

The Influence of Cloud Computing Services in GATS' Enforcement

La influencia de los servicios de cloud computing en la aplicación del GATS

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ABSTRACT

Cloud computing facilities have a cross-border scope that might set off international issues regarding different areas of law. As cloud computing raised from the idea of replacing the physical for the virtual,¹ we must remain that every software needs hardware to operate, whether the second is imperceptible for cloud services' users, and this makes the cloud of cross border nature. Cloud computing has tangible effects on enterprises and economics, and its characteristics enforce internet usage globally. Explicitly, this article will focus on the influence of cloud computing in an international trade system held by World Trade Organization (WTO), and how it enforces the international trade system, specifically on the General Agreement of Trade and Services (GATS). This paper main objective is to understand how can cloud computing lead to the enforcement of the international trade system, specifically on the GATS. To address this question, the paper follows an economic analysis of the law with qualitative method of literature and case law analysis, particularly of WTO *Us Gamblin*. The key conclusion is that the cross-border nature of cloud computing services requires to create a new category in the WTO GATS.

KEYWORDS: Cloud computing, WTO, GATS, International Trade, Digital law, International law, Digitalization, Cross border transactions.

RESUMEN

El *cloud computing* tiene un alcance transfronterizo que puede desencadenar problemas internacionales en diferentes áreas del derecho. *Cloud computing* surgió de la idea de reemplazar lo físico por lo virtual,² es importante recordar que todo *software* necesita *hardware* para operar, y esto hace que la nube tenga una naturaleza transfronteriza. La computación en la nube tiene efectos tangibles en las empresas y la economía, y sus características refuerzan el uso de internet a nivel mundial. Este artículo se centrará en la influencia de la computación en la nube en la Organización Mundial del Comercio (OMC), y cómo refuerza el sistema de comercio internacional, específicamente en el Acuerdo General sobre Comercio y Servicios (AGCS). El objetivo principal de este trabajo es comprender cómo

1. Eugenia Novoa, "Extraterritorial application of copyright regulations in Ecuador due to cloud computing services: terms of service of Twitter and YouTube". *Revista de Derecho* (Universidad Católica Dámaso A. Larrañaga 26, Facultad de Derecho), 1 december 2022, <https://doi.org/10.22235/rd26.2681>.
2. *Ibíd.*

la computación en la nube puede conducir a la aplicación del sistema de comercio internacional, específicamente en el AGCS. Para abordar esta cuestión, el trabajo desarrolla un análisis económico del derecho con método cualitativo centrado en la revisión de literatura y jurisprudencia, en particular el caso de la OMC *US Gambling*. La conclusión clave es que la naturaleza transfronteriza de los servicios de computación en la nube requiere la creación de una nueva categoría en el AGCS para OMC.

PALABRAS CLAVE: *cloud computing*, OMC, AGCS, comercio internacional, derecho digital, derecho internacional, digitalización, transacciones transfronterizas.

FORO

INTRODUCTION

Cloud computing is an internet paradigm, which optimizes and smooths its performance. Probably one of the main reasons of cloud computing existence is provide network services which sweep away from users the purchase a local storage platform.³ Moreover, internet servers through the cloud provide agile, effective and user-friendly services worldwide.⁴ Thanks to the cloud we have access to our information at any time or anywhere, this undoubtedly strengthens a globalized world.⁵

Likewise, cloud computing facilities are highly influential for economic growth, not only because they rise business making opportunities all over the world, but also because it reduces the expenses in hardware devices for startup

