Figure 4, Mexico leads the group, presenting these provisions on five different agreements, followed by Chile and Colombia with three, and Peru with only two. There are three common agreements: Chile-Mexico FTA, Colombia-Mexico FTA and the CPTPP.

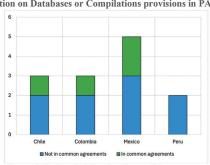


Figure 4: Protection on Databases or Compilations provisions in PA members' PTAs

Source: Author's analysis based on the text of the agreements.

In fourth place, the provisions that apply Safe Harbours for Intermediaries and ISPs are the ones with the fourth largest presence in the agreements, being present in ten of the 47 chapters on e-commerce and IP identified. About the distribution of this rule in the PA member countries, as shown in Figure 5, Colombia leads with four agreements, followed by Chile and Peru with three presences, and Mexico with two provisions.

Chile Colombia Mexico Peru
Not in common agreements

Figure 5: Safe Harbours for Intermediaries and ISPs provisions in PA members' PTAs

Source: Author's analysis based on the text of the agreements.

In fifth place, the obligation to implement **TPMs** is found in seven of the 47 chapters on e-commerce and IP. As for the distribution of this rule in the agreements of the PA countries, as shown in Figure 6, Chile leads with three, while Colombia, Mexico and Peru include it in two agreements each. The only common agreement is the CPTPP.

Finally, the regulation of the Government Use of Software is found in four of the 47 chapters on e-commerce and IP. As for the distribution of this rule in the PA countries, as shown in Figure 7. Mexico and Peru include this rule in two agreements each, while Chile and Colombia include it in only one agreement. The CPTPP is the only common agreement.

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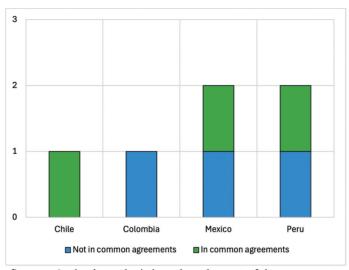
1

Chile Colombia Mexico Peru

Not in common agreements In common agreements

Figure 6: TPMs provisions in PA members' PTAs

Source: Author's analysis based on the text of the agreements.



Figure~7: Government~Use~of~Software~provisions~in~PA~members'~PTAs

Source: Author's analysis based on the text of the agreements.

In summary, Figure 9 shows a marked contrast: while Mexico is the country that most systematically incorporates these provisions into its agreements, Peru regulates them the least. This finding diverges from the analysis in the previous section, where Mexico ranked only third with respect to the inclusion of IP chapters and copyright provisions. Chile and Colombia stand between these two extremes, displaying a more even distribution across the different regulatory rules.

Government Use of Software

Technological Protection Measures

Safe Harbors for Intermediaries and ISPs

Protection on Databases or Compilations of Data

Protection and Databases or Compilations of Data

Protection against Decoding of Satellite Signals

Non-Discriminatory Treatment of Digital Products

Protection on Computer Programs

0 2 4 6 8 190 12 14 16 18 20 No. of appearances at PTAs

Chile © Colombia @Medico @Peru

Source: Author's analysis based on the text of the agreements.

Figure 9: General distribution of the digital copyright rules implemented by PA members PTAs

Source. Addition's analysis based on the text of the agreements.

4. QUANTITATIVE ANALYSIS OF THE SIMILARITY OF SPECIFIC RULES ON CO-PYRIGHT AND RELATED RIGHTS RELATED TO THE DIGITAL ENVIRONMENT.

A quantitative method based on text analysis or "text mining" is used to measure the similarity of the provisions. This approach makes it possible to compare large numbers of agreements in a short time, although it has limitations in capturing deeper contexts.

The literature on the use of text mining in legal texts has grown significantly. Studies such as those by Seiermann (2018), Suh and Roh (2021), Lee, Choi, Choi, and Lee (2023), and Suh,

Han, and Kim (2019) apply these techniques to compare regulations in trade agreements, highlighting the identification of differences and similarities. On the other hand, Dong-Gyu Lee (2023) deepens the comparison of regulatory heterogeneities in Latin America by comparing e-commerce chapters adopted by different Latin American countries in a preferential context, highlighting the impact of these differences on the harmonisation of digital trade.

Building on this framework, this study employs Jaccard's methodology¹⁶ using a word-by-word approach (N=1) rather than the conventional cluster analysis of words (N=5). This methodological choice enhances the sensitivity to subtle textual variations, allowing for a more granular and precise assessment of similarities in legal provisions.

The similarity index, ranging from 0 (completely different) to 1 (completely similar), is represented in matrices that illustrate the degree of correspondence between the legal provisions in the trade agreements of PA members. In these matrices, NaN values on the diagonal indicate that self-comparisons are not relevant. A colour gradient is applied, with lighter shades representing low similarity and darker shades indicating high similarity, enhancing visual interpretation.

-Low Values (0.0 - 0.25): Low values are represented in lighter shades, from white to light blue, showing low similarity.

-Medium values (0.25-0.5): As values increase

¹⁶ This method measures the distance between two documents based on a set of words or letters that constitute each document. It calculates the proportion of elements that appear in at least one of the two documents and elements that appear in common in both documents to determine similarity. The similarity value ranges from 0 to 1, with closer to 1 being the more similar (Seiermann, 2018).

toward 0.5, the colour transitions to shades of light green, indicating moderate similarity.

- -High values (0.5-0.75): Values between 0.5 and 0.75 are shown in shades of green, indicating high similarity.
- -Very High Values (0.75-1.0): The highest values are represented in dark green, indicating very high or nearly identical similarity.

For instance, a comparison of provisions on the "Government Use of Software" (Art. 20.87 of the USMCA and Art. 18.80 of the CPTPP) illustrates this methodology. Both texts exhibit very high lexical similarity, with minor variations. In this context, the word-by-word comparison (N=1) yields a similarity index of 0.94. In contrast, the N=5 approach produces a lower value (0.72), highlighting the sensitivity of the chosen method to subtle textual differences.

