INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Online business models in art markets – A comparative analysis on Instagram

Mónica Horta de Figueiredo

Master in Business Administration

Supervisor:
Prof. Alexandra Etelvina Martins Marques Fernandes, Assistant professor,
ISCTE Business School

November, 2020

Department of Marketing, Strategy and Operations

Online business models in art markets – A comparative analysis on Instagram

Mónica Horta de Figueiredo

Master in Business Administration

Supervisor:
Prof. Alexandra Etelvina Martins Marques Fernandes, Assistant professor,
ISCTE Business School

November, 2020

Acknowledgments

This page should be an ode to the mother. Not being so virtuous, I choose only to thank this person who, undoubtedly, was the one who most supported me during this and every other phase, educating me in a perspective that I now understand to be of maximum freedom for maximum responsibility.

I thank my father for the teaching that we should always strive to be good at what we do, my brother for the tips regarding the statistical part of this thesis and for the always welcome good mood, my godmother for being an example, my uncles and my family in general for the availability and all the love they give me. To the little ones who, being so much younger, teach me a lot.

I also want to express my thanks to two great friends in particular, Filipa and Luís, who made me leave the house during this period conditioned both by the writing of the thesis and by a pandemic that nobody counted on, as well as to other friends with who I can always count on, far away but always close. Finally, I would like to thank the MSc BA students with whom I dealt most and who made this period easier, as well as Professor Alexandra Fernandes for guiding this work.

Cheers!

Resumo

Operando num setor tradicionalmente relutante a mudanças, as empresas envolvidas no mercado de arte sentiram a necessidade de se adaptar às novas tecnologias de comunicação e informação, concentrando esforços para tornar eficiente a publicidade e o envolvimento do cliente com a marca. Nesse sentido, as redes sociais têm vindo a ganhar cada vez mais importância por permitirem alcançar um grande número de consumidores mantendo os custos reduzidos, principalmente quando confrontadas com outros tipos de plataformas de promoção.

Esta tese tem como objetivo comparar diferentes métodos de comunicação no Instagram por: (1) empresas com diferentes modelos de negócio e dimensões semelhantes; e (2) empresas com o mesmo modelo de negócio mas diferentes dimensões, tendendo a explorar o seu impacto nos níveis de envolvimento dos seguidores. Para tal, foi realizada uma análise quantitativa através de 421 postagens de um total de 9 empresas nessa rede social.

Os resultados obtidos através da amostra, tendem a apontar para certos padrões de atuação entre os grupos formados, o que indica que existem diferenças no modo de operação das empresas exclusivamente online comparadas com as tradicionais, bem como em relação às empresas de âmbito internacional comparativamente às nacionais.

Este estudo, quando associado a outros de âmbito mais geral, permitirá que profissionais de marketing de empresas presentes no mercado de arte tirem conclusões sobre a forma como pretendem implementar as suas estratégias de comunicação através da utilização de redes sociais, mais especificamente através do Instagram, podendo tirar ilações relativamente à forma como o fazem as maiores empresas internacionais.

Palavras-chave: Mercados de arte; Modelos de negócio online; Redes sociais; Relacionamento com o cliente

Classificação JEL: **M100** Business Administration: General & **M310** Marketing

Abstract

Operating in an industry traditionally reluctant to change, companies in the art market have felt the need to adapt to new communication and information technologies, currently concentrating efforts to make advertising and brand engagement effective. In this sense, social networks are gaining increasing importance as they allow companies to reach a large number of consumers while keeping the costs quite low, especially when other types of promotion platforms are considered.

This thesis aims to compare different communication methods on Instagram by: (1) companies with different business models and same dimensions; and (2) companies with same business models and different dimensions, tending to explore their impact on followers' engagement levels. For that a quantitative analysis was performed via 421 posts from a total of 9 companies on the social network.

The results obtained from the sample, tend to point to certain patterns between the formed clusters, which indicates that there are effectively differences in the mode of operation of exclusively online or traditional companies as well as in relation to differences in the scope of operations.

This study, when associated with others of a more general nature, will allow marketers from companies involved in the art market to draw conclusions regarding the way they intend to implement their communication strategies through the use of social networks, more specifically by making use of Instagram, drawing lessons from how the largest international companies perform.

Keywords: Art markets; Online business models; Social networks; Customer relationship

JEL Classification: **M100** Business Administration: General & **M310** Marketing

Table of Contents

Index of tables

Index of figures

CHAPTER 1

Introduction

1.1. Theme coherence

As stated by Magretta (2002: 4) a good business model is essential to every successful organization, being it a new one or an already established. It is a way of telling the story of how the companies work, answering the questions “who is the costumer? And what does the costumer value? (…) How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?”. By doing this successfully, companies will be able to create and capture more value allowing them to make better offers when selling their products or services to customers, remaining viable over time (Shafer, Smith and Linder, 2005).

Customer relations, a structural parts of business models (Osterwalder and Pigneur, 2010), has been one of the areas undergoing major changes across industries due to the development of information and communication technologies, allowing companies to better serve their customers, sharing with buyers increasingly rich information, creating innovative ways of interaction, introducing new distribution and communication channels, which include the Internet and mobile phones, or even tailoring the offer according to the interests of each one, generating greater value for the firms (Osterwalder, 2004).

In the art market, business models and the use of new technologies are equally important since the artistic industry needs to deal with the same difficulties of all the others, meaning, businesspeople in this area face matters like the competition, the fast-paced market, the consumers’ changing habits or the necessity to innovate (Rodriguez, 2016). The shifts that have been taking place explain why the growth of the online business industry far outpaces the growth of the traditional retail industry and despite the art markets' usual reluctance to change the way business is done, the development of information and communication technologies provided the public with greater access and transparency regarding prices, supply and demand for works. These developments have also enabled many entrepreneurs to come up with innovative value-creating solutions, developing online business models and finding solutions that enabled them to operate on a global scale, bypassing previously indispensable intermediaries (Fernandes and Afonso, 2020).

In recent years, due to the Internet's accessibility to the art world, online and social media platforms have become intermediaries between the art world and the general public, making art accessible to everyone. Among all these platforms, Instagram is the one that most changed our way of experiencing the art market, becoming the most facilitating platform for global involvement by allowing the democratization of works of art and transforming the way people connect with the artistic world (Visone, 2015). Not only for traditional sellers (auctioneers, galleries or antiquarians) who use the social network as a platform for communication, promotion and presentation of merchandise for sale, joining this channel to companies' websites and bricks-and-mortar locations (Lindsey-Mullikin et al., 2017) but also for artists at the beginning of their careers who, in this way, can reach the masses without having to go through the usual means, such as renowned critics, galleries and collectors, to reach customers and maybe also success. Instagram allows these new artists to present their own virtual art galleries by making a direct sale and exercising all functions that are intermediate to the process. This social network is redefining marketing and promotion methods for artists, auction houses, collectors, galleries and art news sites (Visone, 2015) making it an important field of study.

1.2. The gap on research

A lot of information and scientific articles are published concerning business models, either more broadly (Magretta, 2002; Teece, 2010; Baden-Fuller and Morgan, 2010), or in a more specific way like searching for the origin of the term and its development throughout the time (Osterwalder, Pigneur and Tucci, 2005), focusing on how different competitors with specific business models operate in some industries, as for example the French online press (Benghozi and Lyubareva, 2014), or even about the importance of having open business models (Chesbrough, 2007) however there is still a large possibility of themes to explore. A gap was found when associating business models and the art market in available literature, there are few articles that seek to gain insights into the relationship between the two topics, which reflects in an enormous potential for future research.

1.3. Research goals and contributions

This thesis focuses on a specific aspect of business models, the relationship with the customer, which has been gaining relevance due to the development of technologies that allow an approach never seen before to a whole mass of previously unreachable customers. As this relationship is still quite broad, and may be established face-to-face, via internet or through other means, the focus will be turned to the way companies in the art market establish a method of communication using a social network, in the case Instagram, a platform that has been taking over an important role for companies doing businesses all around the world.

The research conducted pretends to answer two major questions: (1) Do exclusively online companies achieve better results in terms of consumer involvement in social networks than those that had a traditional business model that was adapted to changes in society? (2) Are there differences regarding the way large international companies communicate online compared to companies of a national dimension with a same business model?

Considering the dynamic context in which companies comprised in the art market are involved and the increasing need to be able to adapt to the transformations that occur in society, such as the increased use of technologies and the reach of social networks, this investigation is important to identify the best practices in one of these platforms, in the case, Instagram. By providing answers to the proposed questions, this work aims to understand if there are performance standards with regard to posts made on Instagram depending, on the one hand, on whether companies assume themselves as exclusively online or mixed businesses, and on the other, if they operate at the highest international level or mostly at national level. In addition, this analysis can provide insights regarding similarities and differences that may underlie the success, or not, of each of the companies studied.

On a managerial level, the results obtained in this study may assist in the efficient choice of a communication strategy over another, impacting an entire communicative strategy by the marketing team regarding content creation and budget allocation. Nowadays this theme is relevant due to the importance that Instagram has acquired as one of the most important communication tools for brands, so this study can fill a knowledge gap that, in the author's knowledge, has not yet been filled.

CHAPTER 2

Literature Review

2.1. Business models

The origin of the term business model emerged, according to a publication of Osterwalder, Pigneur and Tucci (2005), relatively recently with the authors revealing that, even though it first appeared in an article dating from 1957, it just gained relevance in the late 90's coinciding with the increasing use of the Internet in the business world and the sharp rise in the value of the shares of technology-heavy companies. The same study allowed them to conclude that the term was not clearly defined, standing the expression for various things like parts of a business model, types of business models, concreate real world instances of business models or even concepts.

For McGrath (2010) the business model concept is appealing by suggesting a new way of designing, creating and implementing strategies. Nowadays, as we are facing a clear change in the markets, becoming more complex, fast-passed and uncertain, it is necessary to add to the traditional way of planning and execution, a deep knowledge of the environment, providing a rapid experimentation and permitting growth while learning. Using business models is thus a useful method for figuring out a strategy, giving us the sense of firms in action, by suggesting experimentation, prototyping and ultimately a work that is never complete.

The evolution of approaches to business models was as follows: first, as the term started to become relevant, some authors suggested business model definitions and classifications. Secondly, definitions began to contain elements belonging to the business models as a list. Then the detailed descriptions of these elements become available. In a fourth phase researchers started to test the models, assess them more accurately and began to outline the components conceptually, a research that led to the proposition of meta-models for the business model in the format of reference models and ontologies. In the fifth and final phase, so far, the reference models are being applied in management and in information system applications (Osterwalder et. al, 2005).

2.1.1. Definitions and classifications

For Timmers (1998: 4), writing about business models for electronic markets, defines them as "an architecture for the product, service and information flows, including a description of the various business actors and their roles" and simultaneously a description of the sources of revenue and of the potential benefits for those involved in the business. The author highlights that only combined with the marketing strategy of the company and an assessment of the competition the business model will be successful in realizing the business mission of the company that is using it.

Years later, the scholars Chesbrough and Rosenbloom (2002: 532) refer to business models as a tool that "provides a coherent framework that takes technological characteristics and potentials as inputs, and converts them through customers and markets into economic outputs" being thus conceived to mediate between technology development and economic value creation. It's also presented a more detailed and operational definition, where compositional elements are listed describing what a business model is made-off: a value proposition, a market segment identified, the structure of the value chain, an estimated cost structure and profit potential, the position of the company in the value network and lastly a competitive strategy (Chesbrough and Rosenbloom, 2002).

Business models were also understood as "a representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network" (Shafer et al., 2005: 202). Implying that a precisely designed business model allows us to draw highly relevant conclusions regarding the cause and effect relationships arising from the internal strategies chosen for the company. The terms creating and capturing value reflect two essential functions that all organizations must perform, differentiating themselves from the competition, in order to be profitable and so subsist in time. For Shafer, Smith and Linder (2005), a business model is then a powerful tool that facilitates analysis, implementation, testing and validation of a firm's strategic choices.

"A business model describes the rationale of how an organization creates, delivers, and captures value" states Osterwalder (2010: 14), defining the 9 building blocks of a business model so frequently seen in the Business Model Canvas: costumer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure.

George and Bock (2011: 99) refer to business models as "the design of organizational structures to enact a commercial opportunity", mainly if small and medium for-profit enterprises are considered, presenting the three structures associated to the proposed definition – resource, transactive and value – which make up the dimensions the authors believe that should be addressed in the preparation of a business model.

Important to consider is also how is a business model successful, how can managers determine whether or not they made the right choice. To answer that, Magretta (2002) refers that it should represent the best alternative among the possible ones, offering more value to a distinct group of customers or changing completely the old way of working and becoming the example for the competitors and next generations.

With the first definitions of business model, classifications also begin to emerge allowing us to differentiate the way companies do their business. The following table summarizes the classifications made by some authors.

Author (s)	Classifications	
Timmers (1998)	• E-shop • E-procurement • E-auction • E-mall • Virtual community • Value chain service provider	• Trust services • Info brokerage • Collaboration platform • Third party marketplace • Value chain integrator
Afuah and Tucci (2003)	• Commission • Advertising • Markup • Production	• Referral • Subscription • Fee-for-service

Osterwalder and Pigneur (2010)	• Unbundling
	• Long tail
	• Multi-sided platforms
		• Free
		  ○ Freemium
		  ○ Bait & hook
		• Open

Johnson (2010)	• Affinity club • Brokerage • Bundling • Cell phone • Crowdsourcing • Disintermediation • Fractionalization • Freemium • Leasing • Low-touch	• Negative operating cycle • Pay-as-you-go • Razors/blades • Reverse auction • Reverse razors/blades • Product-to-service • Standardization • Subscription club • User communities

Table 2.1. A selective overview of business model classifications across literature (adapted from Fielt, 2013)

Timmers (1998) defined eleven business model classifications for the internet electronic commerce according to what was already being done by the various companies operating. Afuah and Tucci, in 2003, kept the focus on internet centred businesses but the necessity to use business models in the most varied business areas has led other academics to seek classifications that could satisfy all needs, such as Johnson (2010) or Osterwalder and Pigneur (2010). The latter scholars, working in a more advanced phase of studies, are not limited to classifying the various types of business model, they also give examples of companies that practice them and how they do it such as the LEGO long tail model, Google's multi-sided business or Flickr freemium, addressing business models of well-known firms which are presented as engaging stories that make the concept very concrete and practical (Osterwalder and Pigneur, 2010).

