XESCOM

# DE LOS MEDIOS Y LA COMUNICACIÓN DE LAS ORGANIZACIONES A LAS REDES DE VALOR

## Actas del II Simposio de la Red Internacional de Investigación de Gestión de la Comunicación

QUITO – ECUADOR
15 Y 16 DE SEPTIEMBRE DE 2016

Edición de la Red Internacional de Investigación de Gestión de la Comunicación (XESCOM) y los Departamentos de Ciencias de la Comunicación y Ciencias Empresariales de la Universidad Técnica Particular de Loja (UTPL)

UTPL
USC Universidade de Santiago de Compostela
Universidade de Vigo
Universidade da Coruña
Cedes UTPL
Xunta de Galicia
Gobierno de España – Ministerio de Economía y Competitividad
PROMETEO – Secretaría de Educación Superior, Ciencia, Tecnología e Innovación

Libro de Actas. *De los medios y la comunicación de las organizaciones a las redes de valor*. Actas del II Simposio de la Red Internacional de Investigación de Gestión de la Comunicación (XESCOM, Quito - 2016).

Editores: José Rúas Araujo, Valentín Alejandro Martínez Fernández, María Magdalena Rodríguez Fernández, Iván Puentes Rivera, Jenny Yaguache Quichimbo y Eva Sánchez Amboage.

ISBN: 978-9942-25-054-4

Quito, septiembre de 2016.

II XESCOM. Simposio Internacional De los medios y la comunicación de las organizaciones a las redes de valor.

Quito 15 y 16 de septiembre de 2016

## Organizan

## Colaboran

## Comité organizador

Álvarez de la Torre, Jaime
Armijos Valdiviezo, Ramiro
Cárdenas Carrillo, Ramiro
Carlos López, Paulo
Costa Sánchez, Carmen
Crespo Pereira, Verónica
Fontenla Pedreira, Julia
Gago Mariño, Manuel
García Orosa, Berta
Izquierdo Montoya, Leonardo
Juanatey Boga, Óscar
Limia Fernández, Moisés
López García, Xosé
López Golán, Mónica
Negreira Rey, Cruz
Pereira Fariña, Xosé
Pinzón, Camilo
Ponce, Manuel
Pousa Estévez, Xosé Ramón
Rivera Rogel, Diana
Rodríguez Fernández, María Magdalena
Rúas Araujo, Xosé
Silva Rodríguez, Alba
Toural Bran, Carlos
Ulloa Erazo, Nancy

## Presidencia

Campos Freire, Francisco
Espinoza Loaiza, Viviana
Martínez Fernández, Valentín Alejandro
Túñez López, Miguel
Yaguache Quichimbo, Jenny

## Secretaría

Direito Rebollal, Sabela
Puentes Rivera, Iván
Sánchez Amboage, Eva
Toledo Macas, Ronald
Victoria Velásquez, Andrea

## Vocales

Responsable de memorias: Victoria Velásquez, Andrea
Responsable de difusión: Coronel, Gabriela
Responsable logístico: Chamba, Karina

## Comité científico

Armas, Reinaldo (Universidad Técnica Particular de Loja)

Barrazueta Molina, Patricio (Universidad Técnica Particular de Loja)

Blázquez Lozano, Félix (Universidad de A Coruña)

Campos Freire, Francisco (Universidad de Santiago de Compostela)

Canavilhas, Joao (Universidad Beira Interior Covilha)

Caridad Sebastián, Mercedes (Universidad Carlos III Madrid)

Coronel Salas, Gabriela (Universidad Técnica Particular de Loja)

Correa Quezada, Ronny (Universidad Técnica Particular de Loja)

Correia Gil, Ana Cristina (Universidad dos Açores, Portugal)

Costa, Carmen (Universidad de A Coruña)

De Mateo, Rosario (Universidad Autónoma de Barcelona)

Faustino, Paulo (Universidad de Leiría / Porto)

Fernández Freixanes, Víctor (Universidad de Santiago de Compostela)

Fernández Lombao, Tania (Universidad de Santiago de Compostela)

Ferrás, Carlos (Universidad de Santiago de Compostela)

Gago Mariño, Manuel (Universidad de Santiago de Compostela)

García Orosa, Berta (Universidad de Santiago de Compostela)

González Portela, Luján (Universidad Técnica Particular de Loja)

Juanatey Boga, Óscar (Universidad de A Coruña)

Ledo Andión, Margarita (Universidad de Santiago de Compostela)

López, Paulo Carlos (Pontificia Universidad Católica de Ibarra)

López Cepeda, Ana (Universidad de Castilla La Mancha-Cuenca)

López García, Xosé (Universidad de Santiago de Compostela)

López Golán, Mónica (Pontificia Universidad Católica de Ibarra)

Machado, Elías (Universidad Federal de Santa Catarina en Brasil)

Marín, Isidro (Universidad Técnica Particular de Loja en Ecuador)

Marinelli, Alberto (Universidad de Roma)

Márquez, Israel (Universitat Oberta de Catalunya)

Martínez Fernández, Valentín Alejandro (Universidad de A Coruña)

Mier Sanmartín, Catalina (Universidad Técnica Particular de Loja)

Neira Cruz, Xosé Antón (Universidad de Santiago de Compostela)

Novo Corti, Isabel (Universidad de A Coruña)

Oliveira Barbosa, Suzana (Universidad Federal de Bahía en Brasil)

Oliveira Paulino, Fernando (Universidad de Brasilia)

Ortiz, Carlos (Universidad Técnica Particular de Loja)

Otero, María Luisa (Universidad de Santiago de Compostela)

Paladines Galarza, Fanny (Universidad Técnica Particular de Loja)

Pereira Fariña, Xosé (Universidad de Santiago de Compostela)

Pinto, Manuel (Universidade do Minho)