USMCA Government Use of Software Regulation:

- 1. Cada Parte reconoce la importancia de promover la adopción de medidas para mejorar la concientización del gobierno sobre el respeto a los derechos de propiedad intelectual y los efectos perjudiciales de la infracción a los derechos de propiedad intelectual.
- 2. Cada Parte adoptará o mantendrá leyes, regulaciones, políticas, órdenes, lineamientos emitidos por el gobierno, o decretos administrativos o ejecutivos apropiados que establezcan que sus agencias del gobierno central utilicen sólo software

no infractor protegido por derecho de autor y derechos conexos, y de ser el caso, utilicen tal software únicamente de una manera autorizada por la licencia correspondiente. Estas medidas se aplicarán a la adquisición y administración del software para uso gubernamental.

CPTPP Government Use of Software Regulation:

- 1. Cada Parte reconoce la importancia de promover la adopción de medidas para mejorar la concientización del gobierno sobre el respeto a los derechos de propiedad intelectual y los efectos perjudiciales de la infracción a los derechos de propiedad intelectual.
- 2. Cada Parte adoptará o mantendrá leyes, regulaciones, políticas, órdenes, lineamientos emitidos por el gobierno, o decretos administrativos o ejecutivos apropiados que establezcan que sus entidades de gobierno central utilicen sólo software no infractor protegidos por derecho de autor y derechos conexos, y de ser el caso, utilicen tal software únicamente de una manera autorizada por la licencia correspondiente. Estas medidas se aplicarán a la adquisición y administración del software para uso gubernamental.

As demonstrated by the exercise, both provisions are nearly identical, with only minor variations in wording. When applying the analysis methodology using groups of five words (N=5), the similarity index is 0.72. However, a word-by-word comparison (N=1) yields a significantly higher index of 0.93, indicating a very high degree of textual similarity.

In this context, to define the provisions that are potentially relevant as a basis for a regulatory harmonisation of these rules in the PA, the following priority criteria will be used: (i) similarity index between the agreements¹⁷; (ii) number of PA contracting parties in the agreements¹⁸; and (iii) temporality¹⁹. The different copyright provisions, including the matrices of the analysis results, are presented below, together with a description of the results.

4.1 Government Use of Software.

The analysis of the "Government Use of Software" provisions reveals several notable trends. With a GSI of 0.47, this provision falls within the upper range of moderate similarity, indicating a moderate degree of convergence among the PA trade bloc. However, there is considerable variation, as evidenced by a standard deviation of 0.3, which reflects the presence of two high values (1.00 and 0.94) in contrast to lower values.

Art. 16.7.6 of the Colombia-U.S. TPA (COL-USA) and Art. 16.7.6 of the U.S.-Peru TPA (PER-USA) are identical (1.00), while Art. 18.80 of the CPTPP and Art. 20.87 of the USMCA present a high similarity (0.94), suggesting a strong normative alignment between them.

¹⁷ Considering the agreements that present a higher degree of similarity, giving special emphasis to those in the range of 0.5 and 1.0.

¹⁸ PTAs that include more than one PA member will be considered more relevant, based on the rationale that such agreements already reflect a degree of standard harmonisation and are therefore more significant for advancing a broader harmonisation process.

¹⁹ The most recently negotiated, signed, and ratified agreements are considered more relevant, following the rationale that the latest PTAs reflect the increasing challenges posed by the digitalisation of services and thus offer a more updated perspective on how these issues should be addressed.

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Figure 11: Similarity of "Government Use of Software" provisions in trade agreements of PA members

Source: Author's analysis based on the text of the agreements.

The analysis, depicted in Figure 11, shows a moderate convergence between the CPTPP and the COL-USA and PER-USA agreements, with a similarity index of 0.35. Similarly, the USMCA, the COL-USA, and PER-USA agreements register an index of 0.34, indicating common elements in the provisions, but also notable regulatory divergences.

The agreements with the U.S. show a pattern of regulatory similarity, particularly between the PER-USA and COL-USA bilateral treaties (2006), which reach perfect similarity (1.0), and between the CPTPP and USMCA (2018), with near-perfect similarity. However, a divergence is observed between the 2018 agreements and those of 2006, suggesting an evolution in the provisions on government use of software in that period.

In summary, a remarkable heterogeneity in the provisions on government use of software is revealed. The COL-USA, USMCA and CPTPP agreements will serve as the basis for the qualitative analysis in the following section, allowing for a detailed examination of regulatory convergences and divergences in this area.

4.2 Technological Protection Measures.

In the analysis of "TPMS" in PA trade agreements, the similarity matrix shows a GSI of 0.36, indicating moderate similarity in the regulation of these provisions. The dispersion of the data is low, with a standard deviation of 0.22. As shown in Figure 12, some coefficients, such as 0.96, 0.65 and 0.66, reflect high similarity and increased variability. In contrast, other values, between 0.11 and 0.12, indicate low similarity. Most values are concentrated in the range 0.27-0.31, close to the mean.

Regarding specific agreements, Art. 16.7 of the COL-USA and Art. 16.7.4 of the PER-USA show an almost perfect similarity (0.96), which evidences a strong normative alignment. Art. 20.66 of the USMCA also shows high similarity with COL-USA (0.65) and PER-USA (0.66), suggesting considerable alignment in these provisions.

CHL-USA 0,43 0,43 0,12 0,27 0,31 0,41 COL-USA 0.96 0.11 0.43 0.27 0.45 0.43 0.11 0.26 0.44 0,12 0,11 0,11 0,27 0,16 0,11 0,27 0,27 0.26 0,27 0,34 0.28 8 0,31 0,45 0,44 0,16 0,34 0,50 0.41 0.11 0.28 CHL-USA COL-USA PER-USA CHL-AUS COL-KOR

Figure 12: Similarity of "TPMs" in trade agreements of PA members

Source: Author's analysis based on the text of the agreements.

