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## Vertical video. A review of the literature on communication

### *El vídeo en formato vertical. Una revisión de la literatura en comunicación*

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#### **Abstract**

New Media have modified the production and use we make of the static and dynamic images displayed on our mobile devices. The audio-visual panorama is full of possibilities for combining formats and resources. In recent years, the verticalisation of the screen has arrived as a support for audio-visual communication in Communication and Information Technologies. This research sought to know the published literature on video in vertical format where a narrative-type bibliographic review was selected. To this end, the Web of Science, Scopus and Google Scholar databases were consulted using a search strategy. The published scientific evidence can be divided into discussion about the relationship between the image and the device, the aspect ratio, the supports and formats of the New Media, vertical video in social networks and guidelines on the grammar of vertical video. One main conclusion is that the vertical format challenges traditional conceptions and leads to visual/spatial, stylistic and aesthetic adjustments that determine a new way of seeing and experiencing media and communication platforms. This review of the literature makes clear the lack of thematic scientific bibliography available.

#### **Keywords**

Audio-visual; mobile devices; format; vertical video; smartphone; social media

#### **Resumen**

Los nuevos medios de comunicación han cambiado la producción y el uso que hacemos de imágenes estáticas y dinámicas que visionamos en las pantallas de nuestros dispositivos móviles. El panorama audiovisual se presenta plagado de posibilidades de combinación de formatos y recursos. En los últimos años la verticalización de la pantalla ha incursionado como soporte de la comunicación audiovisual en la Tecnologías de Comunicación e Información. El objetivo principal de esta investigación ha sido conocer la literatura publicada sobre el vídeo en formato vertical donde se ha optado por la revisión bibliográfica de tipo narrativo, y para su elaboración se han consultado las bases de datos de Web of Science, Scopus y Google Académico con una estrategia de búsqueda relacionada. La evidencia científica publicada se puede sectorizar en la discusión sobre la relación entre la imagen y el dispositivo, la relación de aspecto, los soportes y formatos de los nuevos medios, el vídeo vertical en redes sociales y lineamientos sobre la gramática del vídeo vertical. Entre las principales conclusiones destaca que el formato vertical desafía las concepciones tradicionales y conduce a ajustes visuales/espaciales, estilísticos y estéticos que determinan una nueva forma de ver y experimentar de los medios y plataformas de comunicación. Esta revisión de la literaria hace patente la escasa bibliografía científica disponible sobre el tema en cuestión.

#### **Palabras clave**

Redes sociales; Instagram; ciberodio; campaña online; comunicación política

## 1. Introduction

The changing panorama involving smartphone formats is allowing vertical framing to flourish (Neal & Ross, 2018). It is undeniable that the new media have changed not only the production, but also the use of static and moving images, which can now be adapted to mobile screens, vertical positioning, low resolution, and imperfect shooting techniques, thus changing the way images are viewed and making the idea of using a single format for their productions anachronistic. (Napoli, 2016)

The audio-visual scenario offers all kinds of possibilities, including a combination of formats and media presided over by the role of hyper textuality, which is openly participative on the Internet. In this context, it is essential to bear in mind that the main enablers of participative forms of production are the proliferation of devices, information technology, and platforms that stimulate independent creation and self-production. Thus, the coexistence of procedures and formats can be observed in contemporary practices. (Arnau-Roselló & Galán-Cubillo, 2013)

From the beginnings of cinema to the present day, the changes adopted in screen format have implied an increasingly horizontal style, ranging from the 1.17 format (the most famous is 4:3) to Cinemascope. Thus, the different styles have been setting a technical standard linked to cinematographic imaginary (Napoli, 2016). The creators of vertical videos start from research on the production of horizontal videos, and then study their similarities and differences with the new format in terms of development, storytelling, production, audio-visual language, experiences, transmission, etc. Currently, vertical video production is in the initial stages (Chen & Ye, 2020), with some even talking about anti-vertical video (Ryan, 2017; Canella, 2018), which is traditionally oriented toward aspect ratios that are wider than they are high. Nevertheless, others claim that the panoramic format is about to change. (Moreno-Gallo, 2006)

## 2. Methodology

The main objective of this research is to learn more about the published scientific literature on vertical video, its uses, and consumption. In recent years, the transition to a vertical screen has made inroads as a format for audio-visual communication in the area of Information and Communication Technology, and in online platforms and media as well, where this practice is becoming increasingly common and is expressed in a variety of ways.