The study with such depth turns the company into the following example, by creating a deep knowledge and providing an analytical account of each case, involving theorization, the formation of a concept and a clear appreciation of its practical details. Each successful firm is analysed in such a way that it starts to function as a comparison and measurement model for other companies that follow the same style of doing business, or contrasted with firms practising a different one (Baden-Fuller et al., 2010).

2.1.2. Elements

As with the definitions and classifications, there is no general consensus regarding the elements that should constitute a business model, with different authors coming up with different proposals (although similarities can be found). Shafer et al. (2005) reviewed relevant literature and found 42 different suggestions of elements for business models compiling them, afterwards, in a single table. The objective was to structure an affinity diagram with the components of a business model, which would allow them to create a new definition grouping the ideas of other authors as well as to define which elements are most frequently pointed out in order to compile them into a single model. This resulted in four big elements composed by smaller ones: (1) strategic choices, aggregating customer, value proposition, capabilities/competencies, revenue/pricing, competitors, output, strategy, branding, differentiation and mission, (2) value network, composed by aspects such as suppliers, customer information, customer relationship, information flows and product/service flows, (3) create value, taking into consideration the resources/assets and processes/activities and lastly (4) capture value, that reflects on areas like costs, profits and other financial aspects. However, general acceptance continued without happening and other proposals appeared later.

The following table presents the elements suggested by some renowned scholars to constitute a business model after, as well as before, Shafer et al.'s (2015) suggestion.

Author (s)	**Elements**	
Chesbrough and Rosenbloom (2002)	• Identified market segment • Clear value proposition • Elements of value chain	• Defined cost and profit • Positioned in value network • Formulated competitive strategy
Morris et al. (2005)	• How will the firm create value? • For whom will the firm create value? • What is the firm's internal source of advantage?	• How will the firm position itself in the marketplace? • How will the firm make money? • What are the entrepreneur's time, scope, and size ambitions?
Osterwalder and Pigneur (2010)	• Customer segments • Value proposition • Channels • Customer relationship • Revenue streams	• Key resources • Key activities • Key partnerships • Cost structure

Johnson (2010)	• Customer value proposition
	  ○ Job-to-be-done
	  ○ Offering
	• Profit formula
	  ○ Revenue model
	  ○ Cost structure
	  ○ Target unit margin
	  ○ Resource velocity
		• Key resources
		• Key processes
		  ○ Processes
		  ○ Business rules and success metrics
		  ○ Behavioural norms

Table 2.2. A selective overview of business model elements across literature (adapted from Fielt, 2013)

Chesbrough and Rosenbloom (2002) develop the theme relating technological innovation to the creation of economic value, Morris (2005) approaches the business model from the entrepreneur's perspective, Osterwalder and Pigneur (2010) focus on design and innovation by using a more visual canvas and Johnson highlights the interdependencies between elements that can turn a seemingly simple model into a quite complex one. These last two classification proposals referred to are not only identified the elements but also highlighted the importance of their interdependencies and hierarchies as building blocks.

2.1.3. Reference models and ontologies

In 2004, Osterwalder proposed an ontology, a rigorous conceptual model, that intends to describe and represent business models in order to build the basis structure for subsequent concepts and tools in the field. The author stresses that it can also be understood as a reference model since it would serve as a basis for imitation or comparison between models providing a pattern on which other researchers can rely on.

Firstly he identified, based in the available literature, four core areas that constitute the essential issues of a company – product, costumer interface, infrastructure management and financial aspects – and then those areas were broken down into a set of nine interrelated elements, called building blocks, that allow a firm to formulate a business model (as referred in Table 2). For each of these elements, Osterwalder (2004) described their characteristics in a table format as well as in detailed, more descriptive, text format including: a definition, a classification as part of one of the main pillars, the relations to other elements, the indication of how it can be decomposed into sub-elements, the number of occurrences inside the ontology, a list of their attributes and the main references to the business model element in question. Opening the possibility that each element can be broken down into smaller ones, referred to as sub-elements, it allows to study the business models in more or less detail, depending on what is intended (Osterwalder, 2004).

The author's detail with very precise explanations both graphically and textually, associated with examples from real companies and a case study, allows the reader a clear interpretation of how a business model should be created also, the rigorous ontological approach makes it possible to implement the concept into a computer-based tool as it was done successfully by creating the Business Model Modelling Language, BM^2L, an XML-based description language.

Other ontologies might be used to set up a business model, namely the e^3-value methodology proposed by Gordijn which also uses a rigorous modelling approach, presenting carefully the definition of business model concepts, components, relationships among components and even propose ways to evaluate the models (Osterwalder, 2004).

2.2. Business models and strategy

The terms strategy and business model are often used interchangeably, usually by people referring to something that might give competitive advantage however, a review over scientific articles shows that the most usual is the idea that business models and strategy are linked but not the same. Some defend a practical distinction, referring to business models as a tool that clearly exposes how different parts of a business intersect while strategy also takes into account the competitors (Magretta, 2002). Other studies argue that a business model is an abstraction of a firm's strategy, existing the possibility to be applied to other companies (Osterwalder, Pigneur and Tucci, 2005).

Following the logic of practical distinction, Magretta (2002: 6) states that “business models describe, as a system, how the pieces of a business fit together. But they don’t factor in one critical dimension of performance: competition”. At some point in a company's life, competition has to be taken into account, and that is where strategy comes in so that the reality can be dealt with. A competitive strategy clarifies how an enterprise will overcome their rivals, stating how can it do better and how can it differentiate from any other, thus being unique, working in a way that can not be duplicate allowing it to achieve a superior performance over time.

On the other hand, Seddon et al. (2004) suggest that business models could be used to describe companies' strategy in a more abstract way. By avoiding the detail of strategic planning, highly associated with the context of each company and making every situation unique and incomparable, it would be possible to perform clear comparisons between the business models of the most varied firms, and even the same model can be used by more than one company. The authors state that, according to this point of view, it would make sense to dissociate the terms ‘business models’ and ‘strategy’.

According to Shafer et al. (2005) strategy can be considered in at least four different ways: as a pattern, as a plan, as a position or as a perspective. In a retrospective context, the strategy is often seen as choices made over time, but it is more often considered with regard to what is to come and, in this case, it is seen as a plan, a view related to choices about paths or courses of action, just like a directional script. There are still some scholars like Porter (2008), who see strategy as a position, reflecting decisions about the products or services that companies offer depending on the markets in which they are presented. The fourth possibility of understanding strategy is in broad view, in strategy as perspective, as supported by Drucker (1985), considering choices about how the business is conceptualized. Although there are several differences, the four views have in common the need to make choices.

2.3. Art and art markets

Evrard and Colbert (2000) identify three sources of definition for art. The first one is art as beauty, coming from the classical tradition, the second is based on the idea that artists produce art, existing a distinction between these and the craftsmen, however a problem remains of who can be considered an artist. The third one is a perspective according to which beauty no longer resides in the work of art itself nor in the artist who creates it but in the eye of the people that contemplates it.

Art (or visual art, the one covered in this project) can be understand as "a visual object or experience consciously created through an expression of skill or imagination" (Encyclopaedia Britannica[1]) encompassing disciplines such as painting, sculpture, drawing, printmaking, photography, decorative arts and installation.

According to Robertson (2005), a contemporary work of art can either be classified as 'junk', when it is expected to be negative investment, as 'cutting-edge', usually assigned to legacy of the last years of the 19th century which receives validation and support of the publicly funded cultural sector or 'alternative' a derivative of the academic system which is normally not funded. Depending on the classification assigned to a work of art, its market value is influenced (Robertson, 2005).

Defining the art market, Howard[2] (2017), refers that it is a site, physical or figurative, where art is bought and sold. In its simplest form, an art market requires a work of art, which might be pulled out from a large range of collectible items, a seller and a buyer, who may participate directly or be represented by agents in the negotiation process.

Robertson (2005) states that the emergence of an art market, with an associated distribution system, would be inevitable as soon as works of art were created and made available for trade. It is perceived as fascinating, exciting and captivating being that its importance derives from the fact that through it, art and antiques are given value.

The art market can be classified as primary or secondary depending on whether it is the first time that a work is presented on the open market or, after a first purchase, returned to sale by another dealer. In the past, it was also considered a tertiary market that today is indistinguishable from the first (Robertson, 2005). This complex network involves several actors, such as dealers and auctioneers as key intermediaries, public art museums, libraries,

[1] Encyclopaedia Britannica. https://www.britannica.com/art/visual-arts, accessed on the 20th of December 2019.

[2] Encyclopaedia Britannica. https://www.britannica.com/topic/art-market, accessed on the 20th of December 2019.

universities, art fairs organizers, insurance companies, art advisors, interior decorators, designers, art lawyers and business corporations which collect art and sponsor museum exhibitions (Robertson and Chong, 2008).

2.4. Business models in the art market

In recent years we have witnessed a significant change in the economy, the onset of the crisis in the financial markets has also impacted support for the arts and culture which has exposed the vulnerability of the sector. Funders began to require cultural actors to adopt certain business sector concepts and practices as a way to become more profitable, reducing their reliance on public subsidies, moment when the concept of the business model emerges, introducing the seemingly taboo word ‘business’ into the cultural sector even though it had triggered negative reactions on the part of many cultural organizations, claiming that they are not companies and, therefore, business rules should not be applied to their work (Rodriguez, 2016).

The term business model reflects a very useful conceptual tool for any organization, regardless of whether it is a business, a social enterprise or a non-profit organization. If an organization can somehow create, capture and deliver value to a customer, it has a business model and the most important thing to succeed is by making it viable and sustainable now as in the future. Non-profit organizations as well as for-profit organizations need to provide their users with services and products that bring them value, they also must be accountable to their funders whether they are governments, foundations or private donors, reason why having a business model that works help (Rodriguez, 2016).

The lack of academic studies in the field is evident and more research about the theme is necessary however some useful examples can be found. Although not linked to art, but to the cultural area and more specifically to the press market, the empirical work realized by Benghozi and Lyubareva (2014) might be useful to understand how can business models be assessed. They took into account 149 French newspaper websites (chosen from the national newspaper association site OJD in order to represent a wide variety of business models across a range of contexts like thematic categories, publication frequency, location and size) and pretended to demonstrate significant differences and discriminating criteria in terms of the elements constituting their models. An online review of the websites was realized and all of them were ranked considering seven dimensions: (1) institutional category, location, theme and publication frequency; (2) content and online services; (3) devices for interaction with readers;

(4) storage devices; (5) content production networks; (6) distribution devices; and (7) pricing strategies. Fifty characteristics were needed to define each site that where then coded into binary variables then, a multiple statistical analysis (factorial and cluster) was done in order to compile a typology of the business models, extract their stereotypes from the database and determine their structural elements.

The results of the analysis allowed them to define three distinct classes of online business models characterized as a 'minima digital' for class 1 (the ones that try to protect the traditional model with just a little investment on the digital field), 'pure players' for class 2 (the new entrants pretending to position themselves in the industry, often investing in gratuity, contributors' network, new distribution channels and in the connection with the readers) and 'exploring leaders' for class 3 (the already established newspapers who want to keep the traditional business, where they derive most of their profits, but explore new configurations that also enable them to generate revenue using the internet). This study allowed the authors to conclude that the French press reveals a wide range of free modalities beyond normal advertising and that several publications perform quite differently with their strategic choices at least partly related to their positioning (Benghozi and Lyubareva, 2014).

More related to the thesis theme, Moureau and Sagot-Devauroux (2012) studied the contemporary art market in France, both with distributors and artists, characterizing the various business models and the way the artists' career paths are incorporated into them. Surveys (semi-structured interviews) were performed, first to 134 art distributors from the regions of Lyon, Le Havre-Rouen, Montpellier and Nantes, where interviewers approached essentially the characteristics of their work, the relationships they maintained with each other and with outside partners, and secondly to 72 artists, from the same cities, where the approach focused on the nature of their training, the places where they had already exposed their pieces and connections with institutions. In a first step of investigation, a network analysis software was used to understand the connections between the individuals, then a factorial analysis was carried out using the data from the artists interviews which permitted them to identify four groups of artist profiles (based on two criteria, innovation versus tradition and artwork versus project): 'the salon', 'the artisan-entrepreneur', 'the 360º' and 'the art fair artist'; for the first two, commercial success is the primary criterion for recognition whilst the last two must receive legitimacy from institutions in the first place. The business models incorporating the four artist types differ on several criteria like the types of education and/or training, the distribution places, the sources of revenue and modes of increasing value, the criteria for success during artists evolution, the complementary activities they get involved into, the level of intermediation involved and the role of the communities. In the course of their work, the authors develop a typology of the artistic business models, define the recognition criteria for each type of working choice, propose appropriate promotional strategies for each model and present a new perspective on artistic careers and the speed at which some participants may find themselves front and centre on the artistic stage.

CHAPTER 3

Methodology

The large volume of data generated on the Internet has reached unprecedented peaks and has enabled new data-based methodologies to study art and its markets. However, this type of research has generated several methodological restrictions not initially expected by researchers, especially due to informational asymmetry since the way in which it is summarized, transmitted, collected and accessed globally is different depending on who publishes them (Miegroet et al., 2019).