The comparative analysis reveals moderate to low similarities between various agreements. Art. 18.68 of the CPTPP presents a similarity of 0.43 with Art. 16.7 of the COL-USA and Art. 16.7.4 of the PER-USA, placing it in the moderate range, while the comparison with Art. 20.66 of the USMCA yields a value of 0.50, indicating a high similarity but at its lower limit. This suggests a partial convergence in the provisions on TPMs.

On the other hand, Arts. 17.28 of the CHL-AUS and 15.7.5 of the COL-KOR show lower similarity indices, between 0.11 and 0.28, reflecting a low similarity with respect to the other agreements. Despite some clear similarities, such as the high similarity between Peru and Colombia's agreements with the U.S. (0.96) and their relationship with the USMCA (0.65), not all recent agreements show high convergence. Differences in recent agreements, such as USMCA and CPTPP, signed in the same year, suggest changes in the regulation of government use of software.

4.3 Safe Harbours for Intermediaries and ISPs.

The provisions on "Safe Harbours for Intermediaries and ISPs" reveal a low degree of similarity, with a GSI of 0.22. The data show a mean dispersion, with a standard deviation of 0.24, reflecting a remarkable variability in regulatory approaches. As seen in Figure 13, extreme values, such as 0.99 and 1.00, are well above the mean, while others, such as 0.04 and 0.07, are significantly below. Most of the values are clustered between 0.13 and 0.18, which contributes to the high variability of the dataset.

Regarding specific agreements, the high levels of similarity between COL-USA and PER-USA (0.99) stand out, indicating that their provisions on ISP liability are almost identical. Moderate similarity is also observed between the USMCA (Art. 20.67) and the COL-USA and PER-USA agreements (0.39), as well as between the CPTPP (Art. 18.68) and these same agreements (0.34 and 0.33). In contrast, the Chile-Australia FTA, Japan-Peru EPA and Colombia-Israel FTA have low similarities, with values between 0.04 and 0.18, suggesting significant normative differences.

Figure 13: Similarity of "Safe Harbours for Intermediaries and ISPs" provisions in commercial agreements of PA members (N=1).

	0,50	0,50	0,13	0,07	0,16	0,04	0,30	0,35	0,16	
0,50		0,99	0,13	0,07	0,16	0,04	0,34	0,39	0,16	
0,50	0,99		0,14	0,07	0,16	0,04	0,33	0,39	0,16	
0,13	0,13	0,14		0,18	0,13	0,11	0,15	0,15	0,13	
0,07	0,07	0,07	0,18		0,10	0,12	0,11	0,10	0,10	
0,16	0,16	0,16	0,13	0,10		0,08	0,06	0,17	1,00	
0,04	0,04	0,04	0,11	0,12	0,08		0,06	0,05	0,08	
0,30	0,34	0,33	0,15	0,11	0,18	0,06			0,18	
0,35	0,39	0,39	0,15	0,10	0,16	0,17	0,74		0,16	
0,16	0,16	0,16	0,13	0,10	1,00	0,08	0,18	0,16		

Source: Author's analysis based on the text of the agreements.

As in the previous provision, a pattern of normative similarity can be observed between agreements that include the U.S. and share temporal proximity. This is evidenced in two groups: the bilateral treaties of PER-USA, COL-USA and CHL-USA from the early 2000s, which show a degree of similarity categorised in the ranges of high and very high among them; and the CPTPP and USMCA, concluded in 2018, with a high similarity to each other.

However, there is a notable divergence between these recent agreements and those of the early 2000s, despite the common

participation of the U.S. (at least in their formulation process), suggesting an evolution in the provisions on the limitations of "Safe Harbours for Intermediaries and ISPs". Therefore, based on the established criteria, the provisions used in the COL-USA, USMCA and CPTPP agreements will be used as the basis for the qualitative analysis in the following section.

4.4 Databases or Compilations.

The analysis of the "Database Protection or Compilation of Data" provisions in the PA trade agreements reveals a moderate degree of similarity, with a GSI of 0.31 and a standard deviation of 0.27, indicating variability in regulatory approaches. As shown in Figure 14, extreme values of 1.00, well above the mean, and low values (0.13 to 0.15) contribute to the high dispersion. In addition, clusters of repeated values (0.33, 0.34, 0.14) are identified in different parts of the distribution. The combination of these factors reflects a significant standard deviation in the dataset.

Among the agreements, the high similarity between Art. 196 of the Colombia-EU EPA and the Peru-EU EPA stands out, with a perfect value of 1.00. Significant similarity is also observed between Art. 15.08 of the Mexico-Uruguay EPA and Art. 15.09 of the Chile-Mexico FTA (0.66), as well as between the Mexico-Central America FTA and the MEX-URY (0.51). In addition, there are moderate similarities between the Mexico-Central America FTA and the Chile-EU EPA (0.45), and between the Mexico-Central America FTA and the Chile-Mexico FTA (0.35).

0,13 0.14 0.20 0.21 0.17 0.20 0.20 0.20 0,15 0,11 0,14 0,16 0,34 0,34 0,34 0,42 0,13 0.09 0,21 0,13 0,15 0,33 0,33 0.33 0,16 0,14 0,13 0,51 0,14 0,14 0,14 0.15 0,51 0.14 0.35 0.17 0.16 0.14 0.14 0,33 0,14 0,14

0,33 0,14 0,14

Figure 14: Similarity of "Databases or Compilations" protection provisions in the trade agreements of the members of the PA.

Source: Author's analysis based on the text of the agreements.

It is important to note that this is the only rule where the U.S. is not a signatory to any of the agreements. Therefore, the main regulatory trends fall into two groups: the 2012 bilateral treaties between Colombia, Peru and the EU (including the continuation agreements with the UK in 2019) and the agreements led by Mexico (MEX-CE, CHL-MEX, MEX-URY and COL-MEX).