To achieve the objective, we have chosen to carry out a narrative-type bibliographic review. We have also consulted the databases of Web of Science, Scopus, and Google Scholar, using a search strategy to obtain results related to the scientific literature published (n=155) over the last 10 years (Figure 1).

**Figure 1. Databases and categories of the bibliographic search**

Web of Science	Scopus	Google Scholar
Keywords: "vertical format" (3 results) "vertical screen" (3 results) "vertical video" (10 results).	Keywords: "vertical format" (17 results) "vertical screen" (24 results) "vertical video" (22 results).	Keywords: "vertical format" (25 results) "vertical screen" (19 results) "vertical video" (32 results).
Document type: Scientific articles and book chapters.	Document type: Articles, books, book chapters, and conferences.	Document type: Articles, book chapters, conferences, etc.
Web of Science categories: "Communication", "Film, Radio, Television".	Scopus categories: "Social Science" and "Multidiscipline".	Categories: All

Source: created by the author.

Documents related to the topic, which have been selected from the literature review, contain information, ideas, data, and evidence that will be used to meet the objectives of this study, to express certain opinions about the nature of the topic and the way it will be researched, and to conduct an effective evaluation of these documents with regard to research proposals (Hart, 1998). Furthermore, a literature review offers a critical appraisal of other research on a topic, which is a process that helps us to place the issue in context (Machi & McEvoy, 2009). As a method, the bibliographic search within the context of a literature review is considered to be a study in itself, in which the researcher has a question to be answered, collects data, analyses, and draws conclusions (Gálvez-Toro, 2001; Day, 2005). Thus, the literature review is important due to its being considered a basic tool for advancing this practice. It can help to inspire and generate new ideas by highlighting inconsistencies in current knowledge (Aveyard, 2010). It is also useful for studying existing theoretical and conceptual frameworks, and for enabling their

development through exploration and critical evaluation of existing knowledge. (Coughlan, Cronin and Ryan, 2013) (Figure 2)

**Figure 2. Narrative bibliographic review**

**Main features**

Describe and evaluate scientific articles published in three databases

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**Uses/Applications**

General debates, evaluation of previous studies, and current status.

Guidelines for future research.

Speculation on trends in the field.

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**Limitations**

Selection and evaluation bias unknown.

Time frame: 01/01/2011 to 31/12/2021.

Languages: English and Spanish.

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Source: created by the author based on Ferrari (2015).

With this methodological framework, the following questions arise: Is there a new aesthetic that allows videos not only to be viewed on smartphones, but also to be watched vertically in order to take advantage of the smartphone screen? Is vertical viewing a requirement of smartphones? Is the development of vertical video in audio-visual communication influenced by use and consumption? Finally, is the prevailing audio-visual language of horizontal video being disrupted by the emergence of vertical video? The combination of social networks, mobile devices, and young users plays a fundamental role in this scenario. Specifically, we have delved into the uses of vertical video, its consumers, as well as their experiences and practices in various domains.

### 3. Results

After performing a narrative analysis of the bibliography consulted, it has been observed that the published scientific and informative evidence can be categorised into discussions on the following topics: a) The relationship between image and device; b) Aspect ratio, as well as the channels and formats of the new media; c) Vertical video on social networks; and d) Toward the grammar of vertical video. Each of these are detailed below.

#### 3.1. Relationship between image and device

With regard to image and device, traditional painting of past centuries was produced in order to place itself in a specific location that allowed it to be viewed.

In this regard, Aumont (1992: 144) states the following:

[...] To look at an image is to come into contact, from within a real space which is that of our everyday universe, with a space of a fundamentally different nature, that of the surface of the image [...]. The first purpose of the device [channel] is to propose specific solutions to the management of this "unnatural" contact between the space of the spectator and the space of the image, or in other words, the "plastic space" [...]: the composition [...], colour [...], graphic elements, or the "substance" of the image (the brushstroke in painting or the granularity of film).

