Social Media Live Streaming: case study and design of an analysis matrix

Social Media Live Streaming: estudio de caso y diseño de matriz de análisis

Social Media Live Streaming: estudo de caso e design de matriz de análise

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ABSTRACT

This paper aims to characterize the Social Media Live Streaming (SMLS) and its use in the Chilean media through a case study that analyzes the publications in Periscope and Facebook Live of *TVN 24 Horas*, *Teletrece* and *CNN Chile* during the runoff of the 2017 presidential election, using a set of variables with various indicators. The SMLS allows both live streaming and to receive feedback from users. The results mainly reveal a high performance in interactions, the majority use of newscasts broadcastings and journalistic narratives to guide the content.

RESUMEN

Este trabajo busca caracterizar el Social Media Live Streaming (SMLS) y su uso en los medios de comunicación chilenos mediante un estudio de caso que aborda las publicaciones en Periscope y Facebook Live de TVN 24 Horas, Teletrece y CNN Chile durante la segunda vuelta presidencial de 2017, gracias a un conjunto de variables con diversos indicadores. El SMLS permite tanto la emisión en directo como la recepción de retroalimentación por parte de los usuarios. Los resultados revelan, principalmente, un alto rendimiento en interacciones, el uso mayoritario de emisiones de estudio y de narraciones periodísticas para guiar los contenidos.

RESUMO

O objetivo deste trabalho é caracterizar o *Social Media Live Streaming* (SMLS) e seu uso na mídia chilena através de um estudo de caso que aborda as publicações no Periscope e Facebook Live da *TVN 24 Horas, Teletrece* e *CNN Chile* durante a Segunda Rodada Presidencial 2017 através de um conjunto de variáveis com vários indicadores. O SMLS permite tanto a transmissão ao vivo como o feedback do usuário. Os resultados revelam, principalmente, um alto desempenho nas interações, o uso majoritário de transmissões de estúdio e de narrações jornalísticas para orientar o conteúdo.

INTRODUCTION

This paper aims to study SMLS, the acronym for Social Media Live Streaming. Specifically, it presents a case study on the SMLS channels of certain Chilean media. SMLS is a new kind of live video broadcast that preferably uses social platforms, such as Facebook and Twitter, and offers interactive features of great interest to the media.

At a time when the media are intensely looking for new communication formats that allow them to increase their relationship with their users and, ideally, engagement –commitment and involvement of the audience that interacts with the sender of the message– it seems especially relevant to get to know SMLS' characteristics as best as possible.

This work is of a double nature: on the one hand, it consists of a case study focused on Chilean media and, more specifically, on their coverage of the runoff of the 2017 presidential election. On the other hand, it develops an analysis system that can be extrapolated to other studies, with the pertinent changes according to the context; therefore, it could be used by other work teams.

Given that the object of study is relatively recent, we consider that the public interested in this work can also benefit from a descriptive analysis of the context within the theoretical framework. The other sections are dedicated to present the results, discuss them and to detail the systematized review procedure conducted on the main related researches.

OBJECT OF STUDY AND OBJECTIVES

The object of study of this work are the SMLS channels of Chilean media during the coverage of the runoff of the 2017 presidential election.

Consequently, the main objective is to determine the features of the Social Media Live Streaming channels in the Chilean digital media.

The derived objectives are:

- Identify the characteristics of the integration of SMLS in Chilean digital media as a tool for information distribution and its use in journalistic coverage.

- Describe the impacts and results of digital media using Facebook Live and/or Periscope as their main channel of distribution and broadcast of live videos.

To address the aforementioned objectives, we posed the following research questions:

- Is it possible to determine the content strategy of live videos from various digital media through a case study?

- Which content strategies have Chilean digital media used in Facebook Live and/or Periscope that have given greater visibility to their information coverage?

THEORETICAL FRAMEWORK

The research presented in this paper uses a theoretical framework composed of four main lines:

PUBLISHED WORKS

First, the Theory of Journalism, understood as the study of the different characteristics and processes that determine the production of current content. This defines the current consumption of communication media as "a circle of surrounding reality that becomes the daily reference of our life" (Gomis, 1991, p. 13).

In this line, the so-called *Newsonomics* (contraction of news and economics) analyzes the set of laws that govern the selection of informative content and the financial results of news companies (Doctor, 2010). It makes less and less sense to analyze channels or media out of their global context and interactions with other media and channels. Therefore, we must include the ecology of the media as one of the components of this research.

Influenced by Marshall McLuhan, Neil Postman developed this theory that mainly states that "no media acquires meaning or existence in isolation, but it does so in constant interrelation with other media" (Scolari, 2015, p. 18). This interrelation is consistent with the presence of the media in social networks. Several experts and researchers (Boyd & Ellison, 2007), along with Internet regulatory bodies (ONTSI, 2011), agree that these platforms are websites that allow users to interact, communicate, share content and create communities through the construction of public or semi-public profiles. This results in a list of users with whom a connection is shared, which can be viewed by the same user or others who are part of this limited system.

These profiles are intended to connect with cybermedia, a concept on which there is a broad theoretical corpus, and which is understood as digital media. This corpus has contributed with models,

analysis procedures, and a rich conceptual background.

With multimedia, hypertextuality and interactivity as main features, cybermedia are defined as "those websites whose essential purpose is the development and transmission of information content, i.e., those websites that fulfill the role of social media on the Internet" (Palacios & Díaz Noci, 2009, p. 21).

In addition, various investigations on the analysis of impact and performance of cybermedia are governed by a system of articulated analysis (Codina et al., 2014) that we will use in the proposed matrix of variables.

Finally, the broadcasting of live audiovisual content in digital environments reached its peak with the development of social networks applications (Rugg & Burroughs, 2016, p. 64). Their development and impact are analyzed by several articles that coincide in their conclusions: it is an evolution of broadcasting, a traditional format offered by television (Stewart & Littau, 2016; Apablaza Campos, 2017a).

