UNIVERSIDADE CATÓLICA PORTUGUESA

A content analysis of Porto's online perceived and projected city image

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Abstract

Cities use branding to communicate their distinctive characteristics to their target audiences. Building a powerful, favourable, and distinctive city image requires creating a positive and noticeable city brand identity (Qu et al., 2011). Social media platforms facilitate the projection of city image on a global scale, as well as enable the sharing of the perceived image visitors and locals have about a city, through the publication of pictures, videos and descriptions.

Porto city brand was created in 2014 and it has been considered a successful case recognised internationally. The present research aims to explore the city image associations with Porto on social media, particularly, on Instagram, and understand the connection between the perceived online city image and the image Porto's Destination Marketing Organisation (DMO) intends to project. For that purpose, a qualitative visual and textual content analysis of Instagram pictures and hashtags associated with #Porto was employed. Then, an interview with the person in charge of Visit Porto social media was conducted, in order to present the main results of the analysis and understand more clearly the similarities and divergencies between both projected and perceived online city image.

The findings reveal that users associate Porto mainly with its historical attribute. The textual analysis shows that the main hashtags used to describe Porto are related with travelling. In turn, Porto's DMO currently intends to promote other city attributes which have not been as recognised so far, such as Porto's parks and gardens, in order to diversify the touristic offer, and enhance value creation for visitors, residents and other stakeholders.

Keywords: city branding; city image; social media networks; user-generated content; Porto

Resumo

As cidades usam o *branding* para comunicar as características que as distinguem aos seus públicos-alvo. A construção de uma imagem de cidade prestigiosa, favorável e única requer a criação de uma identidade de marca de cidade que seja positiva e reconhecível (Qu et al., 2011). As plataformas de redes sociais facilitam a projeção da imagem de cidade à escala global e permitem a partilha da imagem percebida pelos visitantes e locais, através da publicação de fotos, vídeos e descrições elucidativas.

A marca cidade do Porto foi criada em 2014 e tem sido considerada um caso de sucesso reconhecido internacionalmente. A presente investigação pretende explorar as associações atribuídas à imagem da cidade do Porto nas redes sociais, em particular no Instagram, e compreender a ligação entre a imagem percebida online e a imagem que a Organização de Marketing de Destino (DMO) do Porto pretende projetar. Para o efeito, foi realizada uma análise de conteúdo qualitativa, visual e textual, de imagens e hashtags de publicações no Instagram associadas à #Porto. Posteriormente, foi realizada uma entrevista à responsável pelas redes sociais da Visit Porto, com o objetivo de apresentar os resultados da análise e compreender melhor as semelhanças e divergências entre a imagem que é projetada e percebida.

Os resultados revelam que os utilizadores associam o Porto sobretudo ao seu atributo histórico. A análise textual mostra que a principal *hashtag* utilizada para descrever o Porto está relacionada com viagens. Por sua vez, a DMO do Porto pretende atualmente promover outros atributos da cidade até agora não tão reconhecidos, como os parques e jardins do Porto, de forma a diversificar a oferta turística e potenciar a criação de valor para visitantes, residentes e outros *stakeholders*.

Palavras-chave: *branding* de cidades; imagem de cidade; redes sociais; conteúdo gerado por utilizadores; Porto

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Introduction

In recent years, place branding has gained increasing attention from academics and place managers. There is not a consensus about the definition of place brand, but Zenker and Braun (2010, p. 5) (cited by Kavaratzis & Hatch, 2013) provided a complete definition, referring to it as a "a network of associations in the consumers' mind based on the visual, verbal, and behavioural expression of a place, which is embodied through the aims, communication, values, and the general culture of the place's stakeholders and the overall place design". By regulating coordinated promotion and the development of product-market combinations, place branding policies should be able to affect the opinions and associations people have with a place, being it a nation, a region or a city. The main purpose consists of obtaining a favourable and sustained reputation over the time (Boisen et al., 2018).

Cities, the territorial entities addressed in the present research, started branding themselves in order to establish a competitive identity and communicate their intangible and tangible attributes to their target audience (Gilboa et al., 2015). Accordingly, cities must develop a distinctive and recognisable image (Oguztimur & Akturan, 2016) in order to stand out in a world of a growing competition between cities for visitors, businesses and qualified workforce (Gilboa et al., 2015). City image represents the perception the stakeholders have of a city, and constitutes the sum of the beliefs, ideas, and impressions they have about it (García et al., 2012). Therefore, it is fundamental that city brand managers research, analyse and enhance the city's image (Taecharungroj & Mathayomchan, 2020).

Nowadays, especially due to the increase of social media usage, city image is more and more co-created by producers and consumers (Nautiyal et al., 2022).

By creating content about a city and sharing their personal experience on social media platforms, users become active elements of the city image building. Hence, user-generated content (UGC) is able to promote or transform the image that city brand managers intend to project (Alvarez & Campo, 2011). UGC can shape brand perceptions, enhancing the network associations that define brand image and, more widely, brand awareness (Zhang & Sarvary, 2015). On top of that, UGC is perceived by users as a more trustworthy source of information than the city brand source, given that it is perceived as an unbiased message source (Hidalgo-Alcázar et al., 2014).

Furthermore, pictures are a valuable asset to the analysis of the representation of a city (Yan & Santos, 2009), as they reflect personal perceptions and observations (Galí & Donaire, 2015). Likewise, hashtags are used to promote and debate cities' unique attributes (Shaheer et al., 2018), representing synthetised keywords of the message that is intended to be transmitted (Carvache-Franco et al., 2022).

Accordingly, Instagram is a visually appealing social media network, where users share their city experiences (Iglesias-Sánchez et al., 2020) through pictures, videos and brief descriptions (which include hashtags), whether they are visitors or local citizens. Currently, it has more than 2 billion users worldwide and it is the preferred network to share pictures (We Are Social, 2023). Recent studies have examined the relevance of UGC to city and destination branding, either through the analysis of pictures (Galí & Donaire, 2015; Paül i Agustí, 2018; Stepchenkova & Zhan, 2013; Taecharungroj & Mathayomchan, 2020), or text, particularly hashtags (Andéhn et al., 2014; Gon, 2021; Nautiyal et al., 2022). The contribution of both types of UGC to city branding has also been analysed (Acuti et al., 2018, 2019; Filieri et al., 2021; Mak, 2017); however, there is still a lack of research concerning the contribution of visual and textual UGC to the city image building on social media networks, particularly Instagram.

Porto, the second most important city of Portugal, is a successful case study, since it has been able to project the city internationally, with the development of a solid city brand (*Marca Porto*, n.d.). Nevertheless, its perceived online image hasn't been studied yet. By taking the city of Porto as a case study, the present exploratory research intends to discover the main city image association with Porto on Instagram, as well as the relationship between the different attributes of the city, using content analysis. On top of that, this research aims to understand if there is a connection between the perceived online city image and the image Porto's Destination Marketing Organisation (DMO) intends to convey, through a semi-structured interview with the Director of the Municipal Department for Tourism and Internationalisation, in charge of the Visit Porto Instagram account. Hence, the research questions we aim to answer are: What is the main city image association with Porto on Instagram? What is the relationship between the several attributes of the city? Is there a connection between the city image Porto's DMO wants to convey and the perceived city image users have?

In order to achieve the predetermined objectives, this Master Final Assignment (MFA) will be structured in four chapters. In Chapter 1, a literature review of the main concepts related with the research questions will be presented and discussed. Chapter 2 describes the research methods, as well as the data collection procedures. In Chapter 3, the results will be presented and discussed. This chapter will be divided into visual analysis, textual analysis and analysis of the interview outcomes. Finally, Chapter 4 will expose the main conclusions of this study, its theoretical and managerial implications, as well as the encountered limitations and suggestions for future research.

Chapter 1
Literature Review

1.1 City Branding

The branding of cities dates back to before the 19th century, when the cosmopolitan elite (Green et al., 2016), together with formal governments (Tuan, 1975), employed several strategies, for instance, funding the arts and, by means of education and propaganda, depicting selective cities (Tuan, 1979). Since then, cities had a tendency to depend more and more on marketing techniques (Kavaratzis, 2004), especially in the 21st century, when competition for inbound investment, tourism income and local citizens has intensified (Kotler et al., 1999).

Due to the globalisation phenomenon, cities had the need to create a brand, in order to be a desirable location for business and travel, a culturally diverse area (Kotler & Gertner, 2002), and to stand out in a world of increasing competition among places (Acuti et al., 2018). As a result, many cities created place branding initiatives to establish distinctive, competitive identities (Deffner & Liouris, 2005). Thus, city branding constitutes a subdomain of place branding, which employs branding strategies to compete for businesses, citizens, and tourists in a variety of places, including nations, regions, and cities (Ashworth & Kavaratzis, 2009; Braun et al., 2013). The primary purpose of city branding is to create a holistic and emblematic image of a city that appeals to citizens, businesses, and tourists (Merrilees et al., 2009).