To identify the regulatory differences between these agreements, and following the established criteria, the provisions of the CHL-EU, PER-EU and MEX-EC agreements will be used as the basis for the qualitative analysis in the following section.

4.5 Decoding of Satellite Signals.

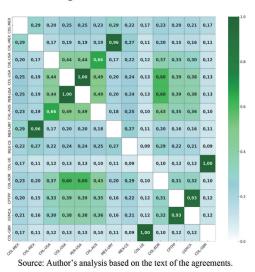
0,13

The analysis of the provisions on "Decoding of Satellite Signals" reveals low similarity, with a GSI of 0.24 and a standard deviation of 0.22, indicating considerable variability in the regulations. Dispersion is evident in extreme values, such as

1.00, 0.96 and 0.93, which are well above the mean, as well as in low values (0.09 to 0.12), which are significantly below. Most of the values are clustered in the range of 0.20 to 0.30, close to the mean value. This combination of extreme and near-mean values contributes to the high variability observed.

Among the agreements, as illustrated in Figure 15, a perfect similarity (1.00) between COL-USA (Art. 16.8) and PER-USA (Art. 16.8) stands out, indicating identical provisions regarding the protection of satellite signals. In addition, the CPTPP (Art. 18.79) shows moderate similarity with COL-USA and PER-USA (0.39), suggesting common elements, although with significant differences.

Figure 15: Similarity matrix on "Decoding Satellite Signals" provisions in trade agreements of PA members.



As with the "Government Use of Software" and "Safe Harbours for Intermediaries and ISPs" provisions, the same pattern of regulatory convergence is observed in agreements that include the U.S. and are close in time. Therefore, and following the established criteria, the provisions of COL-USA, USMCA and CPTPP will be used as the basis for the subsequent qualitative analysis.

4.6 Computer Programs

The analysis of the "Computer Programs" protection provisions reveals a low degree of similarity, with a GSI of 0.24 and a standard deviation of 0.28, indicating considerable variability. As Figure 16 shows, the data present a marked dispersion, with extreme values of 1.00 contrasting with low values (0.07-0.10). In addition, there is a concentration of values around 0.13-0.15, close to the mean. This combination of high and low values results in a high standard deviation, reflecting the high variability in regulatory approaches.

Figure 16: Similarity of "Computer Programs" protection provisions in trade agreements of PA members.



Source: Author's analysis based on the text of the agreements.

Among the agreements, a perfect similarity (1.00) between Arts. 196 of the COL-EU and PER-EU agreements stand out, indicating identical provisions on the protection of computer programs. Likewise, the similarity between the CPTPP (Art. 18.1) and the USMCA (Art. 20.1) is 0.90, suggesting a very high regulatory alignment between these agreements.

Considering provisions that present a high degree of similarity, include all parties and consider the most recently negotiated agreements, the provisions used in the EU-LA, CPTPP and USMCA agreements will be used as the basis for the qualitative analysis in the subsequent section.

4.7 Non-Discriminatory Treatment of Digital Products

The analysis of the "Non-Discriminatory Treatment of Digital Products" obligations reveals that this standard has the second highest level of similarity, with a GSI of 0.38. It also has a relatively low dispersion, with a standard deviation of 0.23. As Figure 17 shows, the data present low variability, with high (0.83-0.97) and low (0.11-0.14) extreme values that contrast with the mean. Most of the values are concentrated in the range 0.30-0.50, close to the mean. Although this is the second-lowest dispersion arrangement, the combination of extreme and central values generates a remarkable standard deviation, suggesting diversity in the normative approaches of PA members.

COL-MEX 0,83 0,13 0,34 0,36 0,51 0,38 0,13 0,47 0,36 0,36 0,54 0,36 0.14 0,31 0,27 0,33 0,29 0,12 0,25 0,29 0,34 CHL-COL 0,51 0,54 0.48 0.49 0.49 0,13 0.46 0.28 0.50 0.30 0.13 0.39 0,28 0.82 0.48 0.96 0.85 0.39 0.35 0.13 0.34 0.37 0.42 0.12 0.52 0,34 0,96 0,13 0,35 0,83 0,49 0,34 0,39 0.41 0,12 0,54 0.97 0.36 0.49 0,13 0.34 0.36 0.37 0.12 0.46 0.35 0.6 0.13 0.13 0.14 0.13 0.13 0,13 0.11 0,14 0,11 0.14 0.13 0,13 0,13 0,74 0,31 0,11 0,12 0,53 0,37 0,46 0,37 0,38 0,41 0.34 0.27 0.28 0.34 0,34 0.34 0,14 0,37 0.39 0.39 0,15 0.37 0,33 0,50 0,37 0,39 0,36 0,11 0,38 0,39 0,46 0,12 0,51 0,41 0,38 0,29 0,30 0,42 0,41 0,37 0,14 0,41 0,39 0,46 0,15 0,60 0.2 0,13 0,12 0,13 0,12 0,13 0,13 0,13 0,12 0,15 0,12 0,15 0,17 0,15 0,25 0,13 0,53 0,51 0,51 0,35 0,13 0,37 0,41 0,80 - 0.0 Grift USINC REPAIRS THE BOX THE ECU

Figure 17: Similarity of "Non-Discriminatory Treatment of Digital Products" provisions in trade agreements of PA members.

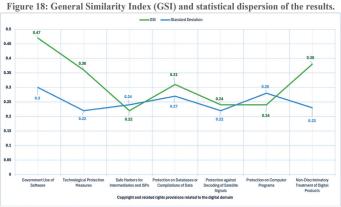
Source: Author's analysis based on the text of the agreements.

