Reporting Recession in Online News Worldwide: Spain as a Test-case

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Abstract

This study measures the presence of Spain in online news worldwide as an example of the significance of economic news in a globalizing, interdependent environment. Employing the 'Global Salience Meter' based on a multilingual news-mining technique, Spain’s relative prominence was traced over 43 months in 35 leading news sites in 10 languages. Our findings reveal a growing online attention given to Spain, especially in the business section of European digital news outlets. Network analysis of country co-mentions finds that together with European countries, Spain is frequently mentioned together with the US and international organizations. This reflects the underlying regional and global economic structures and ties related to the European economic recession. More generally it points to the increasing connectedness of the world’s economies and the world’s online news reporting.

Keywords: International news; news mining; online media; globalization; economic crisis

I. Introduction

Economic news, like all other brands of news, is a chronicle of change. Changes in the local economy can be expected to be covered routinely by national media. But how national media respond to economic change abroad is anything but routine: What changes are selected for coverage and where, represent fluid and transient decisions. News rooms around the world make their selections from among changes that occur the world over separately, and on the fly.

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This study seeks patterns in the confluence of decisions reached by news outlets, as to the economic news from abroad that they see fit to report.

It does so by focusing on the international coverage of the news concerning a single country experiencing dramatic change in its economic conditions. We will observe the case of the international coverage of Spain and its unique economic plight in the recent global economic crisis.

I.1. The Economic Crisis in Spain

Spain has changed politically, economically and socially during the last thirty years. Until the economic crisis of 2008 it experienced a period of intense and sustained economical growth (Alonso & Furio, 2010). According to CountryRep’s ranking (2009), Spain was 10th among the world’s leading countries in terms of economic growth rate, even ahead of the US, notwithstanding its being regarded as a model welfare state. Since the 1980s the Spanish economy has experienced constant growth compared to other EU countries, and particularly its main members (Germany, France, UK and Italy). From 1985 to 2005 the per capita income gap has been reduced by 12 points. This process has been further intensified since 1999, as reflected in the growth of its GDP per capita.

The structure of the Spanish economy had changed due to internal and external factors such as the increasing population, employment and construction on the one hand, and the introduction of new global economic structures on the other.

However, towards the end of the decade growth slowed-down, and after the first trimester of 2009, the Spanish economy went into official recession. The changes that have accompanied the recession have been rapid: falling household consumption, construction, and unemployment that rose from 8% of the work force in 2007 to 17.9% in 2009. Notwithstanding the global nature of the crisis (Gore Spain dropped two places in the ranking of the World Bank’s World Development Report (2010), between 2008 and 2010. In Europe, only Ireland Greece and the UK registered higher government deficits as percentages of GDP in 2009 (14.3%, 13.6%, and 11.4% respectively) More generally, Spain together with Portugal, Ireland, and Greece experienced the hardest economic recession among European countries in recent crisis (World Bank, 2010).
Today Spain faces the challenge of resolving this crisis by changing its production model and reducing its dependency on real estate-driven development, and reforming its financial sector (Alonso & Furio, 2010, IMF, 2013).

These challenges are being faced within the broader context of a world reeling from its worst economic recession in nearly a century, a recession whose global reach was unprecedented (Gore, 2010; Reid et al., 2013).

I. 2. News about Spain

Major political and economic changes have always been reflected in the news. The growing scale of online information provides researchers with new possibilities for multi- and inter-disciplinary research of national and international conditions and their reflection in the media. This is demonstrated by previous studies based on the quantitative, even automated, analysis of a massive body of digital news, such as those by [Authors] on America’s changing place in world news and on the level of significance of the Israeli-Palestinian conflict in the news of the world (2010, 2013b). Such studies and their results are of interest to fields as diverse as policy, economy, culture, communication media and society.

