

User Comments across Platforms and Journalistic Genres

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Over the last decade, user comments have become routine, evolving into an engrained part of the digital news sphere across the globe. News sites share many features of traditional mass communication: they are exposed to mass audiences, are often part of institutional news organizations, and preserve their role as professional news gatekeepers. The wide application of user comments on news sites has thus had an important symbolic role in the adaptation of news websites to the Web 2.0 era. The comments section opens up the professional news sphere to user-generated content, where users, by sharing their opinion and thoughts, are seen to engage in a democratic dialogue. User comments are thus often cited as having the potential to foster public deliberation and civic discourse, described as a new manifestation of citizen participation in the public sphere (Manosevitch & Walker, 2009; Rowe, 2015).

Along with the increasing popularity of user comments on news websites, the rise of social media during the same period has opened up other venues for posting comments on news content. In this paper, we examine parallel trajectories. In the first, news organizations have “migrated” to social media to be where the critical mass of their readership spends time online. Within this trajectory, people use the platforms’ commenting feature to respond to news articles posted on the news organization’s official page or account, or when the article appears on their own personal “news feed,”

as they would use this feature to comment on any other post they are exposed to. In the second trajectory, features of the social media platforms have emerged in online news websites through third-party plugins and buttons. Among third-party social media commenting options, the most widely used is the Facebook Comment Plugin, which allows users to use their Facebook account to leave comments on a website. A growing number of news websites have adopted this feature since its introduction in 2011 (Santana, 2014, p. 20). For news websites, the use of the Facebook Comment Plugin lowers the burden of comments management, including the accompanying ethical, ideological, and financial issues (Braun & Gillespie, 2011). Thus, users' choices on commenting on news website content have expanded from the site's comments section to include posting through social media plugins and posting on the news organization's official Facebook page or account within the boundaries of the social media platform.

The fact that users can choose among various modes of commenting on the same news content through different platforms encourages a comparative study of user comments on the *same* news article across three commenting platforms: the news website's comments section, the Facebook Comment Plugin on the news website, and the comment feature on the news website's Facebook page.¹ Thus, the adoption of a comparative approach increases understanding of the interaction between news content, user comments, and online platforms on three interconnected levels: it allows us to (1) compare commenters' behavior across platforms and media environments; (2) assess the possible effects of the commenting platform on the construction of the contextual environments that the same news contents are embodied in; and (3) examine the extent to which each of the commenting platforms might suit and encourage discussion of different news contents. Previous studies show that social media platforms encourage

the production of content that relates to human interest, entertainment, and culture (Horan, 2013, p. 56). We thus added a second analytical layer to the comparison of comments across platforms referring to the articles' genre: either “soft news” or “hard news.” This allows us to examine the interaction between news genres and commenting behavior generally, and across platforms particularly.

Our analysis focuses on *Ynet*, Israel's most popular news website, established in 2000 and associated with the longtime popular tabloid *Yediot Aharonot*.² User comments are very popular in Israel: commonly dubbed as “talkbacks,” they were integrated into Israeli news websites in the first half of 2000s and are well acknowledged in Israeli traditional mass media (Nagar, 2011). User comments in Israel seem to be unique in their discursive style, described as short, brief, and sloppy (Aharony, 2012). Although commenting often requires pre-registration—where users must provide personal details—this is not mandatory for most Israeli news websites. However, to reduce the number of offensive comments, comments are usually moderated before they are published. Given the vast number of comments on each article, the moderation process on popular news websites such as *Ynet* often results in a high rate of comment rejection. Until recently, *Ynet* readers who wished to avoid the pre-screening could post their comments through the Facebook Comment Plugin. But this would expose their identity, open them to contact, and did not exclude the possibility that their comment would be moderated after the fact.³

Ynet's official Facebook page is ranked the most popular news page in Israel. To date, it has over than 968,000 fans—more than 10% of Israel's population (Spy the Net, 2016). Its popularity and prominence in the Israeli online news sphere thus make *Ynet* an apt case for a cross-platform analysis—allowing us to compare, on the highly

anonymous comments posted to *Ynet*'s website with the highly identified user environment of comments posted on *Ynet*'s Facebook page. Between the newspaper's website and its Facebook page, the third commenting platform—Facebook Comment Plugin—presents a hybrid environment. Within this platform, the comments appear on the news website (and are therefore exposed to mass audience) and at the same time are written within the environment, culture, and affordances of Facebook.

Our analysis employs computational methods. Specifically, we scraped 17,437 comments to 60 *Ynet* articles published on both its website and its Facebook page. The data mining process was designed to capture and follow the unique technological affordances of each commenting platform. For example, *Ynet*'s comments include a title field and the date of the comment, and other readers may also use designated buttons to reply to the comment or to upvote and downvote it. These affordances differ from Facebook's, where the comment has no title the comment timestamp is more precise (data, hour, minute), and the engagement buttons include (in the timeframe studied here) the like, comment, and share buttons to the article, as well as the like and reply buttons to each of the comments. Despite these differences, we automatically computed parameters the commenting platforms shared: the comments' length and the number of comments per article. In addition, we used topic modeling to identify and compare patterns in the content of comments to soft and hard news in each of the studied commenting platforms.

User Comments and Platforms

“Platform” is an umbrella term referring to broad phenomena, such as social networking sites or mobile computer machines, and that can be applied to hardware and software environments (Hands, 2013; Plantin, Lagoze, Edwards, & Sandvig, 2016). Reference

to the differences between platforms echoes traditional discussions on media ecology, identified by specific logic, production and consumption of media contents, interface design, affordances, and restrictions. Platform studies might deal with the *how* (data collection, storage, and processing) rather than the *what* (communication contents and discourse) (Langlois & Elmer, 2013, p. 2). In the social sciences, platform studies focus on actor/structure relationships, where the structure may refer to the platform's architecture or to legal and economic aspects that effect communication acts. As Plantin et al. (2016, p. 6) argue,

[P]latform studies scholars explore how modularity and power are negotiated between a core unit with low variability and heterogeneous components of high variability. Their perspective is cultural, economic, and critical, forming a continuum ranging from cultural studies to political economy. Collectively, they highlight how platforms' affordances simultaneously allow and constrain expression, as well as how technical, social, and economic concerns determine platforms' structure, function, and use.

Several studies have applied cross-platform analysis of the effects of platforms, along with their affordances and constraints, on expression in user comments forums (Kavada, 2012; Rowe, 2015; Zelenkauskaitė, 2014). The adoption of the Facebook Comment Plugin by a growing number of news websites has opened the door to comparison between user comments posted directly on the news website and between those posted on social networks—mainly through Facebook. A main theme in studies has been the anonymity of news website forums compared with the highly identified environment characterizing commenting through Facebook (Hille & Bakker, 2014).