In this chapter, the research and data collection method will be presented. Derived from the pandemic factor, and all the repercussions it had on each individual's life, but also on the day-to-day life of companies, with a whole new variety of problems that they were forced to deal with, the most sensible thing to do was to take advantage of information already available and extract from it new insights. Thus, the research conducted included two steps, a secondary data collection, from several sources both physical and on the web to clarify the panorama of art sales globally, and a primary data collection through a quantitative research on Instagram, a social network, ranked sixth in terms of number of users in 2020, which allows sharing of photos and videos with other people (Clement[3], 2020).

3.1. Data collection model

The Instagram analysis, follows a quantitative research method, resulting in a data set manually agglomerated on Microsoft Excel retrieved from a sample of 421 posts from a total of 9 different companies on the social network which data was gathered from 14th of September 2020 to the 6th of October 2020. The choice of companies, all doing business in the art market, was based on the collection of all the firms listed in the Hiscox's online art trade report 2020 followed by checking the total number of followers on Instagram and the election of those with the highest number and specialized pages, this for the first analysis. For the comparative study with Portuguese companies, all of them traditional auctioneers, the choice was also for those with the most followers but without considering the previously mentioned report.

[3] Statista. https://www.statista.com/topics/1882/instagram/, accessed on the 12th of September 2020.

The posts considered were all those made by companies during August 2020 on Instagram (except for Veritas Leilões as will be explained further), a month during which many people are on summer holidays (in the northern hemisphere, the most significant in terms of involvement in the art market) which can increase the time they are connected to social networks. The content analysis entailed the examination of materials used as a channel for communication, in the case pictures and videos posted on a social network.

3.2. Variables collected

The collected variables were gathered and adapted from Margaux (2019) and Fiates (2020) master's thesis, designed to help answer the research questions being them:

- Company name;
- Total posts – Number of posts on the Instagram account during August 2020;
- Followers – Number of followers of the Instagram account;
- Checked – Instagram account checked as official;
- Date of the post – Dates (day-month-year) on which the posts were done;
- Category of the post:
  - Photo – photos are all photographic images that have not undergone any manipulation in their content, except the addition of the company logo;
  - Photo-gallery – more than a photo in the same post;
  - Art – any image that is not considered a photo;
  - Art-gallery – more than a post considered art;
  - Video – all publications in video format on the platform, whose count of likes is not made but the number of views;
  - Mixed gallery – a combination of at least two from photo, art and video on a single post;
- Theme of the post:
  - Piece of art – whenever the artwork is the focal point of the post;
  - People – when more emphasis is placed on one or more people in the post;
  - Local – when there is a highlight for a place and not so much for the artwork or the people in it;
  - Event – when the post represents a past event or a future one;

- Challenge – when the post involves some kind of challenge directed to users of the platform (in this case, specifically, the challenge can be referred on the description of the post but it is necessary to consider as it has an intention to persuade users engagement);
- Meme - when the post is a montage with a comic purpose;
- Combination – when in a post there is more than one of the previously referred themes;

➢ Tags – the post has a caption which includes a @ followed by another Instagram account (duplicates not counted);

➢ Hashtags – the post has a caption including a # follow by some text (duplicates not counted);

➢ Comments – number of comments on the post;

➢ Likes – number of likes ♥ on the post;

➢ Views – counting of views on a video post;

➢ Total engagement – sum of the number of likes and number of comments.

Variables such as company name and date were used to describe the posts and were represented with text, others like number of posts or followers, comments, likes, hashtags and total engagement have a nominal value, whole numbers. The variable that checks if an account is official or not is a dummy variable and, for this reason, were coded with 0 (no) and 1 (yes). Lastly, the items for category and type of post were worked in text format for the initial data gather and then with a count function turned into whole numbers.

From the priorly identified variables, in an indirect way, it was also possible to obtain the following data:

➢ Engagement ratio – total engagement divided by the number of followers of the Instagram account;

➢ Average number of posts per day – sum of the number of posts in the month divided by 31 (number of days in August);

➢ Average number of likes per post – sum of the numbers of likes divided by the total number of posts;

➢ Median number of likes – central value of the number of likes separating the higher half from the lower half;

➢ Average number of tags – sum of the numbers of tags divided by the total number of posts;

- Average number of hashtags – sum of the numbers of hashtags divided by the total number of posts.

The variable for engagement ratio was expressed as a percentage, the median as a whole number and the averages were analysed as decimal numbers with two places.

The data analysis was performed using a Microsoft Excel spreadsheet, whose functions were used to obtain indirect data such as means, medians and ratios, and where the graphical representations were constructed to allow a clearer perception of the results.

CHAPTER 4

Results

4.1. The values of art sales

If we compare the global art market we have now to the one we had in the mid-eighties, a really positive period for those involved in art, it is possible to perceive modifications of enormous proportions with respect to four different parameters, namely, consistency, geography, structure and typology of traded goods (Fernandes and Afonso, 2013).

These changes are verifiable across the internet. Nowadays, information about art history, its production, values of sales and consumption can be found simply by assessing a few web sites. However, this being an area without a generic standard for sharing information, we are faced with inconsistencies between sources (Miegroet et al., 2019) and the data obtained for the same parameter may have very different values depending on the content producer (Sidorova, 2019). In relation to sales results, data published by auction houses does not have a followed-by-all rigorous structure which complicate aggregate analysis and e-commerce data might not be independently verifiable (Miegroet et al., 2019).

Far from reaching high levels of data accessibility and reliability, the widespread use of the internet has allowed for a greater sharing of data, including financial, such as regarding sales prices or turnovers, and an immense promotion of the various members of the art market. (Miegroet et al., 2019). With different forms of approach and styles, covering the most diverse artistic careers, often marked by unforeseen events, the art market is quite heterogeneous and therefore also difficult to standardize (Moureau & Sagot-Deuvaroux, 2012).

4.1.1. Global art sales

Recent breaking records for the highest selling value ever for a work of art, US$ 450 million paid for Leonardo da Vinci in 2017, and the highest selling value for a piece of a living artist, US$ 91 million for Jeff Koons in 2019, could be premonitory of a golden age for art sales (Deloitte Luxembourg, 2019). And, in fact, the last decade began with a strong recovery in sales followed by a fall during the global financial crisis and a recovery that reached historic highs in 2018 mostly influenced by the value of sales in the USA (McAndrew, 2020).

However, as stated in Deloitte's Art and Finance Report 2019 and comparing global sales values from 2008 and 2018 the growth was only of 9% in nominal terms which represents a decrease in real terms, when the inflation rate is adjusted and the comparison is done against goods or services. When analysing the variation in the financial wealth of the high net worth individuals (HWNI), that more than doubled in the aforementioned decade, and comparing it with the lack of growth in the value of sales in the art market, it is possible to conclude that despite new sales highs have been reached, in general the global art market was not able to keep up with the growth rate of the wealth generated as shown in the graphic below (Deloitte Luxembourg, 2019).

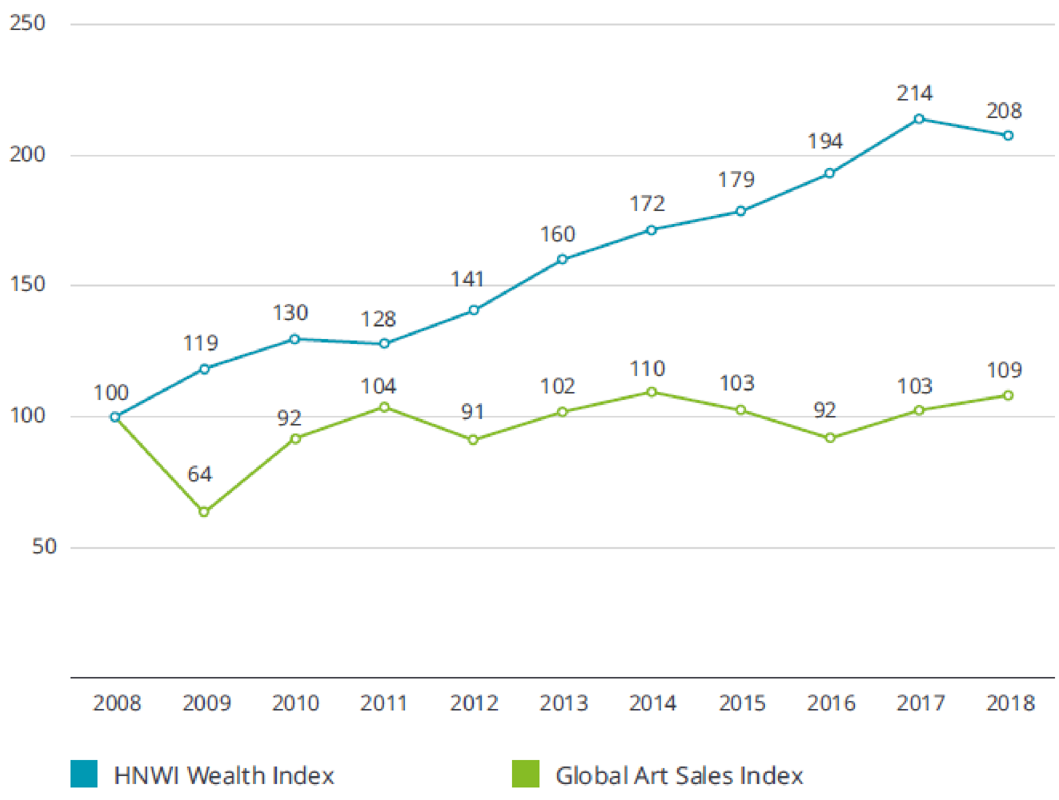

Figure 4.1. *HWNI wealth growth (US$) vs global art market sales (US$) growth (adapted from Deloitte Luxembourg, 2019)*

The year of 2019, the last with data available at the time, was marked by a decline in the total value of sales with regard to art and antiques, influenced by the break in the three largest art markets (USA, UK and China, whose combined sales accounted for 82% of the market's overall value), generating an estimated value of US$ 64,1 billion after two years of growth (McAndrew, 2020). The most profitable auction houses remained as the ones that offered the greatest number of works, with Christie's maintaining the world leadership in terms of turnover and number of lots sold, reaching five results this year above US$ 50 million (Artprice.com and AMMA, 2019). The remaining auctioneers to guarantee the top five were Sotheby's, Poly Auction, China Guardian and Phillips that, even with sales values decreasing slightly, guaranteed a combined share with the leader Christie's of above 50% of the global auction market (McAndrew, 2020).

Year	Value ($m)	Volume (m)
2009	$39,511	31.0
2010	$57,025	35.1
2011	$64,550	36.8
2012	$56,698	35.5
2013	$63,287	36.5
2014	$68,237	38.8
2015	$63,751	38.1
2016	$56,948	36.1
2017	$63,683	39.0
2018	$67,653	39.8
2019	$64,123	40.5
Growth 2018–2019	-5%	2%
Growth 2009–2019	62%	34%

Figure 4.2. *The global art market: value and volume of transactions (adapted from McAndrew, 2020)*

Focusing only on auction sales figures, in 2019, the record for lots of fine art sold in a single year was broken with a count of around 550 000 lots traded globally that generated a total of US$ 13,3 billion in revenues (Artprice.com and AMMA, 2019). Not counting private transactions, sales in public auctions of fine and decorative art and antiques reached US$ 24,2 billion, in a year in which decline in sales was around 17% comparing to the previous one, getting closer to the values of 2016 but suffering a reduction of 13% when compared to the values reached in 2010 (McAndrew, 2020).

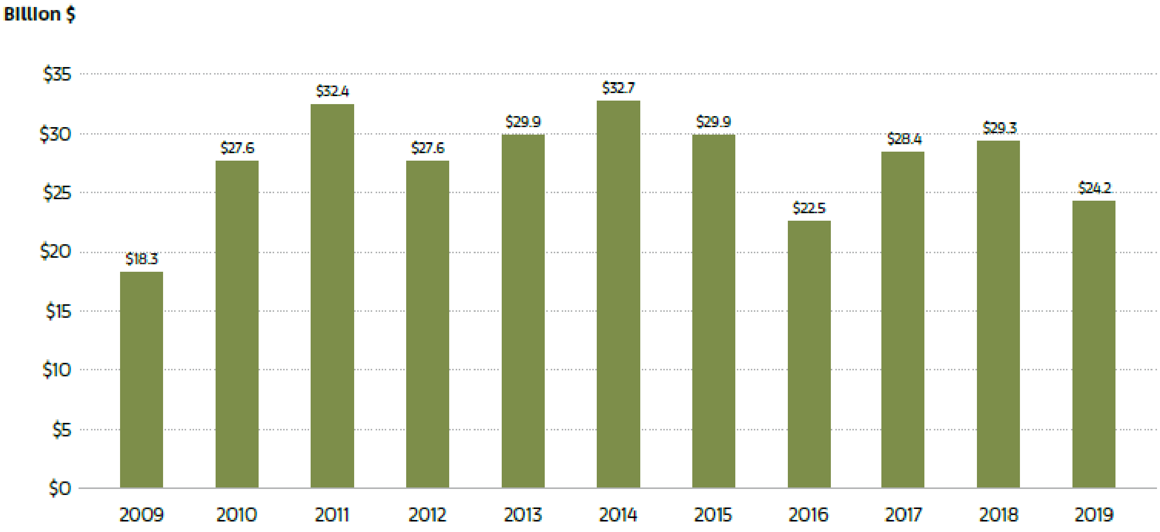

Figure 4.3. *Global market for public auction sales 2009-2019 (adapted from McAndrew, 2020)*

Even with a reduction in the annual sales, the largest national market was the USA, reaching 37% of the global auction sales, followed by China, with 29%, and the United Kingdom, whose value fell in 2019 by 20% compared to 2018 and represents now 18% of the total value. The EU's market share in value has remained relatively stable at 28% but despite this, some sales records beaten by top-notch auction houses boosted the market, as was the case with Sotheby's Paris, which achieved a 41% increase compared to sales in France during the previous year (McAndrew, 2020).