1.1.1 City Image and Identity

Kavaratzis (2004, p. 62) defined city image as "the result of various, different and often conflicting messages sent by the city and is formed in the mind of each individual receiver of these messages separately". The author concludes,

following Graham (2002)'s thoughts, that the crucial point for the management and marketing of the city is this point of interaction between the 'external city' - related with landmarks and physical aspects of cities - and 'internal city' - related with each individual perception of the city (cited by Kavaratzis, 2004). The perception of the city formed by each individual that interacts with the city is the city image.

City image relies on aspects that are crucial in a person's relation with the city (Gray & Smeltzer, 1985), for instance, as an entrepreneur, student or visitor. This is due to the fact that diverse demographic and psychographic characteristics cause people to view and feel things in very different ways, attaching them an array of meanings. Thus, individuals select the components that form their image subjectively and assign different levels of relevance to the components they have observed (Laaksonen et al., 2006), for instance, culture, entertainment, infrastructure, shopping centres, safety, sports facilities and services (Gilboa et al., 2015).

Nevertheless, it has been argued in previous studies that besides image, identity is a fundamental element of the construction of a place brand, being it a city or even a destination brand (Cai, 2002; Florek et al., 2006; Nandan, 2005). Brand identity is a reflection of how all brand features contribute to awareness and image (Keller, 1998), giving the brand direction, purpose and meaning. It is fundamental to a brand's strategic vision and it constitutes a source of brand associations (Aaker, 1996). Essentially, the place brand managers are in charge of the place identity projection through all the activities implemented (they are the 'senders'); whereas the perception of the identity by the consumers (i.e., the receivers) will compose the place image (Florek et al., 2006). Establishing a positive and recognisable place brand identity is essential for the building of a strong, favourable and unique place image. Places should build a positive brand

image by highlighting distinctive, powerful, and positive brand associations linked with the place brand purpose (Qu et al., 2011).

1.1.2 City Branding and Social Media

Social media has proven to be a potent information and communication channel (Liu et al., 2020), transforming the structure of the connections between brands and consumers (Andéhn et al., 2014). Additionally, social media has made it possible for users to participate at an unprecedented level in activities focused on creating brand meaning (Kornberger, 2010). Social media platforms are more interactive, accessible, straight-forward, and dynamic than their conventional equivalents, making them new and useful avenues for place branding and marketing (Zhou & Wang, 2014).

By leveraging social network websites, social media marketing aims to connect customers with the place/organisation (Evans, 2010). The place fosters several physical interactions, which are the source for online conversations. Consequently, the place's online marketing efforts are implemented, in order to generate and convert the physical interaction into a virtual one. Finally, the customers, who interact with the place, create an online community and produce content (Ketter & Avraham, 2012).

Social media platforms have an extraordinary impact on place image creation, as users' personal viewpoints on social media networks influence how other people perceive the place (Fazel & Rajendran, 2015), thus enabling tertiary communications, i.e., word-of-mouth communication, which place marketers are not able to control (Kavaratzis, 2004).

Furthermore, the advent of Web 2.0 has enabled the emergence of user-generated content, allowing users to create their own content and engage with other users' content (Cormode & Krishnamurthy, 2008; O' Reilly, 2005). UGC has become the "richest and most diverse source of online information" (Költringer

& Dickinger, 2015, p. 7) and it is effectively a form of consumer-to-consumer e-marketing (Cox et al., 2009). UGC in social media can be extremely helpful in understanding the needs and wants of visitors, as well as particular recommendations for the products/services they consume (Ndou & Del Vecchio, 2014, (cited by de las Heras-Pedrosa et al., 2020)). On top of that, it is a paramount tool to engage tourists in the creation of a city image (Akehurst, 2009; Camprubi et al., 2013; Lo et al., 2011; Mariani et al., 2016; Narangajavana et al. 2017). Marine-Roig (2019) argued that UGC should be understood as an organic source of travel destination image. The author conducted a survey of more than 2000 Americans and found out that 58.2% used UGC while planning their travel.

1.1.2.1 Instagram

Users are in constant search for the experiences and respective reviews other users have uploaded, whether it is written, visual, audiovisual, or mixed content. This content not only promotes tourism to destinations, but also creates expectations and images in the visitors' minds (De Bruyn & Lillien, 2008; Nixon et al., 2017; Özdemir & Çelebi, 2015; White, 2010). Visual content (videos and photographs) is a very valuable asset for the analysis of a place's representation. On top of that, pictures are an essential factor in projecting a destination's (city, region, or nation) image (Paül i Agustí, 2018).

Social media networks such as Facebook, Instagram, TripAdvisor, and X (former Twitter) influence city image. Recently, there have been several studies concerning place branding and social media platforms: Twitter (Andéhn et al., 2014; Corradini et al., 2023; Nautiyal et al., 2022; Sevin, 2013; Uchinaka et al., 2019); Flickr (Stepchenkova & Zhan, 2013; Taecharungroj, 2019; Taecharungroj & Mathayomchan, 2020) and Facebook (Hays et al., 2013; Mariani et al., 2016).

Moreover, various studies revealed that Instagram has contributed to the building of city images (Acuti et al., 2018; Gon, 2021; Iglesias-Sánchez et al., 2020;

Kuhzady & Ghasemi, 2019; Lam et al., 2020; Lund et al., 2018). Instagram is a visually appealing social media platform that facilitates experience sharing and, by posting expressive images, users may have an impact on the city branding process (Iglesias-Sánchez et al., 2020). Instagram integrates the evocative power of pictures with brief relevant text content, particularly hashtags, image titles, comments, and user profile information. In 2023, Instagram had 2 billion active users, being the 4th most used social media network in the world (Dixon, 2024a). On top of that, it is the 2nd preferred social media platform (following WhatsApp) and the favourite one to share pictures and videos (We Are Social, 2023). According to Maike Ovens, from the Social Media Academy for Travel and Tourism, Instagram plays a crucial role in searching for a destination, as fewer and fewer people rely on search engines, such as Google, to obtain information about a place. Instead, through hashtags, users find places to go, what to see and do (Martiny, 2023).

Therefore, it is pertinent to conduct an Instagram content analysis in order to better understand how users contribute to the building of Porto's online city image.

1.1.3 City Branding in Portugal

Although city and destination branding has been largely studied worldwide, there is still a lack of research on the topic in Portugal (Oliveira, 2015). Oliveira and Panyik (2015) applied content analysis to explore the co-creation of the destination brand Portugal and found out that travellers act as imperative opinion makers and co-creators of the destination brand on social media. Oliveira (2015) further observed that the term "place branding" doesn't appear on the Portuguese spatial plans, strategic initiatives and policy documents that were analysed. The author concluded that there is an incoherence and an inconsistency

in the place brand communication strategies, and therefore there should be increased attention on the development of these strategies.

Regarding the projection of the country internationally, Tomigová et al. (2016) conducted a study on the attractiveness of Portugal as a tourist destination for Czech people. The authors ascertained that, even though there is a weak promotion of Portugal as a tourist destination, the country is "viewed mainly as a sun-and-beach destination, surrounded by the Atlantic Ocean, and famous for its wine, especially from the area of Porto" (p. 207). Furthermore, Kuhzady and Ghasemi (2019), employing content analysis, analysed the projected destination image of Portugal on Instagram, discovering that the most common associations with the country "were related to nature-based activities (e.g., nature, river, beach, ocean, sea)" (p. 49).

Finally, Casais and Monteiro (2019) investigated Porto residents' involvement in the city brand co-creation and their perceptions of the city brand identity. The authors revealed that, although residents believe that the brand is consistent with their sense of place identity, they consider that the city brand strategy is focused more on attracting tourists, rather than enhancing citizens' place attachment.

The present study intends to contribute to the literature on city branding in Portugal, by analysing the most common associations and attributes connected with the city of Porto.

1.1.4 Porto City Brand

Porto, the second most important city of Portugal, has been an interesting case of success, especially regarding city branding. Tourism in the city has been increasing year-on-year and, due to its attractiveness, it has won several tourism awards, namely the Best European Destination in 2012, 2014 and 2017, by European Consumers Choice (Casais & Monteiro, 2019); World's Leading City Destination in 2022 and Europe's Leading City Break Destination in 2023, both

attributed in the World Travel Awards, the "Oscars of Tourism" (Porto., 2023b), among others. On top of that, the city has been "under increasing business investments, real estate inflation and building restoration, making the city branding strategy an alluring case study" (Rodrigues, 2019) (cited by (Casais & Monteiro, 2019, p. 232)).

