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Twitter Trends in English versus Non-English speaking Countries

Abstract: Social media sites have become an incredibly important aspect of people's daily lives worldwide. Prized for being easy to use and highly accessible, these sites have gained so much ground in the Internet community. People are continually looking for new mediums of self-expression and places to find entertainment and news. Most living in the modern world want to know what is going on with their friends, acquaintances, celebrities, businesses, news, entertainment, and politics at all times. Twitter allows a place for people to look at all these topics and more. By looking at Twitter in English speaking and Non-English speaking countries, relationships can be determined between the global influence of American culture on the rest of the world. In this case study, English speaking countries were compared to Non-English speaking countries to better understand Twitter's role in globalization. The top trends were logged for each day for 6 weeks. From there, the trends were categorized and quantified. Pearson chi-squared test (χ^2) statistical analysis was done comparing the English speaking and Non-English speaking countries and the percentages of total trends were analyzed. Conclusions were made saying that English speaking countries, Non-English speaking countries, and Worldwide all shared statistically similar trends.

Question: What types of topics are trending on Twitter in non-English speaking countries as compared to English speaking countries?

Hypothesis: The trending topics on Twitter will be similar for each country, regardless of the language spoken in each country, in part due to globalization and the breakdown of language barriers through the Internet.

Background Information:

Social media on the internet is one of the driving forces in globalization. Social media sites connect the world much more than other technologies because social media carries larger amounts of information in a given time interval than verbal information, written information, or information by telephone, giving it media richness (Millson 2010). Social media websites allow the world to connect with much more detail than previous innovations such as telephones because the websites are much more topic-specific (Millson 2010). Social media sites allow businesses to overcome geographical and cultural barriers due to accessibility on the internet (Millson 2010). People are able to express themselves as individuals more freely on social media sites, which break down stereotypes and encourage globalization (Millson 2010). Social media acts as a uniting force for the people of the world, bringing them together through social media's unique ability to allow all people to express themselves. People can contact one another now in the internet age from just about anywhere. Because of this, cultures mix together, a key result of globalization (Millson 2010). News and current events spread quickly through social media. By interlacing news with social media, people become more attached to particular news stories and follow them in more detail (Millson 2010). Twitter is a perfect example of a social media site that encourages globalization through the many freedoms it presents.

Twitter is one of the newest and fastest growing social media sites online. Launching in October, 2006, Twitter has changed modern social media content online as we know it. Blogging

has essentially been replaced by Twitter, which allows users to make “tweets” about what they are doing, feeling, or thinking. Twitter uses a new type of blogging referred to as microblogging, which allows users to make short, instant posts with up to 140 characters (Java 2007). Microblogging is typically used to talk about daily activities, thoughts, and to seek or share information (Java 2007). Twitter currently has over 200 million users worldwide and continues to grow daily (Shiels 2011). Over 1 million tweets are sent per hour on Twitter (Sandner 2010). Twitter's tagline is "The best way to discover what's new in your world,” which, really, is what the marketplace turned Twitter into (Dumenco 2010).

The way the site is organized revolves around Twitter’s news feed. All subscribers have a news feed with people’s tweets showing up on their news feed depending on who one is following. Users follow other Twitter accounts, whether they are people they know, celebrities, news networks, or products. Other Twitter accounts follow them back, which means that they in turn will appear on their news feeds. Although the accounts that you follow on Twitter have the option to follow you back, they do not have to. Just because you follow ABC News, for example, does not mean they will follow you back. Each user’s tweets are public at default, meaning anyone can see your tweets, with or without a Twitter account (you can still see their tweets even if you are not following them). However, users can protect their tweets if they wish, which means only people who they approve can view their tweets (Dunlap 2009). Twitter will send the user a message asking for the user to confirm or deny someone’s follow request if their tweets are protected. Located on the right hand side of the screen, Twitter has a “trending” page with the top ten most popular trends. These trends do not give you the number of tweets that contributed to these trends, however. These trends are what the majority of people are talking

about in the area (the country or city) that you have selected at the current time. Users can change what popular trends they are looking at by clicking the current trends location and changing it to another location. For example, someone could pick the United States as a whole, or someone can further define their search to Atlanta in the United States. Trends can be observed from a reference point as massive as "Worldwide," or as defined as individual cities within countries. Currently, trends can only be viewed based on location and not based upon topic.

Tweets can also be organized by hashtags, which are words preceded by a number sign. For example, "#Twitter" would be a hashtag, and so would #SocialMedia, #Politics, etc. By typing a hashtag in a tweet, the hashtag turns into a hyperlink which can be clicked on. When a user clicks on the hashtag, Twitter will show him tweets from anyone who has also used that hashtag. Subscribers do not have to have made any tweets to search hashtags on the Twitter search bar on the top of the screen. Hashtags are used on Twitter as a way of organizing tweets more easily and as a way to express oneself on Twitter. Twitter is the next big website on the internet right now and is expected to have 1 billion users and $1.4 billion in revenue by 2013 (Bilton 2009). With this projected revenue, Twitter can hardly be ignored; studies on Twitter usage are relevant to the future of the world's social media.

Another factor influencing Twitter's success is its customization potential. Users are able to choose their usernames with the inception of their accounts. In addition to this, users are able to change their usernames at anytime. The backgrounds of people's Twitter profiles can also be changed by uploading a picture, choosing a color scheme pattern, or by choosing previously-made templates. Users are also able to change their profile pictures by uploading

pictures of themselves on their profiles, but this is optional and not mandatory. Each user's profile text colors are also fully customizable, where each user is able to choose colors for the text and hyperlinks on their profiles.

Twitter allows users to connect with each other in many ways. Users are able to send messages to one another privately and publicly. Private messages are between two people and are only seen by the users involved in the conversation, while public messages appear as tweets and are able to be seen by anyone who has access to that user's profile. When people type a person's name preceded by the "@" symbol, they tag that user in their tweet. For example, "@Twitter" or "@Frank" would tag the user in a tweet. Other users can also respond to the conversation by making a tweet tagging people they want to involve in the conversation, allowing as many people as can fit in the tweet without exceeding the 140 character limit. A unique trait Twitter possesses is the ability for users to retweet other users' tweets. Retweeting someone allows their tweet to appear upon another user's profile. Retweeting someone basically lets them know that you approve of or like what that person tweeted. Praised for its ability to allow for even faster distribution, studies have shown that retweets reach about 1,000 Twitter users on average (Kwak 2010). Twitter users can also favorite other people's tweets, which saves them on a favorites list where that user can look at them later.

On the top of Twitter (towards the center) is a search bar. This search bar can be used to look up topics and trends. The search bar can be used to look up phrases as well as specific hashtags. For example, a user can type in 'Example' to search for the word 'Example' in people's tweets, or a user can type "#Example" and find all the tweets with the specific hashtag "#Example." The search bar is a helpful tool in looking up the various topics being discussed,

currently or in the past, on Twitter. The search bar is important in that users can save their searches to view at a later date. This is incredibly useful in rereading old information that someone did not have time to look at previously. If a user wants to find another user, they can either type in the person's username or type in Twitter's URL with a slash, followed by their username (http://Twitter.com/UserName).

Social networks have become prevalent on the web since the turn of the century, and Twitter is readily becoming one of the major social networks (Huberman 2008). Typical social networks allow users to keep track of the lives of their friends, families, and acquaintances (Huberman 2008). Twitter expands this concept somewhat by focusing on users keeping track of celebrities in addition to friends, family, and acquaintances. Commercial enterprises commonly try to take advantage of social media sites for marketing purposes by making recommendations for people interested in certain products (Huberman 2008). This is made even easier through Twitter because users follow specifically who or what they are interested in, allowing a more personalized experience with commercial enterprises, who take full advantage of Twitter's advertising capabilities. Studies have shown that many people hear about things on Twitter through "word of mouth" (Chowdury 2009). Word of mouth is an essential part of marketing in the real world because people find out what other people are doing or have done, which influences what they will buy in the future (Chowdury 2009). Word of Mouth on Twitter helps to show consumer attitudes and reactions towards products, commercials, entertainment, and media. Studies have shown that 19% of microblogs contain mention of a brand, showing the word of mouth aspect's effect on Twitter (Chowdury 2009). Twitter acts in part as an enormous advertising site through the news feed.

A study was done using a Fortune 500 company to test Twitter capability in the study (Zhang 2010). A Fortune 500 company is a country ranked by *Fortune* magazine as one of America's top 500 ranking companies (Zhang 2010). This study used five-months of micro-blogging data, user demographic information from corporate HR records, targeted interviews, and a web-based survey (Zhang 2010). The study was done in order to accurately gauge information on how knowledge-workers are likely to use microblogging in their enterprise (Zhang 2010). In addition to Twitter, this study used a microblogging site called Yammer, which acts similar to Twitter but has a smaller following (Zhang 2010). The study found that Twitter and Yammer are helpful tools for enterprises because they allow workers to know what their other co-workers are working on and allows a medium to traverse geographical, organizational, and hierarchical organization (Zhang 2010).

However, it has been argued by some that businesses who allow Twitter for enterprise microblogging are making the wrong decision (Riemer 2010). Enterprise microblogging is defined as s technologically supported interpersonal interaction utilizing short information snippets within a separated information space (such as company or department) in order to create informal, social, group-structural, and workspace awareness (Böhringer 2009). The argument being made is that workers would use Twitter inappropriately and that Twitter would hinder the workforce (Riemer 2010). However, in one study done by Riemer (*et al.*), Twitter was shown to be a positive tool to have in the office and is vastly different than its public equivalent. The study was able to provide basis for the argument that Twitter should be used to create productive work environments because it allows employees to

connect with other employees, bolster their production, and receive updates. Leadership training can also be done successfully via Twitter in most cases.

Twitter is also being looked at as a location for sentiment analysis and opinion mining (Paroubek 2010). Sentiment analysis and opinion mining are terms that mean how people feel about a particular product or service (Paroubek 2010). Twitter could take on this concept in a whole new way, since there are a vast number of people on the site, allowing for a large number of people to give product reviews and opinions. Twitter could also be used for surveys in the future, allowing for product review services to go to the next level through their inclusion on Twitter (Paroubek 2010). Twitter trends can also be used in conjugation with events occurring in the real world to more accurately gauge users' opinions on products and/or corporations (Cheong 2009).