Preceding [Authors’] series of digital-news studies, there were studies of the frequency in which countries appeared in the news of traditional mass media. Dearing and Rogers (1996) measured the number of news stories as an indicator of media attention and the popularity of certain issues (cf. Benton and Frazier, 1976; Golan and Wanta, 2001; Kiousis, 2004; Pritchard, 1986). Wu (2000) studied the frequency of news items mentioning different countries in the international section of newspapers from 38 countries. In a more recent study, Wu (2007) compared the prominence of countries in online news to their prominence in broadcast and print outlets (using CNN and New York Times sites respectively). His study, based on a survey of merely two weeks, indicated that there were no significant differences between online and traditional media in their scope of coverage. The volume of international trade and the presence of news agencies correspondents in a country were found to be the two best indicators of its online prominence.
While most previous studies examined the salience of countries in the news of traditional media, the present study will follow Wu’s example in examining online news worldwide. News websites have recently become a common way of acquiring news. A report by the Pew Research Center for People and Press revealed that 40% of Americans get their national and international news from the Internet (2008), and that share has steadily increased thereafter (Williams & Delli Carpini, 2011).

Similarly, Wurff and Lauf (2005) and Schifferes, Lusoli, and Ward (2009) showed a continuous growth in online news readership in Europe.

The increasing use of online news raises questions about their geopolitical perspective, which could affect the picture they depict, and consequently, at least to some extent, the public perceptions of the world we live in. While national and regional web-based news sites can be expected to be self-centered and highlight local and national issues, they also make choices that both reflect and effect geopolitical biases in their coverage of the rest of the world.

By mining digital materials it is possible to examine a dramatically longer period of time than in traditional studies of news content mentioned above, let alone surveying a much larger field of countries (Authors). Software tools developed by these authors allow a large-scale real time frequency analysis of countries selected in different topical categories of news sites, in a variety of languages, from around the world.

Our current analysis focuses on Spain’s prominence in the news reported from around the world. We chose looking at a critical period of almost four years between 2009 and 2012, reflecting the major economic changes in Europe (Authors, 2014).

The questions addressed in this paper are:

RQ 1. Has Spain become more prominent in world news during the crisis period?
RQ 2. What were the changes in Spain’s international environment during that period?

While these research questions are focused on Spain, the answers to them may suggest more general patterns that could be traced and analyzed with profit.
II. Methods

This study employed quantitative techniques in order to measure the level of Spain’s salience in world news. The data analyzed were collected from a variety of news sites in 12 different countries. These countries were selected on the basis of several considerations.

First, we chose besides Spain, other countries with a large number of online users, since they play a central role in the dissemination of news to smaller countries in their region (Tunstall, 2008). Applied to the Internet, this factor would reflect the popularity of the language used in the country. We ended up with the most popular online languages, including English, Chinese, Spanish, Japanese, French, German, and Arabic (Danet & Herring, 2007).

Second, we chose economically leading countries with high GDPs such as Japan, China, Germany, The UK, USA, and France. Since the Middle East is historically, politically and economically linked to Europe (Authors), we included news from key Middle Eastern countries: Egypt, Israel and Iran. Finally, when addressing the role of Spain, it is important to study countries to which Spain has varying degrees of relevance, spanning, for instance, France and Iran.

In each of the countries selected for analysis, three popular news sites were chosen for tracking. Two of them were the online sites of well-established traditional news media, such as the New York Times or the BBC. The third news source was the Google News site of each country, a news aggregator of several hundreds and sometimes thousands of popular country-specific news sources. In each news source five main topical categories were observed, including ‘top news’, ‘World news’, ‘Business and economy’, ‘technology’, and ‘Entertainment and culture’. These categories were chosen because they were common to all news sites, and thus enabled a cross-national comparison. Table 1 details countries, news sites, and categories observed. The data of each of the chosen news sites was sampled every other day over a period of three and a half years between 1 February 2009 and 30 September 2012 at 12.00 UTC, using data mining software specially developed for this study. In total, nearly 600,000 news items from 35 news sites were collected and analyzed.
Table 1. Countries, News Sites and Categories Studied