If the comparison is made in terms of sales volume, although it is a less conclusive indicator of the performance of the artistic market given that the volume is not directly related to the value generated, China and the United States of America emerge in 2019 with equal values accounting together for 38% of the total lots sold while the United Kingdom represented 18% and France 10%. These figures suggest that the value of transactions is more globally diversified than the sales figures and that despite the concentration of values at the top, there are more than 500 medium to large second-tier auction houses that also generate significant sales, not only dominating in their own domestic markets but also interacting with international buyers and sellers (McAndrew, 2020).

In Europe, several regional markets outperformed when comparing sales values of 2018 and 2019, with France standing out for the positive (growing by around 7%, reaching a value of US$ 4,2 billion) and countering the fall of the major world markets. Still considering the United Kingdom as part of the group, sales in the EU reached US$ 20,4 billion, representing a decline of 4%. If the UK is removed from the accounts, taking into account the Brexit, EU sales increased by 5% over the previous year however assumed a total value of US$ 7,6 billion which cuts over 60% of the total revenues (McAndrew, 2020). The share of value sales in the EU decreased from just under 50% of the global market in 2008 to a minimum of 31% in 2018. With the UK still a member of the EU, that figure remained stable in 2019, but without it would have represented only 12% of global sales (McAndrew, 2020).

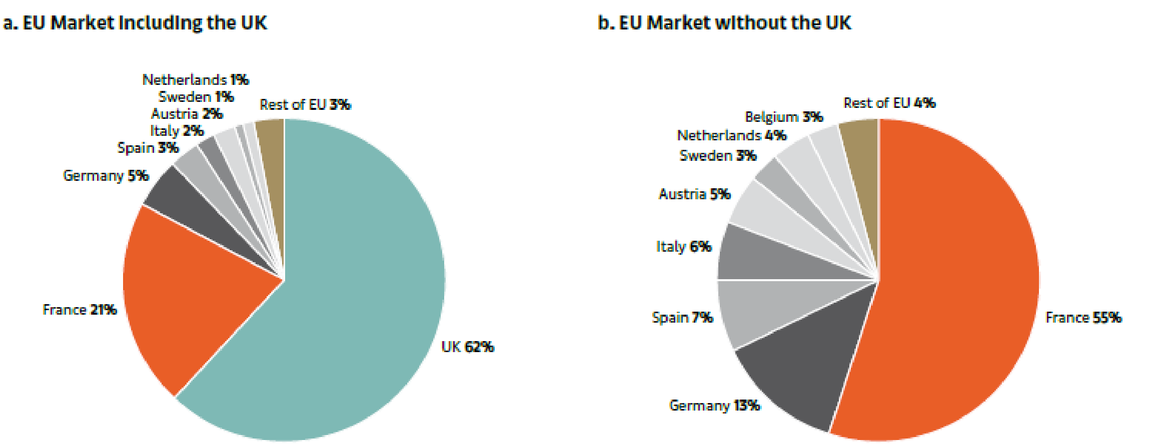

Figure 4.4. *EU art market share by value in 2019 (adapted from McAndrew, 2020)*

Over the five-year period from 2012 until 2017, the 28 countries belonging or candidates to the EU recorded a growing trade surplus for cultural goods, rising from € 6,3 to € 8,6 billion, being that the value of exports increased more than the value of imports as confirmed by the ratio of exports to imports fixed on 1,38 in 2012 and 1,44 in 2017. During the same period of time, the annual average growth rate for exports of cultural goods of these set of countries was 4,2%, a value largely influenced by the sale of works of art and jewellery. There were, however, considerable differences between the EU Member States with some countries hitting double-digit record growth rates and others contracting (European Commission, 2019).

Just considering auctions sales, the decline of 20% on UK's values (generating US$ 4,3 billion) dragged down the growth of the EU market, with sales falling 13% year-on-year to US$ 6,8 billion, despite the good French performance (McAndrew, 2020).

4.1.2. Online art sales

In order to be able to face changes in consumption patterns, many artistic and cultural organizations have been rethinking the way they operate their businesses, focusing on how to create a synergy between the various components of their business models, from setting the target audience, to find the best distribution channels and define in which ways revenues are obtained (Rodriguez, 2016).

The growth in the use of the internet and other means of information and communication globally, caused a disruption in the traditional commerce methods promoting an acceleration of the production, delivery and consumption of goods and services (Sidorova, 2019). The technology allowed not only to overcome the restrictions imposed by physical location, making it possible to reach a much larger audience, but also, through digital innovations, to enhance the value of revenues or, through social networks, to involve the existing customer more and attract new audiences (Rodriguez, 2016). New digital transactions and services (clicks and bricks) became possible, as well as customizing the offer and establishing new relationships with the customer through comments and likes (Benghozi and Lyubareva, 2012).

Despite the slight decline of 2% in the value of online sales in 2019, reaching an estimated US$ 5,9 billion related to the sale of art and antiques, the previous 5 years were marked by a constant increase that is expected to happen again in the next years. Being still far from the values reached offline, most online sales continue to be e-commerce conducted by offline companies in the dealer and auction sectors, accounting approximately 85% of the total estimated online sales in 2019 (McAndrew, 2020).

Top auction houses, such as Christie's and Sotheby's, are examples of the previously referred offline companies with different web presences and organizing online auctions since 2012 and 2016, respectively. Online auctions offer the same bidding mechanism used in traditional methods, accompanied by a multimedia presentation of the products and may include the total value of the contract, payment and delivery of the pieces (Timmers, 98), ensuring bidders complete comfort (Sidorova, 2019). This phenomenon breaks the old buyer-seller paradigm by introducing new business models and digitizing, a now connected, global art market (Miegroet et al., 2019).

The importance of web connected channels has become evident with top-tier galleries investing in online viewing-rooms to increase reach with respect to the public, allowing people from every corner of the globe to access curated, online-only exhibitions whose sales are then conducted offline, via phone or in the gallery itself. There are several other online sellers with different business models ranging from selling or reselling to those who facilitate sales on behalf of artists, with the majority focusing on selling lower value pieces (McAndrew, 2020).

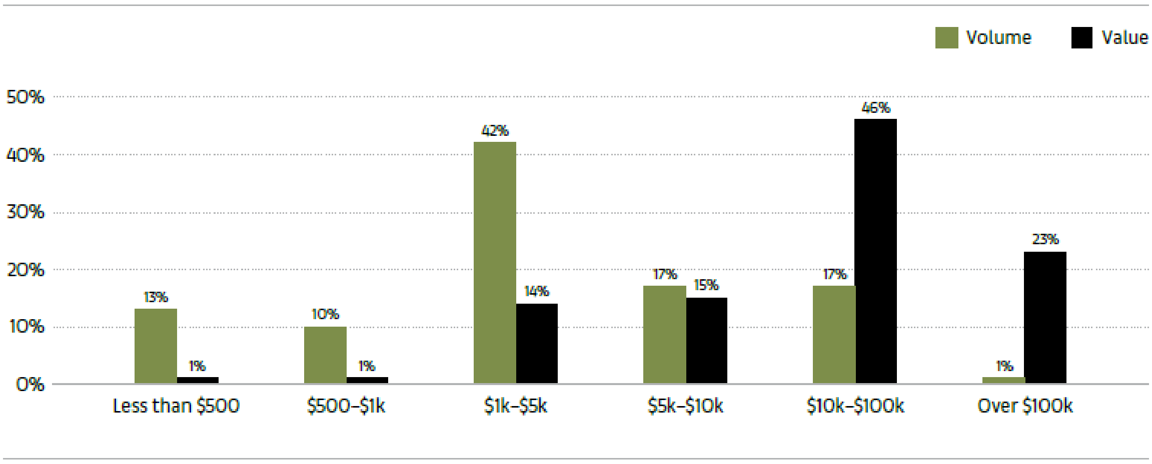

Figure 4.5. *Gallery sales online by price segment: value and volume 2019 (adapted from McAndrew, 2020)*

Scrutinising in regional terms, 86% of the dealings carried out online in North America were internal, linking buyers and sellers of the same country and representing 81% of the value of transactions. Also in Latin America, more than 50% of transactions were carried out within borders, a fact quite different from that observed in Europe, where only 3% of sales were made at the national level. Considering North America and Europe, the regions with highest volume of transactions, average prices were higher for international transactions than for domestic (US$ 6 780 versus US$ 5 600, respectively, in Europe and US$ 12 050 versus just under US$ 7 980 within the US) (McAndrew, 2020).

Regarding online auction sales exclusively, these remained as one of the biggest profit generators of e-commerce in 2019, mainly due to the investment of traditional offline auction houses into online sales, from big to small-sized, both attracted by the potential cost savings and access to a broader customer base. At the top level, online sales account for an average of 4% of the total and, in this segment, Heritage Auctions kept the lead in the online auction sector during the year of 2019 with sales of US$ 483 million for fine and decorative art, antiques and collectibles. A survey conducted by Art Basel and UBS, allowed to conclude that on average, 19% of second-tier auction houses sales in 2019 were done online while for smaller auction houses, with annual turnover of less than US$ 250 000, this value represented 41% of the total, acquiring extreme importance for their livelihood (McAndrew, 2020).

One of the positive points of online auctions is the gradual increase in the availability of information related to them while the values of private sales remain undisclosed. It is from these data that it is possible to perceive the growth of art trade on the web, appearing to be a complement for physical sales rather than competition (Miegroet et al., 2019). On the negative side, online art sales platforms face challenges related to authenticity and physical inspection of artworks but, although these types of channels are not perfect, they are being more used and maintaining a positive rate of growth which translates into good prospects for the future (Sidorova, 2019).

4.2. Business models of online art platforms

Despite the first online art start-ups have not been successful, the importance of the internet with regard to the future of the art market does not lose relevance, a fact that can be verified by the new businesses that are imposing themselves in this market nowadays (Sidorova, 2019). As a matter of fact, in the creative and cultural environment, the ability to innovate relative to business models is based on creating new forms of distribution and production associating those with technological media (Benghozi and Lyubareva, 2012).

Being able to follow one of two lines of business, online commerce can be a complement to the traditional business model or present itself as a completely autonomous model (Timmers, 98), offering alternative possibilities to buy and sell art (Sidorova, 2019). The possibility of sharing information globally and instantly, whether it is about artists, pieces or events, as well as the possibility of gathering a large number of sellers in one place of sale are the most significant differences when comparing online and offline markets (Sidorova, 2019).

There are three main types of companies operating in the art market whose business model is purely online, auctioneers, galleries and marketplaces. Online auctioneers allow their customers to bid for a work of art, as would happen in the traditional model, but offering the advantage of convenience and eliminating the possible discomfort of displacements or social interactions. The online galleries are intended for the exhibition and sale of art objects, also offering the advantage to its users of buying pieces that would be exposed thousands of kilometres away from the place where they are, they also attract art dealers who do not want to spend money on the renting of physical spaces at a time when the online is gaining strength. Online marketplaces act as an entry point for new art collectors, allow more direct communication between those involved in the buying and selling process, and are platforms where sales take place without auctions, allowing consumers to buy art on the moment with a click (Sidorova, 2019). The annual report on art trade from Hiscox refers, in addition to those mentioned, four other types of business models, the online auction aggregators and online gallery aggregators that gather information from several sources combining them into just one place, the bricks-and-mortar businesses with online business (traditionally offline companies adapting to online necessity) and the peer-to-peer platforms (Hiscox, 2020).

4.3. Art sellers' presence on social media

The continuous development and the increase in the number of users of new technologies took the members of the creative industries to reconsider their business models, traditionally based on the marketing of physical objects and the internal development of content (Benghozi and Lyubareva, 2012).

The relationship between the artist and the gallery, as well as between the gallery and potential buyers, was also altered, acquiring the artist greater autonomy and proactivity, being active on social media and building, in a certain way, his/her own brand. With regard to the role of galleries, these will continue to be the place that validates the reputation of an artist who will lead consumers to choose one piece over another, although a new set of skills in the media and web presence is required. Galleries and resellers active on social media, and particularly on Instagram, convey a sense of transparency and an openness of the art markets to new participants, although prices remain available only on request, most of the times, and data are not available about the actual number of transactions that are made or facilitated through these platforms (Sidorova, 2019).

A recent article by Fernandes and Afonso (2020) reflects on the online sales as a driver for business models innovation in the art markets serving as the engine for the analysis that follows. Bearing in mind the importance of how companies present themselves to their customers on social networks, how it has to be thought out and correctly integrated into each company's business model, a comparative study on Instagram of the presence of enterprises involved in art market was performed.

The choice for Instagram, over other social networks, comes from the fact that users of this digital platform interact with brands 58 times more than on Facebook, the market leader in terms of the number of users, and 120 times more than on Twitter. With 400 million monthly active users, 53% of whom adults between the ages of 18 and 29, Instagram has become the most powerful platform in the world for brands that increase sales conversions for every photo posted on the social network by a factor of seven (Lindsey-Mullikin et al., 2017).

With the following analysis, this study aims to achieve two different goals. The first, to compare auctioneers initially bricks-and-mortar, that have adapted to current consumer requirements and are now digitized, to companies operating in the art market completely online since its creation. The second, to understand the differences (whether they exist or not) in the mode of operation of the biggest art companies in the world compared to the top-tier of a small market like the Portuguese.

4.3.1. A comparison between purely online companies and bricks-and-mortar with online presence

In this first comparative analysis, from a sample of 337 Instagram posts, the research question to be answered was: do exclusively online companies achieve better results in terms of consumer involvement in social networks than those that had a traditional business model that was adapted to changes in society?

