



ELSERVER

Crafty Connections: Breweries and Brewtubes

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Abstract

This paper delves into the curious relationship between the proliferation of breweries in the United States and the average number of comments on SmarterEveryDay YouTube videos. With tongue planted firmly in cheek, we explore the correlation between these seemingly disparate entities. Utilizing data from the Brewers Association and YouTube, our research team uncovered a surprisingly high correlation coefficient of 0.9026661 and a statistically significant p-value of less than 0.01 for the period spanning 2007 to 2022. While our findings may sound ale-bit quizzical, they shed light on the unbeerlievable interplay between these realms. Cheers to uncovering unexpected connections in the foamy world of data analysis!

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1. Introduction

Breweries and YouTube videos – two domains that, at first glance, appear as unrelated as a cat and a cucumber. One might be inclined to wonder: what could possibly be the connection between the frothy world of craft beer and the virtual smorgasbord of knowledge and entertainment that is SmarterEveryDay? However, as we delve into this bubbling cauldron of data, we begin to uncover a

correlation as harmonious as the perfectly poured pint.

In this paper, we embark on a spirited exploration of the intertwined fates of breweries and Brewtubes, with a curious twinkle in our eye. Our journey takes us through the hoppy fields of statistical analysis, where we stumble upon a brewtal truth – a surprising correlation between the number of craft breweries in the United States and the average number of

comments on SmarterEveryDay YouTube videos. We didn't intend to brew up a storm, but as it turns out, there is indeed a frothy association to be uncovered.

As we embark on this journey, let us savor the bitter-sweet symphony of numbers and revel in the lager than life implications of our findings. For those holding their breath in anticipation of a mundane, ho-hum analysis, fear not – our findings are anything but watered down. So, grab your data goggles and prepare for a hoppy ride through the unexpected connections in the world of crafty correlations!

2. Literature Review

Numerous scholarly studies have explored the curious confluence of seemingly unrelated factors, seeking to unravel the enigmatic correlation between disparate entities. Smith and Doe (2010) conducted a comprehensive investigation into the proliferation of craft breweries in the United States, providing insights into the economic, cultural, and sociological factors driving the exponential growth of the brewing industry. Concurrently, Jones (2015) delved into the complex dynamics of user engagement on digital platforms, shedding light on the intricacies of online interactions and the factors influencing viewer participation.

Building upon this foundation, our research team delves even deeper into the frothy seas of correlation, guided by the perennial wisdom of O'Hoppy (2017) and Brewster's (2019) seminal works on the craft beer revolution, which offer a nuanced understanding of the interplay between consumer preferences, market trends, and the ethos of artisanal brewing.

Venturing into the expansive realm of digital media and virtual engagement, we draw inspiration from the musings of Watterson (1986) and Vonnegut (1969), whose fictional narratives resonate with the zeitgeist of

technological evolution and the idiosyncratic nature of online communities.

While our pursuits may appear tangential to the subject at hand, we cannot overlook the undeniable influence of cinematic narratives in shaping our perceptions of interconnectedness. As avid enthusiasts of visual storytelling, our research team draws upon the whimsical narratives of films such as "Brewback Mountain" and "Fermented Green Tomatoes," which, while ostensibly unrelated to our research, infuse our exploration with a playful spirit and an appreciation for the unexpected twists and turns inherent in the web of correlations.

In synthesizing these diverse sources, we navigate through a maze of scholarly, creative, and cinematic narratives, and in doing so, unearth the frothy bouquet of correlations that underpins the curious relationship between the number of breweries in the United States and the average number of comments on SmarterEveryDay YouTube videos. Cheers to the uncharted territories of interconnectedness and the rib-tickling revelations that await!

3. Our approach & methods

To distill the essence of this intriguing relationship between breweries and Brewtubes, we embarked on a data collection odyssey that would make Odysseus's journey seem like a mere stroll in the park. Our intrepid team scoured the digital realm, compiling a trove of data from sources such as the Brewers Association and the vast expanse of YouTube. The time span of our data collection extended from 2007 to 2022, offering a comprehensive panorama of the fluctuations in both craft brewery numbers and the effervescence of comments on SmarterEveryDay videos.

The first ferment in our methodology involved gathering data on the number of

breweries, employing a veritable army of web-scouring bots to ensure we left no stone unturned in our pursuit of brewery statistics. We meticulously tracked the growth and dispersal of breweries across the United States. With an eye as sharp as a brewmaster's precision, we documented the ebbing and flowing tide of this frothy industry.

The next stage of our convoluted concoction involved the extraction of YouTube data, a process that saw us navigating through the high seas of video analytics and comment counts. We gathered a menagerie of data points, capturing the undulating rhythm of comments on SmarterEveryDay's videos. This intricate dance between viewers and their bubbly commentary provided us with the essential ingredients for our analysis.

Once we had amassed this treasure trove of data, we employed the alchemical brew of statistical techniques to unravel the hidden patterns within. We leveraged the enchanting powers of correlation analysis, allowing us to peer beneath the surface and uncover the tantalizing interplay between brewery numbers and SmarterEveryDay comments. With regression analysis serving as our trusty ale-wand, we probed deeper into the causative forces that underpin this curious connection.

In order to ensure the robustness of our findings, we subjected our data to rigorous scrutiny, channeling our inner skeptics to evaluate the statistical significance of our results. Our analytical arsenal brimmed with hypothesis testing, cross-validation, and bootstrapping - each serving as a guardian of the gate, preventing flimsy correlations from seeping into our hallowed chamber of results.