Some studies have been done in the past for what trends have been popular in the United States. One of these studies, for example, was done by Socialmediatoday.com. According to the website, Twitter has changed in terms of popular trending topics from 2009 to 2010. In terms of total trending topics in 2009, Entertainment made up 38%, News made up 4%, Politics made up 7%, Hashtags made up 9%, Business/Tech made up 11%, Holidays made up 11%, Sports made up 14%, and Other made up 6% (Olenski 2011).

By 2010, however, the trends changed drastically. Hashtags made up a whopping 40%, Entertainment made up 38%, News made up 4%, Politics made up 3%, Business/Tech made up 3%, Holidays made up 6%, Sports made up 10%, Social Media made up 4% and Other made up 2% (Olenski 2011). These trends showed that the interests of Twitter users changed to be made up of Hashtags and Entertainment more than the other trends.

Based upon results found in the past by Socialmediatoday.com, assuming that trends continue in a similar fashion, entertainment and hashtags are going to continue to dominate the trending topics on Twitter (Olenski 2011). I should expect to see this reflected in my results. If this does not resurface in my results, then popular trends may be changing in the future for Twitter as a whole. However, the trends observed in my study may prove to be different due to the fact that I am studying more than just the United States.

Recent educational studies associated with Twitter have found that Twitter may have some instructional benefits (Dunlap 2009). Twitter has shown the potential for instructional benefit by its ability to "blur the lines of the classroom," to teach students to write concisely, to write for an audience, to address students in a timely manner, and to connect with a community (Dunlap 2009). The use of Twitter in instructional situations can be beneficial worldwide, allowing people from different corners of the world to connect quickly to one another. Internationally, the possibility of Twitter being a beneficial instructional tool is also important because it could help the United States and other countries to be more competitive educationally, as compared to other countries. Twitter has received a large following in some conference and lecturing environments as well. Some lectures and conferences encourage attendees to tweet what they are feeling about the conference in real-time (Beham 2009). This allows the audience to take a more active approach in the conference. Typical conferences are hindered by three crucial factors: feedback lag, student apprehension, and single speaker paradigm (Beham 2009). Feedback lag simply means that in typical lectures and conferences, there is a lack of feedback from the audience until after the speaker has finished (Beham 2009). Tweeting during these presentations allows for a real-time, constant level of feedback for specific points mentioned in

the presentation that someone in the audience may have forgotten had they waited until the end of the lecture to ask questions or provide feedback. Student apprehension means that students or colleagues in a lecture or conference environment (especially large scale ones) are typically reluctant to ask questions or give feedback (Beham 2009). Twitter allows the audience to confidently ask questions and provide feedback without a fear of making oneself known to the rest of the audience. This may also encourage the audience members to provide more feedback to the speaker than they would have done otherwise. The single speaker paradigm goes hand-in-hand with student apprehension. Single speaker paradigm means that the audience is less likely to participate in large groups then they would in one-on-one environments (Beham 2009). Twitter helps to provide this environment for people. Twitter could evolve to be a significant educational, lecturing, and conference tool.

Political studies have made links between political sentiment and Twitter and other social networking sites (Sandner 2010). Some analysts attribute Obama's victory in the 2008 election to a large extent to his online strategy, using sites such as Facebook, Myspace, MYBO, and Twitter (Sandner 2010). Twitter has become a legitimate tool to be used in political campaigns as a result of president Obama's 2008 campaign (Sandner 2010). President Obama himself still connects to the people through his Twitter page, and many other political candidates for various United States offices have followed suit (Sandner 2010). Some political analysts are already turning to the "Twittersphere" to understand popular political sentiment.

Twitter influence has also been measured in significant detail in one study. (Benevenuto, et. all 2010). In this study, 54 million users who produced a total of 1.7 billion tweets had 2 billion links followed in the study. This study was made in order for the analysts to better

understand the roles that users play in social media. The study showed that the most influential users had the most influence on other people's tweets and on marketing capability. The study was conducted by using various computer programs that had the ability to trace tweets by various users. Creative tweets were also seen to have much more influence on users than tweets that were just conversations between various users. The study used three factors to measure the untangible force "influence." Indegree influence, or the number of followers of a user, directly indicates the size of the audience for that user. Retweet influence measured the number of retweets someone obtained for their tweets, which would help an idea spread even more rapidly, through many different groups of users through their connections with one another, much like links connected on a chain. The third measurement used in the study was mention influence, which was mentioned through the number of mentions containing a user's name, which indicates the ability of that user to engage others in a conversation. The study specifically focused on three topics: Iran (the Iranian elections), H1N1 (The Mexican Swine Flu), and Jackson (Michael Jackson). These topics were able to spread at a shocking rate across Twitter, through the three factors that the analysts used for the basis of influence in the study. Retweets seemed to have the most influence over what was transmitted around the world via Twitter because retweeting allows audiences to reach audiences, who (by extension) can reach other audiences and continue the process. Also, the top 100 users in the study with the most influence reached their respective audiences more through retweets than through mentions (Benevenuto 2010). The main conclusion found in this study is that overall influence on Twitter is not attained accidentally or spontaneously, but through much effort (Benevenuto 2010).

There have even been some studies on ways Twitter can reshape health care. In the future, Twitter may be able to change how doctors and patients interact (Hawn 2009). Patients could send their symptoms to their doctors via Twitter and their doctors could tweet them back their possible illnesses (Hawn 2009). This possible future use of Twitter would be able to help many patients who are so sick that they cannot exit their beds to go to a doctor's office. Perhaps patients may tweet their doctors about possible symptoms to avoid paying for an office visit since costs are so high and many people do not have adequate insurance coverage, and they may avoid getting care due to the strained economy. A major problem these studies fail to address, however, is an incentive for the doctors to respond to their patients' tweets. Who knows, maybe healthcare could adapt to include doctors via Twitter services in the future?

Many people have also utilized Twitter for fundraising purposes. Popular Haitian-born singer Wyclef Jean raised over $1 million for victims of the Haiti earthquake in 2010 (Siegel 2010). Experts say that money had never been raised so soon after a disaster (Siegel 2010). In turn, Wyclef Jean encouraged other celebrities to join the cause via Twitter, such as Tiger Woods and Ben Stiller (Siegel 2010). Twitter was called the number one outlet for donations for the victims of the earthquake in Haiti. This situation shows that Twitter can be a great source of donations for victims of natural disasters. Twitter could also be used to collect donations for people suffering from diseases or politicians looking for campaign funding. Twitter can even become an outlet for people looking for financial aid in the future.

Twitter has been used in a study finding common mood shifts in people (Golder, et. all 2011). More than 2 million people in 84 countries were used in this study, which has linked various patterns in mood and behavior with the days, weeks, and seasons. The analysis suggests

that moods are driven in part by underlying biological rhythm independent of environment and culture. The study collected up to 400 messages from each of the 2.4 million Twitter users in the study from February 2008 to January 2010. A text analysis computer program looked for key words, such as “awesome” and “agree” for positive moods and “annoy” and “afraid” for negative moods. It was found that for the average user in each country, positive posts crested at around 6 a.m. to 9 a.m., then gradually fell until 3 p.m. and 4 p.m. when they drifted upward again, increasing greatly after dinner. People’s overall mood was lowest on Monday afternoons and through Tuesday, and rose later in the week, peaking on Saturday and Sunday. Biological or circadian factors were linked to the moods as responded to the common things that happen on certain days of the week (Monday is when work typically starts, Saturday is the beginning of the weekend, etc.). The study did not show evidence for the winter blues (the common assumption that short winter days bring negative moods). However, positive messages trended upward around the spring equinox in late March and downward until the fall equinox in late September, which is believed to have occurred for people’s anticipation for upcoming shorter days of the year. This study shows that Twitter can even be used to study people psychologically.

Other studies show that the majority (85%) of tweets on Twitter are headline news or persistent news in nature (Kwak 2010). Twitter is considered by some to be a news media site more than a social media site because of the speed with which news is able to flow through Twitter (Kwak 2010). This speculation on the label that Twitter can carry may lead to it being referred to as both a social media site and a news media site in the future (Kwak 2010). Some studies have even looked at using Twitter to warn about emergency events (such as hurricanes, tornadoes, etc.), which some colleges have recently begun to use Twitter for (Hughes 2009).

Twitter is sweeping the world with its untapped potential in the political, social, economical, educational, and technological realms.

Materials:

1. Twitter Account
2. Log book
3. Computer
4. Translation (Google Translate: translate.google.com)
5. Microsoft Excel
6. Colored pencils (for categorization of trends)

Methods:

Each day at 10:00 PM (Eastern Time) for a six week study, I wrote down the top trends on Twitter for Worldwide, the United States, the United Kingdom, Australia, Italy, Spain, the United Arab Emirates, and Japan. For any tweets that were in another language, regardless of the country, I translated into English using Google Translate (translate.google.com). I then divided the trends into 7 different topics (Conversational, Political, News, Entertainment, Sports, and Business/Technology). Every 14 days in my study (the equivalent of 2 weeks), I logged the data into a table using Microsoft Excel (sample results below). Using the data, I made bar graphs that showed each trend type for each country over each week. Different colors were used to discern the different trend topics found on Twitter for the various countries. From there, I looked for trends within the data, from which I drew conclusions. This process was completed several times over the course of the year.

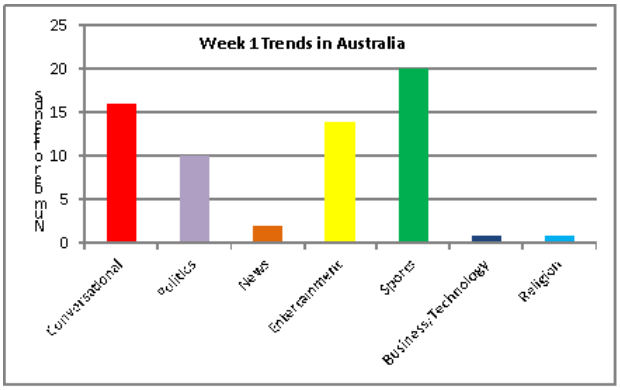
By the end of the study, the sum of the data for each country (all the trends found for each country in the entire study) were compiled into one bar graph to show what people in the various countries tweet about. I also found the percentages of tweets for each country (shown by pie charts) to give another visual representation of what the tweets were comprised of. A Pearson chi-squared test (χ^2) was used to see how statistically similar and different English speaking countries and Non-English speaking countries were.