Regarding the specific values of the agreements, a high similarity is observed between COL-USA (Art. 15.3) and PER-USA (Art. 15.3), with a value of 0.96. In addition, PER-USA and COL-MEX (Art. 14.4) present a very high similarity of 0.83, which reinforces the normative alignment between these agreements.

39

On the other hand, the most recent agreements (CPTPP, DEPA, USMCA) present notable differences. Art. 14.4 of the CPTPP shows greater similarity with Art. 3.3 of the DEPA (0.67) than with Art. 19.4 of the USMCA (0.39), reflecting a normative evolution over time. These three agreements also show partial similarities with older agreements that include the U.S. (CHL-USA, COL-USA, PER-USA), with values between 0.29 and 0.39.

Also, the similarity between COL-MEX (Art. 14.4) and CPTPP (Art. 19.4) is 0.34, suggesting that, although it does not include the U.S., the COL-MEX agreement is more like the agreements negotiated by the U.S. in the 1990s and 2000s than the more recent ones. Therefore, the PER-USA, COL-MEX and CPTPP provisions will be used as the basis for the qualitative analysis in the next section.



Source: Author's analysis based on the text of the agreements.

Finally, Figure 18 provides a comprehensive view of the results, highlighting that the provisions with the highest GSI and the lowest variability are: (i) "Government Use of Software",

Tomás Rogaler Wilson

Copyright in the Digital World: Identifying and Analysing Spaces for Harmonisation in the Pacific Alliance Trade Bloc

(ii) "Non-Discriminatory Treatment of Digital Products" and (iii) "TPMs".

Conversely, the measures with the least similarity and the greatest dispersion are: (i) "Protection of Computer Programs", (ii) "Safe Harbours for Intermediaries and ISPs ", and (iii) "Protection against decoding of satellite signals". This is relevant when considering the relationship between their presence in the PTAs and their degree of similarity.

The analysis reveals an interesting contradiction: provisions with lower frequency are not necessarily more homogeneous. For example, while the provisions on "Government Use of Software" (poorly included in the PTAs) have high similarity and low dispersion, those on "Non-Discriminatory Treatment of Digital Products" combine high similarity with a significant presence in the PTAs.

Interestingly, the provisions on "safe harbours for internet intermediaries and service providers" show low similarity and high dispersion, despite having the fourth highest presence across agreements. This highlights the complexity of the regulatory landscape, where the frequency of a provision does not predict its degree of similarity across agreements. These results reinforce the importance of the methodology used to better understand regulations in PTAs.

The following section will identify the differences in the treatment of the relevant provisions, performing a qualitative analysis that highlights both similarities and discrepancies between the parties involved.

41

5. Copyright provisions in the digital world: Qualitative analysis of the specific rules on copyright and related rights related to the digital environment.

This section will examine the differences in the treatment of provisions across the relevant agreements identified through Jaccard methodology. By conducting a comparative qualitative analysis, the commonalities and discrepancies between the provisions adopted by the parties will be explored. This approach will provide insights into how key aspects of copyright and related rights are implemented and regulated in the digital environment, highlighting potential avenues for regulatory harmonisation within the PA.

5.1 Government Use of Software

The provisions on the use of software by government entities in the CPTPP (18.80), COL-USA (16.7.6) and USMCA (20.87) agreements share key elements. All recognise the importance of the government respecting IP rights and require government entities to use only duly licensed software: "Each Party shall issue appropriate laws, orders, regulations, or administrative or executive decrees mandating that its agencies use computer software only as authorised by the right holder" These measures cover the acquisition and management of government software to ensure copyright compliance.

Although the provisions are very similar, there are some minor differences in the wording. The COL-USA specifically mentions laws or decrees, while the CPTPP and USMCA include a broader range of measures, such as policies or guidelines. In addition, the CPTPP and USMCA emphasise the importance of

²⁰ United States-Colombia Trade Promotion Agreement (Art. 16.7.6).

these measures in raising government awareness of respect for IP rights, an aspect not explicitly mentioned in the COL-USA.

In summary, the provisions of the CPTPP, COL-USA and US-MCA have very similar fundamental objectives and principles: to ensure that government entities use legally licensed software. The differences in wording and specificity are not significant. Since the CPTPP includes three of the four PA members and only extends the list of legal documents to ensure the use of legal software, it could serve as a basis for a process of regulatory harmonisation in the PA.

5.2 Technological Protection Measures

The provisions on "TPMs"²¹ in the COL-USA (Art. 16.7), CPTPP (Art. 18.68) and USMCA (Art. 20.66) agreements share the objective of providing legal protection against the circumvention of technological measures that protect works and copyrights. All criminalise unauthorised circumvention and distribution of technologies designed for this purpose, recognising exceptions for non-commercial entities such as libraries and educational entities.

Although the three provisions are similar, they differ in specificity. The COL-USA and USMCA provide more detailed descriptions of permissible exceptions, such as reverse engineering and security research. In contrast, the CPTPP takes a more general approach, potentially leading to greater variability in interpretation. Additionally, the COL-USA and USMCA explicitly exclude non-commercial entities from criminal sanctions, a clarification that is less explicit in the CPTPP.

²¹ For further discussion on the conceptualisation of TPMs, see Ashok (2011).

The quantitative analysis reflects these differences. The similarity score is lowest between the CPTPP and COL-USA (0.45), while the USMCA occupies an intermediate position, with similarity scores of 0.50 and 0.65 relative to the CPTPP and COL-USA, respectively.

Despite differences in wording, all three agreements maintain that exceptions should not undermine protections or legal remedies against the circumvention of technological measures. The COL-USA further stipulates that violating these measures constitutes a separate and independent offence from copyright infringement. In summary, while the CPTPP adopts a broader approach compared to the COL-USA and USMCA, the three agreements align in their overarching objectives. By balancing the clarity of the COL-USA with the flexibility of the CPTPP, the USMCA could serve as a foundation for a harmonisation process within the PA.