The new city brand "Porto." was developed in 2014, in order to create not only a corporate identity for the City Council and its institutions, but also to develop a unique identity for the city. "The positioning of the city brand is stated with the dot after the word Porto. It comes as a form of affirmation that the brand is the city and not the city council" (Casais & Monteiro, 2019, p. 234). The brand and the lettering were created by a graphic designer and the city residents were able to participate and contribute to the logo development by suggesting city icons that represent the city's top sights and traces, such as buildings, landscapes, and symbols representing gastronomy, culture, and traditions (Casais & Monteiro, 2019; Duarte & Braga, 2022).

According to what was mentioned above, Porto can be associated with several elements that compose the city, whether they are tangible or intangible. The purpose of the present study is to discover what the main associations linked to Porto are and if they are in accordance with the city image the city managers aim to convey.

1.1.4.1 Porto's DMO

A destination management/marketing organisation is "the leading organizational entity which may encompass the various authorities, stakeholders and professionals and facilitates partnerships towards a collective destination vision" (UNWTO, 2019, p. 12). The governance structures of DMOs encompass single public authorities, public/private partnership models or even entirely private models, with the primary objective of starting, planning, and

administering specific activities, including strategic planning, creation and implementation of tourism policies, tourism product and business development, promotion, marketing and branding activities, among others. DMOs' functions can be national, regional or local, according to the needs and the degree of decentralisation of public administration (UNWTO, 2019). Hence, the projection of Porto, through cooperation, is managed by a group of DMOs: at national level, by Turismo de Portugal, I.P., at regional level, by Regional Entity, Tourism of Porto and North of Portugal, E.R., and by Porto and North Tourism Association, A.R - Porto Convention & Visitors Bureau, and at local level, by the City Council of Porto (Liberato et al., 2020). In this research, we will focus on the Department for Tourism and Internationalisation of Porto city brand, which, since 2022, manages Visit Porto social media.

Several research studies report DMOs' efforts in researching, developing, promoting, assessing, and sustaining destination image (Stepchenkova & Zhan, 2013). DMOs have thoroughly invested in the creation and promotion of their brand's image to appeal to travellers and create the impression that their place is the most appealing option for travelling (Peters et al., 2013; Stepchenkova & Li, 2014). Nevertheless, the growing popularity of social media implies that thoughts, experiences, and perceptions of places are shared through pictures and videos that are consumed worldwide (Iglesias-Sánchez et al., 2020). As a result, DMOs have lost some control over the development of destination images (Mata et al., 2018), which has been partially passed to users through social media platforms such as Instagram (Hanan & Putit, 2014). DMOs must be aware of the images that are popular on the internet and whether or not these images are in line with the information conveyed by the destination itself, in order to promote positive images and counteract the negative ones, if needed (Stepchenkova & Zhan, 2013).

The Visit Porto Instagram account has promoted Porto's city image mainly by reposting UGC pictures, which depict visitors' experiences in the city. These pictures have a particular focus on landscapes, historical and important buildings of the city, along with cultural aspects, for instance. Marine-Roig and Ferrer-Rosell (2018) mentioned that DMOs' positive and authentic content has an impact on travellers' destination choice, and on intention to visit a destination, as well as helps to shape the destination image. Therefore, more recently, Visit Porto has started to create more original and creative content, posting its own pictures, providing information about specific city districts, promoting local stores, and sharing guidelines for accommodation, sustainability or proper conduct. Accordingly, it is pertinent to discover what are the main Porto attributes disseminated through social media and understand if they are consistent with the main distinctive characteristics of the city that the DMO intends to convey.

Chapter 2
Methodology

2.1 Research Methods

This study is of exploratory nature and it intends to investigate the main associations related to Porto's city image on Instagram. Given that the collected data are composed by pictures, text, and an interview data, the research method chosen was a qualitative content analysis. As Krippendorf (1980, p. 9) referred, "the pursuit of content analysis is fundamentally empirical in orientation, exploratory, concerned with real phenomena, and predictive in intent". Therefore, this is the most pertinent method for this research. Content analysis is an appropriate method for investigating communication trends, through the interpretation of pictures and text, using quantitative and qualitative techniques (Hannam & Knox, 2005). Moreover, it is the most commonly employed method in tourism studies that explore visual images and city/destination image (Aramendia-Muneta et al., 2021; Kuhzady & Ghasemi, 2019; Mak, 2017; Stepchenkova & Zhan, 2013; Sun et al., 2021), and it is particularly effective for social media post analysis (Iglesias-Sánchez et al., 2020). By applying real-time, cost-effective analysis of the qualitative content posted on social media networks, it is possible to understand the type of content that users value and how it impacts other users, leading to the creation of co-constructed values (Choe et al., 2022). Kim and Stepchenkova (2015) mentioned that pictures are frequently subject to content analysis, since this enables a simultaneous analysis of the visible elements of pictures (i.e., manifest content), as well as of the further components incorporated into the message (i.e., latent content).

2.2 Data Collection

On Instagram, #Porto has more than 12 million posts associated (both pictures and videos). For the purpose of this research, 700 pictures associated with #Porto were collected during the month of December 2023. 700 was considered to be a relevant number of pictures to be analysed. All downloaded pictures were posted during the month of November 2023. November was selected since it is considered 'neutral', that is, there aren't any particular events or holidays that may promote the publication of pictures. The pictures were downloaded through the software 4K Stogram, along with their description and the corresponding URL, useful for tracing the pictures whenever needed.

In order to classify the visual content of the pictures and better analyse it, the pictures were associated to the categories proposed by Choi et al. (2007): 'Cultural events' (traditional events, exhibitions); 'Entertainment' (concerts); 'Fashion' (clothing and accessories, shopping centres); 'Historic buildings and heritage' (monuments, old buildings, works of art); 'Local cuisine and dining' (restaurants, food and drinks); 'Parks and gardens' (natural landscapes); 'People and local residents' (tourists and locals); 'Recreational activities and sports' (related to sports' teams, physical activities); 'Scenic view' (panoramic and scenery pictures); 'Tourism facilities and infrastructures' (hotels, touristic attractions, transportation facilities). After the coding of the pictures, we verified that there were only two pictures related to 'Entertainment' and that there was a relevant number of pictures portraying Street Art, paintings and painted tiles, for instance. Therefore, 'Entertainment' was combined with 'Cultural events' (thereby forming the new category 'Cultural events and entertainment') and 'Art' emerged as a new category. On top of that, similarly to Acuti et al. (2018), two new categories were created to classify pictures not related to the mentioned categories (Others I) and pictures not connected to Porto (Others II). In order to understand the relationship between categories, and to diminish bias by taking

into account the primary elements of the pictures, every picture was allocated to a maximum of three categories. This was performed through the qualitative data analysis software, NVivo.

Concerning the textual information, all the descriptions of pictures were downloaded, but only the associated hashtags were analysed. Hashtags are a form of metadata; hence, they represent a conceptualisation of the information uploaded and contribute to the perception of a place. They can also be considered a variety of user-generated content, as users make use of them to categorise posts (Nautiyal et al., 2022). On Instagram, hashtags are crucial for finding subjects and enhancing social interactions by tagging content with relevant hashtags. To show up in a public timeline search, users frequently post a lengthy list of hashtags. By using them, individuals may find others who share their interests, connect with other people, and collaboratively create new information (Gon, 2021). Thus, hashtags are used to connect with a wider audience interested in a picture's topic, which is indicated by a hyperlinked word that takes users to a public list of all Instagram posts sharing that content (Filieri et al., 2021). On top of that, hashtags can contribute to the online place image and identity creation, as they are employed to share diversified content about a specific city/destination (Iglesias-Sánchez et al., 2020) and engage the audience (Mohammadi et al., 2018). Therefore, a word frequency analysis was performed through NVivo, in order to explore the most frequent hashtags used to describe Porto.

Following this analysis, and in order to better understand the correlation between users' online city image and the image Porto's DMO aims to project, a semi-structured interview with the Director of the Municipal Department for Tourism and Internationalisation, Fátima Santos, who is in charge of the Visit Porto Instagram account, was conducted. Semi-structured interviews are considered more adaptable (Dane, 2010) and they can help the researcher gain a deeper understanding of the interviewee's perspective (Daymon & Holloway,

2002). The interview questions (Appendix B) were open-ended and designed by the author after completing the visual and textual analysis. These aimed to understand the importance of social media and UGC to the promotion of city image online, particularly the relevance of Instagram, the main attributes the DMO intends to promote online, and the relevance of a hashtag strategy to the projection of the city. The interview was conducted in March 2024, via videocall, and it lasted 45 minutes. It was recorded, following interviewee's permission, and transcribed.