3. Julio Téllez Valdés, *Lex cloud computing: estudio jurídico del cómputo en la nube en México* (Ciudad de México: Instituto de Investigaciones Jurídicas de la UNAM, 2013); Cloud Security Alliance, *Cloud Compliance Report* (Asociación Española para el Fomento de la Seguridad de la Información, 2011), <http://tiny.cc/p7d3001>.
4. Katherin Cruz Valencia, “Historia del *cloud computing*”, *Revista de Información, Tecnología y Sociedad* (2012): 51-2.
5. Michael D. Hogan, Fang Liu, Annie W. Sokol, and Tong Jin, “NIST-SP 500-291, NIST Cloud Computing Standards Roadmap”, Gaithersburg: National Institute of Standards and Technology, August 11, 2011, <http://bit.ly/3PdxGt9>; Peter Mell and Timothy Grance, “NIST-SP 800-145, The NIST Definition of Cloud Computing”, Gaithersburg: National Institute of Standards and Technology, 2011, <https://bit.ly/41VRSam>.

companies.⁶ More importantly, entrepreneurs are looking at cloud computing as the new era of computing services, the cloud we are experiencing now of is just the beginning.⁷

Nevertheless, technology progress also leads to legal issues in a global perspective, as is the case of cloud computing.⁸ Indeed, the cross-border scope of this computing paradigm might set off international issues regarding different areas of law.⁹ Explicitly, this article will focus on the influence of cloud computing in an international trade system held by World Trade Organization (WTO).

The article is divided then into three sections: the first, describes the cross-border nature of cloud computing.¹⁰ The second focuses on the fundamental connection between the international trade system and cloud computing. Finally, the third section will provide further reasoning to glimpse how cloud computing services can enforce the GATS system.

ANALYSIS

CROSS-BORDER NATURE OF CLOUD COMPUTING

The characteristics and peculiarities of cloud computing services been driven and enabled by several technological advances, in which such as high-speed broadband and programs with open-source code play a main role for its development.¹¹ It is indeed advantageous for smaller companies' growth, as they may not have the resources for the initial fixed costs that are often associ-

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6. Huibert Aalbers, *Una introducción al cloud computing*, 2013.
 7. Pablo Pérez San-José, Cristina Gutiérrez Borge, Susana de la Fuente Rodríguez, Laura García Pérez, and Eduardo Álvarez Alonso, "Guía para empresas: seguridad y privacidad del *cloud computing*", Instituto Nacional de Tecnologías de la Comunicación, 2011.
 8. Benno Barnitzke, Marcelo Corrales Compagnucci, and Nikolaus Forgó, *Aspectos legales de la computación en la nube: seguridad de datos y derechos de propiedad sobre los mismos* (Buenos Aires: Editorial Albremática, 2012).
 9. Luis Joyanes Aguilar, *Computación en la nube, estrategias de cloud computing en las empresas* (Ciudad de México: Alfaomega, 2012).
 10. Novoa, "Extraterritorial application of copyright in Ecuador".
 11. Kommerskollegium, "How Bad is the Cloud?", National Board of Trade, 2012; Novoa, "Extraterritorial application of copyright in Ecuador".

ated with purchasing software and hardware, and cloud computing services can cover all such necessities.¹²

However, cloud computing services are not just offered at a commercial level, it can be also used non-commercial purposes. Perhaps, cloud computing services are majorly known in a B2C (Business to Consumer) context, meaning a e-commerce business model in which the service is offered directly to the end-user,¹³ this is because the popularity of software's offered on-line like Dropbox, iCloud, Gmail, Spotify, social networks and so forth.¹⁴ However, the real development of cloud computing and its connection with corporate market growth is due to the facilities it provides which reduce IT and administration cost for entrepreneurs, this kind of business model is known as B2B (Business to Business) in e-commerce.¹⁵

The popularity among companies to allocate their programs and data onto external servers administrated by third parties (cloud computing service providers). Nowadays the implementation of new technologies in a business is a must-do for companies.¹⁶ Thus, when companies choose to provide services by internet, one further step is selecting cloud computing services instead of investing in a costly infrastructure (cables, devices, cooling machines, storage, etc.).¹⁷

In sum, the usage of cloud computing services can be highly beneficial in B2B and B2C e-commerce business models.¹⁸ In the new technology era, whenever an Internet connection is involved, cloud services offer greater potential for customers.¹⁹ More importantly, normally data stored in the cloud may be more secure, since it is stored separately from the device and is administrated by a third party specialized in doing so.²⁰ Either companies or end-users with

12. Novoa, *ibíd.*

13. Adriana Acuña and Eugenio Cordero, "Los contratos de *shrinkwrap*, *clickwrap* y *browserwrap*: un enfoque desde la perspectiva del derecho del consumidor", Bachelor's thesis, Universidad de Costa Rica, 2014.