To try to come up with a response for it and further clarification of companies' communication methods, the Instagram pages of three of the biggest bricks-and-mortar auction houses with online presence, Sotheby's, Christie's and Phillips, were analysed as well as the pages of three of the biggest companies operating in the art market with exclusively online business models, Artsy, as a representative of the online marketplaces, Artnet, for online auction houses, and Saatchi Art, for the online art galleries.

The first variables considered, and summarized in the table that follows, were the number of followers and the existence of the checkmark that confirms the page is official, followed by counting the number of posts during August 2020 and obtaining the daily average.

Company	Followers	Checkmark	Total nr of posts in a month	Average nr of posts per day
Sotheby's	1 200 000	Yes	60	1,94
Christie's	854 000	Yes	73	2,35
Phillips	227 000	Yes	25	0,81
Artsy	1 200 000	Yes	42	1,35
Artnet	1 000 000	Yes	65	2,10
Saatchi Art	729 000	Yes	72	2,32

Table 4.1. An overview of analysed variables

For this sample, the average number of followers for bricks-and-mortar with online presence companies was smaller than for the remaining three, with the two most followed accounts having the same number while belonging to different categories. All accounts are verified, which does not establish a differentiating variable even though it can be important to give confidence to consumers who might make purchases through this platform. The number of posts is balanced across companies with only Phillips posting less than one per day.

The total number of comments is quite small when compared to the quantity of likes, 13 287 for the first and 1 763 080 for the latter, therefore less relevance will be given to them. The maximum number of the comments in a publication, out of the six companies, is 326 obtained in an Artsy post that also achieved the highest number of likes, 46 324. Although in this case the post with the highest number of comments coincides with the one that got the greater number of likes, this is a fact that is not always verified.

The measures of central tendency, such as the average and the median values of the number of likes, were then obtained as well as the maximum value of likes on a single photo in each of the accounts to make a comparison between all of them. On the overall, the values for the median and average per company where similar except for Artsy where the average was notoriously higher, a fact explained by unusually high numbers of likes in some of the posts. The graphical representation of the values obtained can be seen below.

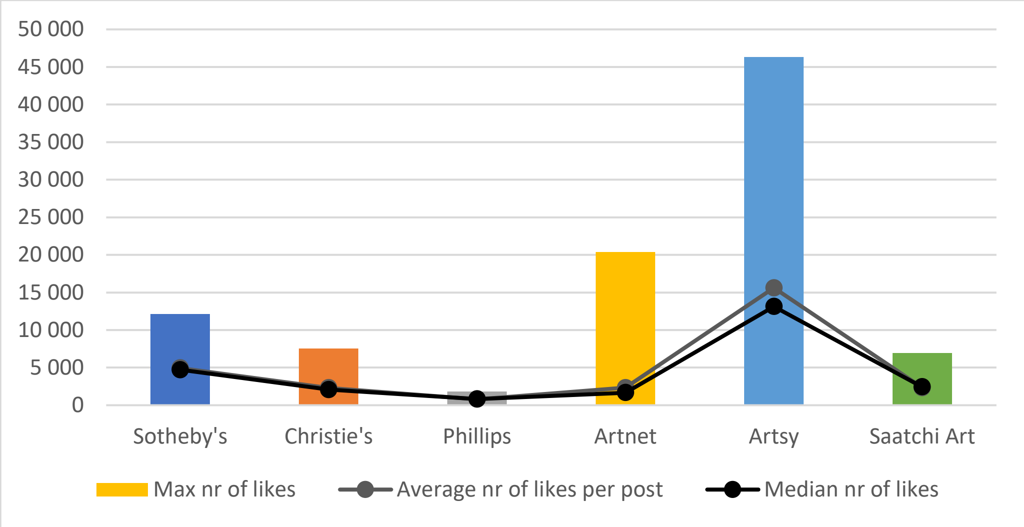

Figure 4.6. *Maximum, average and median number of likes per company*

The analysis of the type of post followed, being them classified as photo, photo-gallery, art, art-gallery, video or mixed gallery according to the criteria clarified in the chapter referring to the methodology. All companies make mostly photo or photo-gallery posts, and only Phillips posts photo-galleries more than any other type. Artnet's Instagram account is the only one that didn't publish any video during the period considered but, on the other side, is also the only having posts of every other type. Art-galleries are, in general, the less common type of posts which can be confirmed from the following graph.

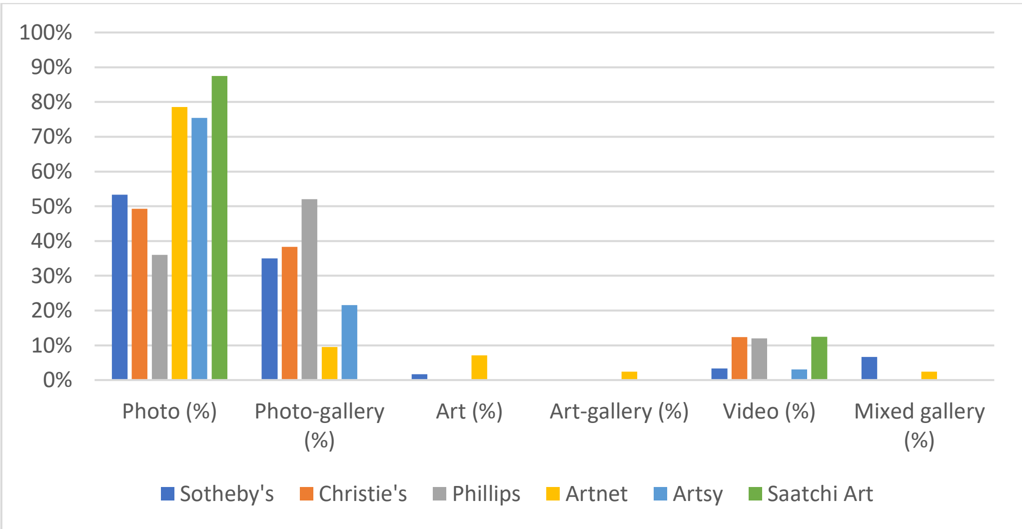

Figure 4.7. *Distribution per type of posts per company*

Considering the average of the clusters represented below, bricks-and-mortar and pure online, it can be seen that the sample of the first ones did not make any art-gallery post and used mainly photos and photo galleries with values above 40% each to communicate with the followers, while the latter published more than 80% of the times single photos.

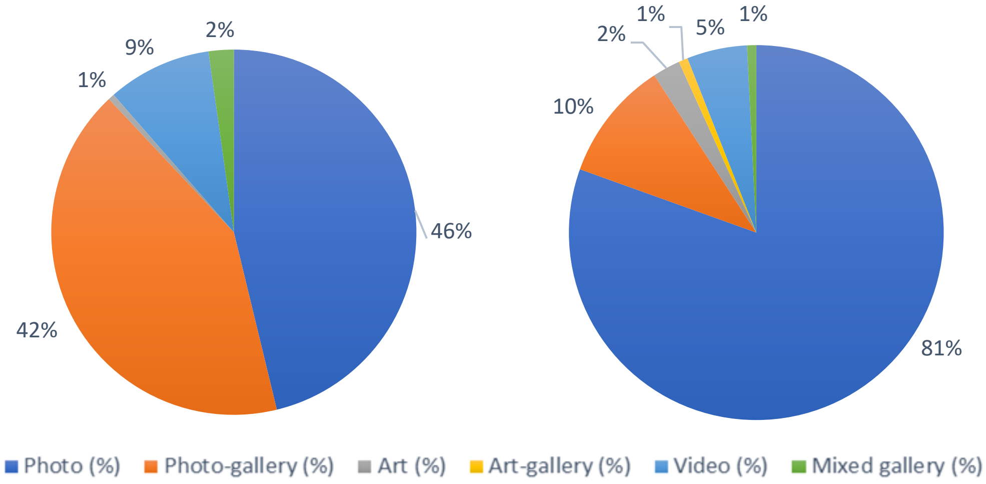

Figure 4.8. *Average distribution per type of post of bricks-and-mortar auctioneers (left) and pure online businesses (right)*

Regarding the theme of each post (from a range of piece of art, people, local, event, challenge, meme or combination), over 50% of them, by company, contained one or more pieces of art or sale objects as a central element of the image being that events, challenges and memes do not account for 10% of any of the posting sets. Arsty and Saatchi Art are the two companies with the least data dispersion in this parameter and are also the only ones that include a link in the photos of works for direct purchase on their online website, including the suggestion of other pieces that may interest the buyer. The data obtained is shown graphically on Figure 4.9.

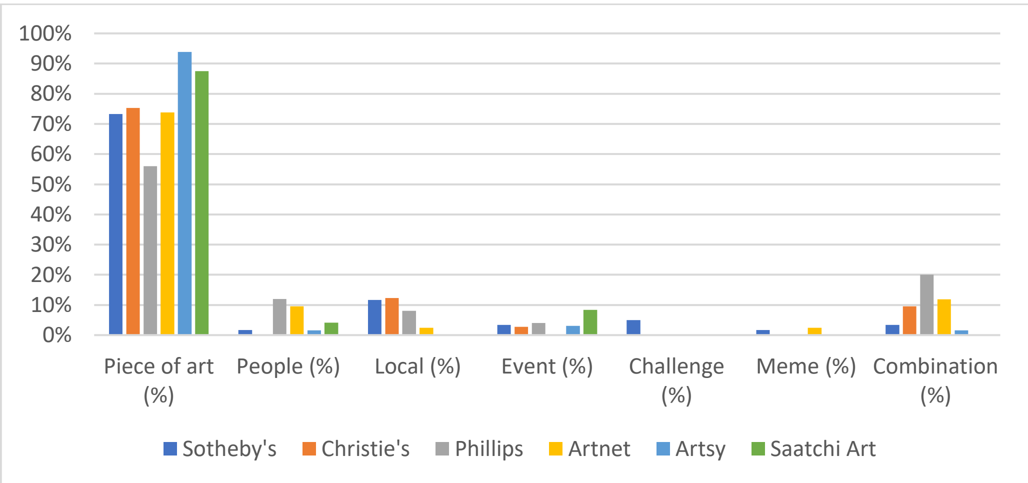

Figure 4.9. *Distribution per theme of posts per company*

When the same information is evaluated in terms of average per group of companies with the same business model, it is clear that once again exclusively online businesses are mainly focused on a single topic, in this case, 85% of Artnet, Artsy and Saatchi Art's joint publications focus on a work of art. In the case of auction houses the values are a little more disperse, being that also for them the presence of pieces of art is important, accounting for 68% of the total posts theme, but presenting in 32% of the publications other types of content, which can be seen in the following pie charts.

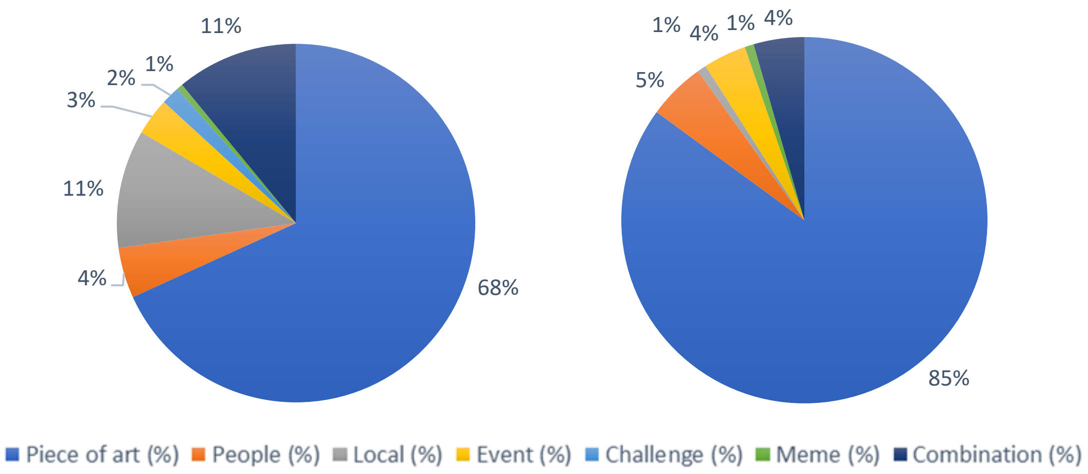

Figure 4.10. *Average distribution per theme of post of bricks-and-mortar auctioneers (left) and pure online businesses (right)*

The calculation of the averages for number of tags, posts and engagement rates was done with the aim of understanding whether the first two could have a positive influence on the last and whether their use was different depending on if it was an exclusively online company or not. The collected data is shown in the next graphic, with the values of the average engagement rate being taken from the axis on the right and the remaining values from the one on the left side. It is possible to notice a difference in relation to the use of hashtags with all the traditionally offline auction houses having an average of more than 4 while the others do not reach the 2 per post, which does not seem to have a direct link to the engagement rate by the social network users as both Artnet and Saatchi Art present values similar to those obtained by bricks-and-mortar. Still on hashtags, Phillips is the only one that puts them in the comment section and not in the space designated to the description of the post. In this data set, the value that stands out is the engagement capacity presented by Artsy, reaching an average of 1.2%

while none of the other companies goes beyond 0.4%, even though it is one of the companies analysed with the largest number of followers.

