

Wikipromotion?: The use of Wikipedia to spread the World Cultural Heritage in SpainL.

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ABSTRACT: The purpose of this study is the analysis of the potential of *Wikipedia* as a key tool for the dissemination of information (Pentzold et al 2017) on Unesco World Culture Heritage from a multilingual perspective. This study proposes a framework that allows us to identify in what way a Unesco World Heritage asset is well represented in *Wikipedia* to favour its dissemination.

Design and methodology– An empirical study was carried out on the *Wikipedia* entries relating to World Culture Heritage Assets identified by Unesco in Spain. Descriptive statistics were applied to describe structural differences. *Wikipedia* articles were researched taking into account aspects such as presence on the encyclopaedia, authority and accessibility

Finally this study sets out a checklist (García-Santiago & Olvera-Lobo, 2017), which allows the identification of how the image of the Cultural Heritage assets can be improved in *Wikipedia* and, as a result, benefit their spread and visibility. Besides, entries in the encyclopaedia in languages other than English could be rated. This framework facilitates the quick identification of those articles that show weaknesses or a lack of exploitation of resources available via *Wikipedia*, which permit a better dissemination of the information on the cultural asset or to be adapted to other thematic domains.

1 INTRODUCTION

The public tasks of Cultural Heritage Institutions cover amongst other issues the preservation, conservation and communicating Cultural Heritage (Dietrich & Pekel, 2012). And private sector cultural information is seen as having a high re-use value and the promotion and dissemination of Heritage contribute to the production of an increase in visits, and the local economy where it is located sees improvement. In Spain also, where economy is founded predominantly on tourism and cultural tourism too.

At an international level this is more intensified when the asset is declared as a World Heritage Asset by Unesco (United Nations Educational, Scientific and Cultural Organization) as, according to the criteria of this institution, this means it has “*outstanding universal value*” (Unesco, 1972).

The promotion of this type of Heritage is being carried out at an institutional level, via international bodies such as Unesco, and supranational projects such as Europeana, a collaboration between the national libraries of Europe. This also occurs at the level of such well-known projects as *Wikipedia*. This collaborative encyclopedia has become the most used reference information source (Mesgari et al., 2015). In the context of the Web 2.0 and after 15 years of existence, *Wikipedia* constitutes in itself a key resource for our digital Heritage (Pentzold et al 2017).

Interest in studying *Wikipedia* entries in languages different to English is growing, although still scarce (Lewoniewski & Węcel, 2017; Hara & Doney, 2015; Xu & Luo, 2011; Pfeil, Zaphiris, & Ang, 2006). Furthermore, it is the *Wikimedia Foundation* itself that is identifying the articles it considers have content that stands out in terms of quality and structure, as “Featured Articles” and “Good Articles” (Wikipedia, 2018).

“Featured Articles” are identified with a bronze star on the upper right corner of the page. These articles are considered as the best articles offered by *Wikipedia* (2018) by *Wikipedia* editors who are authors of other entries. The revised criteria (Wikipedia 2018) refer to content reliability, exactitude, thoroughness, depth, neutrality and style. The inclusion of multimedia files, where possible, is also favoured.

“Good Articles” are also quality articles, as the content has to be objective in terms of the topic involved, contain truthful and verifiable information, be exhaustive to a greater or lesser extent and be correctly structured and edited. In this case, the inclusion of images is desirable but not essential.

2 OBJECTIVE

The objective of this research is to analyse the potential of *Wikipedia* as an information dissemination tool, from a multilingual perspective, for World Cultural Heritage recognised by Unesco.

The specific objectives of the paper are:

- To analyse *Wikipedia* articles taking into account such aspects as the presence and date of cultural assets on the encyclopedia, their authority and their accessibility.
- To design a checklist and establish a ranking that allows us to identify in what way a Unesco World Heritage asset is well represented in *Wikipedia* to favour its dissemination.