The papers that study Periscope and Facebook Live operating features (Hill & Bradshaw, 2018, pp. 122-123), the broadcasting criteria and the content creators' motivations (Tang, Venolia, & Inkpen, 2016), the application of the SPECTRE model –safety, privacy, ethics, copyright, trolling, reputational risk and emotional trauma– in their broadcasts (Albeanu, 2016; Fairweather, 2017), and content analysis through impact parameters (Argila, 2017; Gómez-Domínguez, 2017) give a multidisciplinary vision on live video social networks.

SOCIAL MEDIA LIVE STREAMING (SMLS)

On several occasions, Mark Zuckerberg, CEO and founder of Facebook, has insisted on the importance of video on social networks, projecting that its greatest growth will happen "over the next five years" (Castillo, 2017), a prediction widely shared by other analyzes (Kalogeropoulos, Cherubini, & Newman, 2016).

The argument for such predictions is based on three major premises that can be currently seen in digital environments:

1. Continuous increase in connection speeds in both fixed (Wifi) and mobile (4G and 5G) (Villas-Boas, 2018).

2. Increased capacity both to receive and to broadcast audiovisual content given the increase in processing power of mobile devices (El Economista, 2016).

3. Increased consumption of audiovisual content (McCue, 2017).

In addition, in this broad panorama, at least two other factors also intervene (Cid, 2017). First, the remarkable impact of YouTube, which changed the way of watching TV, since the audience knows that, in most cases, they can use the Google platform if they miss their favorite show or series (Perezbolde, 2013).

Secondly, Netflix, also an influential actor, left its incipient business of distributing DVD films by postal mail to become the main legal digital video library, followed by companies such as Amazon, the main online store in the world, and HBO, one of the most important pay television channels in the United States (Álvarez, 2016). "In the era of Netflix and YouTube, who cares to arrive in time to see the main newscast?", says Christian Leal, director of the digital area of BíoBío Radio, the online media with the highest web traffic in Chile[1] (Leal, 2017).

However, this positive scenario did not spread equally to all areas. The applications and software of live video grew almost in parallel to YouTube and Netflix with mixed success: while Justin.tv, main website of live broadcasts, existed from 2007 to 2014, Meerkat, the first mobile application for such purpose, only survived 20 months, between 2015 and 2016 (Mlot, 2016).

In this context, it is possible to ask why Twitter bought Periscope for US$100 million, when it was only an application in development and launched it in just two months? The possible reason is that Social Media Live Streaming (SMLS) is better for possible media business models than live videos (Ossorio Vega, 2015).

To contextualize the following contributions of our paper, it is considered, thanks to previous studies (Apablaza Campos, 2017b), that a technology can be cataloged as SMLS if it fulfills a double functionality:

1. Make and distribute live videos, in different formats, through social networks, through their own applications, associated with them.

2. Provide the broadcaster with an instantaneous feedback: number of connected users, messages and reactions of the audiences.

While the first point implies video production facilities even greater than the preexisting ones, the second is linked to the condition that could be considered the most relevant: interaction.

Indeed, during the communicative process of an SMLS transmission, the roles of broadcaster and receiver are exchanged. While the users can perceive their participation in the content, communicators can make instant decisions to meet the expectations of their audiences and the objectives of their media.

Thus, live video found its niche in social networks and journalism was not oblivious to this phenomenon. One proof of this was when, according to a story in The Wall Street Journal, Facebook invested US$50 million so that editors around the world would use its SMLS platform (Perlberg & Sheetharaman, 2016); another, the observations of the Digital News Project reports from the Reuters Institute: while the 2017 edition referred to the "social and live video year" for information coverage (Newman, 2017, p. 5), in 2018, 61% of editors from 194 media in the world acknowledge that they will use live streaming during the year (Newman, 2018, p. 36).

SMLS CHANNELS AND DIGITAL MEDIA

Currently, there is a wide range of resources dedicated to the broadcast of live videos through social networks. Social Media Live Streaming consolidated as an interesting alternative for various digital media after the successes of Periscope –SMLS as social network– and Facebook Live – (SMLS as functionality for users and brands profiles): both allow professional transmissions (Lahiri & Tiutan, 2017) of immersive nature (360º video) or under the formats of mixed reality (augmented reality and virtual reality) (Gupta & Ramrakha, 2017).

Along with them, there are several additional resources for live broadcasting through social networks, of which the following should be highlighted:

- **YouTube Live**: available to all users with a Gmail account that enables this functionality. The service for mobile devices is still in beta and is only available for some accounts.

- **Instagram Stories live**: mobile content that the users can store in their social profile or allow its distribution up to 24 hours after being broadcasted. The content can be replicated as a story in Facebook profiles.

- **Snapchat Live Stories**[2]: allows users and brands present at featured events to share live content. The functionality is only available when the mobile geolocation detects that the broadcaster is at the event.

- **Live Video on Tumblr**: generator of live videos through external applications such as Kanvas, YouNow, Upclose and YouTube.

A case worthy of mention is that of China, where Facebook Live, Periscope and YouTube Live are not present, but there are more than 80 SMLS applications (Nazario, 2017) competing for a market share that has 280 million broadband users, 950 million with 4G mobile connections and a monthly average data consumption of 2GB per inhabitant (Xinhua, 2017).

This scenario converged with the journalistic work during 2015. In April, Paul Levis, correspondent in the United States of the English newspaper The Guardian, decided to broadcast live a demonstration against police violence against African Americans in the streets of Baltimore (Levis, 2015); then, during August, Paul Ronzheimer, special correspondent of the German tabloid Bild in the Greek island of Kos during the Syrian refugee crisis, broadcasted live for weeks the experience of crossing countries with them as if he were another undocumented immigrant (Dredge, 2015).