Pousa Estévez, Xosé Ramón (Universidad de Santiago de Compostela)

Punín Larrea, María Isabel (Universidad Técnica Particular de Loja)

Rivera Rogel, Diana (Universidad Técnica Particular de Loja)

Rodríguez Fernández, María Magdalena (Universidad de A Coruña)

Rodríguez Vázquez, Ana Isabel (Universidad de Santiago de Compostela)

Rodríguez Vázquez, Clide (Universidad de A Coruña)

Rúas Araujo, Xosé (Universidad de Vigo)

Sánchez Amboage, Eva (Universidad Técnica Particular de Loja)

Silva Rodríguez, Alba (Universidad de Santiago de Compostela)

Soengas Pérez, Xosé (Universidad de Santiago de Compostela)

Sorrentino, Carlo (Universidad de Florencia)

Suing Ruiz, Abel (Universidad Técnica Particular de Loja)

Timoteo Álvarez, Jesús (Universidad Complutense de Madrid)

Toural Bran, Carlos (Universidad de Santiago de Compostela)

Túñez López, Miguel (Universidad de Santiago de Compostela)

Ulloa Erazo, Nancy (Universidad Católica Pontificia de Ibarra)

Valarezo, Karina (Universidad Técnica Particular de Loja)

Vaz, Francisco Xabier (Universidad de Santiago de Compostela)

Vázquez Sande, Pablo (Universidad de Santiago de Compostela)

Yaguache Quichimbo, Jenny (Universidad Técnica Particular de Loja)

Yaguana Romero, Hernán (Universidad Técnica Particular de Loja)

# Legal and ethical state of drone journalism in Andean Community countries

**Jorge Cruz Silva**
Pontificia Universidad Católica del Ecuador
jacruz@puce.edu.ec

**Abstract:**
The present paper seeks to analyse and compare legal constraints regarding the usage of drones within journalism activities in Andean Community countries (Colombia, Ecuador, Peru, and Bolivia). The main objective is to understand the actuality of this activity in a particular geographic area in order to visualize how this branch of civil aviation has generated specific regulation in those countries. Another goal is to note how this activity has gained supporters in the past years, specially within newsrooms; on the other hand, this research discusses the ethical implications of "Robot eye-witnessing", regarding the juxtaposition between freedom of speech and non-controlled surveillance among civilians.

To accomplish this, the proposal of some scholars, regarding types of control for those aircrafts is reviewed in order to compare this to the current legislation of 4 Andean countries. This typification are the standpoint of analysis, based on current civil aviation laws, examples of drone journalism in each country, and finally, a comparison to US drone regulations, the epitome of countries with civilian uses of drones.

Given that this type of journalism can be considered a novel branch of news reporting, some definitions and concepts are collated to determine a framework on drone journalism, especially in South America. For this, some scholars are addressed from different areas of knowledge such as Journalism, War Studies, Sociology, Artificial Intelligence, among others.

The main conclusion of this paper is to determine the importance of formal regulations (opposed to natural controls, generic laws, and soft regulatory forms) and its suitability to normalise the use of drones for professional purposes. Some other expectation is establishing a permanent discussion about the use of technology and its influence on the development of new journalism.

**Keywords:** drone Journalism, ethical constraints, drone regulations, new journalism

## 1. THEORETICAL FRAMEWORK

### 1.1. The information society and drones

Mankind is facing the third stage of computer evolution (Hassan, 2008), machines –no only personal computers or laptops- have pervaded in any human activity. Hassan called this particular stage, this Ubiquitous Computing era, the *Information* Society, although some authors may also call it Society of Ignorance, Society of the Unknowing or Society of the Lack of culture (Brey, Innerarity & Mayor, 2009). Hassan noted that our time is remarkable for the opportunity/thread to speed time and shrink the space between information gatherers and audiences. On the other hand, Marshall McLuhan had also discussed in his work how the natural evolution of media technology goes beyond broadcasting or audience reception, to the father of Media Ecology: "Technological innovations are extensions of human senses and abilities that alter the sensory balance; a condition that, in turn, inevitably reshapes society which created the technology" (Scolari, 2015). Fogg (2003 in McArthur, 2016) also drew computers or any type of digital technology as agents of change that can produce a shift regarding the attitudes, values, and behaviours of their users; he coined the term "captology" that stands for Computers as Persuasive Technologies – CAPT. New technologies are indeed constantly shaping and re-shaping our understanding regarding ourselves, others, even our environment. McArthur (2016) in his book "Digital Proxemics" explores how this human-technology interaction affects the way we approach spaces, how physical and digital words are merging. Research carried out by Ling (2010) also discusses the new type of ties that technologies create in human behaviours: how mobile phones affect face-to-face interactions by creating distractions and shifts.

Among all these new opportunities created by digital media and the evolution of electronics, drones have appeared as remarkable new tools to gathered information. A start point to this discussion is the terminology that has been used to acknowledge these aircrafts. Chapman (2014) presented a brief but effective analysis regarding the use of the term Drone. To his research, "it's ok to call them drones" due to 4 specific points in favour:

- The term is catchy, short, and unique;
- It is globally recognized, even in other languages;
- Its simplicity removes any sense of difficulty with unfamiliar technology; and
- It is well established in the common vocabulary

Drones, even by their name, can be separated from remote-controlled pilotless aircraft, it will be displayed that differences even have outcomes in legal realms. Some researchers, like Culver (2014) even draw a line on the capabilities of modern drones, suggesting and predicting that we are facing technology that is or will be able to "sense, think and act". On the other hand, a drone can be related to "almost anything in the air without a pilot" (Pike, 2013). If a kid attached a GoPro camera to a kite, or a balloon captures videos, are they drones? Cruz (2015) offered a possible definition of a drone, calling it "an unmanned aircraft, radio-controlled, retrievable with a clear

mission for its deploy". These ulterior goals that can be pursued with drones can be the definitive line that separates them from aeromodelling crafts.