3 METHODOLOGY

An empirical study was been carried out on *Wikipedia* entries that refer to assets located in Spain and identified by Unesco as World Cultural Heritage.

We started off by determining the presence on *Wikipedia* of these 45 assets and their articles. Firstly, we identified those that coincided with the denomination established by Unesco for the asset in question. Where this did not exist, we searched for those elements that comprised the denomination.

As a starting point, we took the entry in Spanish and applied descriptive statistical techniques to analyse the encyclopedia entries regarding:

- The authority of the institution that manages the cultural asset and which should appear in the external links section of the article. That is, the contents of the entry were analysed from the perspective of the authority of the information (Lucassen & Schraagen, 2010; Moturu & Liu, 2009).
- The age of the entry. Despite the fact that, with a general exploration, the last edit of any of the articles had a very recent date, we observed the initial date of edition.
- We also took into account the labels awarded by *Wikipedia*, “Featured Article” and “Good Article”, and which recognise the quality of the content included in the entry in this language. This new project within the *Wikipedia* community has come about as a response to the heterogeneity of content on *Wikipedia*, and also the quality of its entries. In this manner, the identification of entries to pass a series of quality criteria regarding content is facilitated.

We carried out a prior analysis on the three functional criteria on which our evaluation is based, namely: linguistic and translangual accessibility, localization information, and multimedia information.

Linguistic and translangual accessibility: We counted the number of languages it was possible to access the page in. We also analysed whether the content of the entries in the different languages implied a variation in their volume. To do this, we proceeded to manually categorize entries into:

- Main entry (in Spanish)
- Translation: where the entry has similar structure and content, and differences cannot be appreciated.
- Version: where there are important variations both in structure and content.
- Summary: where the information is minimal.

Localization information: Starting out from the fact it involves assets with a large touristic potential, we especially valued the use of geographic localization tools that allow dynamic localization on a map, increasing and reducing the field.

Multimedia information: We started out from the idea that audiovisual formats, which allow the Cultural and Natural Heritage to be shown as well as recreating it in the distant past, provide a large quantity of information and aid the understanding of specialised content. The use of these materials has been studied identifying the image files included in the article and the external links that refer to different resources such as Wikimedia Commons.

The checklist used in this study (García-Santiago & Olvera-Lobo, 2017) permits the evaluation, overall, of how the cultural assets are represented on *Wikipedia*, and identify those aspects that require strengthening to favour their dissemination and promotion. The proposed evaluation sheet allows the entries on the encyclopedia in languages other than English to be rated, and can be adapted and applied to other thematic fields

The theoretical framework facilitates the quick identification of those articles that show weaknesses or a lack of exploitation of resources available via *Wikipedia*, which permit a better dissemination of the information on cultural assets.