Chapter 3
Results and Discussion

3.1 Visual Analysis

The 700 pictures associated with the hashtag #Porto were coded using the categorisation scheme outlined in the methodology section. As can be observed in the graph of Figure 1, the most depicted category was 'Historic buildings and heritage' (23.43 %), followed by 'Tourism facilities and infrastructures' (18 %) and 'People and local residents' (14.26 %). In turn, 'Parks and gardens' and 'Cultural events and entertainment' were the least represented categories, corresponding to 1.61 % and 1.53 % of the total number of pictures respectively. It can also be observed that pictures not related with Porto (Others II) were 15.20 % of the total. This category showed that there is a significant number of pictures being linked to Porto but not related to the city. The main posts in this category were associated with: the sale of cars in other cities of Portugal; the sale of football teams' equipment; Brazilian fashion brands selling their items through Instagram; pictures of other Portuguese cities or users posting pictures of their daily lives, their outfits and tagging many different cities, especially major ones such as Porto. This indicates that users may take advantage of Porto being a well-known city in an attempt to increase posts' localisation and searchability (Giannoulakis & Tsapatsoulis, 2017) and, therefore, engagement.

The fact that 'Historic buildings and heritage' and 'Tourism facilities and infrastructures' are the most depicted categories shows the importance of tourism, along with the numerous monuments and elements of the city's heritage to the creation of Porto's city image. Porto's architectural heritage blends historical buildings, such as the Cathedral and the Clérigos Tower or the São Bento train station, with contemporary ones such as the Serralves Museum and

Casa da Música (Lopes & Soares, 2017). These were some of the historical and heritage elements photographed and posted by users with #Porto on Instagram. By posting pictures with this content, users are enhancing the historical attributes of Porto and are promoting it as a city full of history and heritage. Therefore, they are likely to increase the interest of other users in visiting the city. Riza et al. (2012) claimed that emblematic buildings enable the development of an attractive and distinctive city image, which, in turn, promotes tourism and also improves locals' satisfaction.
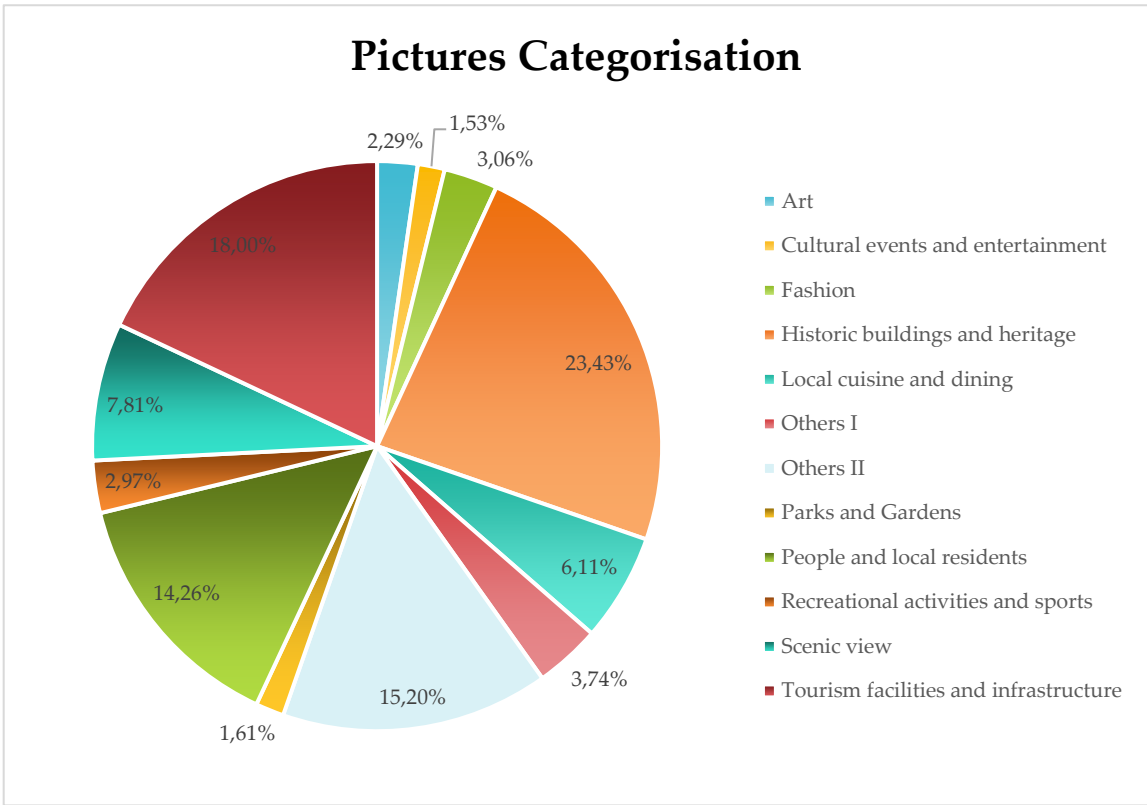
Figure 1: Graph indicating pictures' categorisation and the percentage of representation.

Source: Own Construction

The classification of the Historic Centre of Porto (since 2016, Historic Centre of Porto, Luiz I Bridge and Monastery of Serra do Pilar (Porto Vivo SRU, n.d.)) as a World Heritage Site by UNESCO in 1996 is of great relevance to the city and particularly significant for tourism and the projection of the city, since it is a determinant of visitors' attraction, principally those who have a particular enthusiasm for cultural destinations (Matos et al., 2015). This part of the city comprises an area of approximately 51 ha, incorporated in the Fernandina Wall (XIV century), which is demarcated by the Tower and Church of Clérigos and the bottom of Aliados Avenue in the north; the peripheral neighbourhoods of 31 de Janeiro Street, the National Theatre of S. João, Batalha Square and Luiz I Bridge in the east; Douro River and Monastery of Serra do Pilar (in the city of Vila Nova de Gaia) in the south, and Caminho Novo Stairs and Passeio das Virtudes in the west (Câmara Municipal do Porto, 2021) (Figure 2).

Figure 2: Historic Centre of Porto.

Source: Porto Vivo SRU

The UNESCO distinction, along with Porto European Capital of Culture in 2001, and the several international awards Porto has won confirmed the city's prominence as a cultural centre, enhancing its reputation abroad and inspiring a series of initiatives to protect and revitalise its cultural heritage (Ramires et al., 2018). Consequently, the historical and heritage attributes of Porto were enhanced and converted into a paramount aspect of the city's image.

On top of that, the relevance given to the most depicted attributes can also be justified by how "Instagrammable" the buildings and touristic infrastructures are, i.e., how interesting and attractive they are to be photographed and posted on Instagram ("Instagrammable", n.d.). Falk and Hagsten (2021) observed that large World Heritage Sites that were early-inscribed and that have a pronounced cultural heritage are posted on Instagram in greater numbers, as is the case of Porto. Additionally, many historical and touristic infrastructures are iconic and can be considered symbols of the city, for instance, the Luiz I Bridge, the City Hall, *Ribeira*, Lello Bookshop and the Carmo Churches' tiles, among others. Therefore, they are highly photographed and shared.

Moreover, 168 pictures were connected with 'People and local residents'. In these pictures, we are able to observe tourists' selfies (pictures where only one person appears, either taken with the front camera by whom is on it or taken by others) with city icons or while trying typical food and beverages, as well as pictures of anonymous people, whether sat down on restaurants' outdoor tables or simply walking by, and also group portraits. Many tourist pictures in front of 'obligatory attractions' seem to be motivated by the need to provide confirmation that they 'have been there' (Dinhopl & Gretzel, 2016). Galí and Donaire (2015) found out that pictures without people are more prevalent than those with people - particularly on European heritage destinations - while studying the perceived image of Barcelona, given that there were no tourists or residents around city's monuments in 70 % of the analysed pictures. However, the present

analysis demonstrates the opposite, corroborating the findings of Bakhshi et al. (2014) and showing that pictures portraying people also contribute to the online city image creation. Porto streets, especially those in the city centre (Figure 3), are frequently busy regardless of the month, making it more difficult not to spot other people when taking pictures of the city, either other visitors or locals.