Throughout history, formats used for image storage have had qualities that have endured, and others that have changed. Mural paintings and frescos, which are advanced forms of cave paintings, appeared on the walls or ceilings of buildings. Painting on canvas implied a change of format: it was isolated and portable, with shapes ranging from square, rectangular, oval and round, regarding classic Italian painting. Moreover, this same characteristic determined future formats. (Aumont, 1992)

Another factor that has shaped the traditional image is the frame, which highlights the boundary of the format, or the limit of what is painted. Above all, the frame is the edge of an object. It is present

on museum paintings, on photos on a fireplace, and even on the first televisions. The image could not protrude; if anything, in canvas painting it could extend over the frame, thereby expanding its depiction a few centimetres further. (Navarro-Güere, 2007)

In the ecosystem of digital images, this has changed completely: the synthetic image does not need one final destination; it can be viewed on any screen or surface, and there is not always a correlation between the original image and its display. (Aumont, 1992)

### 3.2. A brief history of aspect ratio

Before the advent of cinema, most visual art did not conform to any particular orientation or aspect ratio. Vertical framing tended to dominate Asian and Pre-Renaissance European art, but later paintings came in all shapes and sizes. Some paintings avoided the frame altogether in the form of frescoes, while the *camera obscura* had been displaying circular moving images for centuries. The battles fought over the geometric shape of the screen as cinema developed in the early 20th century are little known, but they left behind a wide variety of interesting early formats. In fact, the emergence of a new optical soundtrack on film material pushed the width-to-height ratio of cinema close to square. Faced with a multitude of formats, in the 1930s Hollywood engineers at the Academy of Motion Picture Arts and Sciences decided to set a new standard. Only Sergei Eisenstein [1] argued against standardising the landscape format: he saw the horizontal rectangle as a throwback to the theatrical *proscenium* (Sébière, 2014). Even Eisenstein pleaded with the Academy to consider the potential of the "dynamic square", a screen as tall as it was wide, calling for the cinema to remain flexible regarding a variety of geometric shapes. (Ryan, 2017)

Even so, the Academy Ratio (1.375: 1) was established in 1932 and lasted until the film industry's battles with television once again expanded film formats in the quest for an immersive experience that would please audiences and flood the field of vision. In other words, the 4:3 ratio became known as the "Academy Ratio". (Ryan, 2017: 248)

Some film directors equated such immersion with audience passivity, and in the 1960s the expanded cinema movement rebelled against the film industry. Some tried to criticise the hidden power structures of the film industry while others pursued cinematic environments that could inspire an "oceanic feeling". In the 1960s, both sides sought to liberate audiences from the tyranny of stationary viewers passively receiving a singular, horizontally rectangular perspective of the world, using facilities or projections in domes, sculpted objects, and multiple screens of different shapes to do so. This new "expanded" cinema was to be experienced kinaesthetically, involving the entire body, not just the eyes and ears. In the digital age, camera standards still remain, but there are fewer technical limitations. In pursuit of ever wider definition, the television industry has established the 16:9 format, developed from an average of pre-existing screen ratios. As screen devices become increasingly omnipresent, they are also becoming more portable, and thus interchangeable. (Sébière, 2014)

Among these experiences, spherical video bears mentioning, which invites the viewer to interact. Such interaction is exponential if consumption is carried out from mobile devices with gyroscopes, to use one example, which change the perspective of the viewer with any movement made during viewing (Gallardo-Camacho & De-Las-Heras, 2015). In general, this does nothing more than talk about "dynamic screens" as viewing surfaces (Manovich, 2017), or the "dynamic square" mentioned above.