4 RESULTS

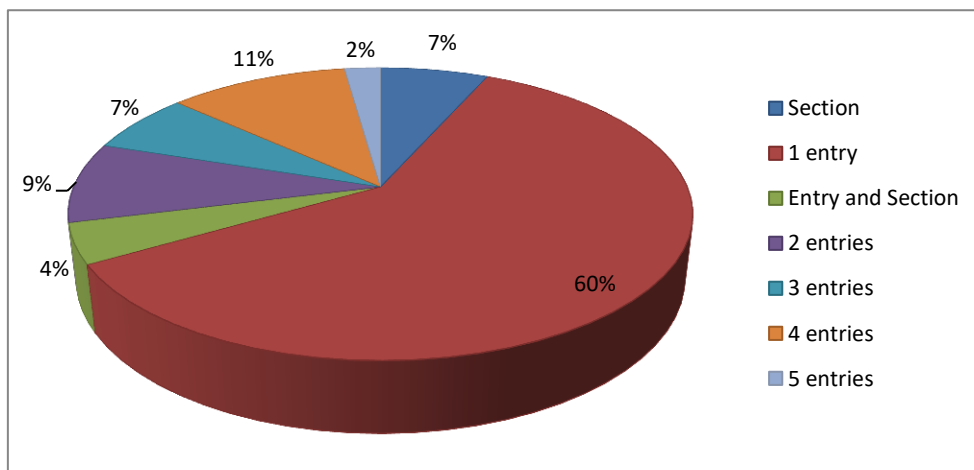
4.1 *Presence on Wikipedia*

During the checking stage for the presence of information on each of the assets for analysis, we found three types of cases: In 7%, the naming and information on the World Cultural Heritage asset was found in a section within an article that referred to a city (graphic 1). An example of this phenomenon is the case for the asset “Patrimonio del mercurio (Almadén and Idria)” where the corresponding information on the mines for this metal is found in the article on the town in Huelva. This entry was created in January 2005, before the inclusion of the mercury

mines as a World Cultural Heritage Asset. This could explain the fact that no independent article exists on *Wikipedia*

This 7% includes other entries created subsequent to the inclusion of the asset on the Unesco World Cultural Heritage (WCH) list, such as the one for “*Santiago de Compostela*” where the information relating to the World Cultural Heritage Asset “*Ciudad vieja de Santiago de Compostela*” (Old city of Santiago de Compostela) is found in a subsection of the article relating to the locality in Galicia. Another similar situation occurs with the old city of “*San Cristobal de La Laguna*”. In both cases, the information on the World Heritage Asset is found in an epigraph or subsection of the article corresponding to the locality.

But the most common phenomenon was, in 60% of cases, the name of the asset corresponding to a *Wikipedia* entry.



Graphic 1: Number of *Wikipedia* entries or sections in entries for each World Cultural Heritage Asset.

However, the third possibility occurred in 33%, where Unesco adjudicates a multiple denomination either with coordinating conjunctions or referring to Heritage sites that include the term “*Casco histórico*” (“Old Quarter”) or similar. For this situation, we proceeded to divide the denomination or the elements comprising it. As a result, we found that there were between two and five different *Wikipedia* articles for a single concession of a World Heritage Asset. The 4% corresponding to those cases that had one entry and one section for the denomination can be added to this percentage. This is what specifically occurs with the asset named “*Conjunto monumental renacentista de Úbeda y Baeza*”, whereas the information relating to the Cultural Heritage of Úbeda is found in a subsection included in the entry corresponding to the locality. Also in this situation was “*Ibiza, biodiversidad cultural*” with an entry called “*Parque Natural de Ses Salines*”, and a section in the entry that referred to the island of Ibiza. The result was that 76 *Wikipedia* entries were analysed for 45 assets.

4.1.1 AUTHORITY AND OFFICIAL NATURE OF THE ENTRY

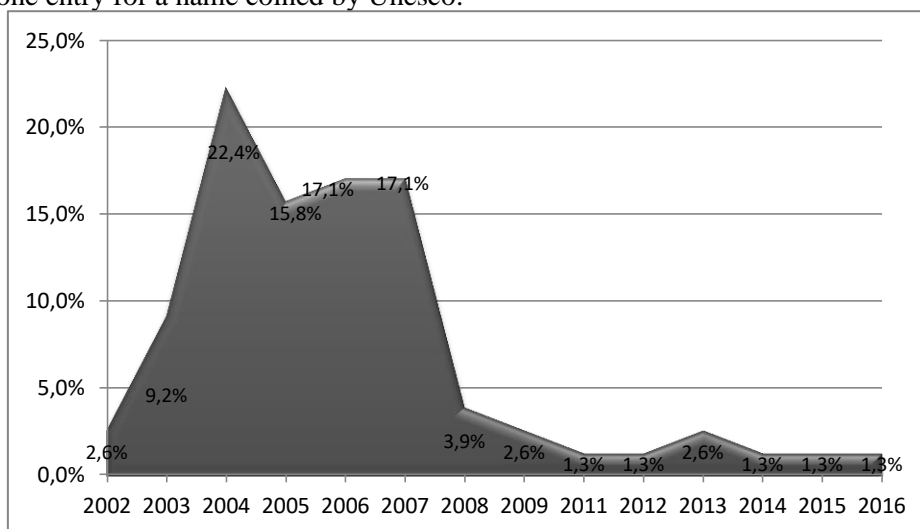
An explicit connection with the official bodies that manage each asset endorses the authority of the information gathered. To this end, we determined the existence of links to these official websites, as well as the quality of other links that pointed to different official bodies. In addition, over 60% reflected authority with links to the official web page of the World Heritage assets. The remaining 38% included those cases where no official website existed and, therefore, it was impossible to link to something non-existent.