One of the key missions or goals of modern drones is to enhance the capabilities of record and collect aerial viewing material. Humans are constantly facing a cyborgist relationship with new technologies (Aguilar García, 2008); drones are extending not only the reach of pilots but augmenting their cognition possibilities. At this point is important to underline the importance of pilots in drone activities, the aircrafts will become prosthetic parts of their users; Haraway (1991:152) in her foundation work on cyborg realities determined that machines can be seen as "disturbingly lively" and the operators will be sensed as "frighteningly inert" during this merge. This co-presence goes beyond physical interactions (Clarke, 2014c) and demands a significant input on the psychological dimension of the pilot. Human-controllers will be constantly receiving in-flight information and manipulating buttons, knobs, and joysticks; this type of coordination will be key to the success of any drone activity, and this importance will be displayed on how legislation is being issued regarding pilots and its required capabilities. On a positive standpoint it can be said that drones will allow pilots to improve their skills in recognition and search (Clark and Chalmers, 2010), key features of aerial viewing; however, in military endeavours, drone pilots can feel detached from the reality where the shooting and killing are happening and that will draw ethical constraints on any drone activity. (Clarke, 2014c)

### 1.2. Drone journalism

In 2012, The Guardian mentioned that 11 nations[1] possessed 807 military drones in active service (Rogers 2012); in 2015 it was reported by Inter-American Commission on Human Rights (Seguridad en América, 2016) that 14 Latin-American countries held drones: Argentina, Belize, Brazil, Canada, Colombia, Costa Rica, El Salvador, Ecuador, Mexico, Panama, Peru, Trinidad and Tobago, Uruguay and USA. Additional to these figures, some predictions indicate that during the 2020s the drone industry will reach profits that will surpass $90 billion, with a larger portion of the money on civil drones (Tremayne and Clark 2014; Culver 2014). By 2025, Lux Research (Sophic Capital, 2015) indicates that drone market will reach $1.7 billion, led by agricultural usages.

Drones can be found in a myriad of fields, some aircrafts are used to deliver vaccines and medicines to "unreachable" areas (Brooks 2012; Taylor 2013), drones can also be helpful in weed seedling discrimination (Gómez-Candón et al. 2013). The research of Clarke (2014b) identified a number of potential civil applications for drones: (1) Community Policing, Voyeurism, (2) Hobby and Entertainment Uses, (3) Hostile Load-Delivery, (4) Voyeurnalism, (5) Law Enforcement, (6) Load-Delivery, (7) Passenger Transport, and (8) Journalism.

[1] USA, India, Turkey, Israel, France, Germany, Italy, United Kingdom, China, Iran and Russia

Drone journalism as this "new branch" has been called, has become a new topic of research and analysis (Brooks 2012; Culver 2014; Cruz 2015; Gibb 2013; Gallardo-Camacho & Lavín, 2016; Marron 2013; Waite 2013). Journalistic activities that involved these aircrafts can be traced to 2010: a paparazzo contracted a drone pilot and installed his camera to shot pictures of Paris Hilton in the French Riviera, the next year CNN broadcasted footage –captured by drone with a basic video camera- of storm damage in Tuscaloosa, Alabama (Tremayne and Clark, 2014).

Human's love affair with bird's eye perspective has been long and lasting (Dorrian and Pousin, 2013; Gibb, 2013), but for journalists, drones may become tools to change narrative and technical constraints. Eye-witnessing has been a distinctive opportunity and feature of reporters; although –with new technologies- society can witness events, the physical presence of a journalist is mandatory to produce the link between news and people. This fortunate presence and eyewitness gave events credibility and authenticity (Zelizer, 2007). Drones are enhancing reporters to keep constructing cultural and contextual frameworks for their audiences (Markham, 2011) and provide them with a sense of liveness (Liebes and Kampf 2009). Dorrian and Pousin (2013) mentioned that the key objective of aerial viewing is to reveal the formal chaos of the observed objects; in this matter drones become extensions of investigative reporting, aesthetical shooting and contextualization of events.

### 1.3. Legal constraints

Gibb (2013) collected definitions of five government regulators regarding drone activities. The common aspects that arose were: (1) Flight autonomy, (2) capability to be weaponized, (3) retrievement or discarding of the device. On the other hand, Clarke (2014a) projected 6 kinds of control: (1) Natural controls, (2) Soft regulatory forms for both organisational and industrial regulations, (3) Pre-existing generic laws, (4) aviation laws, (5) privacy laws and (6) surveillance laws. Within his research, Clarke noted that formal regulations –over another kind- might suit better to regulate these aircrafts, the inexistence of these laws "inevitably make the gap even more apparent than it already is" (Clarke 2014a: 301).

Regarding drone regulations, the US Federal Aviation Administration (FAA) is a key regulator that has to be recognised due to the amount of drones, pilots, scholars and media that are involved in different kind of usages in the US. In 2012, the FAA integrated civil unmanned aircrafts to its regulatory system – with the Modernization and Reform Act- (Gibb 2013). Definitive guidelines were projected by 2015, documents that could legislate civil applications of unmanned aircraft vehicles, with a focus on the performance of civil drones within common aerial space. After some months of delay, on June 21, 2016, the FAA released Part 107 of the Federal Aviation Regulations[2] "which encompasses the new rules covering Unmanned Aerial Systems or drones or flying robots or whatever you want to call them" (Waite, 2016). The document focused

[2] A summary of Part 107 can be found in https://www.faa.gov/UAS/media/Part_107_Summary.pdf

on 4 aspects: (1) Operational Limitations, (2) Remote Pilot in Command Certification and Responsibilities, (3) Aircraft Requirements, and (4) Model Aircraft.