Figure 3: Capela das Almas, located in Santa Catarina Street, in the City Centre, one of the busiest streets.
Source: Instagram
(https://www.instagram.com/p/C0Jm5FdMZ1x/?img_index=8)

Surprisingly, 'Local cuisine and dining' corresponds to approximately 6 % of the total. Since Porto is well-known for its typical and delectable dishes, which attract numerous visitors, it would be expected to observe more images depicting local cuisine, pastry and beverages, especially Port wine. This may be explained by the fact that, while eating or drinking, people are more interested in enjoying

the meal or the drink, rather than taking pictures of it. The pictures linked to this category depict typical food, such as *Francesinha*, the famous *Pastel de Nata* (cream custard tart), codfish, *rabanadas* (French toasts), and market food, as well as Asian food, haute cuisine dishes, and drinks (Figure 4).

Figure 4: Carousel of an example of pictures depicting food.

Source: Instagram
(https://www.instagram.com/p/CzHbaKTNYkE/?img_index=1)

On the other hand, 'Cultural events and entertainment' is the least represented category, possibly due to the fact that in November there are fewer cultural events and there aren't specific holiday periods (e.g., Christmas in December). Furthermore, very few pictures correspond to 'Parks and gardens'. This result is in line with Freitas, Sousa, Marques, Ribeiro, Yasar and Pires (2019) and Freitas, Sousa and Ramazanova (2021), who researched visitors' and residents' perception about the urban landscape in Porto respectively, and discovered that green spaces are the urban landscape dimension with more negative perceptions

(mainly regarding conservation and quality). Also, parks and gardens are usually a place of disconnection and, therefore, people may not feel the need to take pictures and post those moments. This may also provide an explanation for the relatively small number of pictures associated with this category. Although parks and gardens are being renovated, they are far from being the main city image association.

In order to determine relationships between categories, a matrix coding query was executed in NVivo, which enables the comprehensive study of the existent intersections between them (Table 1). 'Historic buildings and heritage' is the category with the greatest number of intersections. The only category with which it doesn't coexist is 'Recreational activities and sports'. This reinforces the relevance of this attribute to Porto's city image projection and perception, particularly as a city rich in history, culture and heritage. The majority of the intersections occur with 'Tourism facilities and infrastructures'. This is supported by the fact that, as referred by Gusman et al. (2019), 75 % of the touristic attractions are located in Porto's city centre (also known as *Baixa*), and 37 % of them are situated precisely in the Historic Centre, for instance, museums, monuments and churches, which makes it a place with prominent picturesque elements. In Porto's city centre, tradition and contemporaneity, tourism and locals' daily life coexist and it is possible to find centuries-old buildings and monuments, some that still serve the original purpose such as the Cathedral, or the Tower and Church of Clérigos, and others that have been reconstructed, revitalising this area of the city, such as dilapidated commerce buildings that were transformed into restaurants, bars (Ramires et al., 2018), art galleries, hotels and conceptual stores. Hence, in many pictures we are able to find this crossover (Figure 5). Furthermore, 'Historic buildings and heritage' intersects with 'People and local residents' on 101 pictures, since most pictures portraying people are taken in front of, or at, historic elements, where people pass by or stop. It

demonstrates that Porto is a city to be explored by foot, for people to visit the monuments, learn more about the city's history and heritage, and experience the traditions and customs (Ramires et al., 2018). Nonetheless, among the analysed images, it was not possible to find one portraying the local citizens' hospitality, a characteristic that is highlighted by visitors in general and that was also recognised by Condé Nast Traveller's readers (Porto., 2023a). Finally, the relevance of the intersection between 'Historic buildings and heritage' and 'Scenic view' should also be noted. Most of the pictures associated with these specific categories portray the *Ribeira* neighbourhood, part of the Historic Centre. *Ribeira* can be considered the postcard of Porto, as it is one of the most iconic areas of the city, full of colourful narrow buildings, *Rabelo* boats (formerly used to transport Port wine), white sunshades and people. The pictures were taken from different perspectives, either from the top of Luiz I Bridge, Vila Nova de Gaia's waterfront or from the Serra do Pilar Monastery. Depending on the perspective, it is possible to observe the different elements of the landscape that compose the rich heritage of Porto. The scenic view pictures enhance the architecture of the city and constitute a powerful factor of visitors' attraction. Therefore, the combination of these two categories appears to be an effective strategy for promoting the city's image online.

	A	B	C	D	E	F	G	H	I	J
A	—									
B	0	—								
C	0	1	—							
D	6	10	1	—						
E	0	0	0	30	—					
F	0	0	0	2	0	—				
G	4	0	5	101	13	5	—			
H	0	1	0	0	0	1	12	—		
I	0	0	0	66	0	3	25	1	—	
J	0	9	3	171	18	1	68	0	56	—

Table 1: Matrix coding query showing the intersections between categories. A: Art; B: Cultural events and entertainment; C: Fashion; D: Historic buildings and heritage; E: Local cuisine and dining; F: Parks and gardens; G: People and local residents; H: Recreational activities and sports; I: Scenic view; J: Tourism facilities and infrastructures.

Source: NVivo

Figure 5: Cathedral and Tower of Clérigos.

Source: Instagram (https://www.instagram.com/p/CzLaBpHs0we/)

(https://www.instagram.com/p/Cz9LedduoVc/?img_index=1)

3.2 Textual Analysis

In order to perform the textual analysis, a word frequency list was created containing the most frequent hashtags associated with #Porto and with the different categories (Table 2). The 100 most recurrent words were downloaded; however, given that there were similar words (e.g., #travel and #travels), only the 30 most frequent words were considered (Appendix A). The results demonstrate that #portugal was the most used hashtag in posts related with #Porto. The use of #portugal is related to an evident characteristic: Portugal is where Porto is located. It may have been used to obtain more visualisations and engagement, since it is a very popular hashtag (it has more than 51 million posts associated with it). This finding was also observed by Acuti et al. (2018), who verified that the predominant hashtags associated with London and Florence pictures were #uk and #italy respectively, i.e., the country where these cities are located. #portugal had the highest percentage in all categories, except in 'Art', in which #bnw predominated, given that Street Art pieces were photographed and posted in black and white colours. It is necessary to look further down the list in order to identify words from which we can derive meaning and which reveal the perception of the city's image. These are #visitporto, #travel, #amar (to love), #travelphotography and #architecture (4th, 5th, 6th, 7th and 11th positions respectively). This demonstrates that travelling is closely associated with Porto's city image on Instagram. Therefore, it is likely that the analysed pictures correspond to travellers' photographs, reinforcing the image of Porto as an "in vogue" destination. This fact is confirmed by tourism numbers: the city registered approximately 6 million overnight stays in 2023, which accounts for a 21.9 % increase when compared with 2022 (Neves, 2024). Regarding #architecture, it represents a major attribute of a city's image, since each city's architectural elements make them unique and noticeable. In an era where cities compete with one another to be more than just a desirable location to visit, live

and work, they must also be rich in culture (Kotler & Gertner, 2002), which includes this attribute. Porto is well-known for its monuments, both historical and contemporary, and some have become the city's trademark (Rebelo et al., 2023). Thus, architecture constitutes a critical element of Porto's city image perception.

Categories/Ranking	1	2	3	4	5
Art	#bnw	#portugal	#streetart	#drawing	#travelsketch
Cultural events and entertainment	#portugal	#jam	#norte	#visitporto	#amar
Fashion	#portugal	#family	#freeentry	#handmade	#mercado
Historic buildings and heritage	#portugal	#bnw	#amar	#travel	#visitporto
Local cuisine and dining	#portugal	#portofood	#foodie	#fashion	#delicious
Parks and gardens	#portugal	#248km	#caminodesantiago	#caminoportugues	#portoportugal
People and local residents	#portugal	#bnw	#travel	#fashion	#visitporto
Recreational activities and sports	#portugal	#championsleague	#fcporto	#1893	#football
Scenic view	#portugal	#bnw	#amar	#europe	#travel
Tourism facilities and infrastructures	#portugal	#bnw	#amar	#visitporto	#travel
Total combined	#portugal	#bnw	#visitportugal	#visitporto	#travel

Table 2: Most frequent hashtags. Due to space limitation, only the 5 most frequent words were presented, for illustrative purpose.