Results:

*The following noted numbers are the number of top trends that fit the category

Country	Language speaking	Conversational	Politics	News	Entertainment	Sports	Business/Technology	Religion	Totals
Australia	English	121	38	25	109	49	29	3	374
United Kingdom	English	124	16	25	158	31	17	3	374
United States	English	147	4	15	147	46	9	4	372
United Arab Emirates	English	26	9	4	10	3	2	0	54
Totals English speaking		418	67	69	424	129	57	10	1174
% of each		36%	6%	6%	36%	11%	5%	1%	100%
Italy	Non-English	103	24	43	121	41	39	5	376
Japan	Non-English	143	17	104	36	8	46	3	357
Spain	Non-English	100	24	47	106	67	21	7	372
Totals Non-English speaking		346	65	194	263	116	106	15	1105
% of each		31%	6%	18%	24%	10%	10%	1%	100%
Worldwide		151	5	14	148	44	11	5	378
Totals Worldwide		151	5	14	148	44	11	5	378
% of each		40%	1%	4%	39%	12%	3%	1%	100%

- **Week 1:**


Week 1 Trends in Australia
Number of Tweets
25
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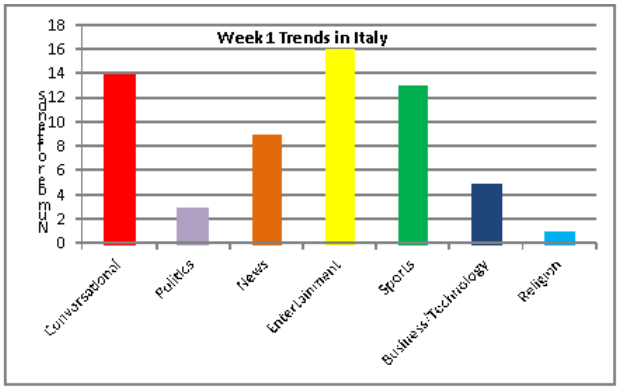
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 1 Trends in Italy
Number of Tweets
18
16
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12
10
8
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4
2
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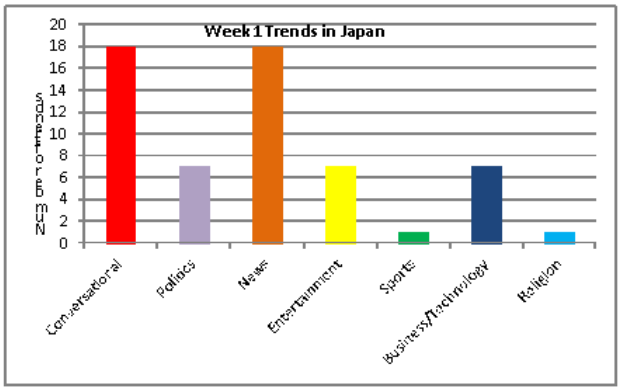
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion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Number of Tweets
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Conversational
Politics
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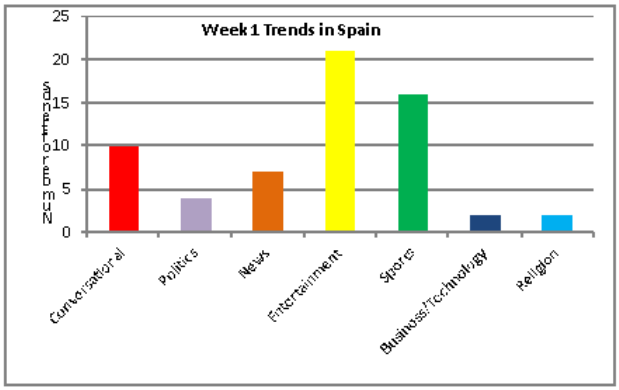
Entertainment
Sports
Business/Technology
Religion


Week 1 Trends in Spain
Number of Tweets
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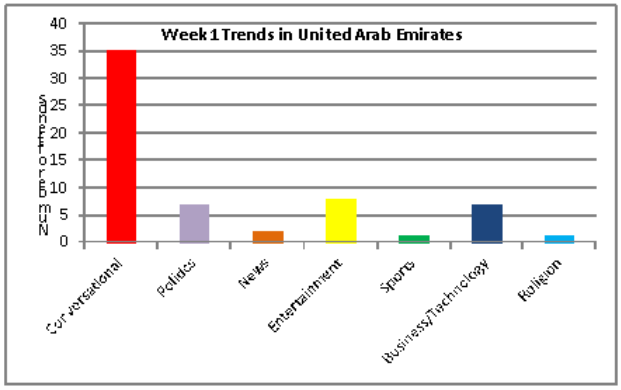
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 1 Trends in United Arab Emirates
Number of Tweets
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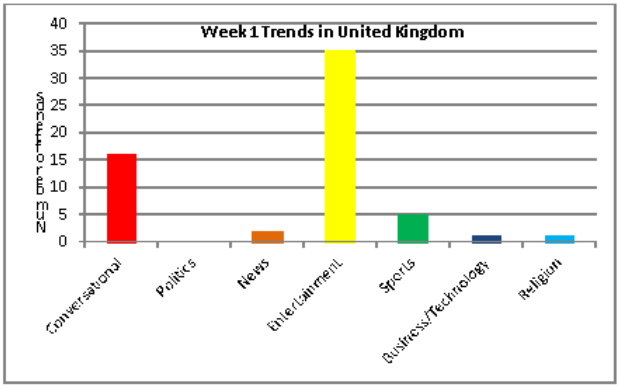
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 1 Trends in United Kingdom
Number of Tweets
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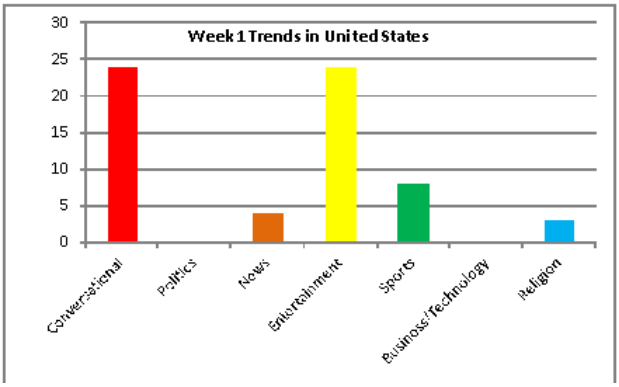
Business/Technology
Religion


Week 1 Trends in United States
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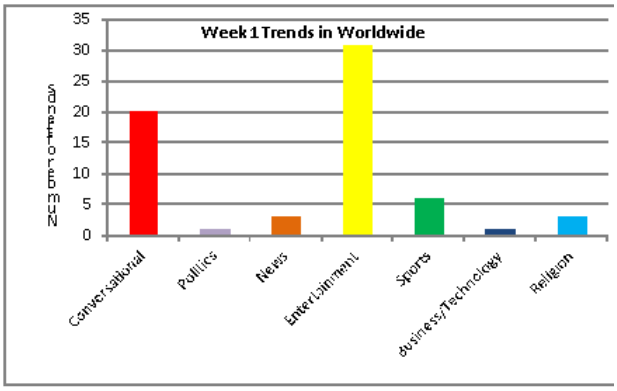
Business/Technology
Religion


Week 1 Trends in Worldwide
Number of Tweets
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Conversational
Politics
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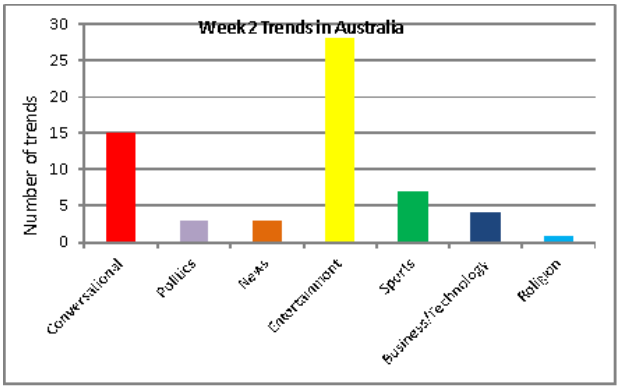
Business/Technology
Religion