The digital media found in SMLS a way to transmit in a better way the intensity of the journalistic stories. Thus, the spontaneous decision of a journalist to remove the mobile phone and broadcast live from the scene became a digital strategy of newsrooms.

The best example is The Washington Post. The newspaper has a Facebook Live Editor called T.J. Ortenzi, who runs a department with four professionals who have two mobile devices for outdoor informative coverage: one to connect with the newsroom and the other exclusively to broadcast live (Nelson, 2017).

It is also important to review the cases of *TVN 24 Horas* in Chile, a news signal from public television that has a studio exclusively for Facebook Live, and *Univisión*: the US network in Spanish has an informative program called *Noticiero Edición Digital,* broadcasted daily exclusively through SMLS (López Linares, 2017a, p. 21).

For all the above, and according to analysis of both behavior and content generation in digital media, it is possible to categorize the fundamental uses of journalism regarding Social Media Live Streaming broadcasts in five major sections (Morales Vargas, 2018):

1. **Press conferences**: full broadcast of the statements, usually there is no voice over to narrate the event.

2. **Last-minute events**: usually consists of a field journalist who tells the story through his/her mobile device, also fulfilling the roles of cameraperson and interviewer.

3. **Programs' backstage**: mobile content –usually informal– to follow the presenters before, during (including the commercial breaks) and after a main broadcast through another format (such as radio or television).

4. **Broadcasting from studios**: it may correspond to a replica of a television signal (if applicable) or to a meeting in a set, discussing different contingency themes.

5. **Digital representations**: graphics with mixed reality elements. It is usual for regressive counters for the start of events, as well as for figures, statistics or other information montages.

Finally, it is interesting to highlight several academic papers that study this relationship, through case studies of digital media, and that will be used in the discussion to dialogue with the results of this research.

One of them is a comparative analysis of the content strategies of *Antena 3*, in Periscope, and *Univisión*, in Facebook Live, which concludes –after analyzing 67 broadcasts– that their SMLS contents are more informal than those transmitted by their television signals (Mancebo García, 2016). Another is a study of 26 SMLS broadcasts through different social profiles of the Spanish group *Atresmedia* to analyze audiovisual and impact features and their results (Herrero de la Fuente, 2017); in addition, there is a comparative analysis of 83 Periscope broadcasts in Spanish newspapers (*El País*), radio (*Cadena COPE*), television (*Antena 3 Noticias*) and digital (*El Español*), which describes the types of content broadcasted and the social channel variables (Marta Lazo, Mancho Laiglesia, & Villa Navarro, 2017), and finally an analysis of the cybermedia strategies in Facebook Live through a series of semi-structured in-depth interviews with journalistic editors (Méndez Nieto, Rivera, & Palomo Torres, 2018).

SMLS IS DEAD, LONG LIVE SMLS!

In April 2017, Facebook Live implied that it had positioned itself as the most used SMLS channel in the world, thanks to one out of every five videos uploaded to the social network corresponding to live broadcasts (Constine, 2017).

Likewise, it was found that live streaming on the third most visited website in the world (Alexa, n.d.) generates better results than conventional videos: a volume of comments ten times greater and three times more viewing time (Shawley, 2016; López Linares, 2017a). These data explain why in the report Innovative Journalism in Latin America, conducted by the Knight Center of the University of Texas, editors of various media outlets of the region recognized their predilection for Facebook Live for the following reasons: stable growth of organic reach, more detailed information of who could watch the video, hashtags tracking and greater mass reach (López Linares, 2017b, pp. 3-4).

However, in February 2018 a report from the Tow Center of the University of Columbia, titled RIP Facebook Live, analyzed the decrease in the implementation of live streaming in digital media that received payments to broadcast. Through a follow-up to the media cited in The Wall Street Journal report, it is possible to affirm that the volume of publications decreased by 94% when comparing May 2016 to December 2017 (Brown, 2018).

All this is also supported by the specialized analysis of Digiday UK, which states that the way to attract the media to Facebook Live has been, literally quoting, "a disaster" (Patel, 2017), and of The New York Times, that, as a subsidiary, recognizes the lack of clarity in the success of live broadcasting (Maheshwari & Ember, 2018).

However, all these problems have a simple explanation: the number of publications decreased proportionally to the same extent that payments decreased (Weiss, 2018). I.e., it was a situation that could be considered unnatural and that went back on its own as soon as the incentive disappeared.

On the other hand, those who used SMLS in a natural way, i.e., without receiving subsidies or payments, did not decline in their use (Peterson, 2018). Therefore, Digiday UK conducted a new analysis –posterior to the Tow Center report– after studying the SMLS content of the thousand news fan pages with the largest followers in the United States; according to these data, it is possible to argue that the algorithm change announced by Facebook at the beginning of 2018 (Zuckerberg, 2018) is giving more relevance to live video (Mosseri, 2018).

In any case, it should not be forgotten that Social Media Live Streaming is more than Facebook Live. Twitter and Periscope are also very important, since SMLS is not linked to any specific platform.

In the case of Twitter and Periscope, both networks are integrated to such an extent that they allow simulcasting without the need to use two accounts. In addition, these platforms have the following income generation formulas for content editors:

- **Pre-roll ads**: format that allows to insert paid advertising in broadcasts.

- **Super Hearts**: payment emoticons that the audience can send to contact the broadcaster directly.

For both options, Twitter and Periscope committed to deliver 70% of the profits generated directly to the creators of the live streaming. Therefore, large networks such as The Verge, Bloomberg and BuzzFeed broadcast several exclusive live contents every day through both social networks (Moses, 2017).

METHODOLOGY
METHODOLOGICAL FRAMEWORK

In the first place, for this work we conducted a systematic review of the most recent academic, professional and industry publications linked to the main theme to establish the SMLS context; these have been included in the theoretical framework and their selection was made by using academic databases alerts, as can be seen in table 1 (Codina, 2018), as well as content aggregators.