Source: Own Construction

Analysing the hashtag frequency per category, it can be verified that the hashtags of the posts related to 'Historic buildings and heritage' and 'Tourism facilities and infrastructures' - which were the predominant categories regarding visual information – are not closely connected to them. Hashtags containing the names of important buildings, monuments and heritage elements were not observed. On the contrary, more general hashtags were utilised, which don't reveal any specific characteristic of the history, heritage and tourism facilities of

Porto. This may be due to the fact that, when travelling, we frequently look forward to visiting and photographing a city's main attractions and landmarks rather than worrying about learning more about them. Another reason might be that users include the name of the attractions in the description, but exclude it from the hashtags, opting instead to use more generic hashtags (Figure 6). Additionally, it is noteworthy that #fashion was ranked in the top 10 of four categories, denoting some importance given to this attribute in relation to the city image. The posts containing this hashtag were principally portraying users' outfits while posing in front of historical buildings or touristic infrastructures. Therefore, although Porto is still not perceived as a fashion capital (like London or Paris, for instance), these findings suggest that its architecture and landscape provide a visually appealing backdrop that enhances the aesthetic appeal of outfit photoshoots, with potential to attract, for example, fashion-oriented digital influencers.
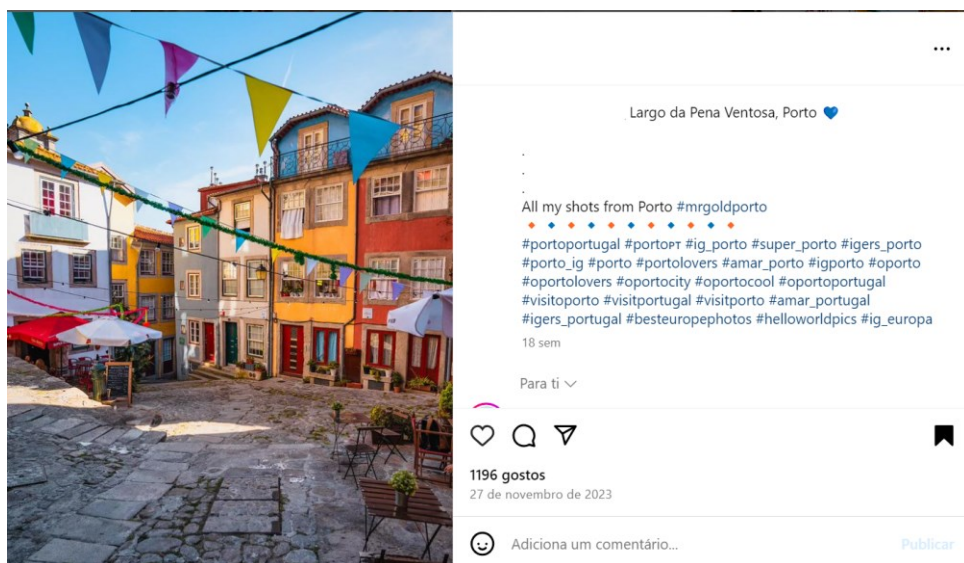
Figure 6: Example of a post.

Source: Instagram (https://www.instagram.com/p/C0KNGPfMGby/)

Moreover, although 'Parks and gardens' was not very prevalent in the visual analysis, it should be noted that the high-ranked hashtags in this category are linked to the Way of Saint James. Porto is the second city from which most pilgrims depart (after Valença), and the Portuguese Ways (Central and Coastal) were the second most travelled ones, according to official data from 2022 (Observador, 2023). This confirms the importance of Porto to the Way of Saint James and as point-of-interest to cultural, religious and spiritual tourism. Likewise, it is noteworthy that the most employed hashtags in the posts related to 'Recreational activities and sports' were connected to FC Porto, the city's most famous football team. Visits to FC Porto stadium or the museum and match attendance are some of the reasons why many visitors extend their stay (Liberato et al., 2021), evidencing that the team is highly connected to the cultural and social identity of the city (Freitas et al., 2019), which is also perceived by users.

3.3 Analysis of The Interview

The city and its principal attractions have gained widespread attention from the media and social media platforms, transforming them into something worth exploring and sharing. Porto's notoriety and global recognition have increased to the point that it is now a worldwide trending topic. This led to a need to reposition the city and consolidate its prestige, by implementing a new communication strategy, establishing new interactive channels and revitalising the city's narratives. Therefore, in 2023, Visit Porto renewed its image in order to present the new positioning of the city, with the objectives of organising the touristic offer and diversifying it, dispersing the touristic flow to different points of interest, and starting to manage distinct publics (Câmara Municipal do Porto, 2024).

Fátima Santos recognised the relevance of a social media strategy for the promotion of Porto. Through social media platforms, particularly Visit Porto

profiles, the Tourism and Internationalisation Department intends to show a city that is much more than the Historic Centre. This is achievable with the development of a mapping of the city and the promotion of diverse itineraries. The mapping will enable content creation and the alignment of the information conveyed through social media networks. Accordingly, Instagram is the platform of reference at the moment, where the major efforts and investments are concentrated. In a visually appealing way, it enables the portrayal of curiosities about the city, new and trendy places to visit, and diverse suggestions to follow. In essence, it facilitates the new positioning process and the projection of the city as a "contemporary, cool and trendy city" (Fátima Santos, 26 March 2024). Regarding UGC, Fátima Santos mentioned that the repost of pictures, a strategy used in the past, brought more engagement, but the pictures portrayed mainly the most touristic places, such as the Historic Centre. Recently, they felt the need to adapt their approach, investing in original content instead of reposting pictures, and showing hidden parts of Porto, different districts that visitors and locals can discover, activities to do, the traditions of the city and the country, among other aspects. The present challenge is to build new city identities, and instil new images of Porto in visitors' minds, so that users start posting about the currently not-so-visited areas of the city, such as São Roque Park or the Botanical Garden. Hence, users' pictures may be reposted again in the future, when UGC is not so focused on the Historic Centre, but is more diversified and in line with the current approach.

Concerning the city attributes they intend to convey the most, Fátima Santos emphasised particularly gastronomy and wine tourism, two attributes that are considered strategic for Porto, and also for Portugal. This is accomplished by posting restaurant suggestions, curiosities about typical dishes and recommendations of gastronomic events. These attributes are combined with the promotion of *Bolhão*, the city's historical market, where gastronomy, wine, and

local products are concentrated. Therefore, *Bolhão* may become a great point of interest, especially for Gastronomy Tourism, which is an interesting segment for Visit Porto managers. The findings of the pictorial analysis showed that 'Local cuisine and dining' was the 5th most portrayed category. However, the promotion of Gastronomy Tourism, something in which Porto is rich, will certainly invite people to post more about their gastronomic experiences.

The fact that 'Historic buildings and heritage' was the most depicted attribute wasn't a surprise and Fátima Santos confirmed that Porto is still seen mainly as a historic city. Likewise, when visitors come, they tend to stay only in the *Baixa* district. As this is a top-of-mind attribute of Porto, Visit Porto is not so concerned about promoting it. Instead, they intend to show the city as a whole, fostering other touristic segments, such as Literary or Nature Tourism, so that these also become top-of-mind associations with Porto. This strategy demonstrates that the DMO is concerned about visitors getting to know all the facets of Porto and having an immersive experience, in order to improve the quality of the city experience, extend the stays and encourage repeated visits (Câmara Municipal do Porto, 2024).

In turn, when shown that 'Parks and gardens' was one of the least represented categories, Fátima Santos agreed that this attribute is not effectively communicated; therefore, people are not guided to the parks and gardens of the city. She stressed the importance of parks to the sustainability of the city, in both the stricter and broader sense of the word. Other issues that may not take people to parks and gardens are the lack of accessibility of some of them and lack of information in other languages. Nevertheless, Visit Porto managers intend to strengthen the communication and promotion of the city's parks and gardens, together with hotel establishments, so that they become a more valued attribute by visitors and also residents.

Finally, regarding hashtags' usage and their relevance to the promotion of Porto's image, Fátima Santos revealed that, until now, hashtags have not been explored, and there is not a hashtag strategy to promote the content creation about the city. Currently, only general hashtags, such as #visitporto and #visitportugal are employed. A hashtag strategy could be useful to persuade people to post about different places to discover, such as the city's gardens, beaches, and the cultural and artistic districts. By encouraging users to employ, for example, #PortoParks, #PortoGardens, #PortoBeaches, the city managers may stimulate the posting of more pictures of these places, and attract the target visitors. Thus, the new city narratives would be co-created, generating greater value to the city and its tourism strategy.

In summary, through the analysis of pictures and hashtags linked with #Porto, we conclude that Porto's city image on Instagram is mainly associated with historic buildings and heritage - according to the visual information - and with travelling - according to the textual information. Firstly, we confirmed that the visual information is more specific and provides more accurate outcomes, since we are able to clearly observe what is portrayed in users' pictures, for instance, elements of the history and heritage of Porto. On the other hand, hashtags may not precisely indicate what is portrayed or may be broad, for example, #portugal and #bnw. Secondly, the textual analysis reveals that a new category is likely to emerge, i.e., travelling, given that the higher-ranked hashtags were related to it. Although these two categories are distinct, they complement each other, since while travelling, people take pictures, especially of historical, architectural and heritage elements, and post them. Thirdly, regarding the relationship between attributes, we conclude that 'Historic buildings and heritage' is the category with most intersections, revealing that this attribute is almost intrinsic to the city, and it naturally blends with other attributes. Finally, comparing the findings with the information obtained in the interview, we conclude that Porto's DMO is

currently concerned about diversifying the city image of Porto, so that the city starts being associated, first and foremost, with other attributes rather than the historical one. This may be beneficial, as it will enable the reduction of the touristic pressure in the *Baixa* district, and the exploration of the potential of other areas of the city (Câmara Municipal do Porto, 2024). On top of that, this is likely to increase Porto's competitiveness, attracting distinct publics to visit, stay longer, and return, along with generating value for residents as well, with the stimulation of the local economy.