- **Week 2:**


Week 2 Trends in Australia
Number of trends
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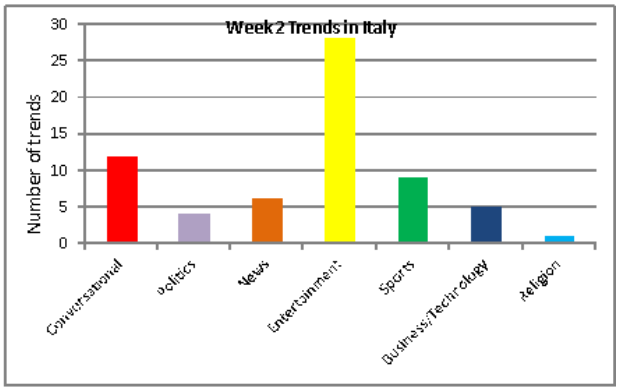
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 2 Trends in Italy
Number of trends
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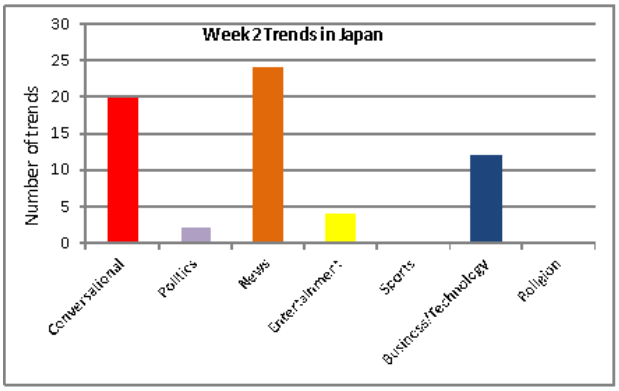
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 2 Trends in Japan
Number of trends
30
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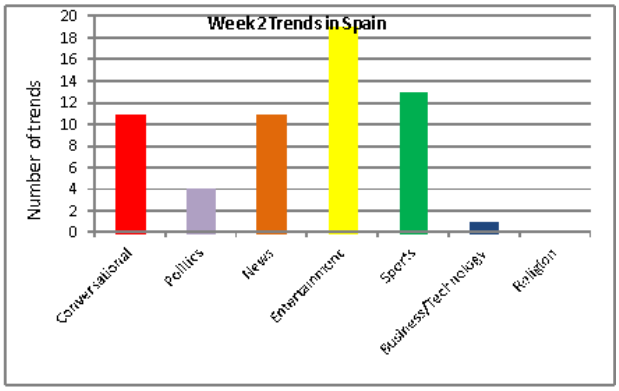
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 2 Trends in Spain
Number of trends
20
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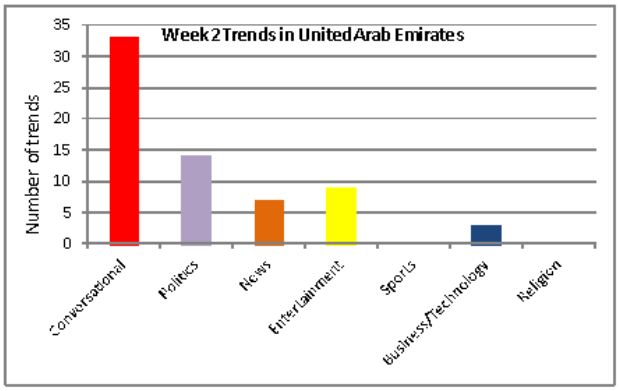
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week 2 Trends in United Arab Emirates
Number of trends
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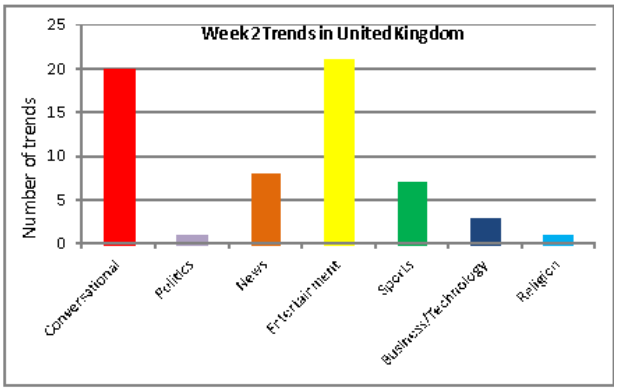
News
Entertainment
Sports
Business/Technology
Religion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Number of trends
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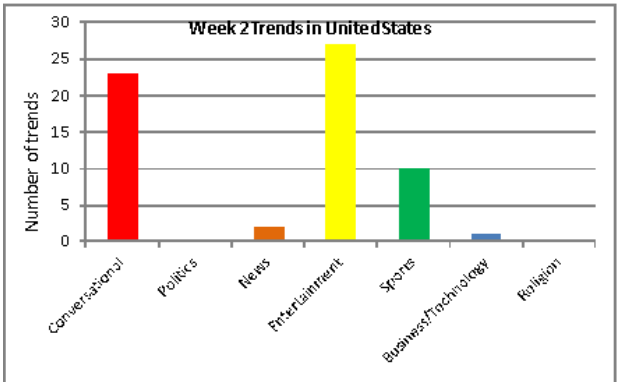
Sports
Business/Technology
Religion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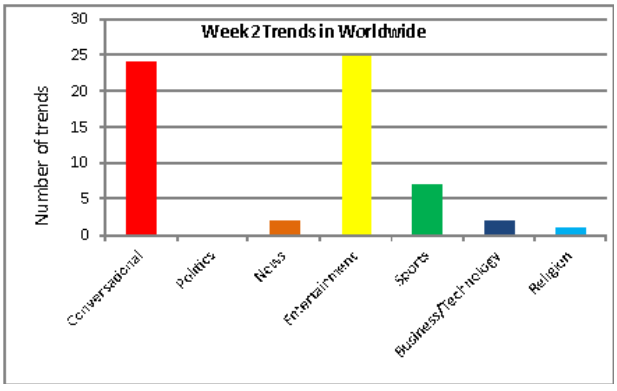
Entertainment
Sports
Business/Technology
Religion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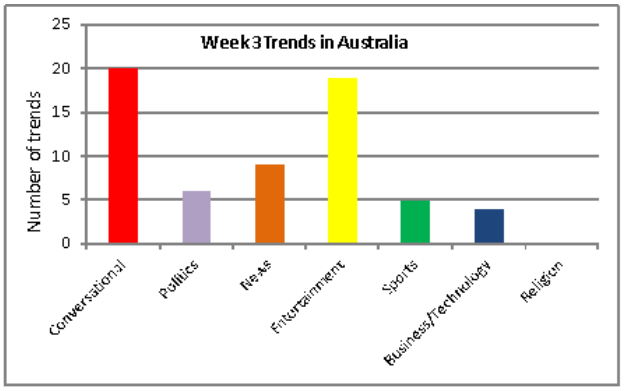
Politics
News
Entertainment
Sports
Business/Technology
Religion

- **Week 3:**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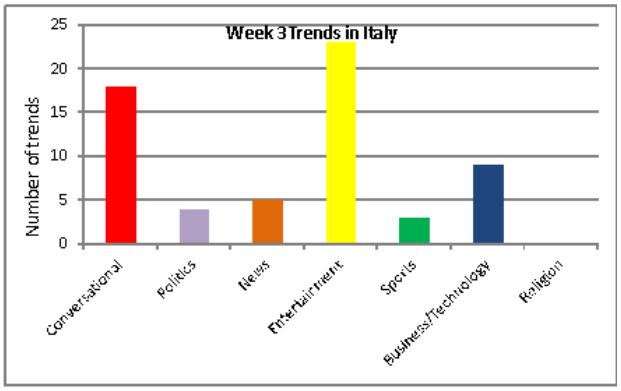
Politics
News
Entertainment
Sports
Business/Technology
Religion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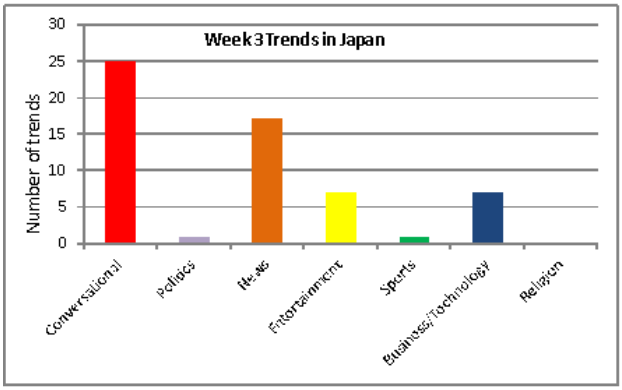
Politics
News
Entertainment
Sports
Business/Technology
Religion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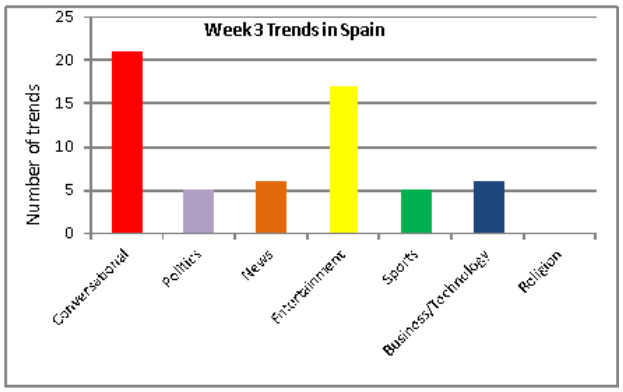
Business/Technology
Religion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Number of trends
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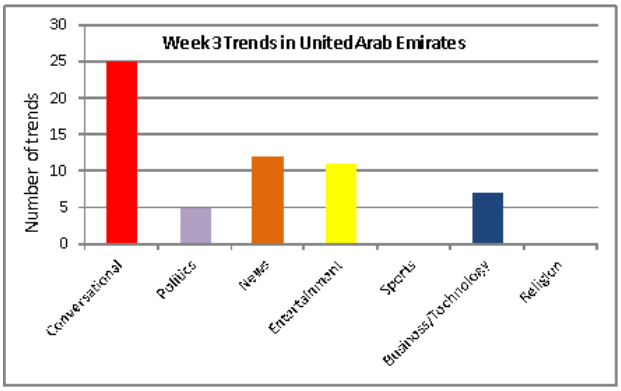
Sports
Business/Technology
Religion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Number of trends
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Conversational
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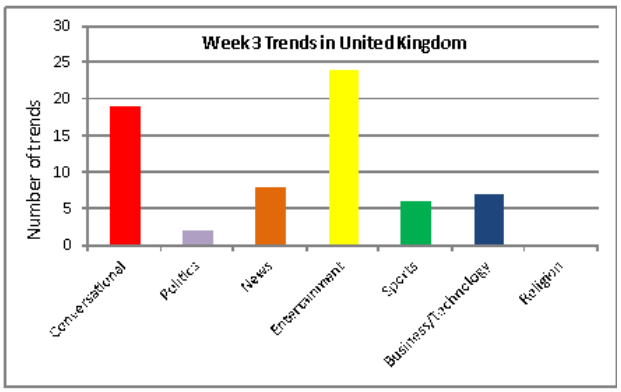
Entertainment
Sports
Business/Technology
Religion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Politics
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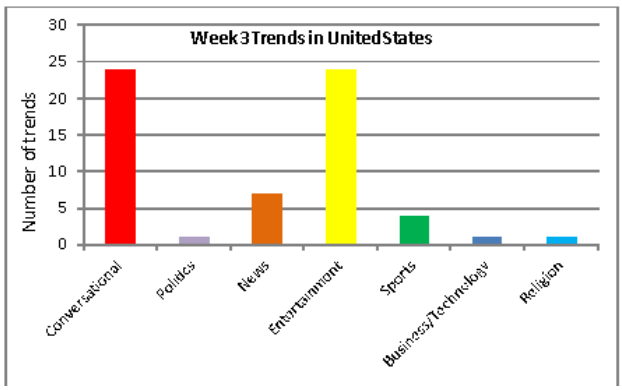
Sports
Business/Technology
Religion


Week 3 Trends in United States
Number of trends
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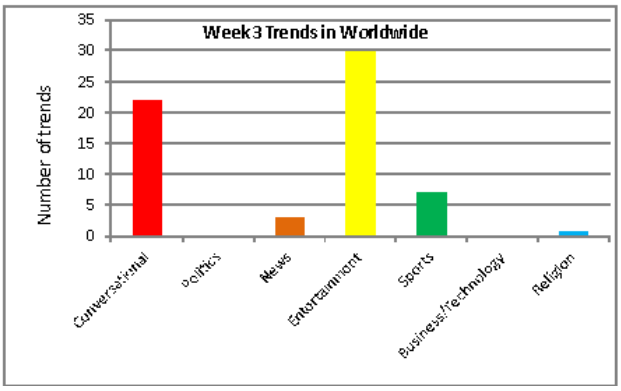
Business/Technology
Religion