<table>
<thead>
<tr>
<th>Country</th>
<th>News Sites</th>
<th>Categories</th>
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</thead>
<tbody>
<tr>
<td>US</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<tr>
<td></td>
<td>CNN</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>NY Times</td>
<td>Top, world, business, technology, entertainment</td>
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<td>UK</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td>BBC</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>Guardian</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Israel</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Y net</td>
<td>Top, world, technology, entertainment</td>
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<td></td>
<td>Haaretz</td>
<td>Top, world, business</td>
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<tr>
<td>Germany</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>Bild</td>
<td>Top, all, technology, entertainment</td>
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<td></td>
<td>Spiegel</td>
<td>Top, world, business, technology, entertainment</td>
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<tr>
<td>France</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>Le Monde</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Le Figaro</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Spain</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>El Mundo</td>
<td>Top, world, business, entertainment</td>
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<td>El Pais</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Russia</td>
<td>Google News</td>
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<td>Gazeta</td>
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<td>Pravda</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Arabic</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>Al Jazeera</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Egypt</td>
<td>Al Ahram</td>
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<td>Al Masry Alyoum</td>
<td>Top, world, business, entertainment</td>
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<td>Iran</td>
<td>Press TV</td>
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<td>Aftab</td>
<td>Top, world, business, technology, entertainment</td>
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<tr>
<td>China</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>Sina</td>
<td>Top, world, business, technology, entertainment</td>
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<td></td>
<td>People Daily</td>
<td>Top, world, business, entertainment</td>
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<td>Japan</td>
<td>Google News</td>
<td>Top, world, business, technology, entertainment</td>
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<td>Top, world, business, technology</td>
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<td></td>
<td>Yomiuri</td>
<td>Top</td>
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<td></td>
<td>Yahoo</td>
<td>Top, world, business, technology, entertainment</td>
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The software identified the date of each news item, its title and content, the category of the article, the countries mentioned in it, and its source. We used the title of each news item and its content to extract the countries mentioned in it.

The countries mentioned in each news items were extracted automatically. For this purpose, we built a database of 195 country names in 10 different languages. Several native speaker research assistants were employed to translate country names into these languages.
For each country name, we asked the research assistants to provide all common names and alternatives names (e.g., “Unites States”, “USA”, and so on). They were then asked to omit all alternative country names that might be ambiguous and therefore yield irrelevant search results.

II.1. Country Salience Index

We used the proprietary software to automatically measure the number of news items mentioning each country in news sites of other countries. We could also focus on specific countries or categories. For example, we could obtain the number of news items in American news sites mentioning Madagascar, or the number of news items from the “Business” category in British news sites mentioning Congo. We designed a Salience Index (SI) to find how prominent a country is in the news sites of other countries. The SI of a country is defined as the percentage of news that mentioned it (not including items from its own news sites) out of all items that mentioned any country names (e.g., the percentage of news items mentioning the US in non-American news sites). The SI ranges from 0 to 100, 0 indicating that the country was not mentioned at all by news items of other countries, and 100 meaning that all news items of other countries mentioned the country. Definition 1 provides a simple formula for calculating the SI of a country:

Definition 1. Salience Index

\[ \text{SI of } i^* = \frac{\text{Number of news items that mentioned a certain country}}{\text{Number of all news items that mentioned any country}} \times 100 \]

\*i is country indicator. The SI of a country reflects Only news items from other countries and not news items from its own news sites.

II.2. Country Network Analysis

Network analysis displays the complex web of relationships between countries, and provides a framework for envisioning the world map that online news represents. We studied news items that mentioned two or more countries in the same item. For example, a New York Times news story, “Pointing to a New era, US Pulls Back as Iraqis Vote”, mentioned the US and Iraq in the same item (Rubin, 2009).
A cumulative International network emerges when countries are considered as nodes, and news items about them provide a descriptive map of the links between them (hereafter “news-links”; see also Authors). Constructing the cumulative relations between nodes as an International network may demonstrate the extent to which countries are mutually engaged and the overall structure of the International network. In addition, network analysis can serve to identify countries that are central, dominant hubs in the network vis-à-vis countries that are less connected and play a more marginal role. It should be noted that the analysis that follows is the representation of the International network as reflected by popular news sources rather than the actual economic relations between countries.