### 3.3. New media channels and formats

Since the first third of the 19th century, a series of continuous breakthroughs have been taking place, whether in formats that are photographic, cinematographic, or electronic, which have their deepest roots in purely technical aspects, or in other words, in technological aspects that have decisively and irreversibly shaped the emergence of these media, as well as their development and subsequent evolution throughout the 20th and 21st centuries (Amorós & Fontán, 2010). The dizzying pace of technological progress in the audio-visual field has generated a diversity of media, productions, channels, formats, and more. In the iconic audio-visual scenario of the 21st century (Gubern, 1996: 108), and faced with this complex and interconnected media network, what is taking place is the technological adaptability of equipment in order to cope with the diversity. (Amorós and Fontán, 2010)

The current market of audio-visual technology offers a wide variety of digital devices and formats. However, in their practical application to the new production designs that allow interactivity, it is necessary to know how best to adapt them to the diversity of audio-visual content. When selecting a format and device, it is necessary to assess the level of compression, quality loss, standardisation of the format and its compatibility with other programmes, resolution, quality, and the codec offered in the different formats (Amorós & Fontán, 2010). Thus, the new media are moving closer to the mixing of narratives, the consolidation of new relationships, and the creation of formats specifically tailored to

the Internet (Noguera-Vivo, 2010). Therefore, this breach challenges traditional concepts and leads to visual/spatial, stylistic, and aesthetic adjustments that shape a new way of seeing and experiencing media and platforms. (Cossar, 2011)

Success in television creativity will continue to be the result of using innovative formats, as well as taking advantage of classic formats and concepts, and the reuse of well-established strategies or adaptations of these. In the coming years, until these new habits become established in society, this new reality will make it necessary to carry out work, while at the same time knowing the great difficulty faced by projects in reaching the critical audience mass necessary to make them profitable and viable. Producers are considering content for multimedia use, and this content must be adapted to the new screens. Thus, audio-visual narratives adapted to the new format are being implemented, which confirms that there has been a change in mentality about the way information is produced. (Millán-Paredes, 2004; Ruano, 2009)

The new digital ecosystem has shaped the traditional ways news is produced and consumed. Thus, mobile devices allow immediate access to information while consuming very little data, which makes it more attractive to young users who are more likely to watch short videos than read a news article (Orihuela, 2002; Jódar-Marín, 2019).

Likewise, the segmentation of content has also given rise to a variety of formats that address new ways of using technology, and this has had an effect on mobile devices. The new communication ecosystem has established the complementarity of the new media and the use of electronic devices together with the existing ones by reconfiguring applications, language, etc., in order to reach the target audience. As such, one can find digital portals that have been able to assemble different tools and adapt them to their needs, thereby allowing them to complement or expand news ranging from basic items such as statements to more complex content such as video news (Jódar-Marín, 2019). Thus, digital media are being driven to produce high quality, vertical videos to reach an ever-growing audience, which should lead to a better user experience. (Barakat, 2015c)

The use of vertical video has proven to be a huge challenge for major broadcasters. When vertical video becomes the preferred choice of viewers, ignoring the new format will be difficult: "We can't be completely immune to the growth of vertical viewing", according to Marc Settle [2] of the BBC. "It's the way people hold their phones" [...]. "It's not the way traditional media would like them to hold their [mobile] phones"; "[...] but when change happens, are we forced to accept it?". (Albeanu, 2015)

Arguably, device ergonomics and human physiology encourage us to hold most mobile phones in a predominantly vertical position (Sébire, 2014; Ya-feng et al., 2021). Some research has pointed out that the variables of horizontal and vertical button spacing, horizontal and vertical screen dimensions, etc., have been considered practical and aesthetic variables by users, with horizontal button spacing and screen width being the most affected. Thus, these criteria have been used to determine aesthetics and other user preferences (Nathan-Roberts & Liu, 2015). Another study has indicated that the acknowledged bias toward vertical perception that occurs when the visual environment rotates in a vertical plane is reduced by the addition of visual noise. Thus, during visual rotation, the bias in perceived verticality increases over time to an asymptotic value, thereby providing a better understanding of the neural processes underlying human verticality perception. (Dakin et al., 2020)

Along the same lines, when applied to the experimental education domain, other studies have shown that obtaining active, comprehensive, and engaging learning outcomes in the classroom is often difficult. The students who participated in the study often communicate with avatars on the vertical screen and can react naturally to the situation and tasks. In this way, one might see the emergence of potential benefits such as motivation, enjoyment, a context that encourages learning, engagement, social collaboration, and role-playing. The results of the present study have shown that students' image on the vertical screen positively affects their competence and enjoyment after performing contextual learning activities. (Chen et al., 2013; Chen et al., 2014)

### **3.4. Pros and cons of vertical video**

"We are witnessing a titanic clash between our eyes and hands, between logic and ergonomics, between the old and the new"; "[...] we have just entered the era of aspect ratio hell [...] and the culprit is the smartphone". (Pogue, 2018: n.p.)