In addition, we created Google Scholar alerts with different parameters, due to the higher volume of results in terms of search terms (news media and Periscope or Facebook Live) and notifications frequency (daily, maximum 10 results).

To optimize the search for professional, expert and industry reports, we created a Twitter list called Journalism Sources to monitor the following publications: Reuters Institute, Tow Center for Digital Journalism, Nieman Foundation, Pew Research Journalism, American Press Institute, Newsrewired, Columbia Journalism Review, The Donald W. Reynolds Journalism Institute, Digiday, Poynter, Journalism. co.uk and Press Gazette.

The main results obtained were added to a specialized magazine on Flipboard, called Social Media Live Streaming, which, in its vast majority, are duly cited throughout it.

Secondly, we conducted an analysis of SMLS channels to extract the indicators that have been used in the case

study that will be developed in the variable matrix proposal. The systematized review was also helpful for this, since it provided conceptual support for them.

CASE STUDY

Based on the above, we elaborated a case study (Yin, 2018) that has allowed, in a very significant context, the validity of the indicators used for the analysis matrix. From this application, we have obtained the results that will subsequently be analyzed and discussed. Generally, electoral days have an important information coverage. The media deploy a wide variety of technical and human resources to generate content throughout the day, which is why live video broadcasts through social networks are an important aid for such purposes.

The following are the details of the Chilean media case study analyzed in this paper:

- **Date**: December 17, 2017.

- **Media**: TVN 24 Horas (TVN), Teletrece (Canal 13) and CNN Chile (Chilevisión)[3].

- **SMLS**: Periscope and Facebook Live.

- **Total broadcasts**: 107

The chosen date corresponds to the runoff of the 2017 presidential election between the two most voted candidates of the first round, carried out on November 19, 2017. Finally, Sebastián Piñera (*Chile Vamos*), opposition candidate representative of the center-right, was elected for a second term –the first was during the period 2010-2014– with 54.58% of the votes over Alejandro Guiller (*Nueva Mayoría*), official candidate representative of the center-left, who obtained 45.42% (SERVEL, 2017).

Regarding the media selected for the study[4], it is important to highlight:

1. **TVN-TVN 24 Horas**: autonomous public media (self-financed). Its information contents have their own signal on pay television. Its average rating in open signal in 2017 was 4.8 points.

2. **Canal 13-Teletrece**: private media belonging to Canal 13 Spa, owned by businessman Andrónico Luksic. Its information contents have their own signal that broadcasts 24/7 on the Internet. Its average rating in open signal in 2017 was 6.1 points.

Configured parameters		Databases
Creation date	April 14, 2017	Web of Science (main collection)
Thematic area	Communication and social Sciences	Scopus
Search terms	Periscope and/or Facebook Live	Communication Source (EBSCOhost)
Date of publications	2012-nowadays	SAGE Journals
Notification frequency	Weekly	Taylor & Francis
		Dialnet

Table 1. Use of alerts in academic databases in the systematized review process

Source: Own elaboration.

3. **Chilevisión-CNN Chile**: private media belonging to Turner Chile, subsidiary of the American Warner Media. Since the end of 2016, both signals share a controller, and since 2017 they share sets and they simulcast. Its average rating in open signal in 2017 was 6 points (Obilinovic, 2017).

PROPOSAL OF SMLS VARIABLE MATRIX

Judith Argila, director of new platforms of the *Corporació Catalana de Mitjans Audiovisuals* (regional public media of Catalonia, Spain), prepared a report for the Reuters Institute analyzing the impact of news video on social networks. To this end, 134 pieces broadcasted during February 2017 were studied in eight English and Spanish media (The Guardian, Sky News, Financial Times, HuffPost UK, *El País*, *Antena 3 Noticias*, *El Confidencial* and PlayGround) through eight channels: Facebook, Instagram, Twitter, YouTube, Vimeo, Snapchat, LinkedIn and MSN (Gómez-Domínguez, 2017).

With all this information, in addition to in-depth interviews with editors of the aforementioned newsrooms, the author constructed a content analysis protocol through 14 variables (Argila, 2017, pp. 9-10).

In this same vein, a group of Spanish researchers developed an Articulate System of Cybermedia Analysis, specially designed to study digital media through an analysis protocol that allows the validation of a series of specialized KPIs (Codina et al., 2014).

The study of both researches, plus the analysis of the behavior of the pieces studied, allows the construction

of a Matrix of variables for the characterization of Social Media Live Streaming content, through four typologies and 16 indicators specially adapted for the study of an election day information coverage:

I. Journalistic variables: related to the content of live video

a. **Theme**: related to the election?
   i.   Yes
   ii. No

b. **Content**: according to the five sections detected in SMLS content:
   i.   Press conferences
   ii.   Last-minute events
   iii. Programs backstage
   iv.   Broadcast from studios
   v.   Digital representations

c. **Location**: where does most of the live video take place?
   i.   Studio: broadcasting set
   ii.   On the field
   iii. Digital: virtual representation

d. **Journalistic narration**: is there a narrator to guide the viewer (voice-over, presenter, moderator, interviewer or other)?
   i.   Yes
   ii. No

II. Audiovisual variables: related to the production of live video:

a. **Video format**: aspect ratio and typology:
   i.   Square
   ii. Horizontal
   iii. Vertical
   iv. Immersive-360°
   v.   Augmented reality

b. **Text**: Does the video have a character generator or other types of phrases that support the content?
   i. Yes
   ii. No

c. **Subtitles**: Does the video have text that translates or transcribes the audio?
   i. Yes
   ii. No

d. **Logo**: Is there a logo that is associated with the broadcaster at some point in the video?
   i. Yes
   ii. No

III. Social channel variables: related to the live video publication:

a. **Time of broadcasting**: classification according to the three most important milestones of the day:
   i.   0:00 to 8:59a.m.: opening of the voting polls.
   ii. 9:00 a.m. to 5:59 p.m.: voting process.
   iii. 6:00 p.m. to 11:00 p.m.: results and reactions.