In this spirit, Rowe (2015) compared comments to the same articles on the *Washington Post* website and on its Facebook page regarding their level of politeness, finding a higher level of incivility in the anonymous user comments section of the former than on Facebook. Furthermore, instances of incivility directed to other commenters were less common on Facebook. In another study that compared comments posted directly on a news website with comments posted through Facebook Plugin, Hille and Bakker (2014, p. 570) show that there are many fewer comments sent through Facebook than through the website, making the user comments' conversation on Facebook redundant, concluding, "Facebook will provide fewer comments, will kill the trolls, but will not result in making the conversation more interesting."

The differences in the discussion quality between comment sections in the news website and on the newspaper's Facebook page are not attributed only to the number of comments. Rowe (2015, p. 552), who studied differences in the deliberative quality of comments regarding political issues across these platforms, found that "web site commenters are more likely to engage in higher quality discussion than Facebook commenters". Furthermore, he notes that the opinions posted on Facebook are more homogeneous and less balanced than those on the websites.

While these studies provide some initial understanding of commenting cultures on news websites compared to those through Facebook Plugin or the Facebook page of news websites, we are still missing basic data regarding the characteristics of comments across all three platforms. While scholars are aware of the platform's influence on the quality of the political discussion and deliberation, a deeper understanding of possible differences in worldview, or the general context that comments on each platform provide, is still entirely missing. Moreover, studies have so far focused on hard political

news. Yet, with the continuous transformation of news towards infotainment, and with the possible bias of social networks towards soft news, an additional analytical level is required, one that will take into account differences in commenting behavior across platforms and across journalistic genres.

Hard and Soft News in the Digital Era

The concepts of hard and soft news diffused from the journalistic practical world to the academic one in the middle of last century. Yet, these concepts became dominant following Tuchman's study, published in 1973 (Reinemann, Stanyer, Scherr, and Legnate, 2011). While there is no accepted definition of hard and soft news, hard news usually refers to immediate (often breaking) factual news involving major political or economic issues, world public affairs, or reports on disasters (Lehaman-Wilzig & Seletzky, 2010; Reinemann et al, 2011). Soft news often refers to timely news, and news related to human interest stories, personal stories, sports, and entertainment events. Over the years, several studies have attempted to reassess these categories by suggesting a third intermediate category (Lehaman-Wilzig & Seletzky, 2010), or by treating these concepts as pools in one sequence while offering multi-dimensional measures for them (Reinmann et al., 2011).

Studies have also analyzed the relevance and application of hard and soft news in the digital journalistic sphere as part of the general drive to reassess common assumptions about journalism following its changes in the digital era (Schudson, 2013, p. 205). Several elements have contributed to the growing interest in the conceptual distinction between hard and soft news in the online news sphere. First, is the dimension of time, which is central to this distinction: hard news requires urgent dissemination whereas soft news is not urgent and has a longer lifespan (Boczkowski, 2009). Since

the immediacy and ephemeral nature of news in digital environments is constantly increasing, the role assigned to hard and soft news with regard to time needs to be reassessed (Boczkowski, 2009). Second, there is a persistent interest in the effects on digital platforms of trends such as “infotainment” and “news diet”—where the assumption is that news consumption is moving toward soft news and showing declining interest in hard news (Schaudt & Carpenter, 2009). Third, the online news sphere allows the use of computational tools to study news consumption practices, such as the effect of clicks, “likes,” and user comments on the production and dissemination of hard and soft news (Sen & Yildirim, 2015). All of these elements relate to questions about the effects of platforms on journalistic culture, production, and consumption.

Method

As previously noted, this study employs a computational methods approach to conduct a cross-platform and cross-genre analysis of user comments to the same news articles. By “computational methods,” we refer both to software tools specifically built to extract commensurable data across platforms and to topic modeling algorithms that automatically extract and characterize the content of a large corpus of user comments. The software tools, data mining, and analytical procedures are specified below.

1. Tools

We built server-side custom tools to extract data from Facebook’s API and from *Ynet*. The “Facebook Comment Scraper” tool allows the researcher to search for a public Facebook page and select a time range for analysis. Subsequently, the tool fetches from Facebook’s API the titles of the post published to the specific Facebook page at the designated period, and the researcher selects specific posts for comment extraction. The tool outputs a tabulated textual file that includes a number of fields: an anonymous user

i.d.; the time stamp of the status update (the news article) posted on the Facebook page; and the comment's text and the time stamp of the comment, computed as the count of minutes elapsed since the post was uploaded. In a separate tabulated file, the tool outputs summary statistics for the post itself, which include the post's i.d.; its created time; the post's text; the length of the post's text (in number of characters); and the total time the post was active (computed as the interval between the post's created time and the time stamp of the last comment, in minutes). Additional automatically computed fields include the average length of the comments to the posts and the average commenting pace, calculated as a ratio of comments per minute.

The second tool extracts commenting data from the news website *Ynet*. Upon typing a URL of a news article published on the website, the "*Ynet* comment scraper" tool generates a script that recalls the comments at the bottom of the article and outputs a tabulated file with the comments' texts, along with the comments' metadata available on *Ynet*: the comment's date and title, the commenter's name (or pseudonym), and the length of the comment's text. This tool also outputs a separate file with data about the comments to the news article that were posted on *Ynet* through the Facebook Plugin. Along with the comment's text, the Facebook Plugin output includes the time stamp of the comment, the comment's length (in number of characters), and the count of its likes and comments.

Since the technological affordances of Facebook and *Ynet* are not commensurable (for example, one cannot know the exact time stamp of a comment on *Ynet*, and Facebook does not have a field for a title of a comment), we compared the comments across platforms using two variables shared by all platforms: the count of comments to a news article and the average length of the comments' text. However,

since we are interested in accounting for differences in the temporal dimension of hard and soft news on social media, we further analyzed the available data on the temporal dimensions of Facebook's comments, namely the posts' total active time and the rate of comments per minute.