Chapter 4
Conclusion

4.1 Summary and Implications

City branding has been considered a paramount asset in recent years, as it enables the promotion of cities' intangible and tangible attributes, in order to attract international visitors, companies, investors, and qualified employees (Gilboa et al., 2015). Accordingly, cities project their identity, that is, what will differentiate them from other cities, in terms of services, activities and attributes they can offer to its audience. Consequently, the city image constitutes the way the city's identity is perceived by the audience. Hence, it is of relevant interest to city brand managers to promote city's attributes in order to foster a positive city image among visitors, investors and residents.

Through the use of social media, it is easier to project the city image online, and reach a wider audience internationally. Furthermore, social media enables users to participate in the city image creation, by posting pictures, videos and hashtags about a particular place. Since 2014, Porto has been developing a strong city brand, being committed to creating an image of an iconic and unique city, highly connected to its numerous attributes. Therefore, it is pertinent to study Porto's perceived city image by online users.

The main objective of this research was to explore the Porto city image associations on social media, particularly on Instagram, in order to discover which is the attribute that users associate most with the city, through pictures and respective hashtags, as well as to find the existing relationships between attributes and derive meaning from them. Moreover, to complete the analysis, we tried to understand the connection between the projected image by Porto's DMO and the perceived image.

For this purpose, a thorough analysis of the literature on city branding and related subtopics was conducted. The main subjects addressed were city image and identity, especially their contribution to the city brand projection and perception. Furthermore, the relationship between city branding and social media was also studied, since social media platforms enable the city marketers to interact with users, and allow users to contribute to the city image building through content creation. Instagram is very relevant for the building and promotion of city image, as it enables the sharing of experiences through pictures and videos, along with brief and relevant text descriptions and hashtags, which can provide useful insights about cities. On top of that, it is one of the most used social media platforms and the favoured platform to post photos and videos. Furthermore, the studies on city branding in Portugal were also addressed, in order to demonstrate how the present research is able to contribute to the expansion of the literature about the topic in the country. Finally, as the study is focused on Porto, the Porto city brand was examined, as it is a successful case of a city brand that represents the city's identity with its singular characteristics and attributes, and which projected the city internationally. This projection is carried out by Porto's DMO, which was also addressed and analysed.

Moreover, a qualitative content analysis of 700 Instagram pictures and descriptive hashtags linked with #Porto was conducted. To perform the visual analysis, the pictures were associated with the categories proposed by Choi et al. (2007) and Acuti et al. (2018). The findings suggest that 'Historic buildings and heritage' is the attribute that Instagram users associate the most with Porto. Therefore, we concluded that users mainly value Porto's architectural and historical richness, as it is a city with centuries of history and important monuments. These results are in line with the past research on the main attributes of a city's image. Acuti et al. (2018) discovered that London and Florence, more than being considered fashion capitals, are primarily perceived as cities with

history and rich in heritage. Likewise, Filieri et al. (2021) observed that the most significant destination attributes that inspire Instagram users to share their love for London are its natural and architectural attributes. Finally, Galí and Donaire (2015) studied tourists' perceived image of Barcelona using content analysis and discovered that the majority of pictures portrayed monuments or architectural elements of the city, especially the most famous ones. Therefore, it is possible to conclude that cities with a strong historical identity tend to be perceived by online users in this way. Hence, while residing in, or visiting a city such as Porto, users tend to post more pictures about the historical and heritage elements of the city, as observed.

Additionally, a matrix coding query was performed in order to explore the relationship between attributes. We observed that 'Historic buildings and heritage' and 'Tourism facilities and infrastructures' have proven to be the categories with the strongest correlation, given that a great number of touristic attractions and facilities are located in the Centre of Porto, particularly, in the Historic Centre, a World Heritage Site, which is revealed to be a major component of Porto's city image perception.

In addition to this, a word frequency list was created in order to discover the most used hashtags to promote Porto's image. We observed that the most employed hashtag was #portugal, but it doesn't provide useful insights about the city's image, since it is used in pictures with numerous different aspects about Portugal. Nevertheless, the results suggest that hashtags related with travelling, such as #visitporto, #travel or #travelphotography are predominant. Thus, Porto is also highly perceived as a touristic destination, confirming the growing tendency of Porto tourism numbers and the frequent attribution of Travel and Tourism awards.

Finally, an interview to the manager of Porto's DMO was conducted. It allowed us to understand the current objectives and strategies to promote Porto's

image, and to analyse the similarities and differences between them and the current perceived city image. We concluded that the fact that users still associate Porto primarily with a historic city has been advantageous so far. However, it also presents some challenges, such as the high concentration of tourism in a single area of the city and the undervaluation of other areas, which are also observable in the visual analysis. The change in Visit Porto content creation is an important step towards the building of a broader city image, that is much more than the Historic Centre. Naturally, both visitors and locals will explore different areas and post more about them. Accordingly, a hashtag strategy was proposed, in order to foster UGC about the new itineraries and city districts being projected.

Concerning the implications of this research, it may have a valuable contribution to the city branding, especially city image, literature in Portugal. Although Porto's image and city brand have been addressed in previous studies (Braga et al., 2022; Casais & Monteiro, 2019; Liberato et al., 2021; Rebelo et al., 2023), the main online image associations have not been studied. In addition, the present research enhances the relevance of studying the influence of UGC and social media platforms on the city image perception. Users' posts about a city are a valuable asset in understanding how the city is experienced and shared, which aspects are more valued, and which require a greater attention from the city brand managers. Thus, social media constitutes an accelerator of the place brand identity and image creation, promoting the sharing of the mental picture people have of a place (Acuti et al., 2018). Furthermore, in the context of Porto's city branding and image, this is the first study employing content analysis as the research method, as opposed to the frequently used method of case study. Content analysis reveals itself to be an effective research method when pictures and brief texts are the object of analysis. Regarding city image research, most of the papers employ pictorial (Galí & Donaire, 2015; Kuhzady & Ghasemi, 2019; Stepchenkova & Zhan, 2013) or textual analysis (Gon, 2021; Költringer &

Dickinger, 2015; Nautiyal et al., 2022), but the application of both has proven to be a holistic method for the comprehension of online city image, both projected and perceived (Acuti et al., 2018; Choi et al., 2007; Mak, 2017). This research allowed us to discover that the visual analysis results are not aligned with the textual analysis ones; however, they do complement each other.

Regarding managerial implications, we believe that the findings of the present research may be useful for Porto's DMO, as they enable a better comprehension of whether the city image they intend to project is being acknowledged by the audience. Moreover, DMOs can take advantage of the research method employed, in order to monitor the content that is being posted about the city. Hence, this research may provide useful insights about what is most and least appreciated by locals and visitors. It may also help to discover content creators who have high levels of engagement, with whom the DMOs can collaborate to produce content about the city. Finally, touristic operators may also take valuable information and adjust their offers to what the target audience most desires to visit.

4.2 Limitations and Future Research

This research presents some limitations. Firstly, content analysis is exploratory in its essence, which involves subjective appraisals (Choi et al., 2007). Secondly, the number of analysed pictures and the fact that only the month of November was considered may present some generalisability issues. Thus, in future research, a broader sample should be contemplated, as well as a longer period of time, in order to verify if the findings are consistent, and if other attributes are more prominently represented. Thirdly, concerning the textual analysis, in the present research only the hashtags were analysed. Nevertheless, we consider that the analysis of the full descriptions may also provide valuable insights about the city image perception, especially its affective dimension, since users use

descriptions to share their experiences. Additionally, the findings revealed that a new category was found, i.e. travelling. Therefore, in future investigation, 'Travelling' may be considered as an attribute, and be further explored. Finally, this study only addresses Instagram, where 62% of users are aged between 18-34 years (Dixon, 2024b). Future studies may consider other social media platforms used by other age groups, such as Facebook, X or Tik Tok, in order to compare the findings of each network and gain a broader understanding of Porto's online city image.