14. Novoa, "Extraterritorial application of copyright in Ecuador".

15. *Ibíd.*

16. Eugenia Novoa, "El *linking* y el *framing* como elementos generadores de competencia desleal", *El Comercio* (November 7, 2017, Quito).

17. Renee Berry and Matthew Reisman, "Policy Challenges of Cross-Border Cloud Computing", *Journal of International Commerce and Economics* 4 (2012).

18. Novoa, "Extraterritorial application of copyright in Ecuador".

19. Kommerskollegium, How borderless is the Cloud?, 17.

20. *Ibíd.*

cloud computing services doesn't have to be aware of its information anymore if the hardware (PC or USB) is lost, stolen, or malfunctions, the data remain secured by a cloud provider in a datacenter located somewhere in the world.²¹

CROSS-BORDER NATURE OF CLOUD COMPUTING SERVICES ANALYZED UNDER GATS

The GATS system in the World Trade Organization

Back in 1995, when the WTO system was created, its members introduced as an integral part of the Marrakesh Agreement a new system which objective was creating a “credible and reliable system of international trade rules; ensuring fair and equitable treatment of all participants... [S]timulating economic activity through guaranteed policy bindings; and promoting trade and development through progressive liberalization”.²²

Services are highly influential in the new information era, not only because of the big steps made through globalization since the post-war world,²³ but also due to the dimension that new technologies have in human's life. Moreover, this trend is likely to increase due to arising models of business-like cloud computing. Thus, international regulation of trade and services worldwide seems like a “must-have” for the international community.

Luckily, even knowing that in 1995 the members of WTO did not have the same concerns of twenty-one years later, brightly they made the GATS part of WTO system and now, all of them (some 140 economies)²⁴ are blinded by these principles and have obligations based on their commitments in specific schedules.²⁵

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21. Eugenia Novoa, “El derecho a la protección de datos de carácter personal ecuatoriano analizado a partir de la relación B2C (Business To Consumer) en la prestación de servicio de cloud computing: caso de política de privacidad de Dropbox”, Bachelor's thesis, Universidad de las Américas, 2015; Novoa, “Extraterritorial application of copyright in Ecuador”.
 22. *Multilateral Marrakesh Agreement establishing the World Trade Organization* (April 15, 1994). 1867 U.N.T.S. 154.
 23. Guiguo Wang, *Radiating Impact of WTO on Its Members' Legal System: The Chinese Perspective* (Hague: The Pocket Books of The Hague Academy of International Law, 2011).
 24. *Ibid.*, 343.
 25. *Ibid.*

However, the GATS system has caused different discussions, especially because the definition of the concept “services” is more complex than it seems like. An apparent reason for that is due to the variety of sectors and modes of supply implicit in the term itself. Besides, some find it easier just to define it as any trade which is not classified under the GATT and does not involve goods. In this way article I:3 (b) of GATS gives the following definition of services:

For the purposes of this Agreement, trade in services is defined as the supply of a service:

- a) from the territory of one Member into the territory of any other Member;
- b) in the territory of one Member to the service consumer of any other Member;
- c) by a service supplier of one Member, through commercial presence in the territory of any other Member;
- d) by a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member.²⁶