1% of the graphic refers to those sections in *Wikipedia* articles that lack more specific external links, and where those included are those referring to the *Wikipedia* entry as a whole.

4.1.2 AGE OF THE ENTRY

The previous analysis allowed us to ascertain whether or not an asset was currently found on *Wikipedia*. To know from what moment it was present we analysed the entry creation date. This piece of information could be a factor to take into account regarding the quality of the structure, the up-to-date aspect and depth of the content.

Following an analysis of the data collected in the “Page information” section, attention can be drawn to the fact that 50% of the entries analysed had been on *Wikipedia* since before 2006. In December 2007, 84% of the articles were already present (graphic 2). This percentage includes at least one entry for a name coined by Unesco.



Graphic 2: Chronology of article creation by year

A mere four World Cultural or National Heritage assets were not yet on *Wikipedia* pre-2008 (table 1).

| Entries included on <i>Wikipedia</i> after 2008 | Year of inclusion on <i>Wikipedia</i> |
|--|---------------------------------------|
| Las Médulas (1997) | 22 July 2008 |
| Obras de Antoni Gaudí (1984, 2005) | 4 April 2009 |
| Universidad y barrio histórico de Alcalá de Henares (1998) | 30 January 2012 |
| Sitio de Dólmenes de Antequera Dolmens Site (julio 2016) | 28 March 2016 |

Table 1: World Heritage Assets included in *Wikipedia* after 2007

Despite content updates, updating of the external links of the articles are not always done. An example is found in the article on el Palmeral de Elche and the link to the 360° panoramic of it, and which is broken where the new URL to the resource dates from 15 November 2014.

4.1.3 CONTENT OF THE ENTRY

We discovered from the Spanish entry that 13% of the entries had, at least in one language, a category that makes them stand out in terms of quality. Half are entries denominated “Featured Articles”, and the other half were “Good Articles”.

The Featured Articles refer on the whole to entries in Catalan (80%), for which in 50% of cases the Spanish entry also achieved this category. Only in one case, 20% involved an entry in German (Table 2). This category represents the best entries - also images and other contributions - in *Wikipedia*. To achieve this status, articles are revised using demanding criteria relating to content and structure, thus serving as models to follow when providing a new entry.

| Unesco Denomination | URL Featured Article | Language |
|---------------------|----------------------|----------|
|---------------------|----------------------|----------|

| | | |
|--|---|--------------------|
| Catedral, Alcázar y Archivo de Indias de Sevilla (1987) | https://es.wikipedia.org/wiki/Catedral_de_Santa_Mar%C3%ADa_de_la_Sede_de_Sevilla | Spanish Catalan |
| Ciudad histórica de Toledo (1986) | https://es.wikipedia.org/wiki/Catedral_de_Santa_Mar%C3%ADa_de_Toledo | Spanish Catalan |
| Conjunto arqueológico de Tarragona (2000) | https://es.wikipedia.org/wiki/Tarraco | German Finnish |
| Palau de la Música Catalana y hospital de Sant Pau en Barcelona (1997) | https://es.wikipedia.org/wiki/Palacio_de_la_M%C3%BAsica_Catalana | Catalan |
| Palau de la Música Catalana y hospital de Sant Pau en Barcelona (1997) | https://es.wikipedia.org/wiki/Hospital_de_la_Santa_Cruz_y_San_Pablo | Catalan |