Week 3 Trends in Worldwide
Number of trends
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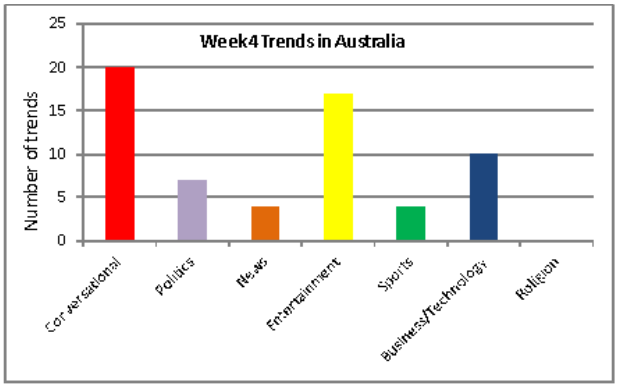
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion

- **Week 4:**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Number of trends
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Politics
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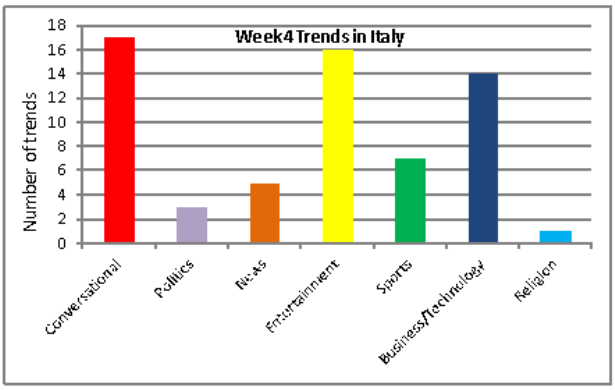
Sports
Business/Technology
Religion


Week4 Trends in Italy
Number of trends
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8
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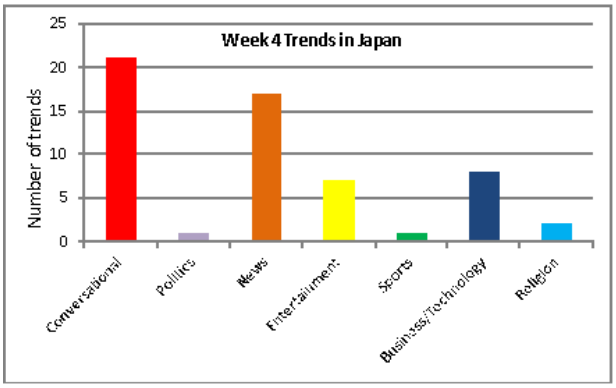
Politics
News
Entertainment
Sports
Business/Technology
Religion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Politics
News
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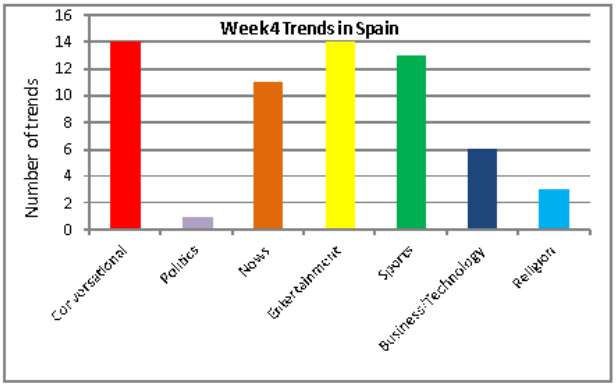
Sports
Business/Technology
Religion


Week4 Trends in Spain
Number of trends
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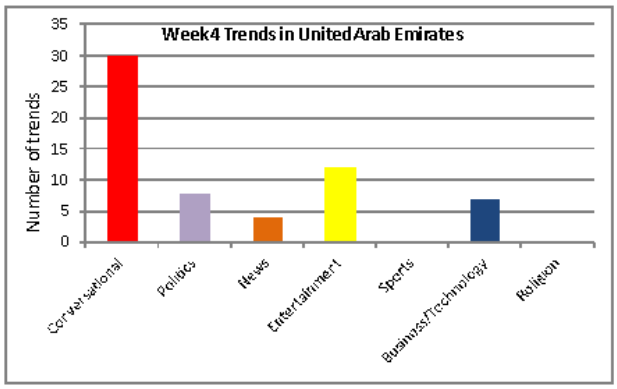
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week4 Trends in United Arab Emirates
Number of trends
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Conversational
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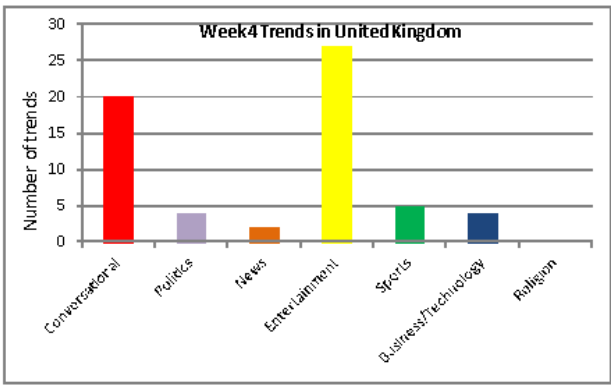
News
Entertainment
Sports
Business/Technology
Religion


Week4 Trends in United Kingdom
Number of trends
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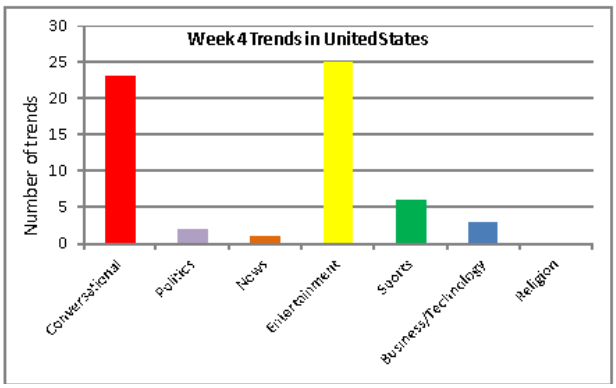
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Week4 Trends in United States
Number of trends
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Entertainment
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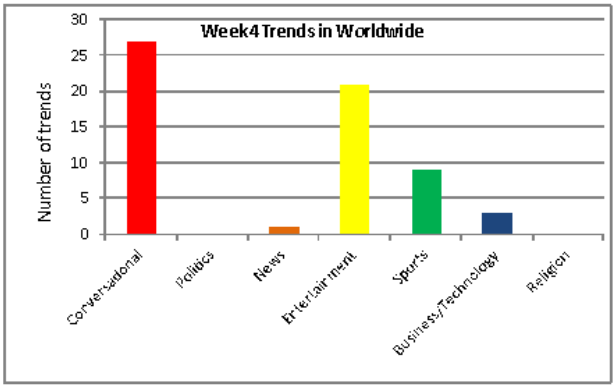
Business/Technology
Religion


Week4 Trends in Worldwide
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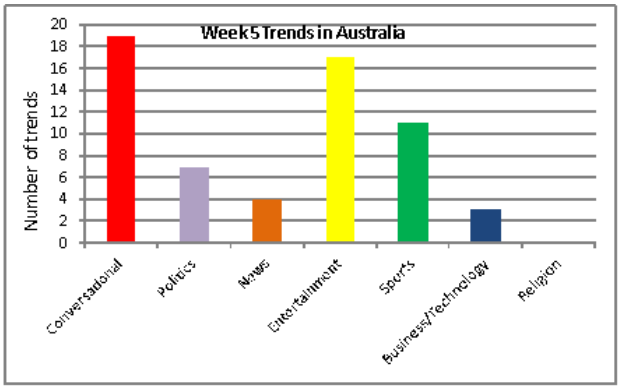
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion

- **Week 5:**


Week 5 Trends in Australia
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Politics
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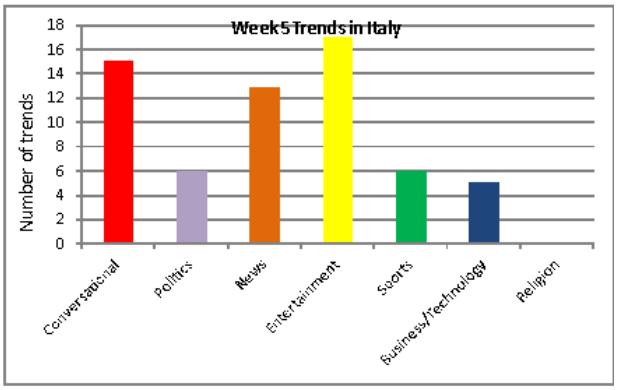
Sports
Business/Technology
Religion


Week 5 Trends in Italy
Number of trends
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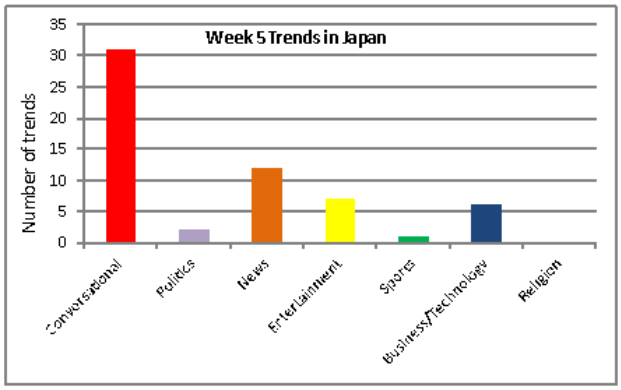
Entertainment
Sports
Business/Technology
Religion


Week 5 Trends in Japan
Number of trends
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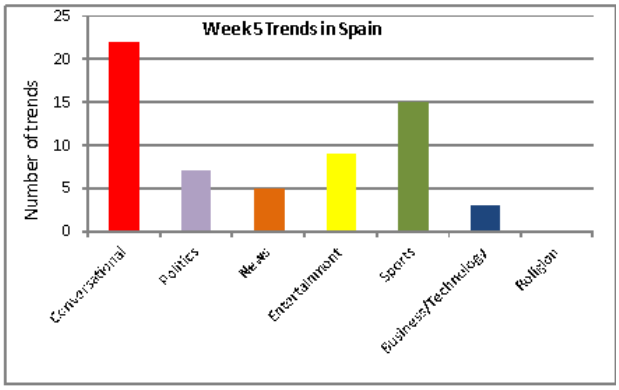
Entertainment
Sports
Business/Technology
Religion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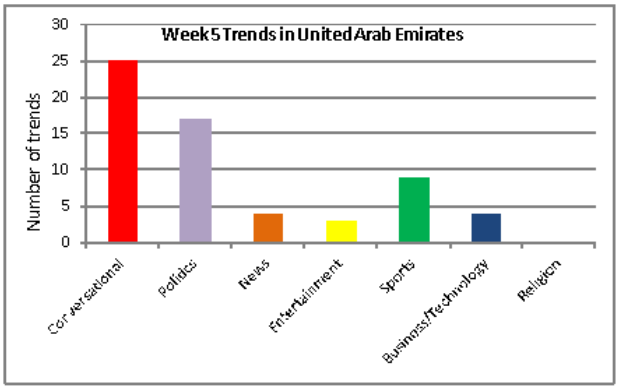
Business/Technology
Religion