2. Procedures

We selected news articles for analysis according to the following heuristic:

For each month of the studied period (July–December 2015), we used the Facebook Comment Scraper tool to view the titles of all the articles posted on the Facebook page of *Ynet*. In the studied period, *Ynet* has posted a total of 309 articles on Facebook, (51 articles per month, on average). For each month, we selected the first five articles that matched the definition of “soft news” and the first five articles that matched the definition of “hard news.” While some news organization change the presentation of news on different platforms, *Ynet* 's Facebook page posts the URL of the original article published on its website. This means that users are exposed to the same articles across platforms. However, we found slight changes across platforms in the articles' titles, mainly due to the restriction on the title's length on the website. Of the 60 articles examined, 11 titles were not identical across platforms. When modified, the texts posted along with the article's URL on *Ynet*'s Facebook page were longer than the titles on *Ynet*. For example, the *Ynet* title “*What is the Connection between Fur, a Rooster and a Seal*” appears on *Ynet*'s Facebook page as “*The Winter is Here and it is a Good Enough Reason to Present before You Three Cute and Furry Animals That Would Love Your Caress and Need Endless Combing*”.

The classification of news as soft or hard is based on the dimensions suggested by Reinemann et al. (2011): the topic of the news item, the aspects it focuses on, and

its style. It should be noted that the period of data collection was characterized by a wave of terrorism in Israel, and thus 12 of the 30 hard news items were breaking reports of terrorist attacks (for example, the stabbing of a policeman in Jerusalem and the murder of a couple in front of their children in the West Bank).

In total, our dataset contains 17,347 user comments to 60 news articles published over a period of six months (30 soft news and 30 hard news), across three platforms (*Ynet*'s Facebook page, the comments on *Ynet*, and the comments on *Ynet* through the Facebook Plugin).

3. Analyses

We used descriptive statistics and a one-sample t test to analyze the differences found in the average count and length of comments to the same news article across platforms and across news genres. In addition, we conducted separate analysis on the continuous variables extracted from Facebook (comment count, total active time, average number of comments per minute). These included Pearson's correlation coefficients and a linear regression model.

To further analyze the content of the extracted comments, we grouped the comments' text per news genre and per platform, and applied Latent Dirichlet Allocation (LDA) topic modeling to automatically discover topics in the comments to all hard and soft news in each of the studied platforms. LDA is an automated statistical model aimed to uncover, categorize, and extract hidden structure within a large amount of text, through observation of the data—the documents' words (Blei, 2012, pp. 78–79). As Törnberg and Törnberg (2016, p. 405) explain, “LDA views each document as a bag-of-words. A topic is defined as a list of words with different assigned probabilities.”

We ran the topic modeling for comments posted on each platform and to different news article genres separately, assuming that differences among platforms and genres might be found, due to their unique characteristics and context. While this kind of topic modeling builds on existing methods, its adaptation to Hebrew texts was challenging. Like other Semitic languages, Hebrew has unique characters, morphological structure, word order, and writing direction. Thus, the application of existing topic modeling scripts to analyze Hebrew texts extracted from the Web renders topics that too often include synonyms of different morphological forms of the same stem. To address this issue, we had to remove stop words and perform stemming. Subsequently, we iterated the topic model and identified synonyms. For example, in Hebrew, phrases such as “to the government” and “from the government” are written each as one word. When stripped of their prepositions, these words become synonyms. Thus, we grouped synonymous words found in the discovered topics and ran again the model until no more synonyms were found. Finally, for each subset of platform and news genre, we extracted 5 topics, each composed of 10 words.

Findings

1. A Cross-Platform and Cross-News Genre Analysis of the Number of Comments and their Average Length

Our findings show significant differences in commenting patterns across platforms and news genres. Overall, our dataset contains 17,437 comments, of which over two-thirds are comments on hard news items (67.247%, N=11,726), and the rest are comments on soft news items (32.752%, N=5,711), ($T=2.418$, $F=5.719$, $P<0.05$, see Table 1, in Appendix). Across platforms, we found that *Ynet*'s Facebook page hosts the most comments: the number of comments to the same news items on Facebook (N=10927)

is almost twice higher than the number of comments on *Ynet's* website (N=5505) and almost ten times higher than the number of comments posted through Facebook Plugin on *Ynet's* Website (N=915) for both hard and soft news items (see Figure 1). The breakdown of the number of comments to soft and hard news in each of the platforms reveals a similar proportion of comments to hard news on *Ynet's* website and through Facebook Plugin (about 78.1% of the total comments) compared to Facebook, where comments to hard news items make 60.4% of the total comments (ANOVA, $F=20.195$, $P<0.01$, see Table 2, in Appendix).

In terms of the length of the comments' text, we report that on average, comments to hard news items are nearly two-thirds longer than comments to soft news items (115.765 characters and 67.577 characters, respectively), ($T=3.163$, $F=5.182$, $P<0.05$, see Table 1). Across platforms, on average, the comments posted on *Ynet's* Facebook page (77.437 characters to hard news, and 47.391 characters to soft news) are shorter compared to the average length of comments posted on *Ynet's* website (89.955 characters for hard news, and 69.790 characters for soft news). However the comments posted through Facebook Plugin are strikingly longer than the two other platforms, namely an average length of 179.864 characters for hard news, and 85.552 characters for soft news (see Figure 2), (ANOVA $F=4.635$, $P<0.05$, see Table 2). When comparing the patterns found in the number of comments and in the comments' length, we thus notice a similarity between the website and Facebook Plugin in terms of the number of comments, and a similarity between the website and the newspaper's Facebook page in terms of the comments' length. At the same time, we witness an inverse relationship between Facebook and Facebook Plugin: the newspaper's Facebook page is the platform that attracts the most comments, but these comments are

rather short; and Facebook Plugin displays the least comments, but these comments are long and detailed.