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Appendix A – Hashtags' rankings

Ranking	Hashtag
1	#portugal
2	#bnw
3	#visitportugal
4	#visitporto
5	#travel
6	#amar
7	#travelphotography
8	#instagood
9	#europe
10	#photography
11	#architecture
12	#love
13	#photooftheday
14	#sintra
15	#trip
16	#sunset
17	#art
18	#super
19	#travelgram
20	#beautiful
21	#picoftheday
22	#algarve
23	#car
24	#igersportugal
25	#landscape
26	#photo
27	#summer
28	#nature
29	#valongo
30	#wanderlust

Table A.1: Most frequent hashtags. Total combined.

Source: NVivo Output

Ranking	Hashtag
1	#bnw
2	#portugal
3	#streetart
4	#drawing
5	#travelsketch
6	#vilanovadegaia
7	#aquarelle
8	#art
9	#arteurbana
10	#bnwphotographer
11	#global
12	#graffiti
13	#illust
14	#illustration
15	#inkandwatercolor
16	#lineandwash
17	#moments
18	#mrdheo
19	#muralart
20	#pleinair
21	#pleinairwatercolor
22	#portotravel
23	#sketch
24	#streetphotography
25	#traveldiary
26	#travelphotography
27	#urbansketchers
28	#visitportugal
29	#watercolorpainting
30	#yunidraw

Table A.2: Most frequent hashtags. Category: Art.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#jam
3	#norte
4	#visitporto
5	#amar
6	#baixo
7	#bar
8	#bass
9	#bateria
10	#bestofportogallery
11	#braga
12	#capture
13	#clerigoschurch
14	#dezembronosclerigos
15	#djvibe
16	#drums
17	#eventocultural
18	#experiênciaimersiva
19	#explorar
20	#familia
21	#fashionmadeinportugal
22	#freeentry
23	#fromportugalwithlove
24	#funporto
25	#furnasdaalfandegadoporto
26	#gottalent
27	#gottalentportugal
28	#guitar
29	#guitarist
30	#handmade

Table A.3: Most frequent hashtags.
Category: Cultural events and entertainment.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#familia
3	#freeentry
4	#handmade
5	#mercado
6	#ohanamarket
7	#streetmarkets
8	#visitporto
9	#brandsprom
10	#desconto
11	#europe
12	#fashion
13	#lisboa
14	#lowcost
15	#night
16	#pfw
17	#portugalfashion
18	#roupademarca
19	#roupahomem
20	#saldos
21	#sea
22	#sunset
23	#aestheticporto
24	#architecture
25	#art
26	#autumn
27	#autumnoutfit
28	#beautiful
29	#bestintravel
30	#bestofporto

Table A.4: Most frequent hashtags. Category: Fashion.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#bnw
3	#amar
4	#travel
5	#visitporto
6	#visitportugal
7	#europe
8	#super
9	#fashion
10	#travelphotography
11	#igers
12	#ig
13	#bestcitiesofeurope
14	#oportolovers
15	#portugaltravel
16	#explorar
17	#streetphotography
18	#europa
19	#capture
20	#loves
21	#portugaldenorte
22	#raw
23	#beauty
24	#sunset
25	#lisbon
26	#meuportosecreto
27	#oportoportugal
28	#portolovers
29	#trip
30	#wonderful

Table A.5: Most frequent hashtags. Category: Historic buildings and heritage.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#portofood
3	#foodie
4	#fashion
5	#delicious
6	#foodgasm
7	#foodporn
8	#yummy
9	#travel
10	#delish
11	#food
12	#foodgram
13	#foodienyc
14	#foodinstagram
15	#goodeats
16	#nycfoodie
17	#portorestaurants
18	#portugalfood
19	#portuguesefood
20	#supportlocal
21	#supportlocalrestaurants
22	#traveleats
23	#travelfood
24	#viral
25	#yum
26	#love
27	#portoportugal
28	#trip
29	#visitporto
30	#europe

Table A.6: Most frequent hashtags.
Category: Local cuisine and dining.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#248km
3	#caminodesantiago
4	#caminoportugués
5	#portoportugal
6	#portugalroad
7	#santiagodecompostela
8	#santiagoportugalroad
9	#santiagoportugués
10	#sunset
11	#instagood
12	#photo
13	#photography
14	#photooftheday
15	#portolovers
16	#portugaltravel
17	#travelphotography
18	#aestheticporto
19	#aleatoriedades
20	#aleatorio
21	#amazingplace
22	#amazingshot
23	#bestintravel
24	#bestofporto
25	#bestview
26	#bestviewofporto
27	#city
28	#citykillerz
29	#cityphotography
30	#douro

Table A.7: Most frequent hashtags.
Category: Parks and gardens.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#bnw
3	#travel
4	#fashion
5	#visitporto
6	#europe
7	#visitportugal
8	#amar
9	#travelphotography
10	#love
11	#captures
12	#bw
13	#streetphotography
14	#trip
15	#portugaltravel
16	#fall
17	#journey
18	#wonderful
19	#bestcitiesofeurope
20	#europa
21	#europetravel
22	#eurotrip
23	#explorar
24	#fashionstyle
25	#gaytravel
26	#lisbon
27	#moments
28	#oportolovers
29	#peace
30	#photography

Table A.8: Most frequent hashtags. Category: People and local residents.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#championsleague
3	#fcporto
4	#1893
5	#football
6	#azulebranco
7	#europaleague
8	#ligabwin
9	#mehditaremi
10	#uefa
11	#borntowin
12	#contratudoecontratodos
13	#explore
14	#explorepage
15	#magicoporto
16	#marazul
17	#naçõesporto
18	#somosfortes
19	#somosporto
20	#espana
21	#estadiododragao
22	#ucl
23	#allies
24	#azulebrancoéocoração
25	#barcelona
26	#dragon
27	#dragonstogether
28	#fcp
29	#fcpjogajuntos
30	#fcportoallaround

Table A.9: Most frequent hashtags. Category: Recreational activities and sports.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#bnw
3	#amar
4	#europe
5	#travel
6	#visitporto
7	#visitportugal
8	#super
9	#sunset
10	#portolovers
11	#captures
12	#igers
13	#raw
14	#streetphotography
15	#travelphotography
16	#portugaltravel
17	#explorar
18	#ig
19	#riodouro
20	#pics
21	#europa
22	#lovers
23	#oportolovers
24	#photooftheday
25	#beautifuldestinations
26	#bestcitiesofeurope
27	#douro
28	#igersporto
29	#landscape
30	#lisbon

Table A.10: Most frequent hashtags.
Category: Scenic view.

Source: NVivo Output

Ranking	Hashtag
1	#portugal
2	#bnw
3	#amar
4	#visitporto
5	#europe
6	#travel
7	#visitportugal
8	#super
9	#fashion
10	#bestcitiesofeurope
11	#explorar
12	#ig
13	#portugaltraveling
14	#pics
15	#igers
16	#meuportosecreto
17	#portugaldenorte
18	#oportolovers
19	#photooftheday
20	#pix
21	#portugalunlimited
22	#streetphotography
23	#loves
24	#portopixel
25	#raw
26	#sapoviagens
27	#sharing
28	#topcanonpt
29	#travelphotography
30	#15aoburro

Table A.11: Most frequent hashtags. Category: Tourism facilities and infrastructures.

Source: NVivo Output

Appendix B – Interview Questions

1. What are your main responsibilities at Câmara Municipal Porto?

2. In relation to Porto. brand and Visit Porto online communication, what are your main functions?

3. How important is the creation of a social media strategy to promote the image of the city of Porto? Why?

4. Do you create different strategies for different social media platforms? If so, how relevant is Instagram?

5. How relevant is user-generated content to promote Porto's image online? Why?

6. What is the main element in relation to the image of Porto (e.g. historical elements or gastronomy) that Visit Porto intends to convey online, particularly through posts on Instagram?

7. Analysing the most recent posts on Instagram, it appears that there has been a change in the content published and that more original content is being published. Do you intend to create a "mix" between original content and user-generated content? If yes/no, why?

8. According to the visual analysis carried out on images published on Instagram with #Porto, the most represented category is "Historic buildings and heritage". Is the historical element of the city of Porto what Visit Porto most wants to convey? If yes, why? If not, how important is this for promoting the city's image online? Is there another aspect that is more relevant?

9. According to the textual analysis of the hashtags associated with the analysed publications, the most used were: #portugal, #bnw (black and white), #visitportugal, #visitporto, #travel. Do you consider that the use of

hashtags related to Porto, Portugal and traveling by users contributes to promoting the city's image online? For VisitPorto, is its use relevant? Why?

10. The least represented categories were 'Cultural events and entertainment' and 'Art'. Do you consider that these elements of the city image are not so promoted? Or are not so considered by people?

11. Would you like to add any questions regarding what was discussed?