This law is noteworthy not only for US regulations but as a blueprint to other nations. The FAA has constantly issued temporary guidelines that served as an example to the regulations that were built in the Andean Community countries, the particular object for this research. For instance, in 2013 the FAA started to persecute drone activities that could be considered as profitable. At that time, in the words of Matt Waite, the head of the Drone Journalism Lab for the Nebraska-Lincoln University, "If there's a subscribe link or a donate button, that's enough" (Waite 2013: 10). The FAA has been controlling drone activities carried out by research projects. Also in 2013, the University of Missouri's Drone Journalism Program was ceased for flights over open fields, only allowing them to fly in a "predetermined, relatively small, contiguous space" (Pham 2013; Stelter 2014).

Three out of four Andean countries that will be part of this research: Colombia, Ecuador, Peru released drone regulations in the second semester of 2015, a year before part 107; although, pilot certification is a good example of how FAA regulations in general are the basis of different regulations around the world and for Andean countries, as will be seen further.

In Colombia, Civil Aeronautics of the Ministry of Transport -on July 27, 2015- issued the General Requirements for Airworthiness and Operations of RPAs (Remotely-piloted aircrafts)[3]; Ecuador, through Civil Aviation Authority, released –on September 17, 2015- a resolution to create Requirements for Operation System of remotely piloted aircraft known as drones or Unmanned Aircraft Systems[4]. The Peruvian Civil Aeronautics Authority–on November 03, 2015- introduced the Requirements for Aircraft Systems Operations remote-piloted[5]. Bolivia is the only Andean country that has not issued a definitive guideline for drone activities. However, on December 2015, the Civil Aeronautics Authority presented a document regarding international civil aviation where the necessity for "regulations for remotely piloted aircraft operations, commonly called drones"[6] was displayed. On the other hand, in March 2016, Bolivia's Minister of Defense, Reymi Ferreira, announced a law to regulate drones due an incident where a civilian unmanned aircraft overflew the presidential palace and the vice-presidential residence, and at the same time regretted the lack of legislation in this matter (Telesur, 2016).

[3] http://bit.ly/regdroneCol

[4] http://bit.ly/regdroneEcu

[5] http://bit.ly/regdronePer

[6] http://www.dgac.gob.bo/AeroNoticias/2015/Nota%2018%2012%202015b.pdf

### 1.4. Ethical constraints

Gynnild (2014) talked about Robot eye witnessing when he refers to drones. This scholar notes that drones produce unbiased reportages due to the absence of human subjectivity. The footage that a drone can obtain will be "neutral and fair". Clarke (2014a), on the other hand, discusses the importance of pilots as responsible for legal or ethical breaches caused by drones. Finally, Culver (2014) exposes a mixed moral responsibility between humans and machines separately. To start talking about ethics in journalism spheres, Holmes et al. (2013: 270) identify some issues important to news producers and audiences: (1) accuracy, (2) verification of information, (3) honesty, and (4) the right to be informed. Phillips et al., (2012) collaborate with a perspective, focusing on three ethical attributes for journalism: (1) accuracy, (2) sincerity and (4) hospitality. With a specific emphasis on drone journalism, Culver determines four attributes that can be traced and needed: (1) safety, (2) accuracy and context, (3) privacy, and (4) conflict of interest. Cruz (2015) filter these 3 appraisals in order to build an ethical framework that can be used in journalistic purposes, regarding drones: **Openness, accuracy, transparency and privacy.**

## 2. METHODOLOGY

This research seeks to be an initial approach to drone activities within Andean and South American spheres. Since there is no research data collected on drone journalism in the region and, since this paper deals with a first description of the state of the art of this particular subject, the method will be merely qualitative, with expectations on developing quantitative analysis in the near future. The first step will be the analysis of literature review in order to highlight definitions, philosophical standpoints and approaches of drone journalism; another analysis will be the comparison between search terms related with each of the four Andean countries. Finally, the legal bodies will be analysed through a method of comparative law and then will be checked with Practical and Ethical dimensions offered by Tremayne and Clark (2014):

Table 1. Drone Journalism Dimensions

| Practical Dimensions | Ethical Dimensions |
|---|---|
| Practicality | Ethics |
| Safety | Privacy |
| Practical limitations | Law |

Source: Tremayne and Clark, 2014

Another aspect to consider during the comparison between legal bodies will be using the first 3 aspects that the FAA considered in the summary of Part 107: (1) Operational Limitations, (2) Remote Pilot in Command Certification and Responsibilities, (3) Aircraft Requirements. Model Aircraft regulations will not be considered due the requirements ordered by the FAA use this aspect to differentiate Drones from other aircraft.

In research related to drone journalism in Ecuador (Cruz, 2015) a different methodology has been used; for this methodology, the classic method of inquiry of journalism "the five Ws and one H" is carried out. By asking What?, Who?, Where?, When?, Why?, and How? within a phenomenological approach, some issues can be identified as part of the process.

Table 1. 5Ws and 1H method of inquiry applied to drone journalism

| Question |
|---|
| **WHAT** is a drone? |
| **WHO** will be flying the drones? |
| **HOW** these drone activities will be performed? |
| **WHERE, WHEN and WHY** Drone Journalism should be applied? |

Source: Cruz, 2015

Due to the specific approach of this particular paper, only Definitions of Drone Journalism (What?) and the Feasibility –or constraints- on Drone Journalism (How?) can be analysed. Nevertheless, this methodology could be exploited in future research as it as be used in other analysis in journalistic spheres (Hauglid and Gauslaa 1997; Singer 2008).

For the final part of analysis, regarding ethical perspectives, a discussion on the 4 ethics issues – Openness, Accuracy, Transparency, Privacy- stressed by Cruz (2015) will be carried out with the results of the comparative law analysis. This will be done in order to understand the importance of formal regulations and its scope within ethical understandings in the usage of drone for journalistic activities.