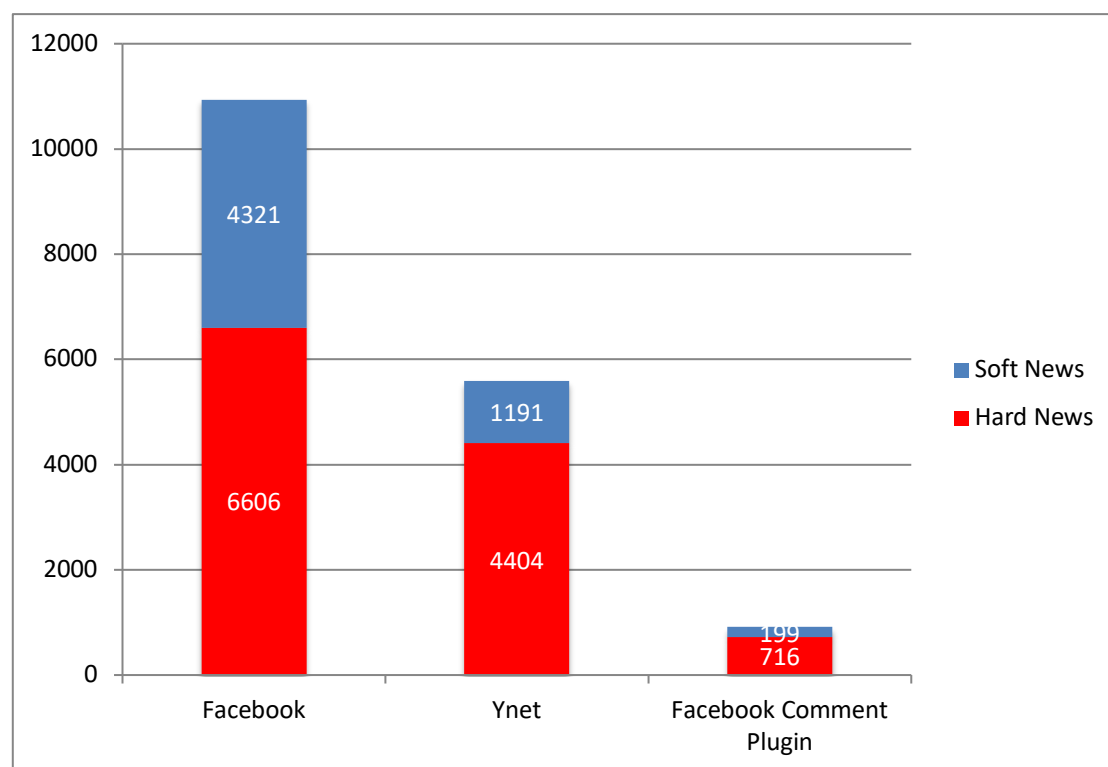


Figure 1. The total number of comments aggregated by news genre and platform

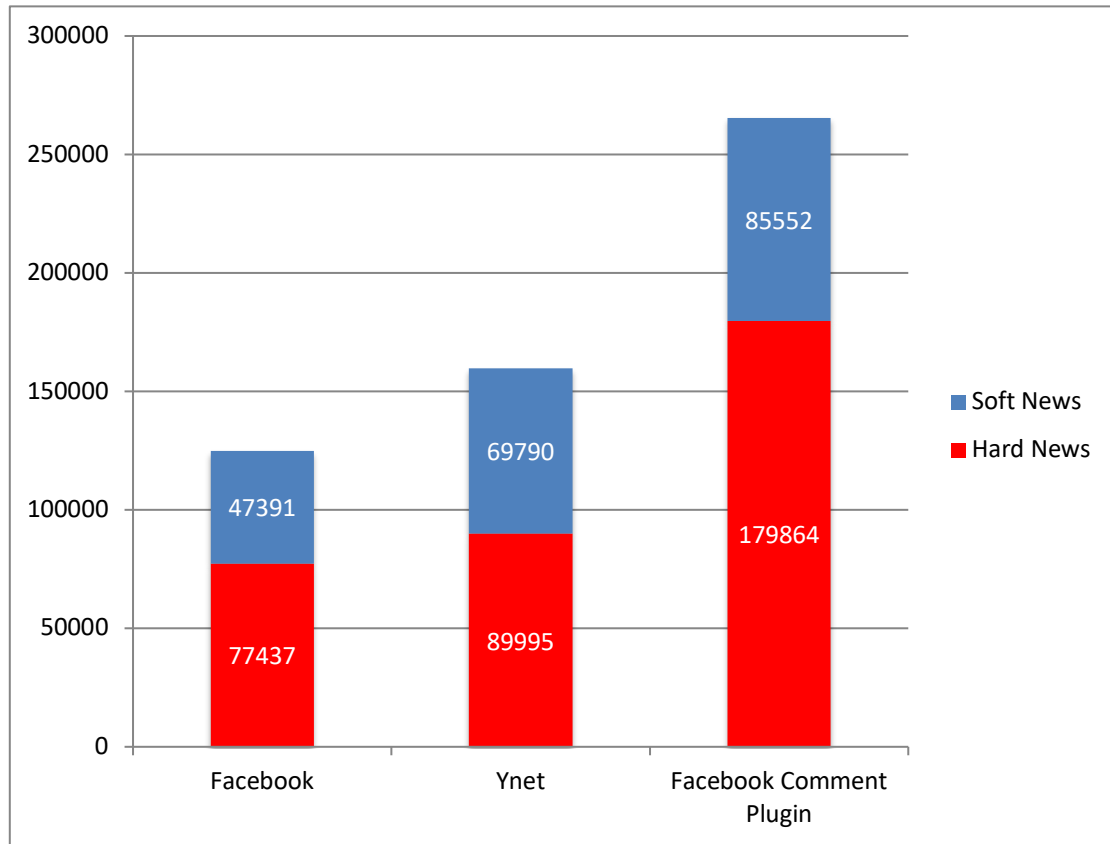


Figure 2. The average length of comments (in number of characters), aggregated by news genre and platform.

The following sub-section presents further analyses on commenting patterns on Facebook and Facebook Plugin, which were extracted from Facebook's API, but which are unfortunately not available for the comments extracted from *Ynet*.

2. The Life Cycle of Comments to Hard News and Soft News on Facebook

Do comments to news articles posted on *Ynet*'s Facebook page have different life cycles for hard news and soft news? To answer this question, we conducted a t-test comparing the average time (in minutes) that elapsed once *Ynet* posted news items, between hard news articles and soft news articles. As can be seen in Table 3 (in Appendix), the mean commenting time for hard news is almost 5 hours after an article is posted (295.89

minutes), compared to a mean of nearly 7.5 hours for soft news (442.67 minutes). Despite a large standard deviation of the observations, the t-test reveals that the differences in the mean commenting time to hard news articles and soft news articles on *Ynet's* Facebook page are statistically significant ($F=86.544$, $T=-8.131$, $P<0.01$).

A further examination of the table of frequencies of user comments to *Ynet's* news articles posted on its Facebook page shows that in the first 30 minutes once a news article is posted, comments to hard news tend to peak in the first 5 minutes and then sharply decline, whereas comments to soft news are characterized by several gradually declining peaks with intervals of less commenting activity between them (see Figure 3). After the first half hour, the commenting rate of hard news sharply decreases, compared to a moderate decrease in the commenting rate of soft news (see Figure 4).