The intangible characteristics of services are probably influences in the difficulty to define the term “services”. Accordingly, this difficultness is followed by the problematic to keep the track of different transactions in services. Moreover, services can be provided in a vastly variety of ways, indeed the WTO system has divided them into 12 sectors and 155 sub-sectors. Likewise, sector of services is particularly characterized by a unique manner of operation. Which leads to the application of specific barriers to trade to different service’s sectors. Hence, the sectors and subsectors in a Member’s Schedule must be mutually exclusive, otherwise, other interpretations may result in unclear commitments.²⁷

Since January the first of 1995, the date when the Marrakesh Agreement entered into force, the commitments of the members regarding GATS bind them. These obligations may be categorized in the general ones, which are directly applied to all services sectors, and specific, which are laid down in individual country schedules.²⁸

On the one hand, the general obligations are, in lights of Articles II and II of the GATS,²⁹ “Most Favored Nation Treatment” and “Transparency”. On the

26. WTO, *General Agreement on Tariffs in Services* 1994, April 15. 1867 U.N.T.S.

27. Ibid.

28. Ibid.

29. Ibid.

other hand, in accounts of Articles XVI and XVI, the specific commitments that will vary per each member are “Market Access” and “National Treatment” of services.³⁰

Precisely, specific commitments of each member would be contained in its ‘Schedule of Specific Commitments’ in which limitations to liberalization market access and national treatment will be specified. It is up to each member to assume additional commitments; these ones will be also specified in such a Schedule. The commitments undertaken are specified in accordance four modes of service supply.³¹

The sectors in each schedule will be divided in between “Horizontal Section” and “Sector Specific Sections”.³² The first one contains apply to all sectors crossed over the schedule, and the second refer to a particular mode of supply.³³

Finally, is important to mention that due to the importance of the GATS system in technology and services advance, and also because initially it was difficult lay down all the possible commitments regarding services, its members set out a work program acknowledged as “the built-in agenda”. As specified in Article XIX “with a view to achieving a progressively higher level of liberalization” successive rounds of negotiations and commitments are required, as well those should begin “not later than five years from the date of entry into force of the WTO Agreement and periodically thereafter”.³⁴

Following the “built-in agenda” the GATS system is supposed to increase the level of liberalization of its members periodically and overlooking all the advances in services sectors.³⁵ However, and sadly since 2001 the Doha round was launched, but even in regards to all the economic effects of new technologies and services arising in this global world such negotiations have not being fruitful. Which stagnates economic growth and the advance of innovative modes of business worldwide like cloud computing.

30. *Ibid.*

31. *Ibid.*

32. *Ibid.*

33. *Ibid.*

34. *Ibid.*

35. *Ibid.*

Coverage of Cloud computing services under the GATS

In the WTO word of 1995 cloud computing was not a major concern, it was barely coming to life,³⁶ that is the main reason why no WTO members have made commitments related to cloud computing under the GATS. This means that the schedules of WTO members do not include a sector which comprises all the particularities of cloud computing, which indeed are highly innovative in the present world.

Modes of supply

As explained above, in the GATS system services are traded in four modes of supply, these ones are defined through Article I:2 (a) - (d)³⁷ of this agreement and can be defined in the as the following:

- a) Cross-border (Mode 1): “From the territory of one member into the territory of any other Member”.³⁸ As defined, the service might cross a boarder not necessarily accompanied by its supplier presence, for instance internet services.³⁹ In this mode, the location of the service supplier is the crucial factor. For technology services, particularly in the case of cloud computing, this is relevant to define the place where the service is being provided.
- b) Consumption abroad (Mode2): “in the territory of one Member to the service consumer of any other Member”.⁴⁰ In this mode, usually the consumer crosses a border to receive the service in the supplier’s country, for instance tourism services.⁴¹

36. See Novoa, *El derecho a la protección de datos de carácter personal*, relating the history of cloud computing.

37. WTO, *General Agreement on Tariffs and Services*; Yolinda Yok, “A law and development perspective on services liberalization in the Pacific Island countries with particular reference to tourism”, Thesis, University of Auckland, 2016. Available at <https://apo.org.au/node/198986>.