Table 2: Featured Articles, WCH assets and language

In addition, we identified the language of 8 entries considered “Good Articles”, and which corresponded to six cultural assets (17%). In this case, the languages in which these contents are expressed were: Finnish, German, Esperanto, Portuguese, Belarusian and Estonian (Table 3).

| Unesco Denomination | URL | Language and type of article |
|--|---|---|
| Alhambra, Generalife y Albaicín de Granada (1984, 1994) | https://es.wikipedia.org/wiki/Alhambra | Finnish: Recommended Article |
| Catedral de Burgos (1984) | https://es.wikipedia.org/wiki/Catedral_de_Burgos | German: Good Article |
| Ciudad vieja de Santiago de Compostela (1985) | https://es.wikipedia.org/wiki/Santiago_de_Compostela | Esperanto: Good Article |
| Ciudad vieja y acueducto de Segovia (1985) | https://es.wikipedia.org/wiki/Acueducto_de_Segovia | Finnish: Good article (Recommended article) |
| Conjunto arqueológico de Tarragona (2000) | https://es.wikipedia.org/wiki/Tarraco | Finnish: Recommended Article |
| Cueva de Altamira y arte rupestre paleolítico del norte de España (1985, 2008) | https://es.wikipedia.org/wiki/Cueva_de_Altamira | Portuguese: Good Article Spanish: Good Article Belarusian: Good Article Estonian: Good Article |

Table 3: Good Articles, WCH assets and language

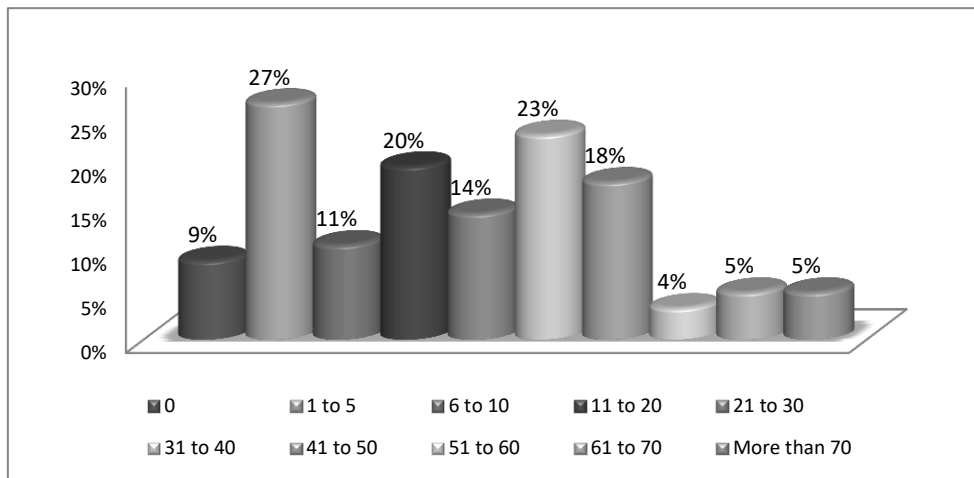
4.1.4 ACCESSIBILITY

The research was based on three types of accessibility: a) Linguistic, when we could compare the same entry in different languages. In this case we identified different types of articles depending on the content. b) Geographical accessibility or information about the geographical localization of the cultural asset; and c) multimedia accessibility if the article included any kind of audiovisual file or link to access it.

4.1.4.1 LINGUISTIC ACCESSIBILITY

9% of the articles were only available in one language without any translation. Furthermore, 8% only had one alternative language; that is to say that from the *Wikipedia* article on the cultural asset, there was only one link to another article on the same cultural asset in a single additional language. The remaining 83% had seen an increase, up to January 2018, in the number of languages in which *Wikipedia* articles on the same asset were edited. Graphic 3 shows the percentage of cases with more or fewer articles in other languages. The cases most worthy of a mention are those where you can find articles on the same cultural object in over 60 or 70 lan-

guages (e.g. https://es.wikipedia.org/wiki/Cueva_de_Altamira in 64 and <https://es.wikipedia.org/wiki/Alhambra> in 76 languages).