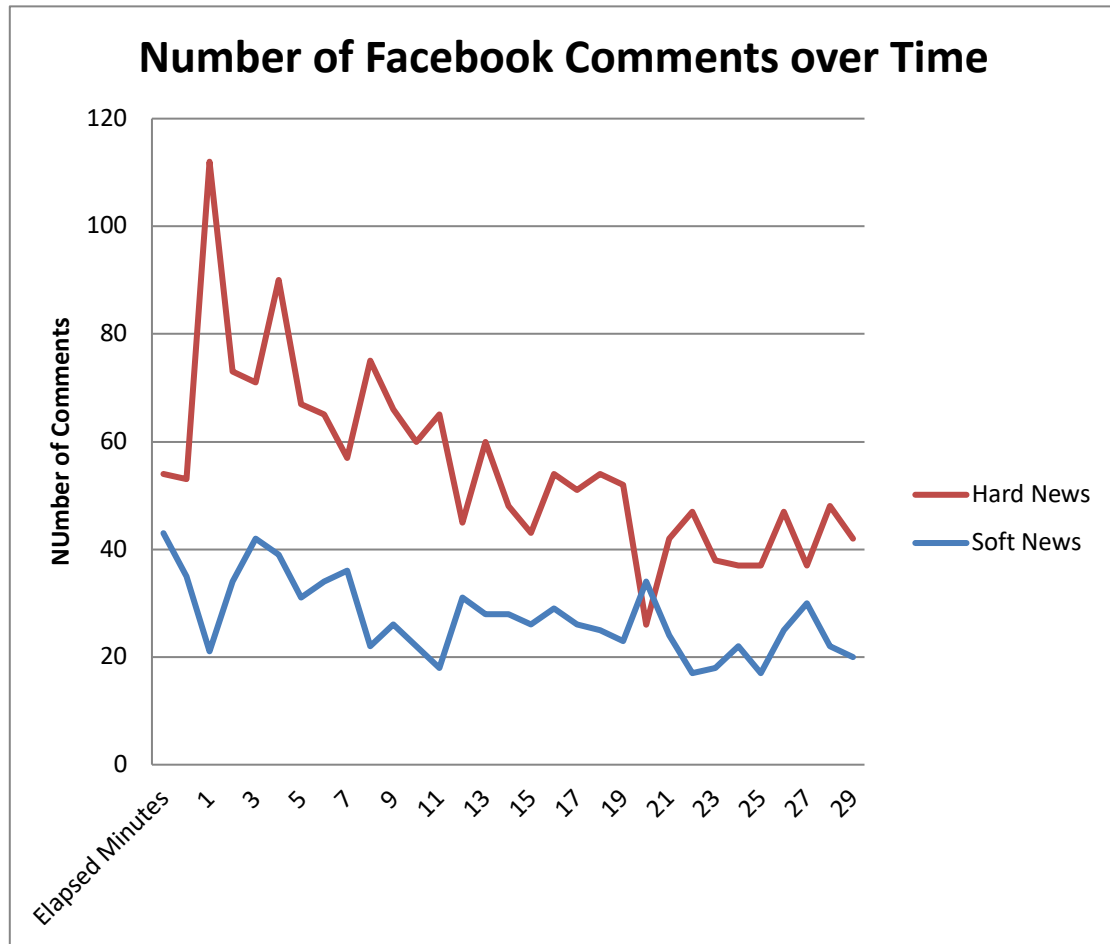


Figure 3. The number of comments per minute to hard and soft news articles on Facebook: A view of the first 30 minutes.

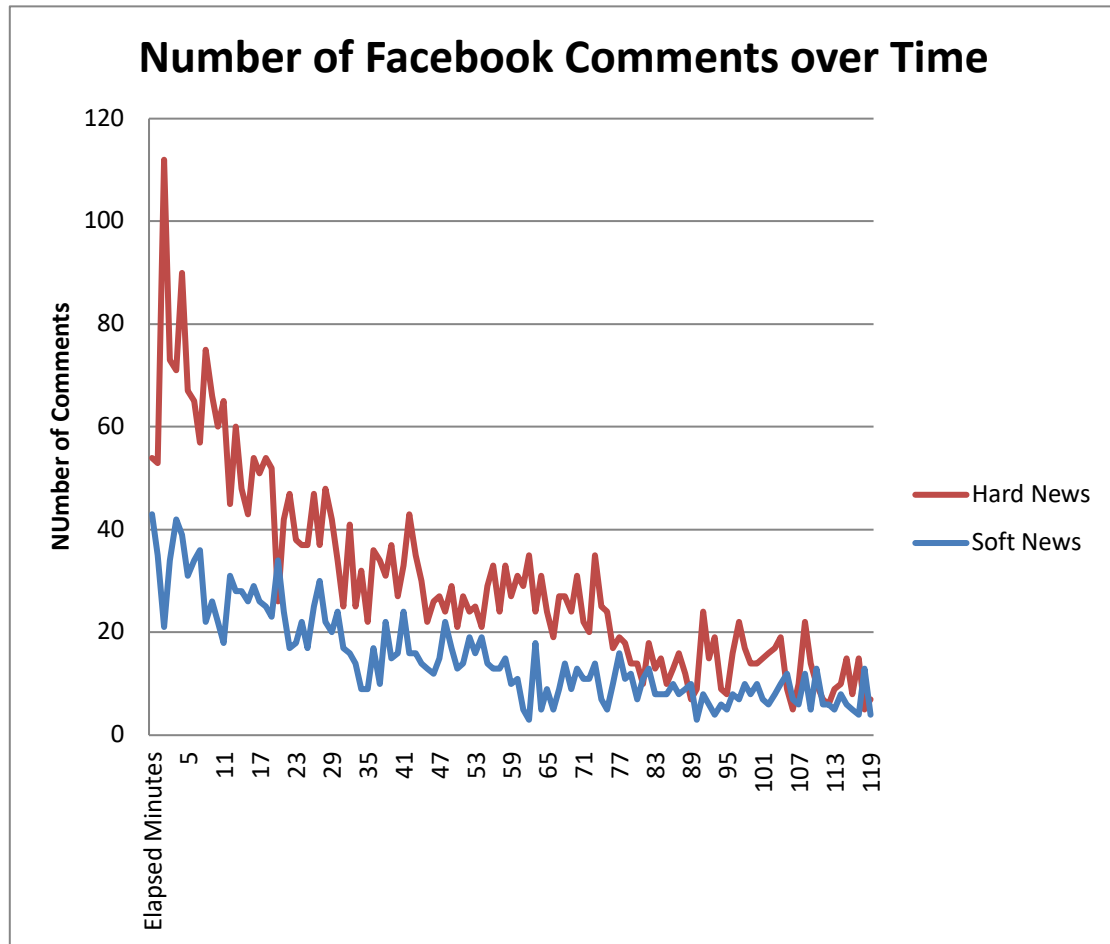


Figure 4. The number of comments per minute to hard and soft news articles on Facebook: A view of the first 120 minutes.