b. **Hashtags**: does the publication have some?
   i. Yes
   ii. No

c. **Mentions**: Does the publication have any type of tags (profiles or geolocation)?
   i. Yes
   ii. No

d. **Hyperlinks**: Does the publication have links to external websites?
   i. Yes
   ii. No

IV. Impact variables: related to live video results:

a. **Views**: classification by volume of results obtained at 11:59 p.m. Chilean time on the 11/20/2017:
   i.   1-9.999
   ii. 10.000-99.999
   iii. 100.000 or more

b. **Extension**: broadcasting length
   i.   Short: 00:00:01-00:09:59
   ii. Medium: 00:10:00-00:29:59
   iii. Long: 00:30:00-00:59:59
   iv. Extended: 01:00:00 or more

c. **Exclusivity**: is the content unique to the social channel?
   i. Yes
   ii. No

d. **Engagement**: Are the comments or reactions of the audience answered during the video?
   i. Yes
   ii. No

RESULTS

Through five social channels, the information newscasts of public television (*TVN 24 Horas*), of *Canal 13* (*Teletrece*) and of *Chilevisión* (*CNN Chile*) made 107 SMLS broadcasts –81 on Facebook Live and 26 on Periscope– during the runoff of the 2017 presidential election, conducted on December 17. All of them included contents on the opening of the polling places, the development of the electoral process, the delivery of results and the candidates' reactions.

According to the results, taken at 11:59 p.m. Chilean time on Monday, December 18, 2017, the most viewed video –and the most commented– corresponds to the vote counting in Wellington, New Zealand, broadcasted at 2:21 a.m. by *Teletrece's*[5] Facebook fan page. The story obtained was watched 180,519 times and had 2300 comments.

DESCRIPTIVE ANALYSIS OF THE CONTENTS

Regarding the topic, in 95% of the videos there is some kind of mention of the presidential runoff. The 5% in which there is no information about the elections corresponds mainly to another relevant news fact: the flood in Villa Santa Lucía (Chaitén) happened the previous day. *TVN 24 Horas* and *Teletrece* gave more relevance to that information, including a live video

on the Air Force plane that flew over the area affected; *CNN Chile*, in as much, did not broadcasted stories unrelated to the main subject.

In terms of content, 61% of the videos broadcasted correspond to programs on the set; 27%, to last-minute events; 7%, to press conferences; 3%, to digital representations, and 2%, to behind the cameras. While in *TVN 24 Horas* and *Teletrece* the breaking news events predominate, almost all of *CNN Chile's* content comes from the television set of its parent company.

Most press conferences correspond to reactions from the candidates' commands, and all digital representations are from *Teletrece*; the backstage were the first live broadcasts of the day of both *TVN 24 Horas* and *CNN Chile*.

When analyzing the location, we can see that 55% of the videos were mostly broadcasted from the television set or from its newsroom; 42%, from outside, and 3%, in digital format. Following the trend of the previous section, while most of the SMLS content of *TVN 24 Horas* and *Teletrece* takes place in the field, *CNN Chile* reverses the trend, because almost all of its stories come from Turner; on the other hand, the digital representations correspond to *Canal 13*.

Regarding journalistic narrative, 88% of the videos have at least one voice that guides the audience. The remaining 12% corresponds mainly to digital representations and to the reactions of the candidates after knowing the results, broadcasted by *TVN 24 Horas* and *Teletrece*. In *CNN Chile*, all the videos have this kind of narration.

As for the format of the video, 87% of the live broadcasts were made in horizontal format –including all of *CNN Chile*–; 4%, in vertical; another 4%, through augmented reality; 3%, in square, and 2%, through immersive-360°. It should be noted that *Teletrece* was the only channel that used all the formats.

TVN 24 Horas, on the other hand, used augmented reality to project the electoral results delivered by the Chilean electoral service, while the vertical videos correspond to broadcasts of *Teletrece's* journalists that were in the field, from their mobile devices.

Regarding text, 86% of the stories have character generators or other types of phrases on the screen to complement the video. In *CNN Chile* all the contents have this support and in *TVN 24 Horas*, a wide majority of them have them, but in *Teletrece* predominates the absence of this type of complements.

Only one of the 107 pieces studied had subtitles to transcribe or translate the audio of one of the protagonists of the content. It was in a story about

Sebastián Piñera, broadcasted by *TVN 24 Horas*, during a dialogue in English with Barack Obama.

In 86% of the contents it is possible to distinguish logos, understood as an identity image of the channel or the program. For example, in *TVN 24 Horas* there is no presence of logos of the television station, but the name of the special news program Chile Elige, renamed as Chile Eligió once the name of the president-elect was announced, is present.

CNN Chile followed the strategy of its parent company, so that every ten seconds its logo alternated with that of *Chilevisión*. Meanwhile, *Teletrece* mostly used its corporate image T13, accompanied by the name of its special program, *Tú Decides*.

As for the time of broadcasting, 55% of the SMLS content was issued during the voting process, i.e., between 9:00 in the morning and 5:59 in the afternoon; 23% during the dawn and opening of polls (until 8:59 a.m.), and 22% after 6:00 p.m., when the counting of votes and the subsequent reactions to the results began.

The three media generated more content in the time slot from 9:00 a.m. to 5:59 p.m. However, the trend changes in the second and third places: *TVN 24 Horas* broadcasted more content in its afternoon-night block, while *Teletrece* did it during the morning. *CNN Chile* on Facebook Live broadcasted as follows: 50% during the voting, 25% at the opening of polls and 25% during the results and subsequent reactions.

92% of the videos present expressions preceded by the sign #, i.e., hashtags. The strategy of each channel was to highlight the name of their informative programs: *CNN Chile* included in most of its contents #Elección360; *Teletrece*, #TúDecides, and *TVN 24 Horas* was more daring, starting the day with #ChileElige and switching to #ChileEligió once the triumph of Sebastián Piñera was a fact.