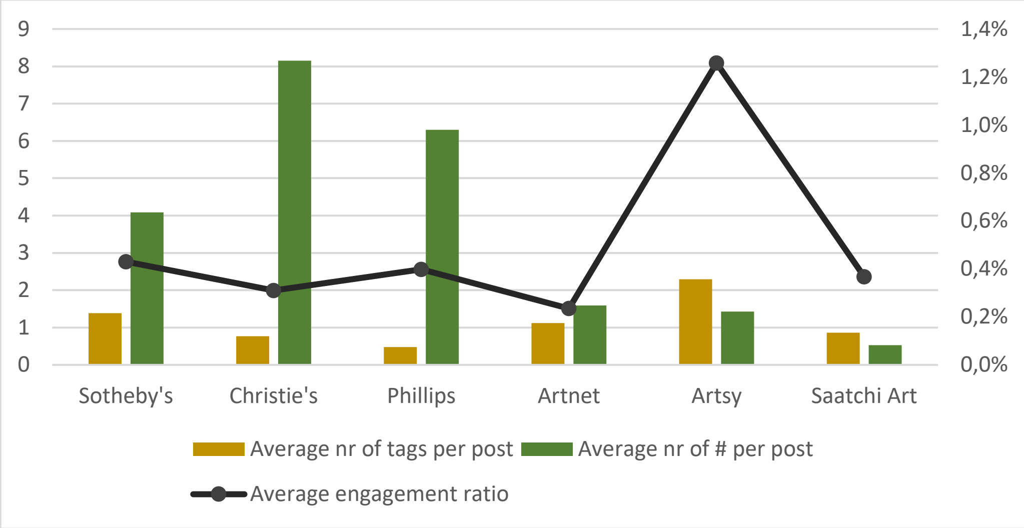

Figure 4.11. *Averages for number of tags, hashtags and engagement rates*

Bearing in mind that hashtags allow Instagram users to find posts by searching them on the designated bar, finding content of interest to them, this point was deepened in order to understand whether the use of more hashtags tends to result in a greater number of likes, and consequent engagement by the followers of the accounts, in a post. The data were grouped by type of business model and presented in Figures 4.12 and 4.13, on those it is possible to see that the results obtained do not confirm the assumption previously made being that none of the posts with more likes are the ones with more hashtags associated. Comparing the same two graphics, it is possible to notice a clear difference in terms of the use of hashtags, with exclusively online companies being much more contained in their application, using, as a general rule, up to 3 per post while bricks-and-mortar companies with current online presence oscillate, mostly, between 0 and 11, having occasional values above these. While in the first graphic representation, despite the leadership in relation to the number of likes in Christie's posts, the data from the three companies are easily verifiable, in the second, due to some extreme results from Artsy, it becomes more complicated to perceive the real numbers of likes.

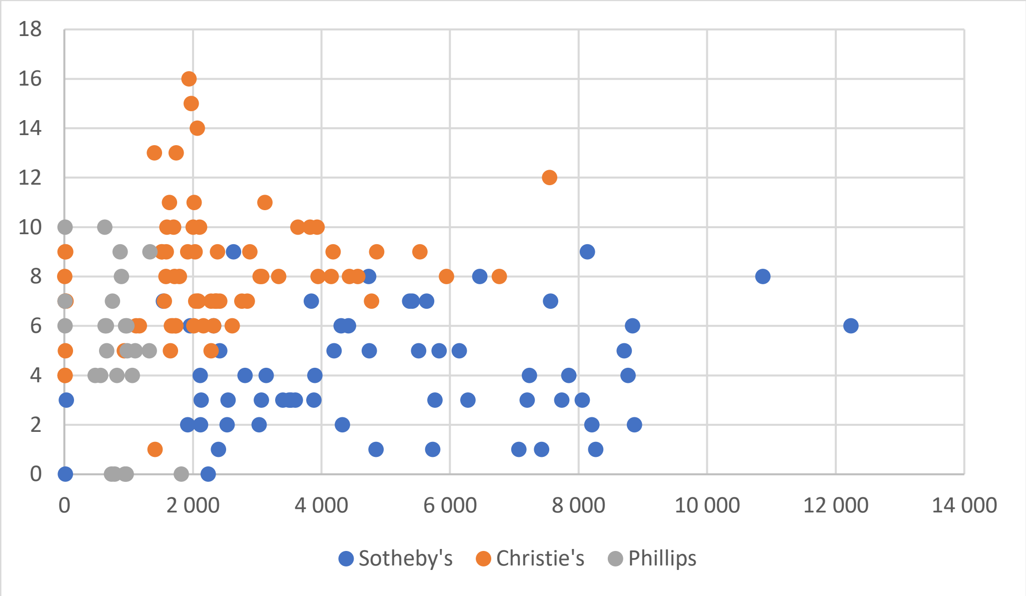

Figure 4.12. *Number of hashtags in relation to the number of likes of bricks-and-mortar auctioneers' posts*

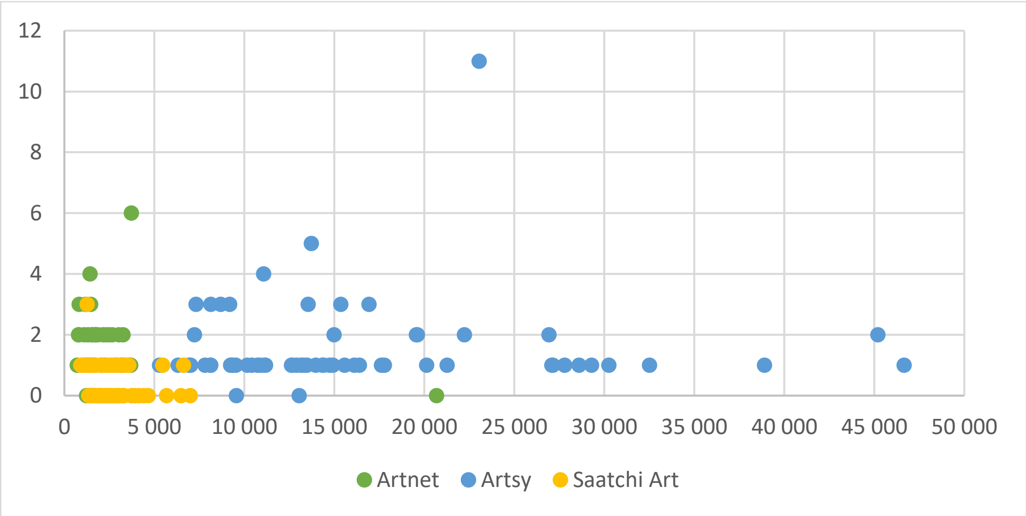

Figure 4.13. *Number of hashtags in relation to the number of likes of pure online businesses' posts*

Making the same comparison but only with the two largest companies in each group, both with 1,2 million followers on Instagram, it turns out that by making less use of hashtags, Artsy is much more successful in terms of the number of likes per post, seeming to be an exceptional case of success for this sample. While Sotheby's achieves the most likes in a publication with 6 associated hashtags, in the case of Artsy the maximum value is reached in a publication with a single hashtag and all top 10 liked posts have less than 3.

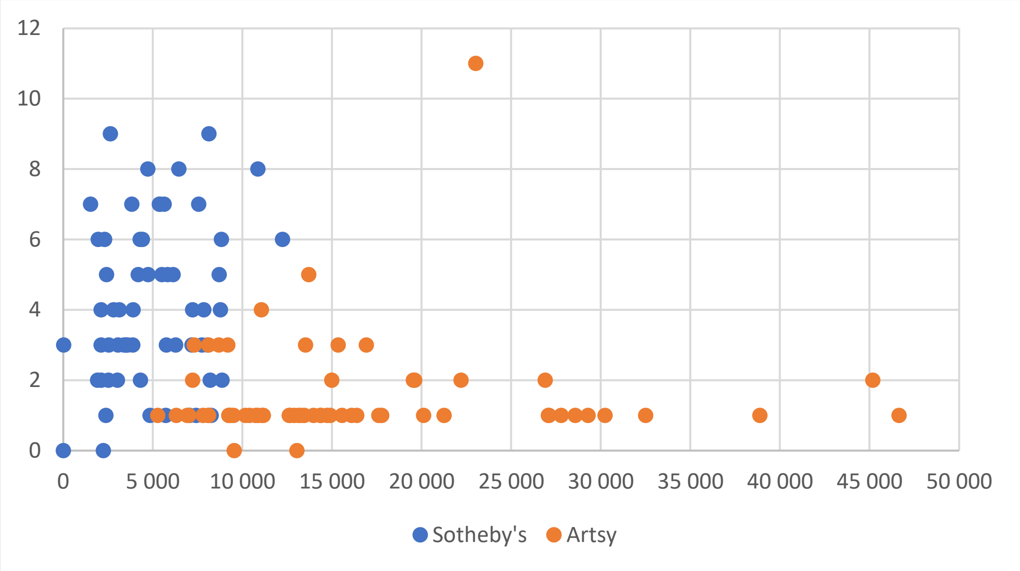

Figure 4.14. *Number of hashtags in relation to the number of likes in Sotheby's and Artsy's posts*

4.3.2. A comparison between companies with the same business model but different dimensions

Portugal is the westernmost country on the European continent, with just over 10 million inhabitants being the most important sector of the Portuguese economy, in 2018, wholesale and retail trade, on which the sales of art and antiques are included (European Union[4]). In the same year, as reported by PORDATA[5], there were, 1 023 art galleries or other temporary exhibition spaces having been held 7 136 exhibitions on which 276 985 works of art where presented from a number of 53 909 different artists. Lisbon was the municipality that stood out performing a total of 1 113 exhibitions. The growing investment on art revealed by the increase of exhibition places in Portugal (from 479 in 2000 to 1 023 in 2018) makes it an interesting country to perform a comparative study against the global top-tier auction houses.

From the 14th of September to the 6th of October 2020 a content audit on Instagram was performed, gathering, for this part of the study, a sample of 242 posts from six different bricks-and-mortar auctioneers with online presence, being them: Sotheby's, Christie's, Phillips, Cabral Moncada Leilões, Palácio do Correio Velho and Veritas Leilões (three top-tier at a global level and three top-tier of the Portuguese art market). The posts analysed were all those posted during

[4] European Union. https://europa.eu/european-union/about-eu/countries/member-countries/portugal_pt, accessed on the 17th of October 2020.

[5] Pordata. https://www.pordata.pt/Subtema/Portugal/Museus+e+Galerias-14, accessed on the 25th of October 2019.

August 2020, except for Veritas Leilões that, for reasons of limitation of statistical data with the publication of only 3 posts during that month, was considered the month of July 2020.

The objective at this stage was to understand not so much who is most successful but the differences or similarities at the communication level on social networks between large global companies and the largest at a smaller context, such as the Portuguese. To answer the question "Are there differences regarding the way large international companies communicate online compared to companies of a national dimension with a same business model?", the first point under analysis was the language(s) used in each Instagram page, both on account and posts descriptions with the three bigger companies making exclusive use of the English, while Cabral Moncada Leilões, Palácio do Correio Velho and Veritas Leilões use English for the account description nonetheless, the first two use English and Portuguese on post descriptions and the latter only Portuguese. The second point verified was the existence, or not, of the checkmark which confirms that the Instagram account is official. None of the Portuguese companies have this mark, the top-tier ones have it. Then the average number of posts made per day by each of the companies was calculated, with highlight to Sotheby's and Christie's having a count close to two and on the opposite side for Veritas Leilões with less than one post each two days. On average, the global auctioneers have a higher number of posts than the Portuguese, as can be checked on the graphic below.

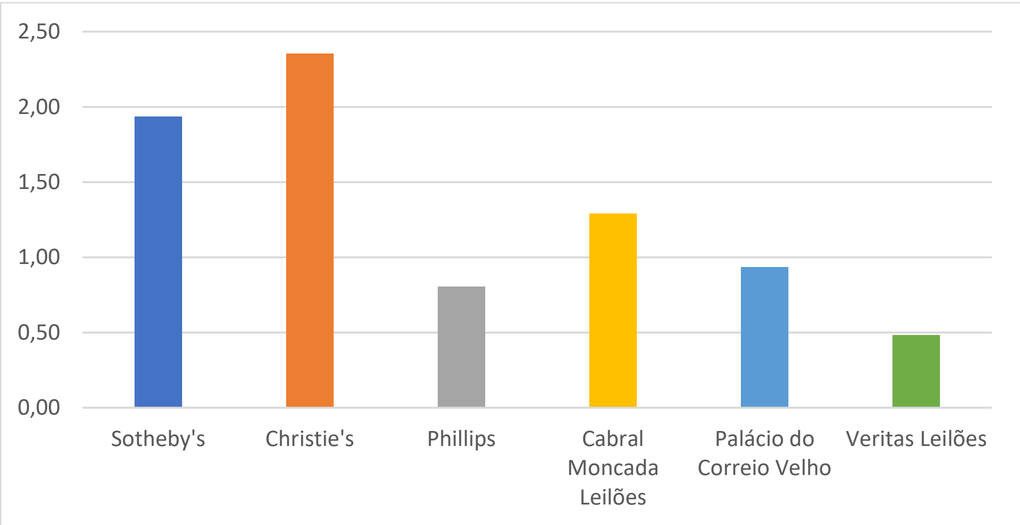

Figure 4.15. *Average number of posts per day*

The types of post were analysed, photos and photo-galleries were the most used types by all auction houses (counting over 70% of the total postages of each of them) and the others, except for video, almost inexpressive. In this parameter stands out the fact that 100% of the publications made by Cabral Moncada Leilões are of the photo type, a fact that does not happen with any other of the companies studied.