5.3 Safe Harbours for Intermediaries and ISPs

The provisions on ISP liability in the COL-USA (Arts. 16.11-29), USMCA (Art. 20.88-89) and CPTPP (Art. 18.81-82) agreements share the objective of balancing copyright protection with the operation of the Internet by limiting the liability of ISPs for infringement that they do not directly control. In all three agreements, ISPs are not liable for the transmission and storage of material when they do not alter its content and comply with certain notice and takedown procedures for infringing material.

However, there are differences in the specificity and flexibility of the provisions. While the CPTPP and the USMCA allow each Party to define the conditions for ISPs to benefit from the limitations of liability, the COL-USA sets out more detailed

conditions, particularly in relation to caching and notification procedures. In addition, COL-USA requires ISPs to publicly designate a representative to handle infringement notifications, which is not specified in the CPTPP and USMCA.

Another difference is the monitoring of platforms. While the COL-USA and the USMCA allow the implementation of infringement detection technologies in line with industry standards, the CPTPP takes a more direct approach, without adding conditions on compatibility with technical measures.

In summary, although the three agreements share fundamental principles on the responsibility of ISPs, they differ in the implementation of these measures. The CPTPP, with greater flexibility to define national mechanisms, could serve as a basis for a harmonisation process in the PA, as it includes three of its four members and provides an adaptable approach.

5.4 Databases or Compilations

The provisions on the protection of databases or compilations of data²² in the CHL-EU (Art. 169), MEX-EC (Art. 16.7) and PER-EU (Art. 196) agreements show both convergent and divergent approaches to the regulation of copyright on databases. In general terms, the three agreements establish that compilations of data can be considered intellectual creations and are therefore protected as copyrightable works, in line with the international standards of the Berne Convention and the Paris Convention.

²² For further discussion on the conceptualisation of protections for databases and compilations of data, see Davison (2020), Derclaye (2008), and Serrano (1995).

However, there are notable differences in the specific treatment of these protections. The MEX-EC agreement specifies that the protection does not extend to the data itself, but only to the structure and organisation of the compilations. In contrast, CHL-EU and PER-EU do not clearly delimit this aspect. In addition, the MEX-EC includes provisions on the transferability of economic rights in commercial or labour contracts, something that is not addressed with the same precision in CHL-EU and PER-EU.

In summary, although the agreements share the objective of protecting databases under international standards, the differences in the operational details and scope of that protection reflect variations in the legal approaches of each agreement. This reinforces the quantitative results previously presented, where there was a high similarity between the EU agreements and more marked differences in the treaties that include Mexico.

Given that the provisions between PER-EU and COL-EU show a perfect similarity, while CHL-EU is less detailed, it is suggested that the PER-EU agreement serves as a basis for a harmonisation process in the PA. However, it is recommended that elements of the MEX-EC be incorporated to establish clear definitions of the scope of protection and transfer of rights.

5.5 Decoding of Satellite Signals

The provisions on protection against illegal decoding of satellite signals²³ in the CPTPP (Art. 18.79), USMCA (Art. 20.85), and COL-USA (Art. 16.8) agreements address this problem comprehensively. All agreements criminalise the ma-

²³ For more information on the conceptualization of the protections used for Satellite Signals, see Dietz (1988) and Ríos (2003).

nufacture, modification and distribution of devices intended for the unauthorised decoding of satellite signals, in line with the Brussels Convention on Program-carrying Signals Transmitted by Satellite. They also criminalise the malicious reception and distribution of these signals and provide civil remedies to compensate affected parties.

A key difference between the agreements lies in the description of the devices. The CPTPP and USMCA provide a detailed classification, covering tangible and intangible devices, divided according to their purpose (to assist, primarily to assist, or whose primary function is decoding). In contrast, the COL-USA takes a more restrictive approach, requiring that the primary function of the device be to assist in decoding, which may make proof of culpability more difficult in certain cases.

Another distinctive aspect is the scope of protection. While the CPTPP and USMCA cover both encrypted satellite and cable signals, the COL-USA focuses only on satellite signals. This broader coverage in the CPTPP and USMCA may be more effective in contexts where piracy affects various types of signals.

In addition, the agreements vary in terms of penalties. The CPTPP and the USMCA detail criminal penalties and civil remedies to punish the manufacture or distribution of equipment used in the unauthorised reception of signals, as well as the reception of these signals. On the other hand, the COL-USA gives greater emphasis to civil measures, detailing economic compensation for parties affected by piracy, which distinguishes it from the other two agreements that balance criminal and civil penalties.

In summary, while the CPTPP and USMCA offer broader and more detailed coverage, encompassing cable and satellite signals, the COL-USA takes a narrower approach, with greater emphasis on civil redress. These differences may influence the effectiveness of protection against piracy and the ease of establishing culpability.

Considering that the CPTPP includes three of the four PA members and extends protection to cable transmissions, as well as offering a more comprehensive set of remedies, it is emerging as an ideal basis for policy harmonisation in the PA.

5.6 Computer Programs

For the protection of computer programs established in the COL-EU (Art. 196), CPTPP (Art. 18.1) and USMCA (Art. 20.1) agreements, in general, there is a recognition of the importance of IP and copyright in relation to computer programs, however this recognition is included in the articles related to the definitions of IP and works, and not in a specific article related to the protection of computer programs²⁴.

By virtue of the differences between the provisions, the CP-TPP, USMCA and COL-EU agreements show a consensus on the protection of computer programs under copyright, albeit with somewhat different approaches in their presentation. The CPTPP and USMCA agreements use almost identical language, specifying that the term "work" explicitly includes "cinematographic works, photographic works and computer programs". This formulation provides immediate clarity on the inclusion of software within the scope of copyright protection.

²⁴ For further discussion on the conceptualisation of protections for computer programs, see Ribas (1996) and Ubaydullaeva (2024).