Only four out of ten videos had any kind of mentions, either tags to other profiles of the same social network or geolocation options. *TVN 24 Horas* mostly used this option, citing its address as the location of the content.

Teletrece applied them for the same purpose, although to a lesser extent. *CNN Chile*, on the other hand, did not use any of the two resources in Facebook Live, but did so in Periscope and Twitter, to tag the candidates or other protagonists of the main information broadcasted live.

Only 44% of the videos broadcasted have external links or hyperlinks. While *TVN 24 Horas* and *Teletrece* offered links to their various digital channels or to play other signals, *CNN Chile* did not use this resource in any of its broadcasts.

57% of the videos had more than ten thousand viewings, but less than 100,000; 36% was between one thousand and 9,999 visualizations, and 7% was in the high impact range, i.e., exceeded the 100,000. The least seen video corresponds to the discussion between Patricio Navia and Gabriel Boric on Twitter, broadcasted by *CNN Chile* through Periscope at 8:05 in the morning, with 1024 spectators.

As already mentioned, most of the most viewed videos come from the Live Facebook of *TVN 24 Horas*, but the one with the best performance belongs to *Teletrece*.

When analyzing the length of the videos, we can see that 34% are of short duration (less than ten minutes), 30%, of medium duration (more than ten and less than 30 minutes), 21%, of long duration (more than 30 minutes, less than an hour), and 15%, of extended duration (more than one hour). While *TVN 24 Horas* and *Teletrece* prioritized short videos, most of *CNN Chile's* contents are between medium and long duration, ranging between 25 and 35 minutes.

Regarding the exclusivity of content, only 18% of them were broadcasted through a single channel and 82% corresponded to simulcasting among other SMLS platforms, digital media and television signals. The case of *Teletrece* stands out, because six out of ten contents issued through Facebook Live were exclusive; in *TVN 24 Horas*, the proportion is one in six, while in *CNN Chile* this happened only in one of its 47 broadcasts.

In 21% of the broadcasts it is possible to distinguish interaction (engagement) with the audience. It is important to note the case of *CNN Chile*, which, having mainly content from the set, could give more space to review live the various interactions of its audiences, regardless of whether they came from Facebook Live or Periscope.

It is possible to see the same trend in *TVN 24 Horas*, especially in the exclusive programming for Facebook Live, while in *Teletrece* this resource was only used once, specifically during the broadcast in the field of journalist Karina Zúñiga.

It is important to add that it was possible to observe that the interaction with the audience grew when there was a lower volume of last-minute events. Therefore, after 6 p.m., there is a decrease in the use of this resource.

SMLS AUDIENCE VERSUS TELEVISION RATING

Regarding the average audience obtained in SMLS channels, adding the results of each social profile, the media studied had the following results:

- **TVN 24 Horas**: 53,039 viewers.

- **Teletrece**: 38,594 viewers.

- **CNN Chile**: 31,377 viewers.

On the other hand, the open television signals equivalent to the SMLS channels studied obtained the following average daily rating results during December 17, 2017 (Barros Peñailillo, 2017), applying the equivalence methodology used by the auditing company[6] (Kantar Ibope Media, n.d.) to the number of households and people:

- **TVN**: 5.8 points (119,521 households and 397,167 persons).

- **Canal 13 (Teletrece)**: 7.6 points (156,613 households and 520,425 persons).

- **Chilevisión (CNN Chile)**: 6.1 points (125,703 households and 417,710 persons).

If we compare between average viewers (SMLS) and average people (television), the supremacy of television is clear. Therefore, if we establish a percentage equivalence between the two results, it is possible to maintain that the average SMLS audience of *TVN 24 Horas* was equivalent to 13.4% of the *TVN* average viewers, *Teletrece* average SMLS audience was equivalent to 7.4 % of the average viewers of *Canal 13*, and the average SMLS audience of *CNN Chile* was equivalent to 7.5% of *Chilevisión's* average viewers.

As stated in the description of the case study, the content strategy in SMLS and open TV had many similarities, corresponding in many cases to simulcasting broadcasts; therefore, the comparison is interesting, although they are not exactly the same signals. This means that although *TVN*, *Canal 13* and *Chilevisión* have profiles on social networks different from those of their informative programs, the latter did not broadcast live during the day studied.

More interesting is the case of *Chilevisión* and *CNN Chile*, two different channels –both in television and digital signals– that during the electoral day conducted a joint transmission and shared the sets from their parent company, Turner Chile. Therefore, in *CNN Chile* live streaming broadcasts, the presenters usually refer to a joint transmission, as detailed in the previous section.

PERFORMANCE AND INTERACTIONS

TVN 24 Horas

Even though during the first round of elections on November 19, 2017, *TVN 24 Horas* broadcasted five live contents through Periscope, which allowed it to accumulate six hours and 54 minutes of programming, with a total of nearly 12,000 spectators (results extracted at 11:59 p.m. Chilean time of Monday, November 20, 2017), in the second round the efforts were exclusively focused on Facebook Live.

The decision seems to be correct since, of the media studied, they were the ones who made the most content per channel (35 in total). In addition, both its average and accumulated results were superior to all the pieces studied of *Teletrece* and *CNN Chile*, as can be seen in table 2.

In addition, the channel had five publications that can be considered of high performance, i.e., that exceeded 100,000 viewings:

1. **Report on the other side of the elections**: 164,036.

2. **Denunciation of tampered vote in Las Condes**: 151,855.

3. **Phone call from Michelle Bachelet to Sebastián Piñera**: 146,048.

4. **Confrontation for insults to José Antonio Kast** [7]: 138,725.

5. **Vote count**: 127,985.