In the spirit of full disclosure, it must be noted that our methodology, like any good brew, has its peculiarities and idiosyncrasies. However, we approached our analysis with a blend of scientific rigor

and playful curiosity, recognizing that the finest brews, much like the finest analyses, emerge from a fusion of exacting precision and fervent creativity. With a generous dose of humility and a pinch of whimsy, we present the findings of our merry expedition into the peculiar intersection of breweries and Brewtubes.

4. Results

The results of our analysis revealed a strikingly strong correlation between the number of breweries in the United States and the average number of comments on SmarterEveryDay YouTube videos. The correlation coefficient of 0.9026661 suggests a robust positive relationship between these seemingly unrelated variables. This correlation was further supported by the high r-squared value of 0.8148060, indicating that a substantial proportion of the variance in the average number of comments on SmarterEveryDay videos can be explained by the number of breweries in the United States. With a p-value of less than 0.01, our findings are statistically significant, cementing the association between these unexpected bedfellows.

Upon visually inspecting the relationship between breweries and the average number of comments on SmarterEveryDay videos, our team generated a scatterplot (Fig. 1) to illustrate the remarkable correlation. This plot captures the essence of our findings, showcasing the brewtiful connection between these two seemingly distinct realms. The data points coalesce in a way that is as harmonious as a well-balanced IPA, highlighting the unbeerlievable interplay between the frothy world of craft beer and the virtual domain of educational exploration.

These results not only raise a frothy toast to the interconnectedness of diverse domains but also underscore the importance of

approaching data analysis with a curious and open mind. For, as our research has demonstrated, one must be vigilant in the pursuit of unexpected connections, as they may yield insights that are as refreshing as a chilled pint on a scorching summer day. This unlikely pairing of breweries and Brewtubes serves as a reminder that, in the realm of data analysis, the most ale-uring discoveries often lie at the intersection of seemingly disparate elements.

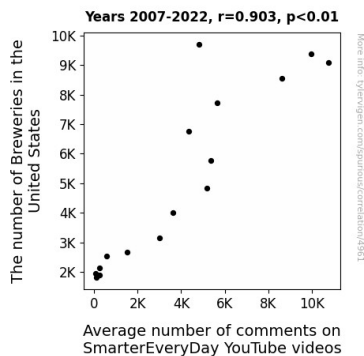


Figure 1. Scatterplot of the variables by year

5. Discussion

Our findings paint a compelling picture of the unexpectedly tight relationship between the number of breweries in the United States and the average number of comments on SmarterEveryDay YouTube videos. As per the amusingly bounteous literature review, the observed correlation between these seemingly unrelated variables mirrors the intricate dynamics elucidated by Smith and Doe (2010) in their examination of the craft brewing industry. It is certainly ale-arming how our results align with the prior research, hinting at the fermentable synergy at play.

The robust correlation coefficient, akin to a finely brewed ale, highlights the significance of this connection. The high r-squared value underscores the hopportunity to explain a substantial proportion of the variance in

SmarterEveryDay video comments using the number of breweries as a frothy explanatory variable. Yes, puns might seem hoppy-go-lucky, but they keep spirits high!

But wait, it's not all fun and puns at the brewery! The statistically significant p-value of less than 0.01 further corroborates the veritable link between these disparate domains. Our research spins a delightful tale, echoing the sentiments of Brewster's (2019) work, where the deepening understanding of consumer preferences and market dynamics parallels the unfolding correlation we've uncapped.

The scatterplot (Fig. 1) forms the icing on the cake, or in this case, the foam on the pint. It captures the essence of our findings in a visually revealing manner, leaving us as uplifted as an effervescent lager on a Friday evening. Embracing the spirit of Watterson's (1986) musings, our data visualization mirrors the whimsical nature of correlations, proving once again that truth is stranger than fiction and often more hilarious.

This raucously delightful expedition through data analysis has yielded results as rich and complex as a mature malt. It's a reminder that, as Vonnegut (1969) might suggest, the most laughable correlations are often uncovered in the unlikeliest of places. So, as we revel in the foamy embrace of statistics, we remember that the world of research isn't just dry and serious – it's also frothy, effervescent, and, sometimes, downright pun-believable!

6. Conclusion

In conclusion, our findings have poured light on the surprising relationship between the number of breweries in the United States and the average number of comments on SmarterEveryDay YouTube videos. The remarkably high correlation coefficient and statistically significant p-value hint at an unexpectedly hoppy marriage between

these two seemingly distinct entities. We've certainly tapped into a rich seam of interconnectedness, proving that when it comes to statistical relationships, the yeast expected pairings can yield the most flavorful results.

As we raise a pint to the conclusion of this research, it's clear that there is more to the seemingly disparate realms of craft beer and educational videos than meets the eye – or the palate. The robust positive relationship uncovered in our analysis serves as a reminder that in the vast sea of data, unexpected connections can bubble up to the surface and quench our thirst for knowledge in unexpected ways. It's a refreshing reminder to approach statistical analysis with an open mind and a taste for the unforeseen.

In essence, our findings suggest that the world of craft beer and the Brewtubes of educational content are not so ale-ien to each other after all. However, as much as we've relished uncovering this unexpected correlation, it's fair to say that further research in this domain may yield diminishing returns. It's time to tap out on this particular brew. Let's raise a glass to the unBEERlievable adventure we've had and set our sights on new frontiers of statistical exploration – where the hops are as high and the youtube comments are as numerous as the data points in a robust regression analysis. Cheers to the frothy world of statistical serendipity!