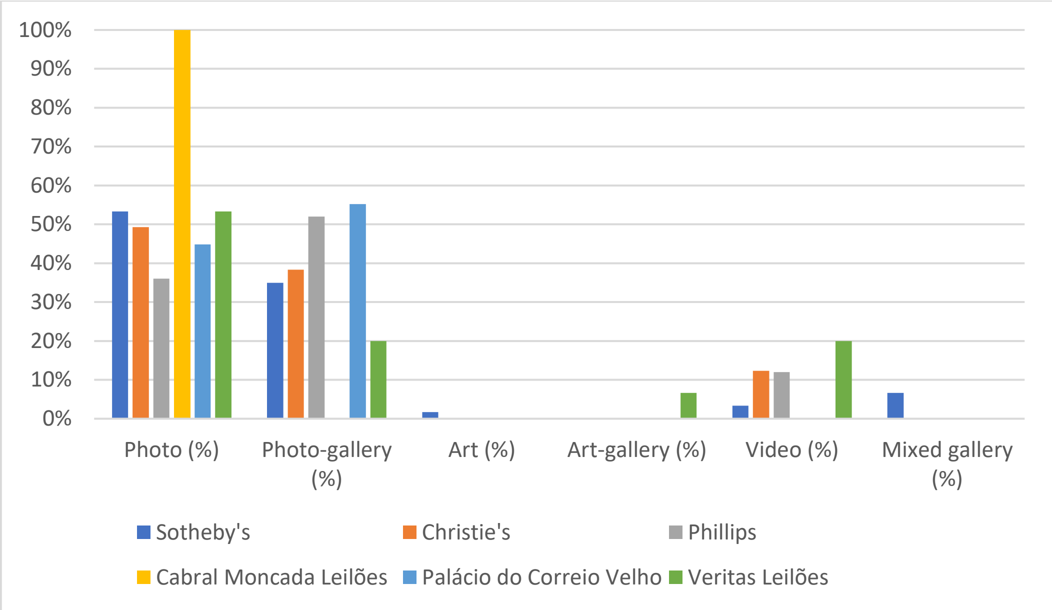

Figure 4.16. *Distribution per type of posts per company*

Taking into consideration the average for the same parameter of the clusters, top global against top Portuguese companies, it turns out that both rely more than 80% of their posts on photos and photo-galleries although the percentage values for each of them are different, as shown in Figure 4.17. In the two cases, the type of publication that follows the previously referred most often is video, but while the companies in the global top just did not use art-galleries, national companies did so, discarding art posts and mixed galleries in turn.

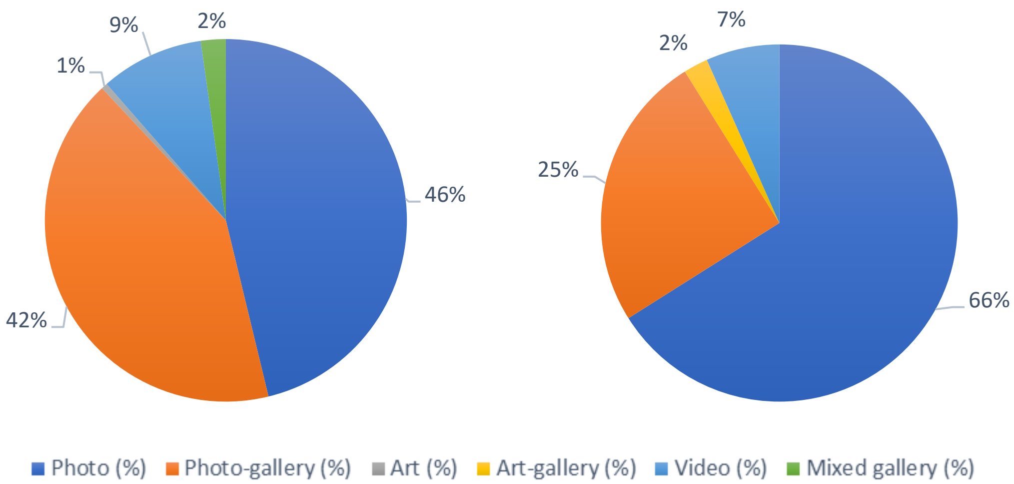

Figure 4.17. *Distribution per type of post of top global (left) and top Portuguese (right) auctioneers*

Regarding the theme referenced in each post, the presence of art pieces for sale is notorious and any of the other categories takes on a less relevant character explained by the fact that they are not the actual revenue generators. Only Sotheby's and Phillips post, during the period considered, content that includes the artists themselves and most companies announce events organized by them or by others in which they participate even if it is on a small relative value. Phillips emerges as the company with the greatest dispersion of posts in this aspect, with over 40% distributed in the non-art-piece categories, on the other side, Cabral Moncada Leilões' focus is, in every post, works of art.

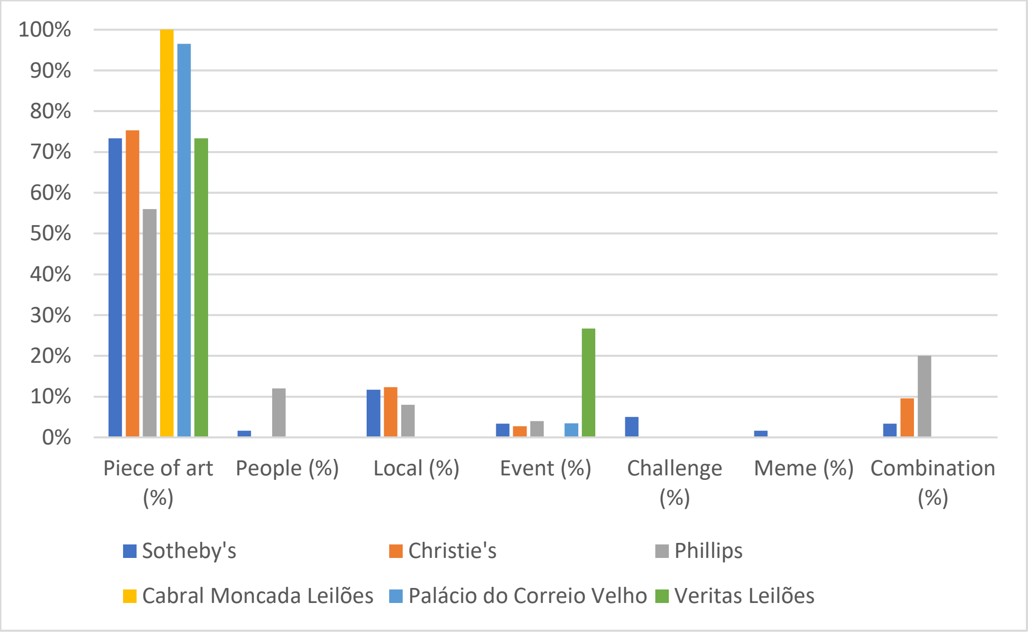

Figure 4.18. *Distribution per type of posts per company*

Agglomerating the averages by the groups in comparison, the variation in the use of different themes is notorious, and among a total of seven established possibilities, the publications of the Portuguese companies only focus on two of them, the pieces of art or events, while in the posts from Sotheby's, Christie's and Phillips all the themes are represented even though in 68% of them the central element was also the works of art in their inventory, as shown in the following graphic representation.

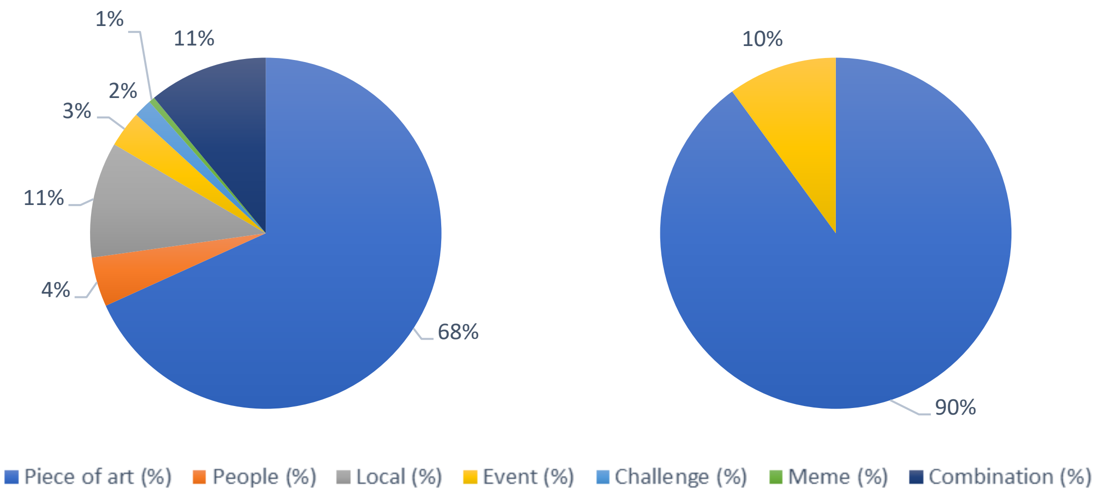

Figure 4.19. *Distribution per theme of post of top global (left) and top Portuguese (right) auctioneers*

In order to understand whether one form of communication is more effective than the other via Instagram posts, it is worth noting the engagement ratio, which reflects the level of account followers' involvement with a given post or set of posts. In this regard, the most successful company is Veritas Leilões and all Portuguese companies have better results than the others. In absolute terms of counting likes and comments, all the companies in the global top outperform the Portuguese ones.

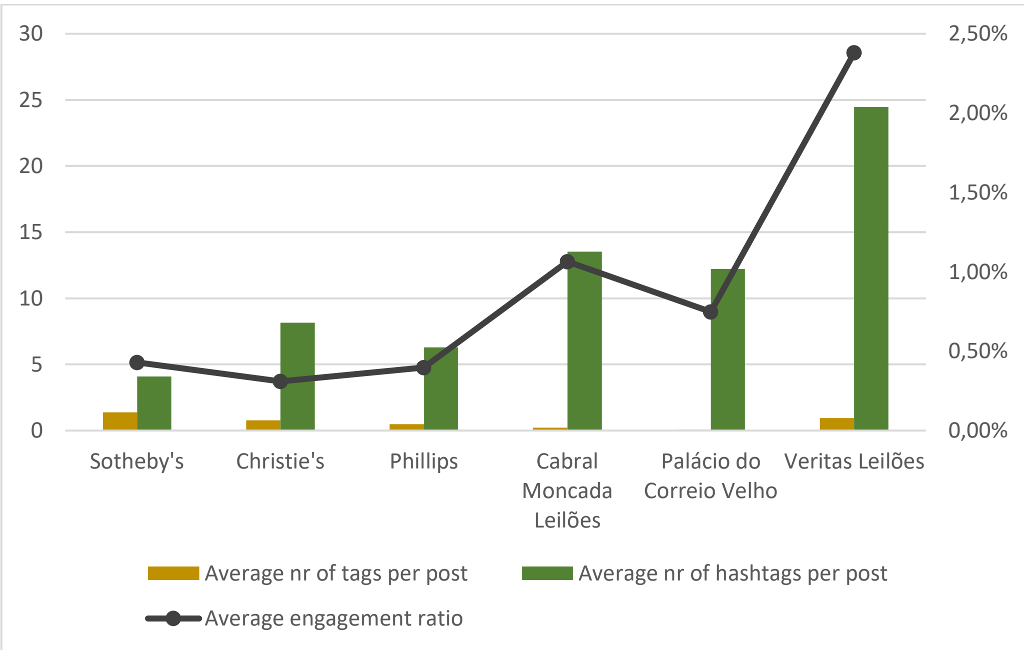

Figure 4.20. *Averages for number of tags, hashtags and engagement rates*

CHAPTER 5

Conclusion

5.1. Discussion

The widespread access to the Internet all over the world has generated great changes for companies in the most varied sectors of management, among which the marketing and communication strategies that focusing on the potential of online media, have made social networks and especially Instagram a very useful and popular tool for brands.

Companies usually use social media with three distinct objectives, to remind, to inform and/or to entertain consumers. In 54% of the cases the information retrieved from these platforms impacts the decision-making process of the clients, for that reason, this communication assumes high importance and companies constantly monitor their social media and product review sites to see what content works best for generating positive impact on sales (Lindsey-Mullikin et al., 2017).

To use these new technologies to their advantage, companies should incentive customers to share their products and all kinds of information on their personal networks, enabling businesses to reach a broader audience that goes beyond the already established followers of the brand. Also, providing the possibility of direct purchase from social networks, seems to be a winning strategy considering the growth rate of online purchases. The sharing of information about the number of buyers online or using expiration dates to create purchase urgency, can also stimulate companies' sales (Lindsey-Mullikin et al., 2017) among so many other possibilities that arise every day.

This dissertation was structured to provide an understanding of how companies in the art market communicate via a specific social network considering differentiating factors, whether the type of online business models or the dimension of the business. A content analysis of 421 Instagram posts was conducted using quantitative research methods.

Regarding the purpose of this investigation, the data collected and the subsequent analysis indicate the following answers to the proposed questions:

Do exclusively online companies achieve better results in terms of consumer involvement in social networks than those that had a traditional business model that was adapted to changes in society?

The participation of consumers and brands on social media is called engagement and can be measured through the number of followers, comments, likes, shares or user-generated items, the results of this research indicate that regarding the first three, and comparing top companies operating exclusively online to bricks-and-mortar with online presence, it is true that the pure online considered performed better in terms of average engagement ratio, 0,62% to 0,38% of the traditional ones. However, with this value assessed in isolation, few conclusions can be drawn and hence the need to understand if there are differences between the forms of communication of these companies.

The bricks-and-mortar with online business group formed by Sotheby's, Christie's and Phillips made, during the month of August, a total of 158 publications, reaching 483 770 likes in absolute values and an average per post of 3 062. The photos and photo-galleries were used more frequently during the period considered, accounting for 42 and 46% of the total, namely, and in relation to the content the focus was mostly on the pieces of art with 32% of the posts distributed among the remaining identified themes. Regarding the use of tags, none of the three companies exceeds the average of 2 per post but in the use of hashtags Christie's raises the values by using over 8 as a rule while Phillips is close to 4. It is important to note that according to the data gathered, the bigger number of hashtags does not necessarily reflect in a greater number of interactions. The averages of engagement are similar among all these 3 companies, varying between 0,31 and 0,43% but it is possible to verify that in absolute values, the companies with more followers have also more likes and comments.