## 3. RESULTS

Using some search engines, initial aspects can be drawn regarding drones in Bolivia, Colombia, Ecuador and Peru. Between Andean countries, Colombia is the country with more results related to drones regardless of the browser that is used. In Google search engine, Peru is the nation with fewer results and in Bing, Bolivia generates less search results. These numbers only stand for websites and content that can be traced having these two terms. The results will depend on the algorithms each browser has and the filter they use to determine reliable results.

Table 3. Number of results in Google and Bing search engines according to term drone and each country's name

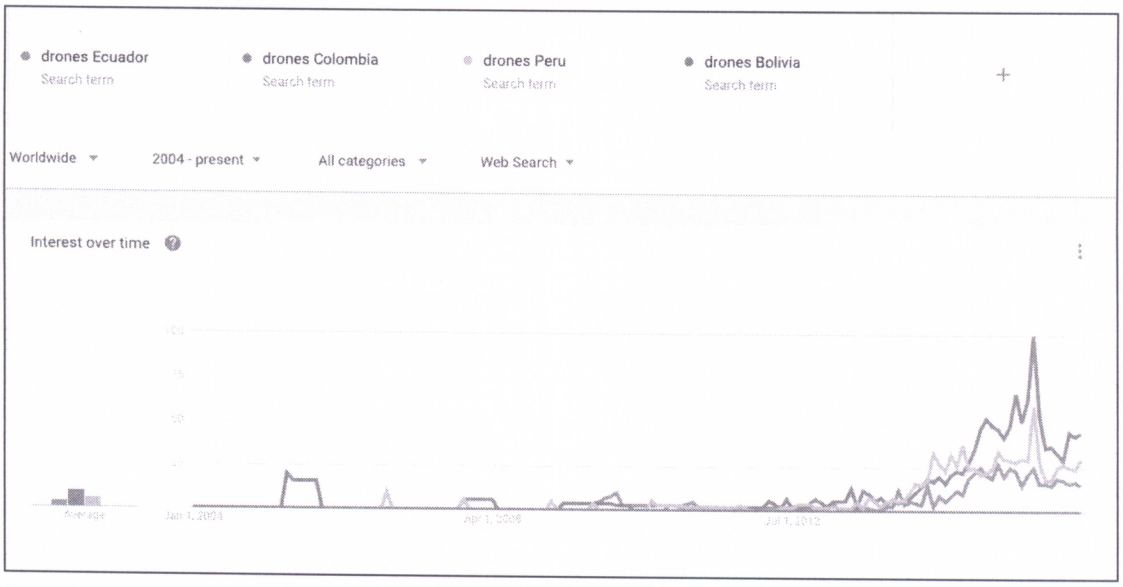
| Country | Google | Bing |
|---|---|---|
| Drones Bolivia | 643,00 | 948,000 |

| | | |
|---|---|---|
| Drones Colombia | 871,000 | 1,720,000 |
| Drones Ecuador | 641,000 | 1,140,000 |
| Drones Peru | 582,00 | 1,550,000 |

Source: Google (www.google.com) & Bing (www.bing.com)

In addition to those numbers, some comparison can be carried out using the software behind Google Trends. With this tool, the interest of Internet users can be traced not only by terms but also within a timeline. In this exercise, it can be seeing that drones have been more connected to Colombia, even from 2006. This country, as happened with search engines, generates more attentions regarding unmanned aircrafts. Peru placed second in this comparison, even having more results in 2014 than Colombia. Ecuador goes behind its neighbours, although in 2010, Drones Ecuador was a most common search. Finally, Bolivia results over time are so low, relative to the other Andean countries, which do not appear in the comparison that sheds Google Trends.

Figure 1. Comparison of search terms in Google Trends software




Source: Google Trends (www.google.com/trends)

As noted by Clarke (2014a) formal regulations can be more effective alternatives to standardize the deployment of drones. Regulations for unmanned aircrafts within Andean countries displays similarities or close answers, especially in the technicalities of flight or some obvious requirements as pilot's physical and mental conditions. Another result worth mentioning is the absence of the objectives for which drones are used. Requirements found in Andean countries law, and also in FAA document, do not

mention any scope of the usage of unmanned aircrafts. For that matter, nor cameras, applications or any kind of devices are not mentioned in the revised legal bodies.

Other interesting aspect that appeared during the research was the nature of each document, its extension, structure and scope. The FAA part 107 is a 624-page document, where some issues are discussed in the form of essay and from that analysis, some legal criteria is determined. Colombia's General Requirements for Airworthiness and Operations of RPAs is a 34-page file that elaborates its content through: aim, applicability, definitions, abbreviations, background and regulations. Peru, in its Requirements for Aircraft Systems Operations remote-piloted document (a 12-page file) also mentions background, definitions and scope of the regulation. The document also explains the particular criteria and processes regarding drone registration and pilot certification. Finally, Ecuador's Requirements for Operation System of remotely piloted aircraft known as drones or Unmanned Aircraft is only a 2-page document that, after two considerations, releases 10 articles that specified issues, especially regarding operational limitations and responsibilities.

The following Table 4 shows the results of the revised and compared aspects and regulations on drones between the three Andean countries and USA part 107.