Week 5 Trends in United Arab Emirates
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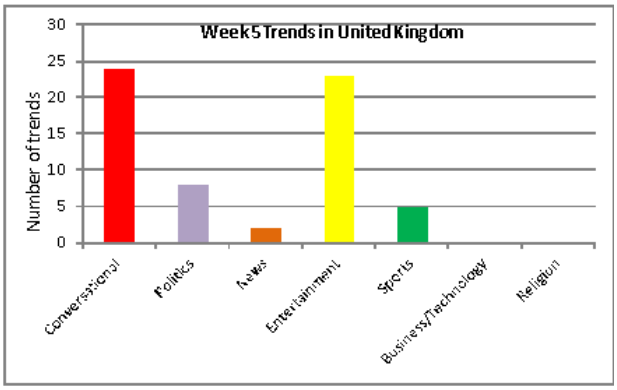
Business/Technology
Religion


Week 5 Trends in United Kingdom
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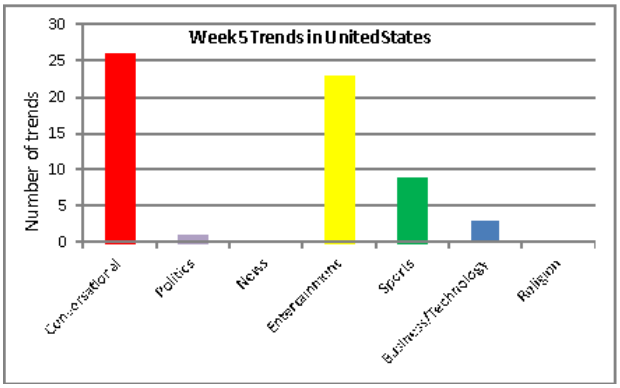
Religion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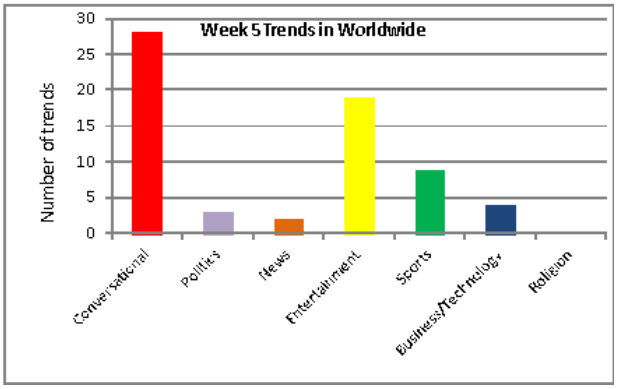
Business/Technology
Religion


Week 5 Trends in Worldwide
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Entertainment
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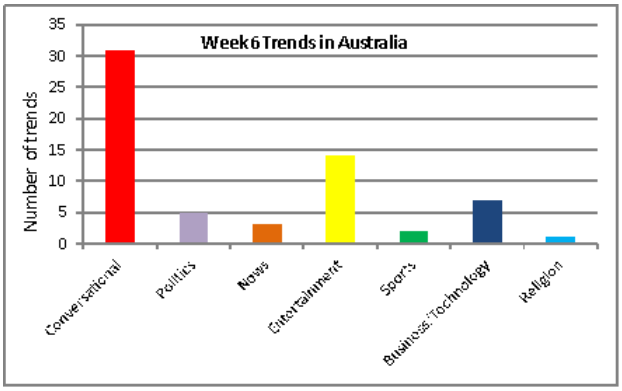
Business/Technology
Religion

- **Week 6:**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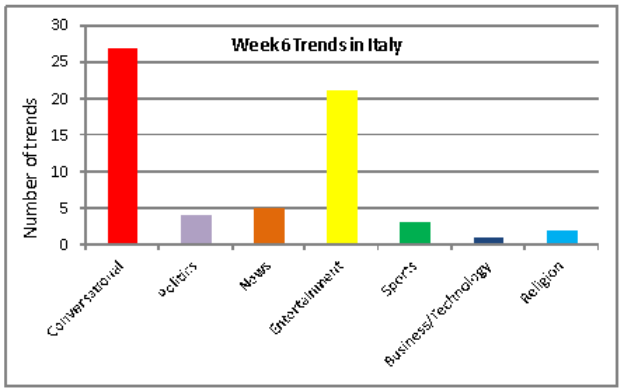
Business/Technology
Religion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Conversational
Politics
News
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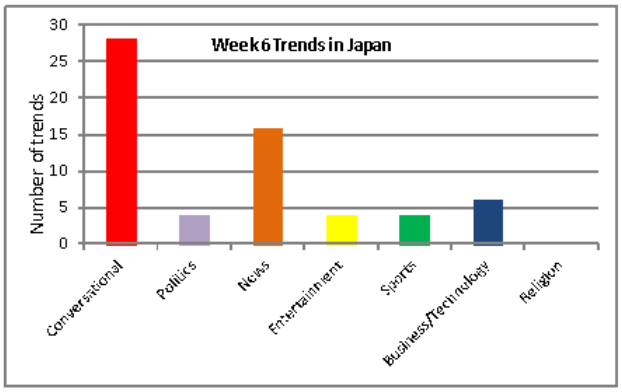
Business/Technology
Religion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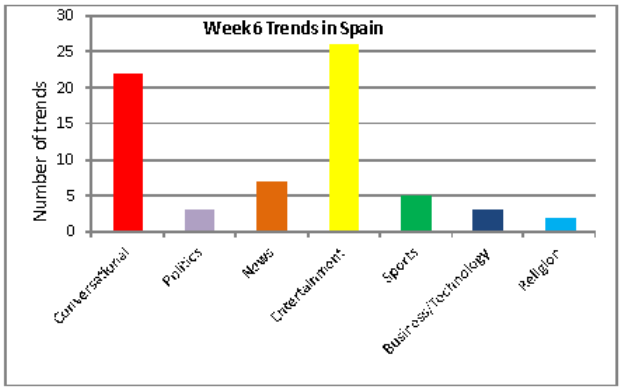
Business/Technology
Religion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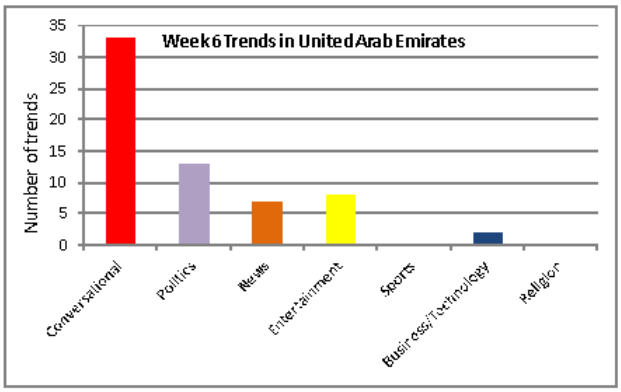
Week 6 Trends in United Arab Emirates
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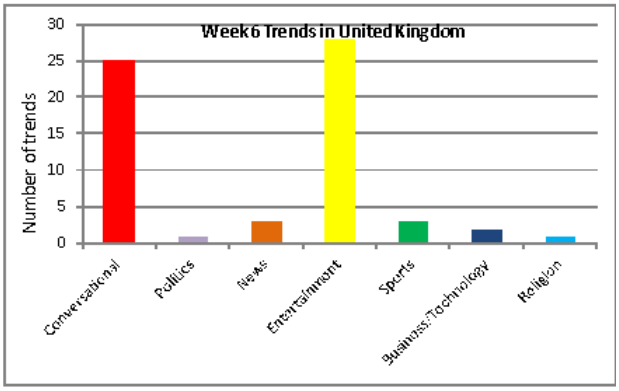
Week 6 Trends in United Kingdom
Number of trends
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Conversational
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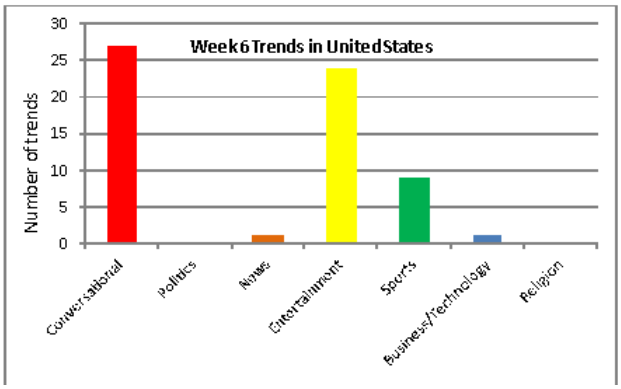
Week 6 Trends in United States
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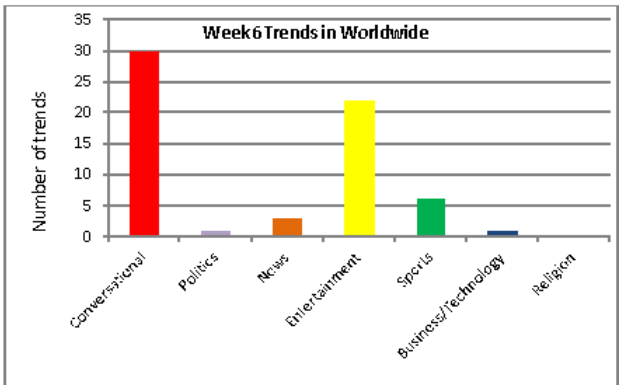
Week 6 Trends in Worldwide
Number of trends
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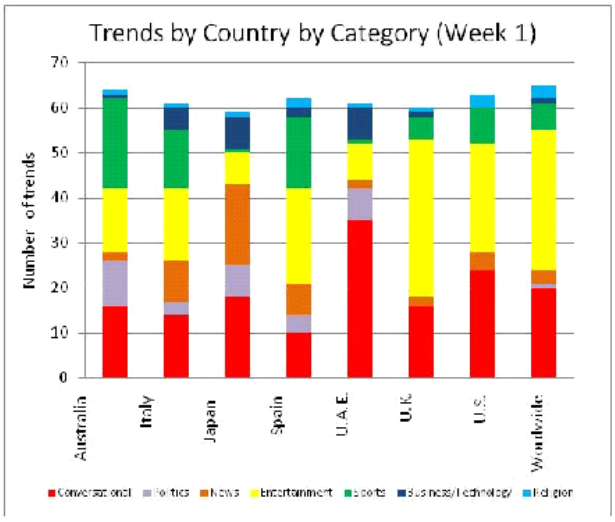
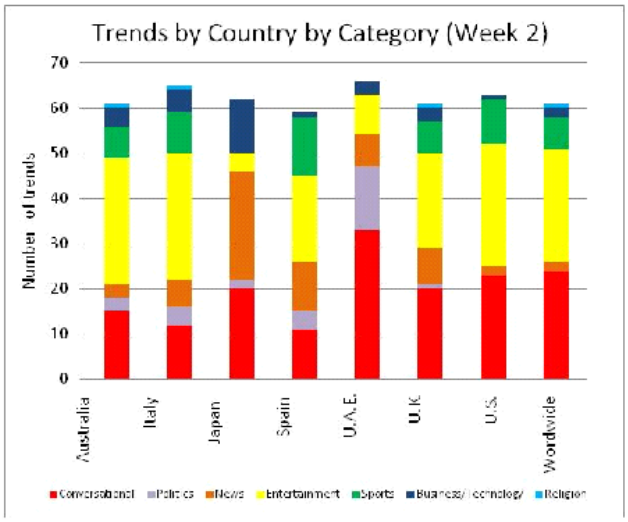
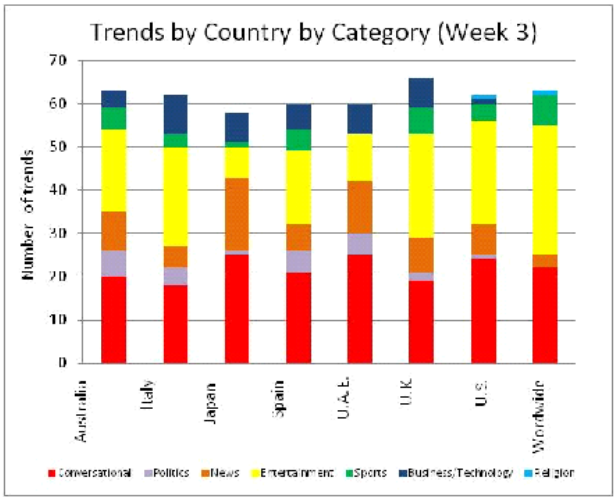
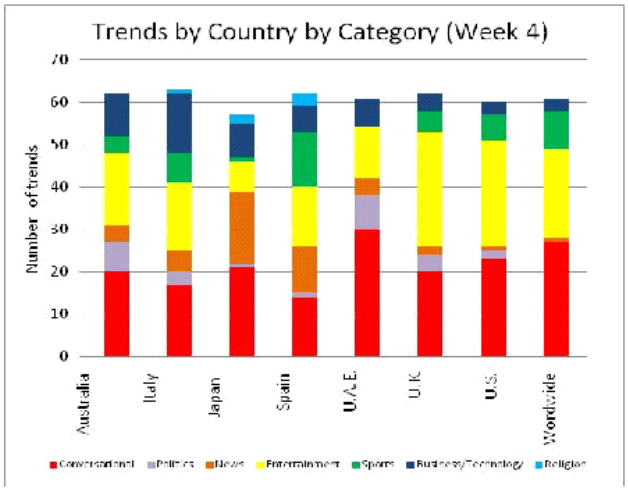
Business/Technology
Religion