"We live in a horizontal world, and most actions happen from left to right"; "Vertical videos feel claustrophobic"; "Our eyes are horizontal". (Manjoo, 2015: n.p.)

In 2015, Zena Barakat (2015a) proposed a way to make video viewing on mobile devices more enjoyable for users, given the natural orientation of mobile phone and mobile app interfaces. For Barakat, that

means framing and creating content according to the aspect ratio for an audience that increasingly uses their mobile device:

People have a very personal relationship with their phones [...] they watch videos while lying down [...] they can easily watch hours of video on their phones, even though time is not the key consideration [...] [for] video to be engaging on a mobile phone. There are also those who keep the portrait lock on and watch horizontal videos in the vertical mode. They prefer to tolerate huge black lines at the top and bottom and a small image instead of turning their phones. The reasons vary, although it is mostly just instinct. (2015c: n.p.)

People are generally lazy when viewing on mobile devices (Ryan, 2017; Subsign, 2017). When users browse social networks, they expect the experience to be seamless. If the video plays horizontally and can be viewed well, not many people will make the effort to turn their mobile phone 90° and tap it to expand to full screen. Smartphone design seems to encourage vertical video recording in order to break visual paradigms and create a new aesthetic of the moving image. (Ryan, 2017)

Professional video camera operators tend to regard vertical video as the mark of an amateur and react to these clips by feeling offended and indignant in the same way arrogant writers feel when people mistake their content for that of others, or type two spaces after a full stop when everyone knows there should only be one. (Manjoo, 2015)

As early as the 2014 MOVR Mobile Report, it was already noted that smartphone users hold their devices vertically approximately 94% of the time (Scientia Mobile, 2014). A 2016 study by KPCB Research showed that people in the US spend 29% of their time using devices in an upright position, compared to only 5% in 2010 (Meeker, 2015). Another study asserted that 80% of social media use now occurs on mobile devices, of which 61% is on smartphones (Slade-Silovic, 2018). Thus, the vast majority of mobile apps are not only designed with the assumption that users will interact while holding their smartphone vertically, but this is also where users are spending an increasing amount of time. Consequently, to reiterate the assertion made above, 80% of social media use occurs on mobile devices, and 61% on smartphones alone, (Subsign, 2017)

"Recording vertically does not mean you are a technological ignoramus, or a sluggish philistine who cares little about the creative process. Instead, it indicates being at the forefront of a novel and potentially far-reaching artistic trend" (Manjoo, 2015). The tendency in mobile phone use demands the adaptation of content in vertical mode, so that the viewer's gaze can be redirected from top to bottom, which makes viewing content more comfortable, as the mobile phone does not have to be turned. Moreover, recording vertical videos is easier as well, especially if you use only one hand or want to appear in the recording yourself. (Seigoo, 2018)

Arguments in favour of vertical images point out that our eyes may be horizontal, but our hands are better suited to hold objects vertically: for example, books are generally designed vertically. With a horizontal video, you either have to turn your phone sideways so that the entire image fills the screen, or you can hold your phone vertically and tolerate the black bars that are shown above and below the image. (Manjoo, 2015)

It must be kept in mind that when browsing social media, turning the phone and waiting for the video or photo to adapt itself to the screen seems like an effort, and we are only willing to do this for something that is very interesting for us. This is what social media is most concerned about: screen occupancy. The more space the content manages to occupy, the less chance the user has of losing concentration. (Got, 2019)