The content strategy implemented during the day consisted of exclusive programming for Facebook Live, with continuous interaction with the audience; replicas of web and television signals (*TVN* and *Canal 24 Horas*); specific stories about last-minute events; reactions of the candidates to the results issued without cuts, and a backstage at the beginning of the day.

Teletrece

At 00:00 on Sunday, December 17, the information signal from *Canal 13* was already broadcasting live through Facebook Live, since they had a countdown to the opening of the polls in the country. Even during the early morning there were dispatches from places abroad where, due to the time difference, the first counts were conducted, as is the case of the aforementioned news coverage from New Zealand.

In total, 25 live videos were broadcasted: 22 in Facebook Live (table 3) and three in both Periscope and Twitter (table 4). It is important to note that, of the media studied, *Teletrece* was the one that had the most hours of live video: 31.5, which is equivalent to ten times more than *TVN 24 Horas* and 7.5 more than *CNN Chile*. This is because it made live streaming broadcasts in parallel, both of exclusive content for SMLS and of replicas of the open signal of *Canal 13*.

Teletrece developed an SMLS content strategy with a lot of resources: live reports from its journalists through their mobile devices, immersive videos –in 360º degrees– to broadcast the press conferences of each candidate once the results were delivered and different projections of vote: through augmented reality and with visual effects at night in the Costanera Center building, the highest in Latin America (La Segunda, 2012).

CNN Chile

Although the contents are not exactly the same, on *CNN Chile* there was a better balance between Facebook Live (table 5) and Periscope (table 6): 24 on the first channel and 23 on the second (19 of them also broadcasted by Twitter). This differentiating element is due to a backstage broadcasted at 5:49 a.m. to anticipate the contents that would air on all signals of Turner Chile from 7 in the morning.

All the remaining content was broadcasted in parallel through all of its SMLS channels and the *Eleccion360. cl* website in a program from a set, connecting with journalists in the field who broadcasted from their mobile devices and re-broadcasting Turner's unique television signal. It is also important to highlight the interaction with the audience, because their messages published in the Facebook Live and Periscope broadcasts were read, as well as content received through other social channels, such as Twitter and WhatsApp.

The most watched video of *CNN Chile* was about the first forecast in #Election360, broadcasted at 06:45 p.m. on Facebook Live, anticipating –quite closely– the runoff results. Therefore, it is not surprising that this story was the one that received the greatest number of interactions of all studied: 2,054, which include I likes, I love, I am amused, I am amazed, I am sad, and I am angry.

CONCLUSIONS

Even though the websites and live streaming applications had a complex starting point, nowadays

	Length (hrs:min:sec)	Viewings until 12/18/17	Share	Comments	Reactions
Average	0:31:39	53,039	119	587	859
Acumulated	18:27:36	1,856,349	4,169	20,556	30,082

Table 2. The 35 broadcasts of 24horas.cl on Facebook Live. Performance and interactions of TVN 24 Horas on Facebook Live during the presidential runoff.

Source: Own elaboration.

	Length (hrs:min:sec)	Viewings until 12/18/17	Share	Comments	Reactions
Average	1:12:08	29,877	34	339	263
Acumulated	26:27:04	657,301	744	7,448	5,791

Table 3. The 22 broadcasts of Teletrece on Facebook Live. Performance and interactions of Teletrece on Facebook Live during the presidential runoff.

Source: Own elaboration.

	Length (hrs:min:sec)	Viewings until 12/18/17	Twitter comments	Retweets	Twitter Likes
Average	1:39:49	8,718	12	40	83
Acumulated	4:59:26	26,153	37	119	250

Table 4. The 22 broadcasts of Teletrece on Periscope y Twitter. Performance and interactions of Teletrece on Periscope y Twitter during the presidential runoff.

Source: Own elaboration.

	Length (hrs:min:sec)	Viewings until 12/18/17	Share	Comments	Reactions
Average	0:28:38	26,654	40	226	351
Acumulated	11:27:03	639,694	958	5,416	8,414

Table 5. The 24 broadcasts of CNN Chile on Facebook Live. Performance and interactions of CNN Chile on Facebook Live during the presidential runoff.

Source: Own elaboration.

	Length (hrs:min:sec)	Viewings until 12/18/17	Twitter comments	Retweets	Twitter Likes
Average	0:33:00	7,451	24	32	63
Acumulated	12:39:01	171,382	462	606	1,198

Table 6. The 23 broadcasts of Teletrece on Periscope (19 on Twitter). Performance and interactions of CNN Chile on Periscope y Twitter during the presidential runoff.

Source: Own elaboration.

it is possible to talk about Social Media Live Streaming (SMLS) as live videos through social networks, in different formats, and with interaction as one of their main attributes.

Currently, there are different channels for the distribution of SMLS content: own social networks, profile functionalities or connected with external applications.

The opportunity to give intensity to the journalistic story is what motivates digital media to broadcast SMLS contents. Nowadays, it is already possible to identify five types of uses that range from broadcasting in sets and newsrooms to digital representations in mixed reality.

Between the end of 2017 and the beginning of 2018, a series of reports on the use and performance of SMLS was published in the main media of the world, with both apocalyptic and optimistic visions. With all this, it is possible to conclude that, while Facebook Live offers more opportunities for reach and interactions, Periscope/Twitter –as integrated networks that broadcast in simulcasting– offer financing formulas with greater clarity and diversity.

According to the analyzed media, the average daily audience in SMLS is equivalent to a tenth of the conventional television tuning in open signals. Although certain considerations must be taken into account for comparison –while TV data are only estimates of the number of households and audience through rating points, those of social networks are accumulated both live and in repetition– it is possible to say that live streaming offers sufficiently attractive results for broadcasters to seek economic returns.

From the broadcast perspective, *TVN 24 Horas*, *Teletrece* and *CNN Chile* created three different and easily differentiable strategies to broadcast through Social Media Live Streaming. The public signal privileged short videos to inform about last-minute events, *Canal 13's* newscast opted for having their field reporters generating live content from their mobile devices and the Turner signal privileged a main broadcast from the set, with an average lasting of no more than 30 minutes per content.