Looking closer to the data of the second group, formed by Artnet, Artsy and Saatchi Art, all three companies with exclusively online business models, for the same period a total of 179 publications were done attaining a sum of 1 279 310 likes which represents an average per post of 7 147. Making an even bigger use of photos (81% of the time) than the more traditional companies, to the detriment of photo-galleries, arts, art-galleries, videos or mixed galleries, and also regarding to the theme the variation was lower being 85% of the posts centred on works of art. The average with respect to the number of tags is half a point higher in this group but considering the hashtags the situation is reversed and gains greater dimensions with an average of 1,18 for the three pure online compared to 6,18 of the other cluster.

The topic that attracts the most attention is related to the engagement rate. While Artnet and Saatchi Art remain at levels close to those of traditional companies, with 0,23 and 0,37%, Artsy clearly stands out from its competitors with an average of engagement that reaches 1,26% even with the highest number of followers for what is assumed as a winner and an interesting case study for the future. This high value causes a rise in the weighted average of the cluster, which exceeds the traditional competitors by 0,24%, also in absolute values (sum of likes and comments) the engagement capacity is higher for pure-online companies accounting for 1 287 830 interactions, which results in a value that more than doubles that of its competitors who totalled 488 537 during the month of analysis. On average per post, bricks-and-mortar reached 3 092 interactions and the pure-only businesses 7 195.

According to the sample considered and the data analysed, there are indeed differences in the communication methods of both types of business models that may be relevant to the higher average on the engagement rate as well as total engagement by companies operating purely online.

Are there differences regarding the way large international companies communicate online compared to companies of a national dimension with a same business model?

The goal in seeking an answer to this question, unlike the previous one, was not so much to know if there is one group more successful than the other in its communication via Instagram (since the dimensions are so different that it makes no sense to compare them) but how they do it and how they can learn from each other.

Starting with an exception to the data collection period, the Portuguese Veritas Leilões made only 3 publications during the month of August on its social network page. Not being a normal value, considering the rest of the year, it was decided to walk back a month and collect data from July. This clearly reduced value of posts on August might be a reflex of a single person taking care of the marketing on Instagram coinciding with her/his annual vacations which immediately becomes a major flaw by the company’s management.

Considering the collected data, the first major difference relies on the fact than none of the Portuguese companies has the checkmark that officialises the account which could result in less confidence from buyers to proceed to purchase through this medium or links associated. The second one on the languages used, situation in which the lack of consistency of Veritas Leilões can be highlighted, using English for the description of the page but only Portuguese in the post captions. Cabral Moncada Leilões and Palácio do Correio Velho use both languages in their posts’ descriptions. Also, there is a smaller number of publications in Portuguese companies when compared to international giants. The former made a total of 84, or around 2,7 per day, to an almost doubled value for the latter, 158 representing an average of 5,1 for every past day.

Looking for the type of posts, the global auctioneers use mostly photos, 46%, and photo-galleries, 42%, accounting these two for 88% of the total on average, but also arts, videos and mixed galleries while the other group publishes photos 66% of the times and photo-galleries 25%, making also use of videos and art-galleries. Following the same order regarding the choice of themes, the first group seems to be more comprehensive, even though, on average, 68% of the time they publish as central element one or more works of art, it makes use of all the other identified themes while the Portuguese limit their publications to the pieces of art, 90%, or events.

In the tag's variable, on average, none of the clusters included more than one directly in their photos or in the description, with the Portuguese using this option even less. The big difference is in the number of hashtags with Portuguese companies counting close to 17 per post while the global only slightly exceeds the 6. Since, once again, the posts with the most hashtags were not the ones that had the most engagement by part of the followers, this result may lead the analysed companies to reconsider the way they currently use them. At the level of engagement rate, the Portuguese companies take the lead, with a weighted average of 1,40% to 0,38% of international companies, which can happen due to the smaller number of followers who may belong to a niche more involved in the art market through the effective purchase of works of art. Bearing in mind that the number of followers of Sotheby's, Christie's and Phillips totals 2 281 000 while that of Cabral Moncada Leilões, Palácio do Correio Velho and Veritas Leilões reaches 12 790, it is important to note that in absolute numbers the engagement value (sum of likes and comments) is much higher in the first group, which is also true in terms of total sales and turnover.

The data obtained seem to point to a similar pattern of performance on Instagram among companies of the same size and with some differences when their reach differs, which may allow the smaller ones to learn about the way they plan and implement their marketing strategy.

5.2. Theoretical and practical implications

The use of new technologies can result in the methodological renewal of academic research on art markets, introducing new methods of analysis, fields of study and areas of specialization, while challenging traditional academic research methods in the artistic world (Sidorova, 2019) something that this thesis comes in a way to do.

Associated with other, more general, studies such as the ones from de Vries et al. (2012), Gunawan and Huarng (2015) or Voorveld et al. (2018), this analysis may be a starting point for understanding how to better develop a communicative strategy on social networks, more specifically on Instagram which has peculiar characteristics, for companies operating in the art market in order to provide greater value for the customer and consequently greater profits for the businesses.

Social media is a popular advertising tool for any type of international, national or even local companies regardless of their sizes, a matter that is verified by the notorious efforts to implement effective strategies in these platforms, given the online scope, that allows companies to approach a bigger number of customers and potential customers that were not previously reachable, which can bring them economic and financial benefits with a residual cost.

Managers must be aware of their goals, target audience and message they want to convey, in order to choose the appropriate communication strategy and can be guided by this and other researches when they have to decide which characteristics or content to place at brand posts. Using social media to promote a brand has a variety of benefits, including getting direct feedback from customers, forecasting trends or even researching a new market niche in which the company can invest.

5.3. Limitations and recommendations for future research

Studies come with limitations, in this case, one of those is related with the fact that Instagram is the only social media platform examined and results can therefore not be generalized to others, like Facebook or Twitter. In another aspect, the findings of this study are limited by the fact that the research was based on a small sample compared to the dimensions of the art market and that only the publications of August 2020 (or July in the case of Veritas Leilões), totalling 421 collected, were analysed. It is to be considered that this research only compares nine companies, chosen based on certain criteria, leaving out a large number of potential elements of study. Also, the fact that the data collection was done manually can be seen as a limitation and errors may be associated with it that would not happen if there was the possibility of making a collection using an automated method. Finally, it is necessary to take into account the subjectivity that is associated with determining the theme of the posts, as this is not a yes or no answer and is subject to the opinion and criteria of the author.

For future research, it would make sense to increase the sample analysed to verify whether these results are maintained or not, including companies operating mainly at national level in other countries of reduced expression in the art market and not only in Portugal. In this study, the contents associated with tags and hashtags were not taken into account, only the quantities existing in each post were evaluated. An analysis of this content may provide important information for companies to reach the largest number of people and, for this reason, is also an area on which researchers can focus on. In addition, this type of investigation may be extended to other elements of the art market, such as the artists themselves.

As Artsy appears to be a success story among top-tier companies with regard to the average engagement ratio, a study more focused on this company, with a longer analysis over time and not limited to a single month, could provide interesting discoveries with which other companies could learn from. As a last note for further studies in the area, it would be interesting to understand if, in the case of publications with direct sales through a link in the posts of the Instagram accounts, as it is happening with Artsy and Saatchi Art, the clicks from the platform users on those links result in effective purchase.

Bibliography

Books

Afuah, A., & Tucci, C. 2003. ***Internet business models and strategies: Text and cases***. New York: McGraw-Hill Companies.

Johnson, M. 2010. ***Seizing the white space: Growth and renewal through business model innovation***. Boston: Harvard Business School Publishing

Osterwalder, A., & Pigneur, Y. 2010. ***Business model generation***. New Jersey: John Wiley & Sons, Inc.

Robertson, I. 2005. ***Understanding international art markets and management***. New York: Routledge.

Robertson, I., & Chong, D. 2008. ***The art business***. New York: Routledge.

Rodriguez, J. 2016. ***To sell or not to sell? An introduction to business models (innovation) for arts and culture organisations***. Brussels: IETM - International Network for Contemporary Performing Arts.

Periodicals

Artprice.com & AMMA. 2019. ***The art market in 2019***.

Baden-Fuller, C., & Morgan, S. 2010. Business models as models. ***Long Range Planning***. 43(2-3): 156-171.

Benghozi, P., & Lyubareva, I. 2014. When organizations in the cultural industries seek new business models. ***International Journal of Arts Management.*** Volume 16, Number 3, Spring 2014: 6-19.

Chesbrough, H. 2007. Why companies should have open business models. ***MIT Sloan Management Review***. Winter 2007, Vol. 48, No. 2: 22-28.

Chesbrough, H., & Rosenbloom, R. 2002. The role of the business model in capturing value from innovation: Evidence from Xerox Corporation’s technology spin-off companies. ***Industrial and Corporate Change***. Volume 11, Number 3: 529-555.

De Vries, L., & Gensler, S., & Leeflang, P. 2012. Popularity of brand posts on brand fan pages: An investigation of the effects of social media marketing. ***Journal of Interactive Marketing.*** 26: 83-91.

Deloitte Luxembourg. 2019. Art & Finance Report 2019 6th Edition.

Drucker, P. 1985. Entrepreneurial Strategies. ***California Management Review***. Volume XXVII, Number 2, Winter 1985.

European Commission. 2019. Eurostat Culture Statistics. Culture statistics - International trade in cultural goods. ***Eurostat.***

Evrard, Y., & Colbert, F. 2000. Arts management: A new discipline entering the millennium?. ***International Journal of Arts Management***. Volume 2, Number 2, Winter 2000: 4-13.

Fernandes, A., & Afonso, L. 2020. Online sales and business model innovation in art markets. ***MDPI***. Volume 9, Number 7.

Fielt, E. 2013. Conceptualising business models: Definitions, frameworks and classifications. ***Journal of Business Models***. Volume 1, Number 1: 85-105.

Gunawan, D., & Huarng, K. 2015. Viral effects of social network and media on consumers' purchase intention. ***Journal of Business Research.*** 68 (2015): 2237-2241.

Hiscox. 2019. ***Hiscox online art trade report 2020.***

Lindsey-Mullikin, J., & Borin, N. 2017. Why strategy is key for successful social media sales. ***Business Horizons.*** 60: 473-482.

Magretta, J. 2002. Why business models matter. ***Harvard Business Review***. May 2002: R0205F.

McAndrew, C. 2020. An Art Basel and UBS art market report 2020. ***The Art Market 2020***.

McGrath, R. 2010. Business models: A discovery driven approach. ***Long Range Planning***. 43(2010): 247-261.

Miegroet, H., & Alexander, K., & Leunissen, F. 2019. Imperfect data, art markets and internet research. ***MDPI***. Volume 8, Number 76.

Morris, M., & Schindeutte, M., & Allen, J. 2005. The entrepreneur's business model: Toward a unified perspective. ***Journal of Business Research***. 58(2005): 726-735.

Moureau, N., & Sagot-Devauroux, D. 2012. Four business models in contemporary art. ***International Journal of Arts Management.*** Volume 14, Number 3, Spring 2012: 44-56.

Seddon, P., & Lewis, G., & Freeman, P., & Shanks, G. 2004. The case for viewing business models as abstractions of strategy. ***Communications of the Association for Information Systems***. Vol. 13, Article 25.

Osterwalder, A., Pigneur, Y. & Tucci, C. 2005. Clarifying business models Origins, present and future of the concept. ***Communications of the Association for Information Systems***. Vol. 16, Article 1: 1-25.

Porter, M. 2008. What is Strategy?. ***Harvard Business Review***. November-December 1996: 3-22.

Shafer, S., Smith, J., & Linder, J. 2005. The power of business models. ***Business Horizons***. 48, 199-207.

Sidorova, E. 2019. The Cyber Turn of the Contemporary Art Market. ***MDPI***. Volume 8, Number 84.

Teece, D. 2010. Business models, business strategy and innovation. ***Long Range Planning.*** 43(2010): 172-194.

Timmers, P. 1998. Business models for electronic markets. EM – Electronic Markets. Vol 8, No. 2: 3-8.

Voorveld, H., & Van Noord, G., & Muntinga, D., & Bronner, F. 2018. Engagement with social media and social media - Advertising the differentiating role of platform type. Journal of Advertising. 47(1): 38-54.

Unpublished Works

Osterwalder, A. 2004. ***The business model ontology: A proposition in a design science approach***. Unpublished doctoral dissertation, Université de Lausanne, Lausanne

Fiates, S. P. 2020. ***Estratégias para aumentar o envolvimento do público no Instagram: estudo comparativo de três jornais portugueses***. Unpublished master's dissertation, NOVA FCSH, Lisbon.

Mueller, M. J. 2020. ***An analysis of digital marketing strategies on Instagram: comparing storytelling and informational creative strategies amongst other creative tactics***. Unpublished master's dissertation, ISCTE, Lisbon.

Visone, A. 2015. ***The impact of online and social media platforms in the art market: A case study on Instagram.*** Unpublished master's dissertation, Sotheby's Institute of Art, New York.

Electronic sources

Editors of Encyclopaedia Britannica. Encyclopaedia Britannica. Art. https://www.britannica.com/art/visual-arts accessed on the 20th of October 2019.

Howard, J. Encyclopaedia Britannica. Art market. https://www.britannica.com/topic/art-market, accessed on the 23rd of October 2019.

Pordata. Galerias de arte e outros espaços de exposição temporária: número de espaços, exposições e obras expostas. https://www.pordata.pt/Subtema/Portugal/Museus+e+Galerias-14, accessed on the 25th of October 2019.

Clement, J. Statista. Instagram - Statistics & Facts. https://www.statista.com/topics/1882/instagram/, accessed on the 12th of September 2020.