Table 4. Regulations aspects found in USA, Colombia, Ecuador and Peru legislation

| Regulation aspects | USA | Colombia | Ecuador | Peru |
|---|---|---|---|---|
| **Legal body aspects** | | | | |
| **Document's name** | Operation and Certification of Small Unmanned Aircraft Systems (Part 107) | General Requirements for Airworthiness and Operations of RPAs | Requirements for Operation System of remotely piloted aircraft known as drones or Unmanned Aircraft Systems | Requirements for Aircraft Systems Operations remote-piloted |
| **Regulator** | Federal Aviation Administration | Civil Aeronautics | Civil Aviation Authority | Civil Aeronautics Authority |
| **Issuing date** | June 21, 2016 | July 27, 2015 | September 17, 2015 | November 03, 2015 |
| **Operational Limitations** | | | | |
| **Aircraft weight** | Less than 25 kg | Less than 25 kg | Not defined | Less than 25 kg |
| **Visual line of sight** | Required | Required | Not defined | Required |
| **Proximity aircraft and pilot** | Required, but not specified | Not more than 750 meters | Not defined | Not defined |
| **Flight over people or urban structures** | Forbidden over people, over and inside covered structures | Forbidden over congested areas, buildings or public crowds of people. | Not defined | 30 meters of horizontal distance required. Covered structure owners will be responsible for authorizing |

| | | | | |
|---|---|---|---|---|
| | | | | flights |
| **Daytime for flying** | 30 minutes before sunrise to 30 minutes after sunset, local time | Exclusive during daytime | Between sunrise and sunset | Exclusive during daytime |
| **Encounter with another aircraft** | Must yield right of way to other aircraft | Avoid any manned aircraft | Not defined | Not defined |
| **Cameras and visual observers** | Use permitted | Not defined | Not defined | Not defined |
| **Maximum groundspeed** | 100 mph (87 knots) | Not defined | Not defined | 100 mph (87 knots) |
| **Maximum altitude** | 400 feet (122 meters) above ground level (AGL) | 500 feet (152 meters) above ground level | 400 feet (122 meters) above ground level (AGL) | 500 feet (152 meters) above ground level (AGL) |
| **Weather visibility** | 3 miles from control station | Required, but not specified | Required, but not specified. Free of fog, clouds and rain | Required, but not specified |
| **Operating multiple aircrafts** | Forbidden | Forbidden | Not defined | Forbidden |
| **Operating in moving vehicles** | Aircrafts are forbidden and ground vehicles are forbidden in densely populated areas | Forbidden | Not defined | Not defined |
| **Careless or reckless operations** | Forbidden, but not specified | Lack of skills and bad weather conditions mentioned | Forbidden, but not specified | Forbidden, but not specified |
| **Carrying of hazardous materials** | Forbidden, but not specified | Animals, explosive materials, corrosive materials, drugs and weapons forbidden | Not defined | Thrown of objects, materials or fluids forbidden |
| **Pre-flight inspection** | Required | Pre-flight weather information compilation | Not defined | Required |
| **Physical condition of pilots** | Good physical and mental conditions required | Avoid alcohol and drug consumption | Avoid fatigue and alcohol and drug consumption | Avoid alcohol and drug consumption |

| | | | | |
|---|---|---|---|---|
| **Distance to any airport** | Notification when operating within 5 miles (8kms) | 5 kilometres | 9 kilometres | 4 kilometres |
| **Flight autonomy** | Not defined | According to the manufacturer specifications | Not defined | Not more that 1 hour |
| **Flight in high seas/international water** | Not considered in Part 107 | Forbidden. Colombia also forbids flights over border lines | Not defined | Forbidden |
| **Remote Pilot in Command Certification and Responsibilities** | | | | |
| **Command position** | An establishment of the person in charge is required | The person operating the controls of the RPA is responsible for the flight | The person operating the controls is responsible, sharing responsibilities with the exploiter or the owner | The person operating the controls of the RPA is responsible for the flight |
| **Pilot certification** | A "61 pilot certificate" is required | No certification is required but an authorization needs to be submitted | Not required | A transient accreditation operator is required |
| **Drones registration** | Required by FAA 91.203 | A form has to be submitted to elaborate a database | Not required | Registration process required |
| **Insurance** | Not defined | Required, but not specified | Required. $ 3000 to aircrafts between 2 and 25 kg; and $ 5000 for drones weighing more than 25 kg | Not defined |
| **Aircraft Requirements** | | | | |
| **Airworthiness** | Airworthiness certification is not required | Propellers, autopilot, GPS, launch and recovery system, Return Home system, radio system, engines with noise or pollution filters, manuals, exterior colours detectable | Not defined | Not defined |
| **Countries specificities** | | | | |

| | | | |
|---|---|---|---|
| | Avoid flying within 1.8 Km radi us of the President , Vice President an d other national and foreign authorities | Operator must be able to intervene in the automatic flight mode at any time to regain control | The operation in urban areas may exceptionally be authorized. These activities must respond public interest issue |

Source: Developed by the author

## 4. FINDINGS & CONCLUSIONS

The first finding of the analysis is to acknowledge 2015 as the year of the birth of drone legislation in the Andean region. A possible explanation was the upcoming -at that time- regulation by the US, that offered context and guidance for policy elsewhere in the world.

Some general considerations can be displayed at first, to analyse each country case afterwards. First, legal bodies went beyond the first 3 forms of control explained by Clarke (29141): Natural controls, Soft regulatory forms for both organisational and industrial regulations and Pre-existing generic laws. The legislation was developed exclusively on drones within a broader framework of aviation laws in each country.

On the other hand, drone legislation in Andean countries is not dealing with privacy or surveillance aspects (the other two aspects referred by Clarke) in a specific matter, although Colombia did forbid fly over the principal authorities of the country.

The regulation aspects found by Gibb (2013) in international regulators: Flight autonomy, the capability to be weaponized, and retrievement or discarding of the device were not mentioned in any legal body. This can find the answer in the evolution and growth of civilian drones. The features mentioned by this scholar are related to military activities of unmanned aircrafts. Civilian drones, used for information gathering or leisure, are not considered weapons or attack tools, and their usages will allow and need new and specific regulations depending on each sector (i.e. agriculture, pharmaceuticals, services or journalism).