Topic Modeling

Because we ran the topic modeling algorithm on comments to soft news articles and to hard news articles separately, the resulting topic models do not necessarily extract topics that resonate with a particular news content. Rather, they are used to detect different commenting patterns to the same contents across platforms.

We found that Facebook comments convey more emotional expressions to both hard and soft news items compared with the comments posted on *Ynet*'s website and through Facebook Plugin. Facebook comments to hard news contain negative

emotional elements, expressing sadness, anger, and grief related to the reported terrorist attacks (see Table 4). Four out of the five extracted topics mention terrorists or terror acts (shooting, missiles), three of them discuss these along with negative emotional expression, such as sadness or anger. This expression of sadness adds a personal component – which fits well the social media discourse – while commenting on national news. For example, following a news item about a stabbing attack, one of the commenters on Facebook noted: “The SOB insist on ruining my birthday...” By contrast, topics in comments to hard news posted on *Ynet* relate to the Arab-Israeli conflict in general. Terms within some of the topics can imply criticism of the political leadership and its tolerance towards terror. For example, a comment on *Ynet* on the article about the stabbing attack mentioned above refers to the special unit responding to it, arguing: “If they are so special why is the terrorist alive? Special unit, two bullets in the heart and one in the head.” Yet, *Ynet*’s comments also deal with other issues—relating to the economy, the government, and the Iranian nuclear weapon program. Interestingly, topics extracted from Facebook Plugin comments to hard news items resonate more with items on international affairs than domestic issues. Three out of the five extracted topics relate to Greece, while the other two topics mention the US and Iran. This striking difference may be a result of the relatively small number of comments posted through Facebook Plugin. A similar topical characterization across platforms is also evident in comments to soft news items (see Table 5). Here, too, Facebook comments are characterized by intense emotional expressions, such as cheer or enchantment, compared to *Ynet* and Facebook Plugin.

Overall, the topics extracted from all comments exhibit a strong element of national identity. A recurring word in topics across platforms and genres is the pronoun

“we” or “us,” which can be seen as a banal marker of nationalism (Billig, 1995). The “us” in this case relates to the Jewish-Israeli national identity, as opposed to the interpolated “them”—the Arabs, Palestinians, Iran, the UN, the United States, or the world in general.

On the surface, our topic modeling results indicate that comments to hard news are much more personal and emotional on social media than on news websites, where they follow the original news spirit. Yet, as we will discuss in the next section, the emotional statements might also reflect a discursive bias of news on Facebook towards the lowest common denominator (Hogan, 2010).

Table 4. Topic modeling results of comments to hard news (translated from Hebrew).

Facebook	<p>1 Sad, Terrorist, Horrible, Palestinian, With me, Alive, Fed Up, Us/We, Soul, Left</p> <p>2 When, Bibi, Muslim, State, Obama, Suspicion, Government, Capital, Bitch</p> <p>3 Hurts, Arrived, Amen, Shame, Made, President, Terror, See, Bibi, Shoot</p> <p>4 Memory, Blessed, Let be, LOL, Revenge, God, Blood, Terrorist, Death</p> <p>5 Us/We, Need, Respect, Stone, U.S.A, Rockets, Made, Terrorist, State</p>
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Ynet	<p>1 Treasury, Government, Always, 'Big Shot', Atomic, Government, Joy, When, Surreal, Occupation</p> <p>2 Bibi, Respect, Iran, Strong, Response, Train, Speech, Balanced</p> <p>3 Bridge, Rivlin, Likud, Maariv, Us/We, Stupidity, Go ahead, Bibi, Trust, On Fire</p> <p>4 Necessary, Us/We, State, Done, Bibi, World, Arab, Arrived, Stone, Alive</p> <p>5 Right, Anonymous people, Government, Terrorists, Man, Revenge, Shoot, State, The (Occupied) Territories, Should</p>
Facebook Plugin	<p>1 Necessary, Stupidity, Alive, Greece, Greeks, Social, Understand, Us/We, Sure, Land</p> <p>2 Greece, Made, Put, Work, See, Europe, Return, Minister, Fascinating, Necessary</p> <p>3 Bibi, Obama, State, U.S.A., Missiles, Anonymous People, Arrive, World, Terrorist, Agreement</p> <p>4 Government, Kahlon, Security, To ease, Bibi, Us/We, Afraid, Go Out</p> <p>5 Price, Us/We, Greece, Serious, Done, Train, Excellent, Themselves, Alcohol, Greek</p>

Table 5. Topic modeling results of comments to soft news.

Facebook	<p>1 LOL, Amen, World, Divine, Alive, Disaster, Save, Cohen, Diary, Loved</p> <p>2 Touching, Respect, Medicine, Wow, Done, Need, Bliss, Health, Physician, Wonderful</p> <p>3 LOL, Us/ We, Hero, Fun, Great, Hurts, Dog, Sweet, You, Home</p> <p>4 Amazing, Shlomo, Sad, Blessed, Memory, Let Be, Putin, Awful, Story, Nonsense</p> <p>5 Health, Successful, Look, Happened, Sweet, Champion, Liyah, Girl, Studies, Look</p>
Ynet	<p>1 See, Need, Hero, Congratulations, Loved, Kilogram, Man, Reading, Successful, Left</p> <p>2 Market, Sad, Price, Shame, State, Pay, Put, Real, Work, Divine</p> <p>3 Us/We, World, Alive, Strong, Remains, Straight, Totally, Go Down, Alert</p> <p>4 Respect, Man, Response, Amazing, Hurt, Russian, Article, Pride, Proud, As if</p>

	5 Health, Jewish, Happened, Doubt, Airplane, Touching, Cheap, Ariel, Bibi, Wedding
Facebook Plugin	<p>1 Sad, Devastated, Permission, Past, Living Room, Family, Antiques, Hilarious, Later on</p> <p>2 Us/We, Fly, Need, Putin, Shame, Penis, Amazing, Want, Arrive, Came</p> <p>3 Occurred, Batya, Town, Beneath, Idea, Be Able, Site, Occurrence, Back, Proofreading</p> <p>4 Respect, Belong, Home, Russian, Amazing, Us/We, Arrived, In them, Cement, Guy</p> <p>5 Article, Soon, Work, Force, World, Straight, Special, Done, Hurt, Put</p>

Discussion

The analytical framework put forward in this study attempts to characterize user comments to news articles across platforms and news genres. With regard to news genres, the adoption of the analytical distinction between soft and hard news was found useful. Hard and soft news—terms usually related to news production and editorial decisions—were found relevant in characterizing online user comments. Significant differences in user comments were found regarding the number of comments and their length. As we have seen, there are many more comments on hard news articles than on soft news articles. This supports findings of previous studies that news stories on controversial political/social issues receive the highest number of comments

(Boczkowski & Mitchelstein, 2013: 135; Tenenboim & Cohen, 2013). Our examination of the commenting cycle on Facebook also shows differences between the two news genres: while the number of comments on hard news peaks in the five minutes after a news item is published and then sharply decreases, comments on soft news are posted more gradually: in intervals with several peaks. Thus the time dimension, considered an important factor in the theoretical distinction between hard and soft news, was found relevant to characterizing users' comments to these two types of news.