Graphic 3: Number of entries in other languages

We counted the number of entries in other languages from the Spanish entry, and revised the European languages with the most speakers in which the articles with a larger amount of information were found. As expected, the Spanish language contained articles with the greatest amount of information in 92%, compared to 4% of those found in English or German. Nevertheless, it should be taken into account that we could reduce this percentage by five points (92% - 5%) if we consider those articles prized by *Wikipedia* as more complete. Compared to the entries in Spanish which contained a large amount of information, 5% of Featured Articles and Good Articles were in German, Finnish and Portuguese.

We revised the entries manually to identify, generally or globally, similarities and differences in structure and content regarding the parting entry that was in Spanish. This set out the differentiation of the *Wikipedia* articles into three categories: Translation, Version and Summary.

We considered those entries with practically identical content in terms of structure and length as a *translation*. The majority language in these cases was French (37%) followed by English (29%) and Portuguese (12%). The remaining 20% was distributed between German (7%), Slovenian (5%), Armenian (2%), Asturian (2%) and Italian (2%). An example of translation into Slovenian is the article on *La Judería de Córdoba*, and in Slovenian in the case of the *Casa de los Caballeros y Oficios de Aranjuez*. 2% of entries are also in Spanish, some in the cases in which the more complete article was not in this language.

The *version* tag identifies differences in structure and/or content, with English being the common language in 49% of cases, followed by French (23%) and German (11%).

When *Wikipedia* articles are very brief, with a maximum of fewer than four sections, and content that is normally between one and four paragraphs, we have referred to it as a *summary*. The most prevalent languages in this type of article are also French, with 19%, and English, also with 19%. Other languages of articles coming under this category are German, Portuguese and Esperanto, all with a 10% representation.

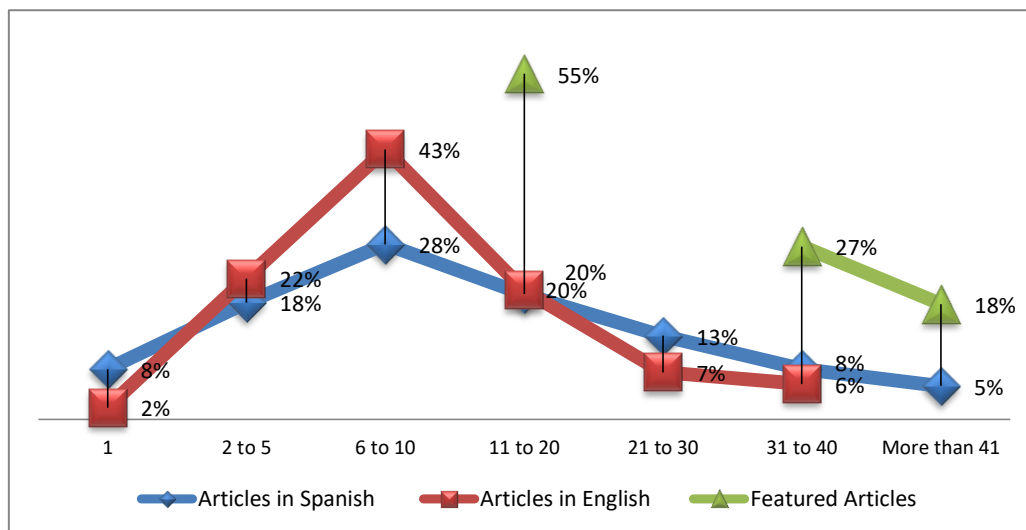
4.1.4.2 LOCALIZATION INFORMATION

On this point our aim was to identify the existing information in the article that facilitated geographical location, or provided content of a cartographical nature.