Drone registration is a key aspect for regulators around the world, in this research, Ecuador's regulation will be the exception. Airspace is not the only aspect legal bodies will protect, the responsibility linked to the aircraft's pilot is a definitive characteristic. Governments may see drones as vehicles or possible dangerous devices and that could answer the necessity for registration and creation of databases. From a journalistic perspective, drones can be seeing as a tool similar to a camera, and for obvious reasons, regulators had never asked to register each camera a reporter may possess. However, since the drones access to airspace and approach others, they need special legal treatment.

When the dimensions presented by Tremayne and Clark (2014) are contrasted with the content of legal bodies, some interesting findings appear. For instance, Practicality issues can be found in aspects as the weight of drones, the visual line of sight, proximity between the pilot and the aircraft, the encounter with other drones or aircrafts, the necessity of pre-flight inspections, flight autonomy, command position and airworthiness. In this aspect, Colombia defines rules for the majority of this aspects (7), while Peru is concerned about 5 of the characteristics. Ecuador, on the other hand, delivers one regulation on practicality issues regarding command position, only concerned about responsibilities during the flight.

The aspects regarding Safety are: flight over people or structures, operating multiple aircrafts, operating in moving vehicles, Careless or reckless operations, Carrying of hazardous materials, the physical condition of pilots. In this case, Colombia and Peru deal with 7 issues within their legal bodies. Ecuador, again, is the Andean country with less detail in this regard (2 issues covered); however, Ecuadorian drone law mentions the necessity of intervention during the automatic mode as a safety concern, which is unique in the region.

The third Practical Dimension is Practical limitations. For this aspect, features on Daytime for flying, maximum groundspeed, weather visibility, Distance to any airport, Flight in high seas/international water were analysed. In this aspect, Peru is the country that offers a legal answer to each of the five aspects, Colombia only lacks on rules on groundspeed, and Ecuador only has 3 aspects covered.

Regarding Ethical dimensions of the authors aforementioned (Ethics, Privacy and Law), there are difficulties in identifying clear links due to the natural distance of ethics and legal bodies. However, the certification of pilots and the registration of drones are -in some aspects- related to a legal stand point. In this aspect, as happened with the rest of the dimensions, Ecuador lacks definition about these licenses. Colombia and Peru even offer forms to be filled within the documents. By contrast, Ecuador's drone law mentions an aspect that is directly linked to and ethical perspective: Insurance. While Colombia did not specify this requirement and Peru do not define anything on it, Ecuador's legal body defines the amounts by which drones must be insured, depending on their weight.

Finally, drone regulation is not related to specific ethical constraints of journalism mentioned by Cruz (2015) -Openness, Accuracy, Transparency and Privacy-. Further studies must analyse case studies or even elaborate experiments to determine the scope of the usage of drones. These new-born legal bodies can be seen as control and even oppression framework for journalistic work, it must be understood that were created to deal with a myriad of uses, possibilities and dangers. Lawmakers, managers and journalists should be interested in linked actual communication or media legislation to drone regulations in order to determine the gaps, opportunities and threats that their job could face.

As some final considerations/conclusions. It is clear that Colombia and Peru used this opportunity to elaborate deep legal framework based on past experiences (FAA as the main source). These countries, with a massive interest in drone developing, as shown in the Google Trend comparison, were to rise to the occasion. Ecuador, on the other hand, only covered aspects regarding practical limitations, without definitions on registration or certification. This offers some alternatives to drone pilots, but loopholes could become in future problems due to ignorance or lack of legal elements. Bolivia has a brilliant opportunity to analyse these three legal bodies, combine them, filter them and issue a more complex and complete regulation. Further research has to be carried out to understand other aspects of drone journalism: pilots, technicalities, and specially, the newsworthiness of drone usage.

## 5. REFERENCES

Aguilar García, (2008) *Ontología Cyborg.* First Edition. Barcelona: Gedisa

Brey A., Innerarity D. & Mayor G. (2009) *La Sociedad de la Ignorancia y otros ensayos.* First Edition. Barcelona: Libros Infonomia

Brooks, M. (2012) The Drone Age. New Scientist, 216, pp. 42-45.

Chapman, A. (2014) It's okay to call them drones. Journal of Unmanned Vehicle Systems, 2 (2), pp. iii-v.

Clark, A. and Chalmers, D.J. (2010) The Extended Mind. In: Menary, R. (ed.), The Extended Mind, Cambridge: The MIT Press, pp. 1–14.

Clarke, R. (2014a) The regulation of civilian drones' impacts on behavioural privacy. Computer Law & Security Review, Elsevier Ltd, 30(3), 286–305

Clarke, R. (2014b) Understanding the drone epidemic. Computer Law & Security Review, Elsevier Ltd, 30(3), 230–246.

Clarke, R. (2014c) What drones inherit from their ancestors. Computer Law & Security Review, Elsevier Ltd, 30(3), 247–262.

Cruz, J. (2015) Is Ecuador prepared to deploy Drone Journalism? Thesis (MSc) The University of Edinburgh. Razón y Palabra, 92. Available from: < http://www.razonypalabra.org.mx/N/N92/Tesis/01_Cruz_T92.pdf>

Culver, K.B. (2014) From Battlefield to Newsroom: Ethical Implications of Drone Technology in Journalism. Journal of Mass Media Ethics, 29(1), 52–64.

Dorrian, M. and Pousin, F. (2013) Seeing from Above: The Aerial View in Visual Culture. London: I. B. Tauris.

Federal Aviation Administration (2016) Summary of Small Unmanned Aircraft Rule (Part 107) [Online] Available from: <https://www.faa.gov/UAS/media/Part_107_Summary.pdf> [Accessed 21 July 2016]

Gallardo-Camacho, J. & Lavín, E. (2016). "Uso de drones con fines informativos en empresas de televisión en España". El profesional de la información, v. 25, n. 2, pp. 217-225.

Gibb, A.S. (2013) Droning the Story. Thesis (MSc) The University of British Columbia.