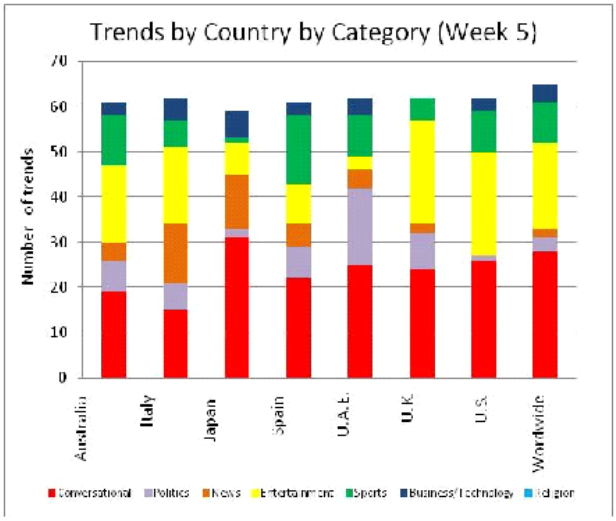
- **Total Trends By Week:**

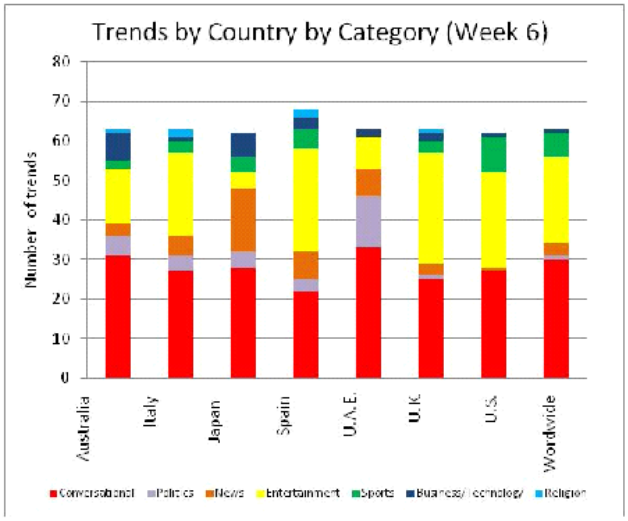




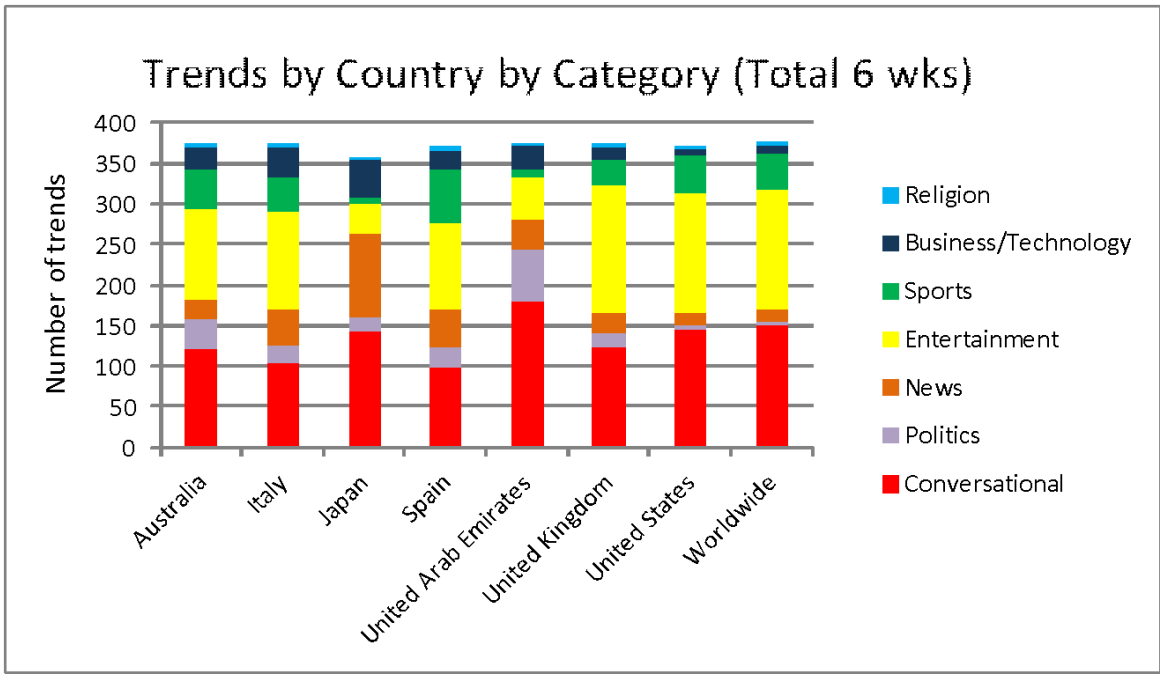




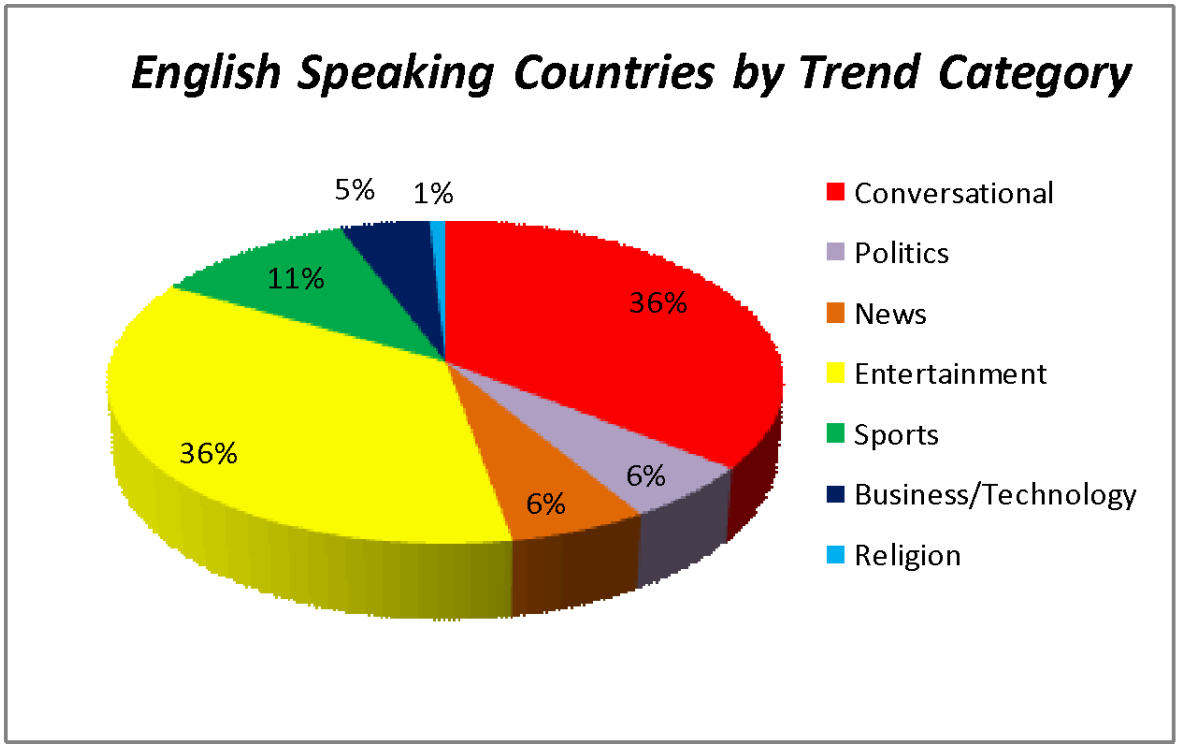


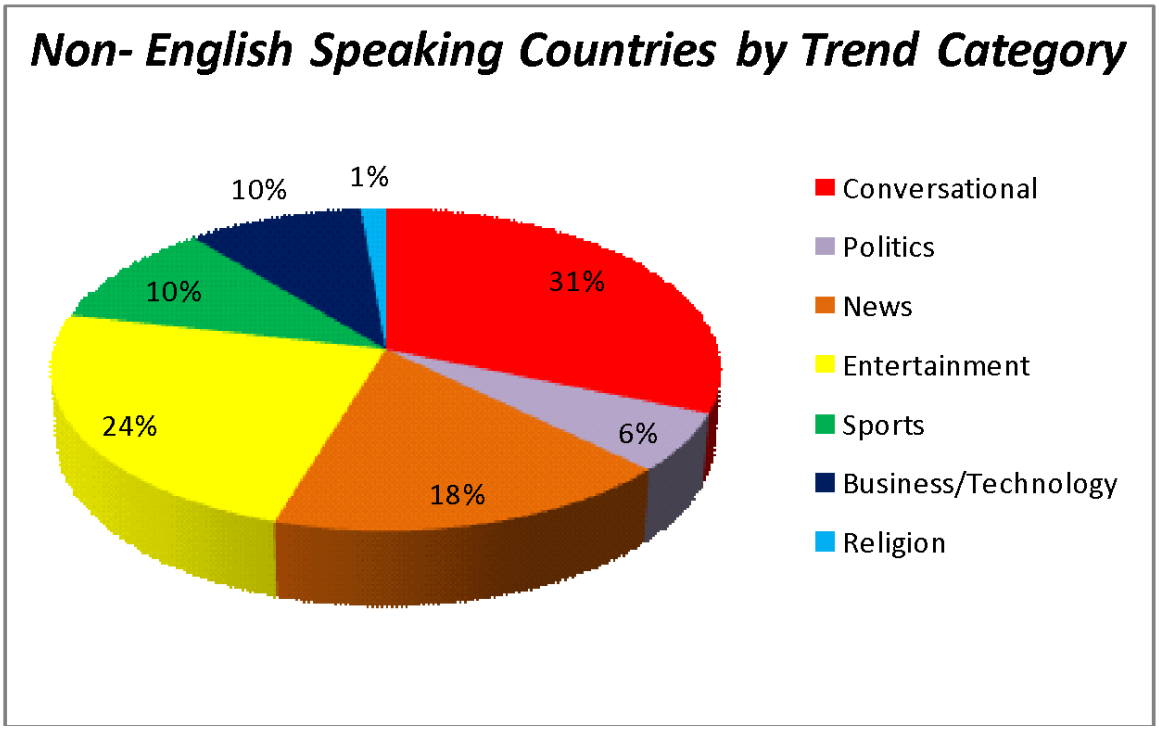


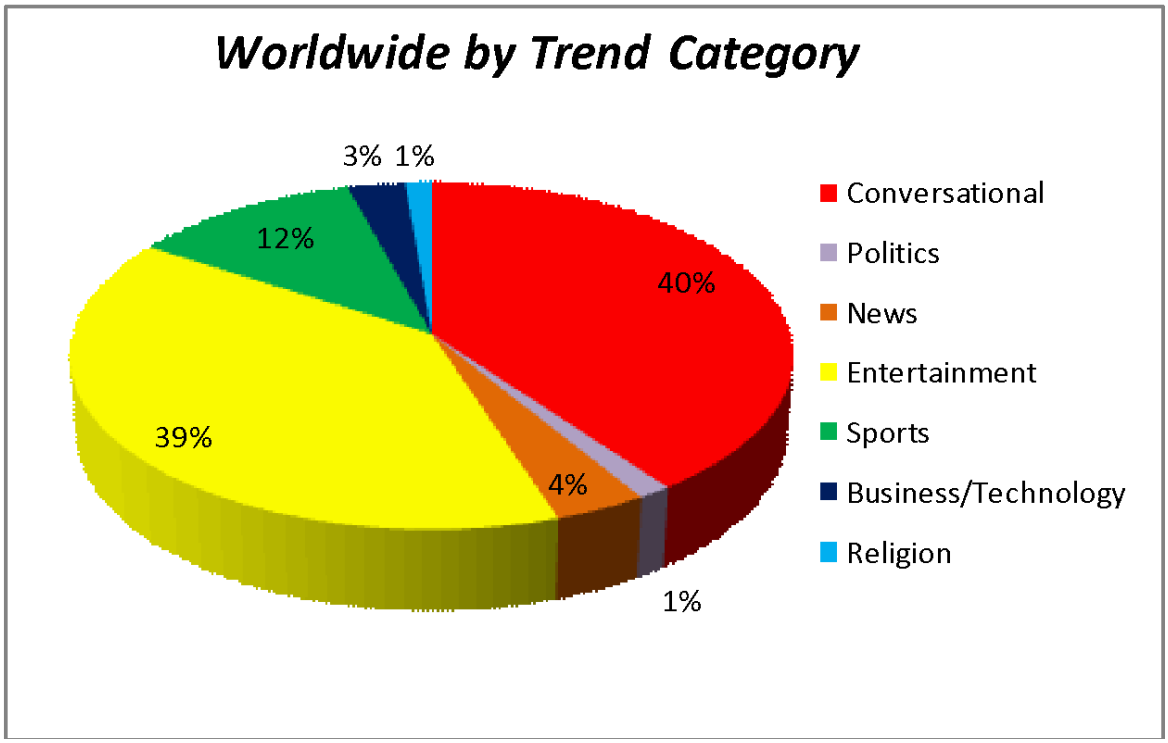
- **Total Trends (Overall):**



- **Total Percentages:**




Non- English Speaking Countries by Trend Category
10%
1%
31%
10%
6%
24%
18%
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion


Worldwide by Trend Category
3%
1%
12%
40%
39%
4%
1%
Conversational
Politics
News
Entertainment
Sports
Business/Technology
Religion

Statistical Analysis:

	Conversation	Politics	News	Entertainment	Sports	Business/Technology	Religion	Total
Actual	915.00	137.00	277.00	835.00	289.00	174.00	30.00	2657
Expected	13084.50	1959.10	3961.10	11940.50	4132.70	2488.20	429.00	37995
P Value	1.98E-37							
Chi Square Critical Value	0.5							

Discussion:

The data in this study showed a variety of different outputs. The data showed that Conversational and Entertainment trends had the largest number of tweets with 66% of the total measured trends. These two categories contained the greatest number of trends on any given graph and also contained the greatest percentage of trends overall. Religion was a category that had the smallest percentage of trends at about 1%. Sports and Business/Technology trends were close in number in all the countries. Japan dominated as being the country with the most News trends. United Arab Emirates had the most Conversational trends.

Using the Chi Squared test on English speaking and Non-English speaking groups showed the data to have a critical value of 0.5 (because the critical value was about 0.05). This means that there was a strong correlation between the two groups (meaning that they were statistically similar). Since they were statistically similar, my hypothesis is supported. This statistical analysis shows that regardless of the language spoken, the same Twitter trends will be popular overall. In comparing English speaking countries and Non-English speaking countries visually, (using the Pie charts) the majority of the trends look to be the same. When comparing the actual number percentage wise between the two, many were close to the same. Both groups shared 6% Politics and they were both similar with 11% and 10% Sports (English and Non-English, respectively). Both groups also had Entertainment and Conversational trends as