The cross-platform approach adopted in this research allows for a fine-tuned articulation of the effect of platforms on the public discussion of news. While our analysis is limited to commenting features that are available, measurable, and shared by the three studied platforms, the comparison of comments to the same content across platforms allows us to characterize platforms as contextual environments that shape commenting cultures. Our different analyses show the prominent place reserved to social media in people's engagement with news. As we have seen, the number of comments to the same articles posted on Facebook is almost double than those posted on the news website. This confirms previous research on online news consumption. For example, a 2016 PEW report found that 62% of American adults consume news via social media platforms (Gottfried & Shearer, 2016). Without undermining this conclusion, the differences found in the number of comments between the news website and its Facebook page not only relates to quantifying readership, but may also be an outcome of comment moderation on the news website. As mentioned, Israeli news websites moderate and screen comments in order to reduce the number of offensive comments (Nagar, 2011, p.11). Our findings indicate that most of *Ynet's* commenters prefer to comment through the anonymous comments section and not through the

identified Facebook Plugin (which is not pre-moderated). Thus, the comment moderation process in popular news sites such as *Ynet*—which receives vast numbers of comments—might result in a high rate of comment rejection. As a result, the public opinion climate, which is reflected through reading the published comments in the comments section, is not identical to the one that would have been reflected through reading all posted comments.

While there are more comments to hard news than soft news in all three platforms, the ratio between the number of comments to soft and hard news on Facebook is much higher than on the news site (and on the news site via the Facebook Comment Plugin). This phenomenon is even sharper if we assume that the majority of comment rejection on news websites relates to comments on hard news items, which presumably attract more defamation. We have also shown that despite the fact that hard news items posted on *Ynet*'s Facebook page trigger more user comments in the first 30 minutes, soft news items receive comments for longer periods of time. This finding supports the assumption that social media platforms are effective in promoting user engagement with soft news and human-interest stories, which may encourage news organizations to promote soft news on social media to increase engagement.

Against the high number of comments both on Facebook and on the news website, the paucity of comments posted through Facebook Plugin is evident. This can be explained by the hybridity of this social media feature: on the one hand Facebook Plugin comments are embedded as an extension of the social media platform, and on the other they are publicly published outside of the social media platform by being exposed to the mass audience of the news website's readership. In most cases, comments posted via Facebook Plugin are accompanied by the user's profile picture

and provide access to the user's Facebook profile, which, depending on privacy definitions that user has chosen, exposes varying levels of personal information to unknown people. Those who have chosen to post comments through this tool demonstrate distinct writing characteristics, which are evident both in the significant length of their comments and their emphasis on international affairs rather than on domestic issues. The willingness to write identified, lengthy comments resembles more the writing style of personal blogs. Identified users that chose to comment through the platform do this in a more detailed, perhaps more reasoned, way.

By contrast, comments to the same news article posted on the newspaper's Facebook page are the shortest. These findings, along with the highly emotional expression found in the topic modeling—mainly that of grief over terrorist attacks—integrate well with findings of previous studies. As boyd argues, one characteristic of social media is the collapse of contexts (boyd, 2010). Here, social media activity is perceived as a performative act, whereby performers need to take into account the different contexts of their audiences: colleagues, friends, family members, and so on. One possible result of the collapse of contexts is approaching the lowest common denominator (Hogan, 2010, p. 383); this means that the messages posted on the platform should not challenge the values of those who receive it—and if they do, they should not be posted (Vitak, 2012, p. 455). In addition, as boyd argues, interactions on social media demonstrate a performance of social interaction, often containing little dialogical value. In the same spirit, Ian Rowe (2015, p. 539), in his comparison of the deliberative quality of user comments on the *Washington Post* website and on the newspaper's Facebook page, saw a greater deliberative quality in the former. Among

others, Rowe found that comments on Facebook are more homogeneous than those on the news site.

In our findings, the short comments expressing grief can be seen as an appeal to the Jewish-Israeli lowest common denominator. These comments do not challenge the consensus in any way—it is clear that all users feel sadness and agony when it comes to the killing of innocent people in terror attacks. Unlike the topics that are included in the discussion on the news website, there is no controversial focus on such issues as the Palestinian-Israeli conflict or the role of the government in providing security to its citizens.

Our cross-platform analysis is designed to find differences between commenting features on the same news content. In this respect, we might be artificially treating these platforms as separate media environments, while ignoring that they are technologically and culturally entangled. While our findings do suggest that users are more engaged with the same news content on Facebook than on the news website in terms of the number of comments, the found differences between comments across platforms accentuate their differences rather than indicating any blending of social media and news (Zelenkauskaitė, 2014).

Further research can compare the commenting patterns found across platforms and news genres with other Israeli newspapers, as well as internationally. Next to the theoretical considerations of the implications of cross-platform and cross-genre analysis of user comments described above, we conclude here with reference to some limits of this research. In this study, we built and applied computational tools in order to scale the comparative analysis of user comments across platforms. On the one hand, our automated analysis of 17,437 comments to 60 news articles was useful in

identifying statistically significant differences in the average count and length of comments, and in characterizing differences in the temporal dynamics of comments to hard and soft news on Facebook. Our topic modeling analysis was also useful in characterizing the different discursive spaces created by comments to soft and hard news across platforms. However, the emphasis on computational tools and on large-scale quantitative analysis does not allow for an in-depth qualitative analysis of the differences between comments on the discussed platforms. Such qualitative approach, for example, would help us gain a finer-grained understanding of the content of user comments regarding the content of the article itself, internal debates among commenters, or the additional text the newspaper adds to the link to the article on their Facebook post.

Furthermore, in this study we did not address the role of journalists as agents in selecting which articles to post on Facebook, or the possible effect journalists may have on comments across platforms. To facilitate cross-platform analysis, we focused only on commenting practices of news items that appeared both on the news website and on Facebook, thereby restricting the analysis to articles that were chosen to be published across platforms. This common denominator might have an effect on commenting characteristics; and therefore further research on news items that were not chosen to be posted across platforms is needed.