38. Yok, *ibid*.

39. *Ibid*.; WTO Secretariat, *Guide to GATS, An Overview of Issues for Further Liberalization* (Kluwer Law International, August 1, 2001).

40. WTO, *General Agreement on Tariffs and Services*.

41. Yok, “A law and development perspective”; WTO Secretariat, *Guide to GATS*.

- c) Commercial presence (Mode 3): “by a service supplier of one Member, through commercial presence in the territory of any other Member”.⁴² With this mode the service provider establishes a commercial presence in the country of destination, such as an affiliate.⁴³ This concept can involve acquisition or maintenance of a juridical person, but not necessarily requires a full incorporation or establishment of the company in the host State.⁴⁴

A permanent establishment in some cases will not be protected by GATS, if it deals with a non-service sector, which means that it engages in a service sector uncovered by the schedules of a certain member.⁴⁵

- d) Movement of natural persons (Mode 4): “by a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member”.⁴⁶ In this mode, the service supplier is necessarily a natural person who crosses a border in order to supply a service, for example, an architectural consultation.⁴⁷

Also, regarding some confusions between models applicability when offering services internationally through internet, the Appellate Body in *Mexico-Telecom* case of established that although telecommunications services which are considered an example of cross border supply (mode 1), are provided between two or more points, the transmission between these points does not have undertaken by a single service supplier.⁴⁸ To put it in other words, if a cloud computing service is offered though internet and different countries seem involved, such transmissions will involve different countries and not only the domicile of the cloud provider.

Certain international transactions trigger different approaches which would be linked to the applicable mode of supply. As cloud computing services, can be connected with such objectives, it is important to analyze in a case-by-case basis which modes of supply this broad model of business could be involved.⁴⁹ Particularly considering that nowadays cloud computing is not specified as a

42. WTO, *General Agreement on Tariffs and Services*.

43. Yok, “A law and development perspective”.

44. WTO Secretariat, *Guide to GATS*.

45. Ibid.

46. Yok, “A law and development perspective”.

47. Ibid.; WTO Secretariat, *Guide to GATS*.

48. WTO Secretariat, *DS204: Mexico - Measures Affecting Telecommunications Services*, WTO Panel Report Circulated, June 1, 2004.

49. Acuña and Cordero, “Los contratos de shrinkwrap, clickwrap y browwrap...”, 102.

service in the schedules, which might cause several misunderstandings regarding the mode of supply applicable to it.

To exemplify this, cloud computing services can vary in different cases, for instance, a service like Dropbox can fall under mode 1, because if offered through internet all over the world generally to end-users. Conversely, if a cloud provider wants to offer certain infrastructure services can create commercial presence in a specific country to have agents looking for potential customers in the market (mode 3), as these services involve a B2B relation and normally need previous negotiations between companies and due diligence.

Classification of services

Nevertheless, for their schedules members are not blinded to, but normally use the common instruments of classification: W/120 list by the WTO secretariat, the Central Product Classification (CPC list by the UN). If a member decides not to follow such classification standard, they shall guide in an equal classification system for their Scheduling Guidelines.⁵⁰

In practice, most the members created their schedules following the W/120 list and the Central Product Classification, these guidelines include a commitment on “computer and related services”.⁵¹ In which cloud computing services can fall due to the subheading (d) covered which refer to “data processing”,⁵² as explained above, data processing is one of the more important functions of cloud provides for offering their services.

In the same token, cloud computing services could also fall in the classification of “telecommunication services”⁵³ because, as stated beforehand, cloud computing services are provided and accessible only through internet, which is implicit in telecommunication services.

Evidentially the broad scope of cloud computing services should be covered in the member’s schedules and in its classification guidelines. Moreover, some members attempted to clarify the coverage of the division regarding com-

50. Nellie Munin, *Legal Guide to GATS* (Wolters Kluwer, 2010).

51. General Agreement on Tariffs and Trade (GATT) Secretariat, *Services Sectoral Classification List*, MTN.GNS/W/120 (Group of Negotiations on Services, July 10, 1991), <http://tiny.cc/t7d3001>.