For its part, the EU-COL agreement addresses the issue in the context of a broader definition of IP rights. However, it also mentions explicitly "computer programs" (equivalent to computer programs) as part of copyright. These differences in presentation do not necessarily imply a variation in the level of protection or priority accorded to computer programs. Instead, they reflect the different structural approaches of the agreements: while the CPTPP and USMCA focus on defining "work" in the context of copyright, the EU-COL chooses to provide a broader view of IP.

Conversely, and despite what might be expected based on the similarity indexes between the agreements, no significant differences are observed between the parties. In this context, taking into account that the CPTPP includes three of the four members of the PA and that there are no significant differences in the provisions, it is suggested that the provisions of Art. 18.1 of this agreement will be used as a basis for the harmonisation of policies in the PA.

5.7 Non-Discriminatory Treatment of Digital Products

Regarding the regulation of non-discriminatory treatment for digital products, Arts. 14.4, 15.3 and 14.4 of the COL-MEX, PER-USA and CPTPP agreements, respectively, establish that digital products created, produced, published or made available for the first time in the territory of another Party, or those whose author or producer is from another Party, should not be treated less favorably. However, beyond this general provision, there are variations among the agreements.

On the one hand, the COL-MEX and PER-USA agreements specify that there should be no discrimination based on the place where digital products were created, published, stored

or transmitted. They also emphasise equal treatment regardless of the nationality of the producers or distributors, providing a clear framework of non-discrimination at the different stages of digital production and distribution.

On the other hand, the CPTPP introduces detailed exceptions. It states that the non-discrimination rules do not apply to subsidies and do not affect broadcasting, allowing for differential treatment in these sectors. In addition, the CPTPP explicitly links these provisions to the IP chapter, suggesting that non-discrimination rules should be aligned with rights and obligations in that area. This more nuanced approach provides flexibility in key areas such as broadcasting and financial support for domestic digital products.

In summary, although the principle of non-discrimination is common to all agreements, the CPTPP offers a more detailed and flexible approach, facilitating its implementation. Given that the CPTPP includes three of the four PA members, its provisions are presented as a suitable basis for a harmonisation process in the region.

By way of conclusion, Table 5 summarises the main findings of this chapter, recommending the key agreements and articles for possible regulatory harmonisation. It is worth noting the preeminence of the CPTPP, not only because of the participation of several PA members, but also because of its comprehensive and robust framework for copyright regulation in the digital environment.

Finally, although the U.S. is not part of the CPTPP, many of the provisions included in bilateral agreements with PA countries reflect the continuity of IP policies promoted by the U.S. in the region. However, it is important to highlight how these provisions have evolved, showing significant differences with respect to previous regulations.

Table 5: Recommended provisions for the process of regulatory harmonisation in PA.

Rules of Copyright and Related Rights related to the digital	
environment.	Agreement/Art.
Government Use of Software	CPTPP (Art. 18.80)
Technological Protection Measures	USMCA (Art. 20.66)
Safe Harbors for Intermediaries and ISPs	CPTPP (Art. 18.81-82)
Protection of Databases or Data Compilations	PER-EU (Art. 196)
Satellite Signal Protection	CPTPP (Art.18.79)
Protection of Computer Programs	CPTPP (Art. 18.1)
Non-Discriminatory Treatment of Digital Products	CPTPP (Art. 18.68)

Source: Own elaboration according to qualitative results.

On the other hand, the EU's presence appears more limited compared to agreements influenced by the U.S. Notably, only one provision from the PER-EU agreement is highlighted, concerning the Protection of Databases or Compilations of Data. This is the only provision explicitly attributed to an EU agreement, suggesting that the EU's approach in this area is regarded as valuable or complementary to other provisions.

More broadly, the inclusion of provisions from various agreements indicates an effort to incorporate best practices from different sources, aiming to establish a comprehensive and up-to-date regulatory framework. This could facilitate the harmonisation of the legislation of PA member countries, fostering a more uniform and predictable legal environment for digital trade in the region.

6. Main conclusions of the study

Throughout this analysis, it has been observed that the international commitments of PA countries regarding copyright and related rights in the digital environment are not homogeneous. However, they present regulatory trends that may guide future regulatory harmonisation. First, key similarities are identified in the rules on the "Non-Discriminatory Treatment of Digital

Products" and the protection of "Computer Programs", which have been addressed more consistently in PA members' bilateral agreements. In contrast, provisions such as the "Government Use of Software" have been regulated more recently, reflecting areas of regulatory divergence.

Despite what was expected, the frequency of occurrence of a provision does not correlate with its degree of similarity among the agreements. This underlines the relevance of the quantitative methodology used, which has made it possible to rule out comparative analyses that, although apparently important, are not significant from a harmonisation perspective. These findings open up the possibility of more complex analyses that consider the GSI of the standards, their statistical dispersion and the influence of variables such as trade flows or the economic development of the signatory countries.

The analysis suggests that the temporal proximity in the negotiation of the agreements is associated with a higher degree of similarity in their provisions. Two groups of treaties with high internal similarity are identified: the PER-USA, COL-USA and CHL-USA bilateral agreements from the early 2000s, and the CPTPP and USMCA from 2018. The differences between these groups indicate a normative evolution, despite the constant involvement of the US, which continues to play a key role in defining copyright standards in the digital environment.

The qualitative analysis also reveals significant variations in the wording of the provisions, even in those with high quantitative similarity. These differences reflect the need to adapt regulations to specific contexts and a flexible approach to balance copyright protection with digital innovation. In this sense, the CPTPP emerges as a possible model for future

harmonisation within the PA, given its broad coverage and its ability to balance these objectives.

In summary, the regulatory landscape within the PA shows both trends towards harmonisation and the need for flexibility. This analysis provides a solid basis for future research and policy formulation seeking greater regulatory coherence in the digital environment. The results presented here suggest that it is possible to move towards common minimum standards while respecting the particularities of each member of the PA bloc.