Thus, this is not a temporary problem: the two formats will have to coexist (Pogue, 2018). "The content should determine the format of the video and not the platform to which it will be uploaded" (Got, 2019). "We live in the age of personalised video" [...] "Shouldn't we be embracing videos that match the shape of our bodies?". (Manjoo, 2015)

### **3.5. Vertical video on social media**

Until a few years ago, shooting video in a format other than horizontal was unthinkable, and clearly a mistake. However, content consumption habits on social networks, especially since the advent of smartphones, have changed this trend and have introduced the 9:16 format. With both supporters and detractors, this format gained popularity thanks to the emergence of apps such as Snapchat and features of Instagram Stories. (León, 2019)

With the surge in visual apps, a format compatibility issue started to emerge, which has been a major problem, especially for content creators on YouTube. These new formats forced youtubers to make adaptations of their videos to fit a vertical screen. In 2017, Facebook, Instagram, Twitter, Snapchat and



YouTube removed black margins on vertical videos (Skaf, n.d.). Since 2019, Instagram has allowed the uploading of photos from the camera roll without the need for them to be square, which has allowed the viewing of either vertical or horizontal photos. (La-Información, 2019)

By 2015, vertical videos already existed in at least half a dozen online apps. Likewise, Snapchat claims that vertical videos perform up to nine times better in many engagement ratings. For its part, YouTube has stated that the rise in mobile phone use has increased the amount of vertical videos on its web portal, which could explain why in 2015, YouTube allowed its users to show vertical videos in full-screen mode. Similarly, Facebook has also allowed full-screen playback of vertical videos. (Manjoo, 2015)

Snapchat was the online platform that popularised vertical video and allowed people to tell their stories in full-screen vertical mode. According to the platform, advertisers have reported that engagement rates for their vertical video ads are nine times higher than those that are horizontal, and they attract up to twice as much visual attention compared to other platforms (Slade-Silovic, 2018; Subsign, 2017; Lim, 2018). Consequently, advertisers on Snapchat have chosen vertical videos, with a maximum of 10 seconds and optional playback. (Skaf, n.d.)

The launch of vertical video ads for Instagram Stories in January of 2017 allowed businesses and consumers to have "the best possible experience" (Subsign, 2017). For Snapchat, vertical video is inherently native to the mobile phone. As a consequence, other platforms are expected to adopt it as well (Lim, 2018). It is worth highlighting that in 2015, the companies Snapchat, WPP agency, and The Daily Mail founded an advertising agency to create content for vertical screens. (Sloane, 2015)

Since 2018, Netflix has allowed users to preview its vertical videos on mobile devices. Around 20% of all Netflix views occur on mobile devices, and more than 50% of its subscribers use their mobile devices to access the service on a monthly basis (Roettgers, 2018). (Roettgers, 2018)

For its part, YouTube has made some concessions to vertical video as well. In 2015, it addressed the problem of black sidebars, but this change was only implemented on Android devices. Consequently, it took another two years to show vertical video on all its mobile platforms. Furthermore, it wasn't until 2018 that YouTube launched a desktop vertical video player that displayed them without black bars on its web portal and on social media. This clearly shows that YouTube has been responding to a content format that it was forced to address. (Binder, 2018)

In this scenario, the social media TikTok should also be mentioned, as it makes limited use of the immersive multimedia format. However, its productions in the ephemeral vertical format, whose audience reach has grown significantly, are on the rise (Sidorenko-Bautista, de-la-Casa & de-Julían, 2020). More recently, the Cannes Film Festival has teamed up with TikTok Short Films to award the best shorts between 30 and 180 seconds, shot in vertical aspect ratio. (López, 2022)

Along the same lines, some studies involving informative web portals have shown a preference for vertical screen viewing on desktop computers (Wearden et al., 1999), and other research in the area of communication has explored the role of vertical video and its effect on the newsroom tasks of local television news programmes. (Canella, 2018)