While the SI shows the relative frequency of the appearance of countries in the news, the network analysis focuses on the links between countries in news items. It charts the intensity of the bilateral relations between countries and the overall structure of the International network. It can indicate not only which countries appear more frequently in mainstream news, but also with which other countries they are frequently engaged, and what their position in relation to other countries is. It is quite possible that countries that were mentioned often (i.e., those with high SI scores) will also be located at the center of the news-link network. However, it may also be that some countries tend to be mentioned independently (i.e., not linked to other countries), and therefore they will be less central in the network analysis. In contrast, countries and entities that are not prominent as independent actors, and tend to appear in the news in the context of their relations to other countries, will become more central in the network analysis (extreme examples would be the UN or the EU). Thus, the network analysis provides a focus on International political, economic and cultural relations, and the links of a country with other countries as an aspect of its presence in news reporting worldwide.

A series of previous studies (Barnett, Jacobson, Choi, & Sun-Miller, 1996; Chase-Dunn & Grimes, 1995; Kim & Barnett, 1996; Maoz, 2010; Maoz, Terris, Kuperman, & Talmud, 2007; Nemeth & Smith, 1985; Snyder & Kick, 1979) demonstrated the benefits of network analysis in understanding the world’s political and economic systems, the position of countries and transnational interactions. Network analysis has also been used to chart and display structure and flow of International and intercultural Communications (Barnett, 2001; Barnett & Lee, 2002; Barnett & Sung, 2005; Lee, Monge, & Matei, 2007; Monge & Contractor, 2003; Park, Barnett & Chung, 2011; Smith, 1999; Yum, 1984, 1988).
Many of these studies point to the centrality of North America and Western Europe in the production and dissemination of information and particularly of International news.

Unlike previous network studies surveying the diffusion of International news, in the present study network analysis emerges not from the flow but from the actual content of news (see also Authors). Similar to the SI, in order to limit biases of self-reporting, we counted in our analysis only news-links that did not mention the country in which the news was posted. For example, we did not count news-links between the US and Iran from the New York Times, but we did count news-link between the US and Iran from the BBC. We used the standard software for network analysis, UCINET 6 (Borgatti, Everett, & Freeman, 2002), to produce visual representations of Networks of news-links between countries and to demonstrate the relative centrality of nodes in the network. In this way, the network analysis not only yields the centrality of certain countries, it also provides an overview of the standing of each country in relation to other countries, together underscoring the contours of the world that emerges from international news. Our focus is on the place of Spain therein.

III. Results

III.1. Salience Index

Figure 1 shows the general SI of Spain and its SI in the business section of news sites from around the world between February 2009 and September 2012. It shows that in general the news attention to Spain is low, its SI ranging from as high as 2.6% in France to 0.8% in Japan. Naturally, European countries that are geographically closer to Spain and share more political and economic ties with it are also those that display relatively higher news attention.

In the business section, however, the news salience of Spain is much higher, ranging from 4.9% in France to 0.8% in Russia. Hence, news attention to Spain around the world is usually given in the economic context. Exceptions are online news in Israel, Iran, China and Russia, in which the general salience of Spain is close to, or greater than, its salience in the business section. In these countries news about Spain spread equally across all categories.
They mention Spain in a constantly low level, and do not display a heightened interest in its economy.

**Figure 1. The Salience Index of Spain and the Spanish Economy in News Sites from Around the World**

![Figure 1](image)

Figure 2 displays the monthly trends in the SI of Spain in general and in the business section in particular. In both, there is a constant trend of increase in the news attention over the last three and a half years. This increase is much more significant in the business section ($R^2=.45$, a rise of about 0.1% each month) than in all news sections in general ($R^2=.24$, a rise of about 0.02% each month), suggesting that the higher attention given to Spain in the news is mostly in the economic context. News about Spain in the entertainments and technology sections did not show any significant trends over that period.

The two spikes of news attention occurred in May 2010 and June 2012. In the latter it reached a level of more than 10% of news attention in the business section of news sites around the world.
Figure 2. Trends in the Salience Index of Spain

Several relevant events occurred in Spain on these dates. In May 2010 international news mentioned two main stories: First about the critical economic situation of Spain, which was compared with that of Greece, and second about the presidency of Spain in the EU. Yet, the latter was not mentioned in the Business category as much as the former. In June 2012 online news reported extensively on the necessity of a European bank bailout for Spain.