52. *Ibid.*

53. *Ibid.*

puting services.⁵⁴ However, due to the lack of understanding between different countries, negotiations do not go forward which leads such proposals in a limbo. This evidentially has a clear effect in deterring the expansion of important technological advances and business models such as cloud computing.

US Gambling case connection with cloud computing services

The US-Gambling case represents a major example of GATS commitments applicability, specially it illustrates the broad range of interpretations of a member's Schedule which can arise from the usage of internet services. Moreover, this dispute highlights key issues of international trade linked countries' differences as: how a domestic legislation can be influential for the trading system of services, and the difficulty of interpreting a member's schedule when such a member tries to haze a commitment.

For the present case is important to take into consideration how certain issues raised in the US-Gambling case are related with cloud computing services, especially because this business model growth is evidential, and ultimately it can be a real challenge to GATS system applicability.

New technology has raised new matters to the GATS system

Antigua y Barbuda, a small country brought the claim under the WTO GATS system due to certain restrictions imposed by United States in online gambling sector.⁵⁵ On its appeals the Panel highlight certain definitions raised towards internet's facilities and its novelty services. The panel refer to Antigua's explanation of the major effects of technology in the international trade system as well. Unquestionably, that report illustrates how important is for cross border transactions a neutral trade system, which contributes to international transactions' performance, otherwise a whole industry might be affected. In this regards a passage or the Panel report is cited as follows:

3.2 The Antiguan government has taken steps since the mid 1990s to build up a primarily Internet-based, "remote-access" gaming industry as part of its economic development strategy... As the cross-border gaming industry in Antigua has devel-

54. Berry and Reisman, "Policy Challenges of Cross-Border Cloud Computing", 21.

55. WTO Secretariat, *DS285: United States - Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, Panel Report Circulated, April 20, 2005.

oped and matured, the government believes that a standard business model has evolved that successful operators more or less conform to. Antiguan regulation provides for two kinds of gambling and betting licenses... The gaming license is for casino-type, random selection and card games and the wagering license is for sports betting. Casino game operators create “virtual casinos” on their web sites with detailed graphics and enhancements designed to mimic land-based casino settings... Because of the highly visual aspect of the casino-type games, these services are operated exclusively through Internet connection.⁵⁶

Antigua and Barbuda’s analysis has been quoted for understanding the scope of cloud computing services. It is obvious that online gambling has man awns entwined, and many of such awns are also involved in cloud computing services, as the nature of the business is also borderless, as explained before. Insofar, cloud computing services require harmonized systems of regulation just like on-line gambling, otherwise its performance would be interrupted.

Comparable to Antigua’s case with online gambling, some countries might be interested in the implementation and emergence of a whole cloud computing industry. For instance, China’s government has heavily invested in the development of cloud standards. Moreover, one of seven strategic industries included in its Five-Year Plan was giving it a share of a \$600 billion investment by the government.⁵⁷

Issues raised in schedules’ interpretation

As already explained before, the broad scope of cloud computing services might lead to a high level of confusion⁵⁸ in interpreting member’s schedules. Especially because either the WTO’s W/120 list, nor the United Nation’s Central Product Classification (CPC) recognized cloud computing as a specific category.

Considering that in US-Gambling the Appellate Body made clear that a service can fall only one sector or category:

[B]ecause a Member’s obligations regarding a particular service depend on the specific commitments that it has made with respect to the sector or subsector within which that service falls, a specific service cannot fall within two different sectors or

56. Ibid.

57. Berry and Reisman, “Policy Challenges of Cross-Border Cloud Computing”, 26.

58. Novoa, “Extraterritorial application of copyright in Ecuador”.

subsectors. In other words, the sectors and subsectors in a Member's Schedule must be mutually exclusive.⁵⁹

The problematic of whether a cloud services fall under a specific sector or subsector will be highly controversial, especially considering that its different services can fall into more than one commitment, as previously analyzed.