In Spain, the news platform Playground published an article in native video format on Facebook in 2015. By 2016, its video news programme managed to accumulate one billion monthly views. Its growth was driven by the convergence of several factors: Facebook's prioritisation of native video, to which they gave more importance and greater visibility; the exponential growth of social media consumption through mobile devices; and finally, the design of a fully native format that was integrated into the platform, making consumption natural and massive (Zomeño & BlayArráez, 2017). Playground's video news programme has a square aspect ratio (1:1), which makes viewing easy on any portable device. They have been the most prominent videos in Facebook feeds, and they can also be shared on other social networks such as Instagram, which allows the square format as well. (Jódar-Marín, 2019)

### **3.6. Toward the grammar of vertical video**

There have been two common complaints regarding vertical video: firstly, it does not fit most screens, leaving black bars on both sides of the video; secondly, the horizontal field of view of humans is wider than our vertical view. Nevertheless, it is also true that these two factors are largely irrelevant when it comes to mobile devices. The vertical extent of the field is much larger than the ability to move the eyes and scan vertically (Blattberg, 2015). Assertions have also been made that viewing on a mobile phone is "violating" not only the video standard, but also the laws of nature regarding human sight. There is more ease and comfort in moving the eyes horizontally rather than vertically, especially upwards. However, this will have an impact on the comfort and safety of using the vertical mode on a smartphone. (Baldwin, 2013)

Nevertheless, publishers who once dismissed vertical video as an amateur mistake are changing their mind. This is largely due to changes in consumption habits that make mobile devices the norm rather than the exception. Media are starting to take vertical video seriously, due to the fact that it delivers better results than standard video in environments where people tend to hold their devices upright. (Blattberg, 2015)

We spend our lives on a horizontal plane; therefore, films and television are horizontal. The horizontal format is far superior to the vertical when showing most things in everyday life. It is also true that there is coexistence. Social media users prefer vertical videos (Slade-Silovic, 2018), and for an authentic experience on mobile devices, vertical videos offer a more integrated experience for audiences. (Barakat, 2015c)

Some image-makers avoid dogma by using the vertical mode for their creations. To do so, they have had to overcome the problem of devices designed to capture, edit and select horizontal images (Sébière, 2014). The greatest challenge they face is the need to reconsider traditional rhetoric and syntax, due to the fact that audio-visual experiences are not all the same, nor can they all be transferred between screens. Narrating for television involves a different type of management and enjoyment than narrating for mobile devices, not only because of the size of the devices, but also because of the relationship established between them, the type of social interaction they encourage, and the value and use assigned to them (Cappello-Flores, 2019). In other words, the creation of vertical video involves a new grammar, or a new language in gathering footage, and the process of adaptation for traditional media will be quite long. (Barakat, 2015b)

When the option of shooting in a vertical format is discarded, the opportunity to tell stories in a new way, with a completely new artistic and visual language, is lost (Barakat, 2015b). One is being "kinder to the viewer" if they are watching videos in vertical format on their mobiles. The way people usually hold their phones, as well as the world of apps designed for vertical mode, implies the transfer of vertical videos to mobile phones in a more native and logical way: "I think this will be an awkward transition for content creators [...] but we can't ignore that more and more people are watching content on mobile devices"; "I think we have this whole new visual language to explore", according to Zena Barakat (2015b).

Experimentation with vertical video has become part of the language of mobile storytelling, according to Robb Montgomery [3]. However, it must be assured that the video is as stable as possible with the use of tripods, as one example. Another way to experiment is to split the screen into separate parts, which can also be a good way to incorporate horizontal video into a vertical frame. Montgomery believes it is best to have a talking head in the top part of the screen, and a still panel with data and bullet points in the bottom panel, or even a video. This would work for a bulletin or newsletter, and it could even work for a conference, guitar lesson, and many other purposes. He also adds that vertical video raises a number of questions when it comes to interviews, where the grammar of the shot is well established in the horizontal format. (Barakat, 2015b)

It can also be more suitable for dance and sport, which involve a lot of movement and large numbers of people in the frame (Europa Press, 2019). In a similar vein, there are everyday life events that focus on one or two people, and as people are taller than they are wide, photos of people tend to look better in a vertical position. There are also people who climb mountains, ride bicycles, or look at the camera and explain how to apply make-up; also, vertical shots do justice to buildings, trees and mountains (Pogue, 2018; Manjoo, 2015; Got, 2019). Likewise, vertical photography has been used to enhance portraits, or for landscape features with predominantly vertical lines, such as trees or buildings, as opposed to horizontal photography, in which the display of places and landscapes has been traditionally more appropriate. (Napoli, 2016)