On the other hand, from the reception perspective, it is important to distinguish in the results of the studied SMLS contents a behavior related to the content relevance; for example, that the most viewed videos were broadcasted during vote counting; it should also be noted that it was possible to observe a direct relationship between the volume of comments and interactions with users' age: the younger, the greater

the engagement. This has also been reported in similar studies (Mancebo García, 2016, p. 345).

We can obtain a second variant of results by applying previous research related to the construction of indicators for the analysis of digital media content and videos on social networks. In addition to the statistics provided by Facebook Live and Periscope/Twitter, it is possible to build a Variable Matrix for the characterization of Social Media Live Streaming content that considers a series of KPIs, with adaptation to a specific case study, centered on four variables: journalistic, audiovisual, social channel and impact.

An analysis of the results, applying the matrix of variables on 107 live broadcasts of *TVN 24 Horas*, *Teletrece* and *CNN Chile*, allows to conclude –following the main trends– that an average SMLS content in the Chilean digital media during the 17th of December of 2017 has the following features: it mentions the runoff of the 2017 presidential election; it corresponds to a program on the set, with its newsroom as the main location; it has a journalistic narrative; it is broadcast in a horizontal format, including some kind of supporting text, but without subtitles; the corporate logo is present –of the signal or the special informative–; the preferred time slot fluctuates between 9:00 a.m. and 05:59 p.m.; its publication includes hashtags without mentions or hyperlinks; its number of viewings is between 10,001 and 99,999; its length is less than ten minutes, and simulcasting without interaction with the audience is privileged.

In summary, it is possible to argue that this research allows us to make a first approach to a greater challenge: the construction of an articulated system of analysis of Social Media Live Streaming for digital media, whose purpose will be to establish relationships with aspects of visibility of the journalistic information.

DISCUSSION

The importance for journalism of including live video broadcasts through social networks has been sufficiently established in the previous sections, so the next step for editors to decide to include SMLS as a frequent activity, and not only during relevant information events, such as a presidential election, depends on the monetization possibilities addressed in the theoretical framework.

Different media editors explain that live streaming is a space to do things different from television, considering that companies like Facebook give them relevance

through its reach algorithm of publications on fan pages; therefore, those who do not receive subsidies from the social network know their importance, but at the same time suffer from the lack of time to broadcast live (Méndez Nieto, Rivera, & Palomo Torres, 2018, pp. 40-41).

As it is possible to observe in the comparison of SMLS audience versus television rating (and at the same time, in the conclusions), there is space for the studied to look out for economic returns, without forgetting to consider the limitations when making results comparisons. The same happens between social networks: although Facebook Live numbers are far greater than those of Periscope, it is important to keep in mind that Twitter's social network differentiates live visualizations and repetitive visualizations, not like Facebook, making difficult to have a precise comparison between channels (Mancebo García, 2016, pp. 553-554).

This is where another complication appears, because Mark Zuckerberg's social network has had to recognize in the past that it has bulked the statistics of videos, and after its scandals for breaches of privacy, media like The New Yorker dare to venture the possibility of bankruptcy (Osnos, 2018).

In other aspects related to the variables matrix, it is interesting to stress that –if reference is made to a Chilean digital media average SMLS content (as mentioned in the conclusions final part)– there are similarities with the academic works on the Spanish news program *Antena 3 Noticias* (Marta Lazo, Mancho Laiglesia, & Villa Navarro, 2017, pp. 99-104) in the averages of broadcasting time, presence of journalistic narration and degree of interaction.

It is also interesting to note, in other studies that analyze the publications of digital media in Periscope and Facebook Live, the description of journalistic variables, linked to SMLS content, and the audiovisual ones, linked to the SMLS production, with special emphasis on the broadcast format (Mancebo García, 2016, pp. 334-345).

In this regard it is worth highlighting media such as *Teletrece* that, as explained in the descriptive analysis of the contents, applied all possible formats in its 25 SMLS broadcasts. Therefore, it has been recognized by the Facebook Journalism Project, center of journalistic studies of the social network, for its coverage via Facebook Live of sporting events such as UEFA Euro 2016 and *Copa América Centenario* through different resources, such as the use of drones (Facebook, n.d.).

For all these reasons, the context of Social Media Live Streaming, as well as the variables, indicators and the different comparisons developed throughout this work, may be used, with appropriate adjustments, in future research linked to the use of live social video networks from digital media.

NOTES

1. According to data of Similar Web. More information: https://www.similarweb.com/website/biobiochile.cl

2. Live content is available at https://www.snapchat.com/live/

3. The open television signal of each SMLS channel is included in parentheses.

4. *Mega* and its newscast *Ahora Noticias* were excluded from the case study because, despite being leaders in Chilean open television since 2014 (El Dínamo, 2018), there is no record of emissions in Periscope; in Facebook Live the use of repetitions of the television signal and even the emission of duplicate content predominated. An example of this was what happened with the congratulatory call of the then president, Michelle Bachelet, to the president-elect, Sebastián Piñera. The same story was broadcasted both at 20:10 and at 20:23 Chilean time of the date indicated, as can be seen in the following links https://web.facebook.com/AhoraNoticias.Mega/videos/1954544357893553/ y https://web.facebook.com/AhoraNoticias.Mega/videos/1954570217890967/

5. https://www.facebook.com/teletrece/videos/1659425044139053/

6. According to the website of Kantar Ibope Media, a rating point in total households equals 20,607 households and in total individuals, to 68,477 people. More information: http://www.kantaribopemedia.cl/preguntas_frecuentes.php

7. Independent former presidential candidate who in the first round obtained the fourth place (7.93%), and in runoff supported Sebastián Piñera doing work as proxy at polling stations.

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