Just a 4% of the entries lack links to any kind of map or cartographic material. In more than half of the cases, the geographical information is included using *Wikimedia* service (58%) and the 38% external resource *Wikimapia*.

4.1.4.3 MULTIMEDIA INFORMATION

We started from the basis that modern cultural dissemination should be transmitted both textually and graphically, even more so in a reference and hypertextual information reference source such as *Wikipedia*, and integrated into a group of projects in different formats promoted by the *Wikimedia Foundation*. With this same thinking being one of the essential criteria for acquiring the category of *Featured Articles* it is precisely the inclusion of multimedia files like images, videos, audio and animations that illustrate the presented textual content (*Wikipedia:Featured_article_criteria*, 2018). Of the 76 cases analysed for entries in the Spanish language, 8% only included an image (graphic 4), on the right side of the page in the box corresponding to general information. This was normally a photograph of the asset (e.g. *Palacio Episcopal de Cuenca*) or a map to locate the town or area where it was to be found (only in the case of *Arte rupestre del arco mediterráneo de la península ibérica*).



Graphic 4: Number of images by article

The most employed graphic for articles in Spanish, in 85.5% cases, was the *Wikimedia* tool, which makes it possible to link to another project in the Foundation, and which stores multimedia files and photographs that are of enough interest for them to be consulted now and in the future. Other alternative graphics services used by 22% of the articles in our sample were related to visual access to the asset via webcams, 3D representations and satellite images, amongst others.

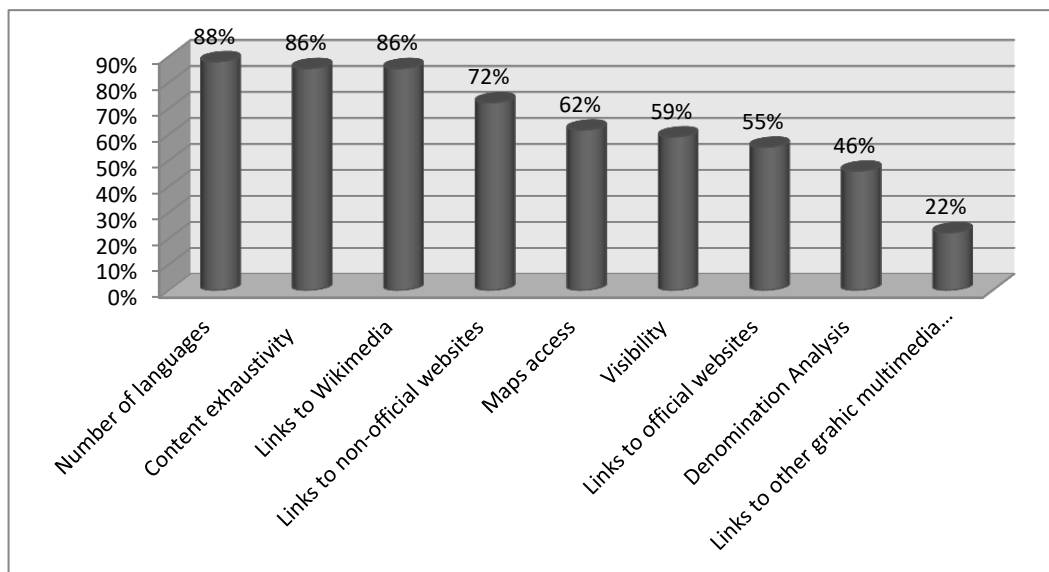
4.1.5 WIKIPEDIA CHECKLIST AND RANKING

The application of the checklist designed permits the obtaining of overall results of the assets included in the sample via the *Wikipedia* entries. The measurement proposed via this checklist was a number between 1 and 100. As explained in the methodology, the valued aspects take in those related to the presence and identification of the assets in the forms of entries, links to official pages and references to other links, and accessibility in terms of language, geography and graphics.