In other words, the 16:9 format allows the parallelism of low-rise buildings to be highlighted and creates a harmonious relationship through the repetition of common features, such as windows and arches. Sometimes a change of format benefits the shift of the main features from irrelevant places to "golden points". (Moreno-Gallo, 2006)

Thus, vertical video fills the entire screen of the mobile phone, focusing the user's attention on the video being played. When recording vertically, one must follow the main point of interest and keep the subject well-focused while considering what might be in upper and lower parts of a third of the screen. Producing videos vertically is a way of making the content native in relation to the ergonomics of the device, thus creating a better user experience; also, the narrative should be determined by the length of the video, not by the medium. (Barakat, 2015a)

The following comments about making a vertical video have been offered by Ryan (2017: 245):

These are short, often non-linear narratives. While some of these videos use pre-set wide angle shots, others use fast sequences with abstract close-ups, which force the viewer to create



meaning, or sometimes they include out-of-context fragments as a type of "on-screen confessional" [...] The sequences are then played in a continuous loop.

Lastly, marketers and advertisers talk about the advantages of the vertical format as a social media strategy, with the following observations: 1) By nature, people hold their phone vertically; 2) Most users access social media from their mobile device; 3) Social networks are fully prepared to enable the creation and viewing of vertical videos; 4) Vertical ads are more effective. They capture a higher percentage of users' attention; and 5) Customers are generally lazy: they follow the law of least effort (Skaf, n.d.). Similarly, other research claims that vertical video ads for mobile devices increase consumer interest and engagement compared to those that are horizontal. This is because Generation Z users process vertical video ads on mobiles more fluidly than Generations X and Y, and with less effort when viewing a video ad vertically in full screen mode. (Mulier, Slabbinck & Vermeir, 2021)

#### 4. Conclusions

Since 2019, we can affirm that people have been watching more video on their mobile devices than on TV sets and desktop computers. If mobile phone use continues to increase, we predict that mobile devices will determine how users prefer their video content. Media that want to reach young audiences will have to adopt the formats and changes brought about by this business model.

We are currently experiencing a breakdown in conventional concepts regarding the use of content for screens, which is leading to various kinds of adjustments that are visual, spatial, stylistic, and aesthetic. The result is a new way of looking at media and platforms. Among the main conclusions of this research are the following:

- Throughout the history of images, formats used to store them have had characteristics that have endured, and others that have changed.
- The vertical frame tended to dominate Asian and Pre-Renaissance European art, but later paintings came in all shapes and sizes in Europe.
- The Academy Ratio (1.375:1) was established in 1932 and lasted until the film industry's battles with television expanded film formats once again. Those that stand out are the spherical video experience and dynamic screens.
- Technology in the audio-visual field in the 19th and 20th centuries generated a diversity of media, devices and formats, which have brought about new relations, re-adaptations, and new narratives.
- Vertical video has proven to be a major challenge for large digital native media, and it can be argued that human ergonomics encourages people to hold mobile screens in a predominantly vertical position.
- Adapting content vertically redirects the spectator's view from top to bottom and makes it more comfortable to view content, as the mobile does not have to be held horizontally. When recording vertically, one must follow the main point of interest and keep the subject well-focused while considering what might be in the upper and lower parts of a third of the screen.
- The vertical format is an opportunity to tell stories in a new way, using a new visual language.
- The verticality and horizontality of video seems to be a temporary problem, as the two formats currently coexist.

Lastly, the review of the published literature highlights the scarcity of scientific references related to this topic, yet we found a somewhat larger amount of literature of an informative nature. It can be assumed that the issue under study is recent and still in progress, and only slightly documented in the field of social science. This highlights the need for further research in this area, as well as the need to learn more about new practices in this domain.

#### 5. 4. Acknowledgement

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## Notes

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