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Tomás Rogaler Wilson

Copyright in the Digital World: Identifying and Analysing Spaces for Harmonisation in the Pacific Alliance Trade Bloc

Annexe II: PTAs signed by the PA containing chapters on IP/ IP/e-commerce, as of August 2025: specific rules on copyright and related rights related to the digital environment.

		Copyright and related topics related to the digital environment. Articles referred to in Chapter PI						Reference to Copyright and Related Rights in the E-commerce Chapter
Year Signature		Technological Protection Measures	Safe Harbors for Intermediaries and ISPs	Signals	Computer Programs	Databases or Compilations	Use of Software	Non-Discriminatory Treatment of Digital Products
1994	Colombia - Mexico FTA	-	-	Art. 18.07	Art. 18.03	Art. 18.03	-	Art. 14.4
1998	Chile - Mexico FTA (ECA No. 41)	-	-	Art. 15.12	Art. 15.09	Art. 15.09	-	-
1999	Chile - Cuba FTA (ECA No. 42) *	-	-	-	-	-	-	-
2000	Mexico - EFTA: Mexico - Iceland - Norway - Liechtenstein - Switzerland	-	-	-	Art. 3 (Annex XXI)	Art. 3 (Annex XXI)	-	-
2000	Israel - Mexico FTA *	-	-	-	-	-	-	-
2002	Chile - European Union EPA	-	-	-	Art. 169	Art. 169	-	-
2003	Chile - South Korea FTA*.	-	-	-	-	-	-	-
2003	Chile - U.S. FTA	Art. 17.7	Art. 17.11	Art. 17.8	-	-	-	Art. 15.4
2003	Chile - EFTA: Chile - Iceland - Norway - Liechtenstein - Switzerland	-	-	-	Art. 1 (Annex XII)	Art. 1 (Annex XII)	-	-
2004	Mexico - Panama FTA	-	-	-	-	-	-	-
2005	Chile - Singapore - New Zealand - Brunei (P-4) EPA	-	-	-	-	-	-	-
2005	MERCOSUR - Peru ECA (ECA No. 59)	-	-	-	-	-	-	
2006	Chile - Colombia FTA	-	-	-	-	-	-	Art. 12.4
2006	Colombia - U.S. FTA	Art. 16.7	Art. 16.11-29	Art. 16.8	-	-	Art. 16.7.6	Art. 15.3
2006	U.S Peru TPA	Art. 16.7.4	Art. 16.11-29	Art. 16.8	-	-	Art. 16.7.6	Art. 15.3
2007	Chile – Japan EPA FTA Colombia-Northern Triangle: El Salvador, Guatemala and	-	-	-	-	-		Art. 14.4
2007	Honduras							7111. 71.1
2008	Chile - Australia FTA	Art. 17.28	Art. 17.40	Art. 17.33	-	-	-	Art. 16.5
2008	Colombia - Northern Triangle FTA: El Salvador, Guatemala and Honduras	-	-	-	-	-	-	-
2008	Canada - Peru FTA	-	-	-	-	-	-	-
2008	Peru - Singapore FTA EFTA: Colombia - Iceland -	-	-	-	-	-	-	-
2008	Norway - Liechtenstein - Switzerland	-	-	-	-	-	-	-
2009	China - Peru FTA	-	-	-	-	-	-	-
2010	Peru - EFTA: Peru - Iceland - Norway - Liechtenstein - Switzerland	-	-	-	-	-	-	-
2010	Mexico - Uruguay ECA (ECA No. 60)	-	-	Art. 15.11	Art. 15.08	Art. 15.08	-	-
2011	Chile - Turkey FTA*.	-	-	-	-	-	-	-
2011	Mexico - Central America FTA: Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.	-	-	Art. 16.10	Art. 16.7	Art. 16.7	-	Art. 15.4
2011	Japan - Peru EPA	-	Art. 185	-	-	-	-	
2011	South Korea – Peru FTA	-	-	-	-	-	-	-
2011	Panama – Peru FTA	-	-	-	-	-	-	-
2011	Costa Rica - Peru FTA	-	-	-	-	-	-	-
2012	Colombia - Ecuador - Peru - EU EPA	-	Arts. 251	Art. 220	Art. 196	Art. 196	-	-
2012	PA Framework Agreement: Chile, Colombia, Mexico, Peru	-	- Art. 2 (E-	-	-	-	-	-
2013	Colombia - Israel FTA	-	commerce Ch.)	-	-	-	-	-

61

2013	Colombia - Costa Rica FTA	-	-	-	-	-	-	-
2013	Colombia - South Korea FTA	Art. 15.7.5	-	Art. 15.7.12	-	-	-	-
2015	Honduras - Peru FTA	-	-	-	-	-	-	-
2016	Chile - Uruguay FTA	-	-	-	-	-	-	-
2017	Chile - Argentina FTA	-	-	-	-	-	-	-
2018	CPTPP: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Singapore, Vietnam and Peru.	Art. 18.68	Art. 18.81-82	Art.18.79	Art. 18.1	-	Art. 18.80	Art. 14.4
2018	USMCA: Canada-United States- Mexico	Art. 20.66	Art. 20.88-89	Art. 20.85	Art. 20.1	-	Art. 20.87	Art. 19.4
2018	Australia - Peru FTA	-	-	-	Art. 17.1	-	-	Art. 13.4
2018	Chile - Brazil FTA	-	-	-	-	-	-	Art. 10.4
2019	Continuity Agreement: Colombia- United Kingdom	-	Arts. 250-254	Art. 220	Art. 196	Art. 196	-	-
2019	Continuity Agreement: Peru - United Kingdom	-	-	-	Art. 196	Art. 196	-	-
2020	Chile - Ecuador TIA (ECA No. 75)	-	-	-	-	-	-	Art. 10.4
2020	DEPA: Chile - New Zealand - Singapore	-	-	-	-	-	-	Art. 3.3



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