Gómez-Candón, D., Castro, I. and López-Granados, F. (2013) Assessing the accuracy of mosaics from unmanned aerial vehicle (UAV) imagery for precision agriculture purposes in wheat. Precision Agriculture, 15(1), 44–56.

Gynnild, A. (2014) The Robot Eye Witness. Digital Journalism, (June), 1–10.

Haraway, Donna J. (1991) Simians, Cyborgs, and Women: The Reinvention of Nature. London: FAB

Hassan, R. (2008) *The Information Society*. First Edition. Cambridge: Polity Press.

Hauglid, S.B. and Gauslaa, S. (1997) The 5 Ws of editorial writing. The Masthead, 49(3), 19-20.

Holmes, T., Hadwin, S. and Mottershead, G (2013) The 21st Century Journalism Handbook. Essex: Pearson.

Liebes, T. and Kampf, Z. (2009) Performance Journalism: The Case of Media's Coverage of War and Terror. The Communication Review, 12(3), 239–249.

Ling, R. (2010) *New Tech New Ties*. Second: *How Mobile Communication Is Reshaping Social Cohesion*. Second Edition. Cambridge: The MIT Press

Markham, T. (2011) The political phenomenology of war reporting. Journalism, 12(5), 567–585.

Marron, M.B. (2013) Drones in Journalism Education. Journalism & Mass Communication Educator, 68(2), 95–98.

McArthur JA (2016) Digital Proxemics How Technology shapes the ways we move. First Edition. New York: Peter Land Publishing.

Pham, S. (2013) Yes, the University of Missouri is still pursuing drones [Online] Available from: <http://www.missouridronejournalism.com/2013/09/yes-the-university-of-missouri-is-still-pursuing-drones/> [Accessed 7 August 2016]

Phillips, A., Couldry, N. and Freedman, D. (2012) An Ethical Deficit? Accountability, Norms, and the Material Conditions of Contemporary Journalism. In: Felton, N. (eds.) New Media, Old News Journalism & Democracy in the Digital Age. 2nd Edition. London: SAGE Publications, pp. 87-101.

Pike, H. (2013) Drone journalism: worth exploring [Online] Available from: <http://thekjr.kingsjournalism.com/?p=14896> [Accessed 31 July 2016]

Professional Society of Drone Journalists (N.D.) Resources on the ethics, development, and practice of drone journalism. [Online] Available from: <http://www.dronejournalism.org/learn> [Accessed 06 August 2016]

Rogers, S. (2012) Drones by country: who has all the UAVs? [Online] Available from: <http://www.theguardian.com/news/datablog/2012/aug/03/drone-stocks-by-country> [Accessed 06 July 2016]

Seguridad América (N.D.) Crece en Latinoamérica uso de drones [Online] Available from: <http://www.seguridadenamerica.com.mx/noticias/de-consulta/articulos-destacados-de-seguridad/20771-crece-en-latinoamerica-uso-de-drones> [Accessed 06 July 2016]

Scolari, C. (Ed) (2015) Ecología de los medios Entornos, evoluciones e interpretaciones. First Edition. Barcelona: Gedisa

Singer, J.B. (2008) Five Ws and an H: Digital Challenges in Newspaper Newsrooms and Boardrooms. International Journal on Media Management, 10(3), 122–129.

Sophic Capital (2015) DRONES: A RISING MARKET An Industry to Lift your Returns [Online] Available from: <http://sophiccapital.com/wp-content/uploads/2015/09/Download-Sophic-Capitals-Aerial-Drone-Report-Here.pdf> [Accessed 04 August 2016]

Stelter, B. (2014) CNN to study drone use for reporting [Online] Available from: <http://money.cnn.com/2014/06/23/media/drones-news-research/> [Accessed 28 July 2016

Taylor, C. (2013) How Matternet Wants To Bring Drone Delivery To The People Who Need It Most [Online] Available from: <http://techcrunch.com/2013/12/10/how-matternet-wants-to-bring-drone-delivery-to-the-people-who-need-it-most/> [Accessed 04 August 2016]

Telesur (2016) Bolivia denuncia sobrevuelo de drones en casa presidencial y residencia de García Linera [Online] Available from: <http://www.telesurtv.net/news/Bolivia-denuncia-sobrevuelo-de-drones-en-casa-presidencial-20160302-0036.html> [Accessed 28 July 2016

Tremayne, M. and Clark, A. (2014) New Perspectives from The Sky. Digital Journalism, 2(2), 232–246.

Waite, M. (2013) Drone journalism. IRE Journal, 36(3), 9–11.

Waite, M. (2016) The FAA's drone rules are here: What does it mean for journalists? [Online] Available from: <http://www.dronejournalismlab.org/post/146262852202/the-faas-drone-rules-are-here-what-does-it-mean > [Accessed 04 July 2016]

Zelizer, B. (2007) On "Having Been There": "Eyewitnessing" as a Journalistic Key Word. Critical Studies in Media Communication, 24(5), 408–428.

## AUTOR'S RESUME

**[1] Jorge Cruz Silva**

Living in Quito, Ecuador. Assistant Professor at School of Communication - Pontificia Universidad Católica del Ecuador. Doctoral candidate in Contemporary Communication and Information at Universidade de Santiago de Compostela, Spain. Master by Research in Digital Media and Culture at The University of Edinburgh, United Kingdom. Bachelor of Arts in Communication majoring in Journalism for Press, Radio and TV at Pontificia Universidad Católica del Ecuador. Member of the Ecuadorian branch of Worlds of Journalism Study research group. US Department of State International Alumni at SUSI Program 2016. Association for Education in Journalism and Mass Communication member. Scholarship holder from the Ecuadorian government between 2013 and 2014. Experience as a corporate consultant in the communication area for Telefónica - Movistar, Pronaca, PepsiCo, Pfizer, among others. Former press and radio journalist and former digital coordinator for Grupo El Comercio.