their largest categories (English: 24% and 31%, Non-English: 36% and 36%). Interestingly, these two categories were what I expected to be the two largest categories in the study. Although Worldwide's percentages were somewhat different, it kept some of the defining features the English and Non-English groups had. Worldwide too had Entertainment and Conversational as its two largest categories (at 39% and 40%, respectively). Worldwide had 12% Sports, which was very similar to the other two groups, which had 11% and 10%. The English speaking group was similar to Worldwide with 5% Business/Technology as compared to Worldwide's 3%. The Non-English group, however, had 10% Business/Technology in comparison. The percentages found for the three groups help to show visually the overall similarity between Twitter trends quantified during this study.

Several problems could have negatively influenced my study. In this study, categorizing trends was a very complicated process. Each trend had to be looked up to determine which category best fit the trend. There may have been some trends that were not completely accurate because of this. To fix this problem, I should have categorized the trends with other people so that I would have other people's insights and knowledge about particular trends. The categorization process would become more streamlined as a result of categorizing with peers. Some trends in languages other than English did not translate perfectly, so it was more difficult to determine a valid categorization for some trends. To fix this problem, I should have found people who speak the languages I am unable to understand and have these people tell me what the trend accurately translates to so that I can be sure I categorize it correctly. Another problem was that there were some trends that did not seem to fit categories well. I should have broadened my categories a bit or have chosen more in my study to eliminate this problem. With that said,

however, if I did this experiment again, I would probably leave off the Religion category because it did not have a significant influence on my experiment.

Many studies or experiments can be done in the future using the data I have collected. A study could be done that measures the same factors I did (with English versus Non-English speaking countries) but they could add in additional categories, such as Location, Holiday, or Education. Another study that could be done is a study comparing trends in Western countries to trends in Non-Western countries. This could open up many new insights on Western and Non-Western culture. Trends could even be measured in Muslim countries against trends in Christian countries. This would not only examine language differences, but religious differences as well, leading to a potentially useful experiment. Many different experiments and studies could build off of the data I have collected in my study.

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