The problems which will arise under cloud computing cases might be even more difficult to appreciate than in US-Gambling. Indeed, in US-Gambling the Appellate Body could interpret the scope of commitments because the guidelines W/120 contemplated gambling services.⁶⁰ In the case of cloud computing, such services could be observed in a broader view (computing services and telecommunications).

Hypothetically speaking, if in one case the cloud computing service is classified as "computing services" under GATS, all the following cases will be interpreted in the same way. This may lead to unfair decisions because some countries might not be required to comply with certain measures as they do not have commitments under the category of "computing services". Some services of cloud computing are broader and should be treated in explicit and detailed categories contributing to a good trade of services system, instead of shielding it.

In sum, including in the W/120 guidelines a reference to cloud computing services is urgently required. Indeed, such recognition can be emphasized due to United States proposal in 2010 within the WTO's Doha Round negotiations to "draw attention to the relationships between sectors" among various information and communication technology services.⁶¹ Particularly, this reference to cloud computing services can be made through a GATS Annex on Telecommunications, that proves to be indispensable for the digital trade services in the present.⁶²

The effect of developing countries in GATS enforcement

The relevance of US-Gambling in investigation does not necessarily focus on the Appellate Body decision; inversely, it tries to understand the context of

59. WTO Secretariat, *DS285: United States - Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, Appellate Body Report, April 20, 2005.

60. *Ibid.*

61. Berry and Reisman, "Policy Challenges of Cross-Border Cloud Computing", 26.

62. Ines Willemyns, "GATS classification of digital services does the Cloud have a silver lining?", *Journal of World Trade* 53 n.º 1 (2018).

US Gambling case in a global economy. New technologies bring new business models such as online gambling or cloud computing services; such business could have a high impact in different economies globally, either developing or strong ones.

Antigua and Barbuda, pursuant of its rights as a member of the WTO system, brought a case against a powerful economy as United States.⁶³ Certainly, all the matters and issues brought by this case raised enquiries, which in a certain level, not only challenged the current GATS system, but also alert future issues, which may come as new technologies and new models of business emerge in a global level, like cloud computing.

Besides, this case showed that the WTO system, especially the Dispute Settlement Body works in pursuant of a Trade System progress putting special attention not only towards issues raised by immense economies, but also to developing ones. Thus, this dispute shall be considered an icon and encourage other countries to claim their rights under a system that promotes economic development and liberalization for its members, this will in turn enable value creation for developing countries in the digital economy.⁶⁴

The influence of cloud computing services in GATS's enforcement

Nowadays, this society is highly influenced by social and economic changes brought by the increasing expansion of technologies in a daily basis. Hence it seems obvious that we live in a global era and “globalization is not the affair of nations alone. International organizations, other entities, and NGOs as well as individuals are active participants in the process in which anything that happens in one corner of the earth may affect the rest of the world”.⁶⁵

So, the existence of services like cloud computing, without doubt, raises a great amount of issues which shall be accounted for triggering policy changes in an international framework. Thus, the international community shall enforce international systems inspired by challenges pertaining to cloud computing issues.⁶⁶

63. WTO, *US Gambling*.

64. UNCTAD, *UNCTAD/DER/2024: Digital Economy Report, shaping an environmentally and sustainable future*, Official Report by UNCTAD, July 10, 2024.

65. Wang, *Radiating Impact of WTO*, 308.

66. Rolf Weber & Rainer Baisch, “Tensions between Developing and Traditional GATS Classifications in IT Markets”, *Hong Kong Law Journal* 43 (2013): 77-110.