The items were rated, in general, with 1. There was an exception for the item that references the presence of the World Cultural Heritage asset on *Wikipedia*. In the event that the denomination and information were found in a section within an article referring to a city (e.g. *Minas de Almadén*) and it lacked its own complete article, we rated it with 0.5.

The questionnaire permits an identification of which indicators were found more frequently in the main entries relating to each asset analysed (graphic 5). This analysis allows us to determine the aspects that are currently of most interest to *Wikipedia* article authors and, thus, those that are rated as essential when disseminating this type of content. The two most noteworthy attributes are linguistic accessibility, both for the existence of content in more than one language

(88%) and the extensive and exhaustive information the *Wikipedia* entry contained (86%). Equally, attention can be drawn to the interest in the multimedia information via the *Wikimedia* service (86%).



Graphic 5: Presence of each indicator on the *Wikipedia* article analysed (%)

The list of ratings obtained following the calculation deriving from the information from the checklist shows that over half of the cases exceeded 63 points out of 100 (Average= 63.6 points and another 25% were between this figure and 87 points. The maximum score is 97.8, and corresponds to the article in Spanish referring to the *Monasterio de Yuso*, relating to the WCH denominated “*Monasterios de San Millán de Yuso y de Suso (1997)*”. The article with the second highest score refers to the *Catedral de Burgos (1984)* which, in its German version, was identified as a Good Article.

5 CONCLUSIONS

In this paper, we analysed and described the characteristics that could serve as a basis for a quantitative evaluation of the quality and capacity for dissemination of the *Wikipedia* articles based on criteria of content authority and accessibility.

The theoretical framework facilitates the quick identification of those articles that permit a better dissemination of the information on cultural assets. However, the analysis of presence, institution authority and content quality *Wikipedia* icons, are complementary variables to bear in mind.

Firstly, it is essential the *Wikipedia* presence of asset to be independent to make it possible to access it easily. It has been found that if no entry for the World Heritage asset itself exists, there is heterogeneity in terms of the quality and content of *Wikipedia* articles.

Secondly, a good updated is important in these entries. The age of the presence of the entry related to the creation date is very heterogeneous and confirms high reviser activity, given that the date of the last edit for any of the articles is very recent. However, although the general tendency is that time aids in the revision and correction of content, another aspect is that which goes into depth on the updating of the external links of the articles which, despite content updates, do not see maintenance of live URLs.

We have analysed three dimensions of accessibility in *Wikipedia* entries – language, geographic information and multimedia format. We can also deduce that the participation of more editors on *Wikipedia*, and a greater interest in Unesco-declared World Cultural Heritage have, in the last year, generated an increase in entries in more languages. Besides our analysis highlighted that Esperanto is a language that has a large presence on the *Wikipedia* project and, on occasions, the content of the article written in this language enjoys the recognition of the editors with

the Featured Article identification. The increase in articles in an ever greater number of languages, including Esperanto, could be due to a spirit of collaboration in order to create more and better awareness via this information source.

We confirmed the influence of the number of edits on the article quality given the coincidence in the obtaining of good scores via our checklist with the still scarce articles in Spanish awarded the category of Good or Featured Article, the existence of a correlation between this measurement that we propose in this study, and the criteria put forward by the *Wikipedia* revisers, should be determined.

The proposed checklist allows the entries on the encyclopedia in languages other than English to be rated, and can be adapted and applied to other thematic fields. It could also be a support tool when identifying the points that need reinforcing on *Wikipedia* entries to favour dissemination and promotion of cultural and natural World Heritage. Additionally, the ranking obtained from the checklist show us the top then articles have more than 90 from 100 points; and the 75% over 50 points.

A future line of research could include the analysis of external links to electronic documents as authorised sources overall. By way of example, this might be news items in the media referring to pieces of the Heritage asset itself.

We conclude, finally, by stating that the results obtained show potential and real use for *Wikipedia* as a tool for the Web 2.0 dissemination of information on Unesco World Heritage in countries with Spanish as their official language.

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