Finally, the design of this study as a comparative one forced us to stick to commensurable parameters. This limited our ability to draw a larger picture of the media ecology that characterizes each of the studied platforms. For example, our analysis did not take into account the effect of “liking”, “upvoting,” or “comments to comments” on commenting behavior in each of the studied platforms. Just as we are

unable to determine the number of comments that *Ynet* rejected on its website, we also lack access to the temporal dynamics of Facebook's EdgeRank algorithm, which determines whether and when the news article posted on *Ynet*'s Facebook page appears on user's news feeds. Because of privacy settings, we are also unable to study user comments on the same content posted by individuals on their timelines. While these unknown factors limit our ability to draw conclusive results about the specific roles platforms play in shaping user comments to news, we are still able to demonstrate their effects.

Conclusions

As online news readership is partly migrating from news websites to social media, this article identifies platform-specific patterns of user comments to soft and hard news. Such patterns indicate that user engagement with news articles on social media is characterized by short, emotional, and consensual comments, compared to the anonymous and moderated comments section on the news websites. However, the presence of news organizations on social media does not render user comments on news websites irrelevant, despite recent announcements by news organizations that they are considering shutting down their commenting sections. Whether on a news website, a social media platform, or a social plugin, online content is simultaneously circulated and interacted with in different ways. As the findings from this study suggest, user comments to the same journalistic contents vary greatly in form and content across platforms. User comments to news articles are affected by each platform's cultural practices and technological affordances, which, in return, shape the public discussion of news. Focusing on one platform alone would miss out important contexts, emphasis, dynamics, and interactions taking place simultaneously with regard to the same content

on a different platform. Thus, we conclude by arguing that to understand user comments' standpoint on a specific news content, we must adopt a comparative and aggregative approach that takes into account multiple, heterogeneous contexts across platforms.

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Notes

¹ Although it may be argued that comments on Facebook and on Facebook Plugin comments share the same technological affordances, we refer to them as distinctive platforms, as they are embedded in different media environments.

² Alexa's traffic ranking (<http://www.alexa.com/topsites/countries/IL>) of top Websites from Israel ranks Ynet as the fifth most popular website in Israel, after Google, YouTube, and Facebook. See

³ *Ynet* deactivated comments through Facebook Comment Plugin in 2016. The plugin was active during the time of study.

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Appendix

Table 1. T-Test Comparing the Differences in the Average Number of Comments and in the Average Comment Length of Hard News and Soft News Items.

Group Statistics

news_type	N	Mean	Std. Deviation	Std. Error Mean
comment_count	hard	116.52	149.878	15.799
	soft	66.78	124.951	13.171
avg_comment_len	hard	104.951029451413	80.5620730030629	8.4919881238147
	soft	53.553885329872	48.6212141487604	5.1251259770963

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means
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		F	Sig.	t
comment_count	Equal variances assumed	5.719	.018	2.418
	Equal variances not assumed			2.418
avg_comment_len	Equal variances assumed	3.163	.077	5.182
	Equal variances not assumed			5.182

Table 2. One-Way ANOVA Results: Significant Differences in the Number of Comments and in the Comments' Length between the Three Studied Platforms

ANOVA

		Sum of Squares	df	Mean Square	F
comment_count	Between Groups	650307.433	2	325153.717	20.195
	Within Groups	2849817.517	177	16100.664	
	Total	3500124.950	179		
avg_comment_len	Between Groups	45133.269	2	22566.634	4.635
	Within Groups	861771.757	177	4868.767	
	Total	906905.025	179		

ANOVA

		Sig.
comment_count	Between Groups	.000
	Within Groups	
	Total	
avg_comment_len	Between Groups	.011
	Within Groups	
	Total	

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Platform	(J) Platform	Mean Difference (I-J)	Std. Error
comment_count	Facebook	Facebook Plugin	146.917*	23.167
		Ynet	65.133*	23.167
	Facebook Plugin	Facebook	-146.917*	23.167
		Ynet	-81.783*	23.167
	Ynet	Facebook	-65.133*	23.167
		Facebook Plugin	81.783*	23.167

avg_comment_len	Facebook	Facebook Plugin	35.665302578	12.739396880
			0933*	4365
		Ynet	4.6295695938	12.739396880
			350	4365
	Facebook Plugin	Facebook	35.665302578	12.739396880
			0933*	4365
		Ynet	31.035732984	12.739396880
			2583*	4365
	Ynet	Facebook	4.6295695938	12.739396880
			350	4365
		Facebook Plugin	31.035732984	12.739396880
			2583*	4365

Multiple Comparisons

Tukey HSD

Dependent Variable(I) Platform	(J) Platform	Sig.	95% Confidence Interval	
			Lower Bound	Upper Bound
comment_count	Facebook Plugin	.000	92.16	201.67

	Ynet		.015	10.38	119.89
	Facebook Plugin	Facebook	.000	-201.67	-92.16
	Ynet		.002	-136.54	-27.03
	Ynet	Facebook	.015	-119.89	-10.38
		Facebook			
		Plugin	.002	27.03	136.54
avg_comment_len	Facebook	Facebook		-	-
		Plugin	.016	65.776115703	5.554489452
				464	723
		Ynet		-	
			.930	34.740382719	25.48124353
				205	1535
	Facebook Plugin	Facebook	.016	5.5544894527	65.77611570
				23	3464
		Ynet	.042	.92491985888	61.14654610
				8	9629
	Ynet	Facebook	.930	25.481243531	34.74038271
				535	9205
		Facebook		-	-
		Plugin	.042	61.146546109	.9249198588
				629	88

*. The mean difference is significant at the 0.05 level.

Table 3. T-test comparing the differences between Hard News and Soft News in the average commenting time (in minutes elapsed since an article is posted on Ynet's Facebook page).

T-Test

Group Statistics

Type	N	Mean	Std. Deviation	Std. Error Mean
elapsed_time.minutes. hard	6581	295.89	728.746	8.983
soft	4317	442.67	1155.360	17.584

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means
	F	Sig.	t
elapsed_time.minutes. Equal variances assumed	86.544	.000	-8.131
Equal variances not assumed			-7.433

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
elapsed_time.minutes.	Equal variances assumed	10896	.000	-146.781
	Equal variances not assumed	6569.264	.000	-146.781

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
elapsed_time.minutes.	Equal variances assumed	18.051	-182.165	-111.397
	Equal variances not assumed	19.746	-185.490	-108.072