Take as an example a hypothetical case of cloud computing in which the IaaS service is provided through internet by AWS,⁶⁷ a company incorporated and domiciled in United States of America, but with commercial presence in different places of the world due to internet. This company has data bases for the information of its clients in India, Pakistan and Brazil. The contracting party, a start-up company from Portugal, which provides marketing services through internet, decides to pay for infrastructure in the cloud instead of buying all the costly machines necessary. The business seems well structured, and the company has started providing services across Europe without any concern. Eventually, in 2014, the company expands the services to United States of America.

The business seems going smoothly until a parole of the electric company of Pakistan causes a black out in the Islamabad (city where the datacenter of AWS is located). This situation causes severe losses to AWS, especially regarding big amount information vanished due to the failures in the systems with the electrical black out.

The start-up company goes into bankruptcy caused by a countless number of lawsuits initiated by its clients in United States and European Union. Besides, considering that the European Union has a tough system for data protection, the start-up company is asked to pay high fines due to its negligent data processing. In addition, seems like the start-up company also has some pending trials in United States because its services never functioned as expected, apparently due to unnoticed restrictions of data flow from Europe to United States.

If the start-up company decides to initiate a lawsuit against AWS, which jurisdiction shall be applied? What kind of damages can be granted? Likewise, due to the large amounts of trials in United States, the company raises claims to the Secretariat of the United States for not informing in-advance the restrictions of data-flow between European Union and the US. Finally, encouraged by the start-up company, United States brings a case to the WTO under GATS, identifying as a measure the restrictions of data flow generated because of data protection laws in the European Union.

Furthermore, AWS irritated by the problems caused since the parole of employees, decides to initiate an arbitration case in the ICSID under the umbrella clause of a BIT signed between US and Pakistan.

67. Amazon Webs Services.

The case before us only attempts to show the reader all the international issues which can be raised using cloud computing services. The relevancy of creating an international framework that abides with cloud computing providers to implement energy platforms in case blackouts and other security measures to avoid information losses. Also, the necessity of creating a harmonized framework of data protection laws, considering the different international approaches to regulate cross border data flows, particularly the differences between the US self-regulation and Europe with the stringent GDPR, which significantly lessens cloud computing progress worldwide.⁶⁸ Thus, designing and encouragement of standardized data protection laws worldwide is the biggest challenges for decision-makers to facilitate and promote cross-border trade with cloud services.⁶⁹

Finally, the global need of creating a general understanding of what cloud computing is, and which services can be involved in it, which is beneficial to developing countries. If cloud computing services are chained to GATS legal framework, a good starting point for the international community would be enforcing the Schedules commitments by adding cloud computing services as special category. This would create a harmonized system for cloud computing understanding worldwide, additionally it will prevent inaccurate interpretations of members schedules and commitments under the GATS scheme. Particularly this can be beneficial to developing countries, that need more guidance on issues related to the digital economy in order to leapfrog inequalities.⁷⁰

CONCLUSIONS

The cross-border nature of cloud computing services contributes to international economics and liberalization, main objectives of the World Trade Organization system. Specifically, US-Gambling have established the relevance of internet services for developed and developing economies worldwide and how GATS system can be challenged under WTO agreements. This case is a good steppingstone to glimpse the importance of adding cloud computing services

68. UNCTAD, *UNCTAD/DER/2021: The Digital Economy Report 2021, Cross-border data flows and development for whom the data flow*, Official Report by UNCTAD, September 29, 2021.

69. Berry and Reisman, "Policy Challenges of Cross-Border Cloud Computing", 25.

70. UNCTAD, *Digital Economy Report*, 21.

as a new category in WTO member's schedules under GATS with an Annex on telecommunications. This would enforce and improve the GATS system by clarifying certain commitments that could be misinterpreted.

This will in turn benefit the international system, the need of GATS system enforcement is palpable, as it will encourage entrepreneurs and technology development, which leads to economic growth, liberalization and find equality, particularly creating synergies for developing countries in the digital economy.

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DECLARACIÓN DE CONFLICTO DE INTERESES

La autora declara no tener ningún conflicto de interés financiero, académico ni personal que pueda haber influido en la realización del estudio.