The two spikes in world attention to Spain help demonstrate the overall conclusion emerging from this analysis: World attention to Spain has increased in parallel to the unfolding of its economic crisis. As Figure 2 shows, this increase is significant, particularly when isolating business news. Thus, our RQ1 seems to be empirically answered and its implied hypothesis can be accepted.
III.2. Network Analysis

Figure 3 shows the results of the network analysis based on the business section of the news sites of all the countries we studied. We construct two networks— one for the first half of 2009 and another for the first half of 2012— in order to delineate the changes that occurred in the reported business ties of Spain.

The business news-links of Spain during 2012 provide a much richer and denser network than those of 2009. In 2009 Spain was mainly mentioned with the US, and to a lesser extent with other large European players— France, Germany and Italy. France is a relatively larger hub in the Spanish network, indicating its central role in the regional economy. In 2012, however, the network included many more countries that were mentioned together with Spain, indicating the regional and even global impact of the economic crisis in Spain. The EU is mentioned together with Spain most frequently, followed by the UN, Italy, Greece and the US. Together with France these countries and entities also play a central role in the economic crisis portrayed by the news. Other less central countries included smaller European, and larger Asian, South American and Middle Eastern countries that were affected by the crisis. Put differently, the business news-links of Spain in 2012 display two circles of influence— the first that includes larger European countries and the US, and the second that includes more distant economic centers around the world.
Figure 3. Networks of News-Links with Spain in the Business Section

Note: The size of a node indicates its “degree of centrality,” namely, the number of countries with which it has news links. The width of links is an indication of their strength as measured by the number of news items that mention the two countries together. We show here countries that were co-mentioned at least in two news items or more.

Thus our RQ2 seems to be answered conclusively: the international environment to which Spain is relevant increased dramatically in parallel to the unfolding of its economic crisis, as unmistakably demonstrated graphically in figure 3.

IV. Discussion

In this paper we addressed the issue of international news coverage of economic recession by isolating and examining the case of Spain. We measured its prominence, traced its trend over time, and identified its international environment as reflected by online news from around the world. As noted, in response to our first research question, the findings clearly show that Spain increased its news prominence between 2009 and 2012.
It got much more attention from European countries in which it was mentioned in the economic section at twice the relative frequency as in other sections. Business news also displayed the most significant increase during that period.

In response to our second question, a news-link analysis provided the international context in which Spain was mentioned in the business section. As noted, many more countries and international organizations were mentioned together with Spain in 2012 compared to 2009. This network reflects the major players involved in the European economic crisis, namely the EU, Greece, Italy, France, Germany and the US, and the second circle that includes more distant countries and entities.

Built on the news flow literature surveyed above, our findings clearly demonstrate the attention given in world news to a country as a consequence of a major economic event or process. In line with previous observations and theoretical expectations, news about economic crisis, significantly increased the news prominence of Spain. It is important to note, however, that not all events around the world of similar magnitude, will get the same news attention. As previous observations show (Chang et al., 1987, 1992, 2000; Authors), some countries can be said to be 'more equal' than others.

News of the economic crisis in Spain can serve as an excellent example. Our network analysis clearly reveals the international relevance of the Spanish crisis to the US and other powerful core states in Europe. It is also well established in international news research, that negative events bring much national and international news attention than good news (Galtung & Ruge 1965; Lynch, 2005; Maoz et al., 2007; Shinar, 2003; Wolfsfeld, 1997, 2004). On the one hand, the heightened news attention given to Spain in the context of the crisis might scare off potential investors and further harm its relative economic standing. On the other hand, it is also known that world attention, whether it is good or bad, provides leverage in itself, a possible window for a change. In other words, when foreign media mention a country it excites world interest and opportunity for that country to enhance its eminence, emphasize positive actions and recruit others to help overcome its crisis.

In this study our goal was mainly to quantitatively outline the current status of Spain in world news, as it developed in the relatively short range of three years.
But this preliminary investigation calls for further qualitative content analyses to reveal the different frames of Spain in the news of different countries and the changing image of Spain over time. This is mainly since as Noya (2002) puts it, a country's image is a key asset to defend its international economic and political interests, which are characterized by greater competition and interdependence. Our findings may provide empirical evidence for the imperative that Spain to act now, when 'the whole world is [still] watching'.

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