"You will never win:" The digital review economy and mobile gambling applications
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Abstract
With the advent of online gambling and gaming applications, stores such as Google Play host thousands of online reviews from satisfied and disgruntled customers. Online reviews are powerful tools in the digital review economy, as well as providing and publicizing feedback to game developers and potential users. As review platforms proliferate and impact consumer and developer relationships, digital media scholars need to examine how users engage in these spaces. However, little is known about user expectations of these digital spaces, particularly within the context of the little-regulated online gambling applications. The aims of this study are twofold: first, to identify why digital application review sites are critical to the development of mobile applications, and two, to examine how users engage these spaces within the rapidly expanding online gambling industry. Through a discourse analysis of online reviews, this study identifies how: (1) users reflect on application quality to impact future design developments; (2) users perceive reviews as a part of application development; and, (3) mobile gambling application producers respond to online reviews to further shape digital reputation. Through this analysis, a series of best practices is developed for users and game developers to maximize the feedback and engagement enacted in these mobile spaces.

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Introduction
In a 2019 PBS article on mobile gambling applications available throughout the United States, online casino applications were critiqued for poor reputations as “insecure and unfair” by users around the country (Halverson, 2019). With over 80,000 online gambling applications available for download in places like the Google Play Store and the Apple App Store, and annual profits exceeding US$41 billion in 2020, online gambling applications are an important and growing area of interest in digital media. This public support is increasingly important because these applications are subject to criticism from regulators, traditional gambling organizations, and even disgruntled former users (Milward, et al., 2016).
The information shared and publicized in the Google App Store is critical to generating user interest, troubleshooting glitches, and helping shape program development. In 2015, Google reported its App Store reached 2.5 billion users (although consumers can have multiple Android devices, likely inflating the number) (Weber, 2015). Nevertheless, Google holds the highest number of user accounts in the world. Within the App Store, users can research mobile applications to download and engage with, including gambling apps. Each app has its own page including a brief description of the application, images from the application, and perhaps most important in digital engagement between users and developers: reviews. With over 116 billion downloads in 2019, Google Play Store’s wide variety and accessibility for users makes it easy for users to research and select applications for download and adoption.

As a result of the rapid growth and popularity of gambling applications for mobile devices, more scholarship is necessary to understand how these experiences intersect with other critical parts of user engagement and program development. In particular, the review economy is central to the functions of many online platforms, particularly when users are invited to post reviews of experiences. Today’s review economy is hallmarked by the growing number of review digital spaces (such as Yelp and social media), the growing number of individuals who consult reviews before making a purchase decision (82 percent according to Pew [2016]), and the integration of reviews into promotional techniques. The role of reviews is critically important for applications, highlighted by the large quantity of reviews posted by users in places like the Apple Store and Google Play Store. This study examines the intersections of the rapid growth in popularity of mobile gambling applications and reviews featured in the Google Play Store in order to understand how:

1. users reflect on application quality and experience in review spaces;
2. users understand reviews as a part of application development and design; and,
3. mobile gambling application producers respond to online reviews.

To do this, the study uses a discourse analysis methodology adapted from Gee and Handford, (2011) to produce a set of five discourses that describe how users construct their expectations for gaming applications as well as developer and designer responsibilities to public feedback. It holds findings relevant for those studying digital application development, the gaming and gambling industry, and the review economy.

The review economy

The review economy is an important part of twenty-first century e-commerce and digital media (Fogel and Kumar, 2017). In this economy, the public helps shape information about applications through digital platforms and review sites (Kamerer, 2014). Caldiero (2015) notes, as public trust in strategic messaging declined throughout the twentieth century, the public adopted means to regain control over reputation from organizations. The development and popularization of editorial restaurant reviews, food review blogs, and third-party review sites like Yelp are emblematic of the public’s desire to add their own voices to the information sphere and shape the public perception of a mobile application.

The review economy framework asserts that organizations also operationalized consumer voices for strategic gains (Hutton, et al., 2001). For example, editorial restaurant reviews are frequently touted on menus and social media, and food bloggers are regularly invited to special events to review and share information about an organization. Even negative reviews are used humorously by organizations to imply popularity and impact. For organizations, operationalizing outside voices can be a way to add credibility to messaging. As a result of this neoliberal struggle over reputation and information, the review economy emerges as an important facet of twentieth century life — especially for those selling digital goods.

Reviews posted to application download platforms such as the Apple App Store or Google Play Store are considered non-owned review spaces. The digital space here is owned and managed by the platform, not the owner of the application. Application managers have less control over the content and display of reviews in these spaces, as Google or Apple control the display of reviews. Recent studies suggest that application managers can petition for more control, such as censoring/deleting inappropriate or unfavorable content, but
more research is necessary to understand how this relationship is managed and practiced (Orimaye, et al., 2012).

Rathor, et al. (2018) assert non-owned review spaces are perceived as the most credible and honest spaces for user feedback because of the diminished influence exercised by the organization. Dal Porto (2018) refers to organizational practices that affect non-owned review spaces as part of the “ratings race,” where the success of an organization is tied to digital reputation and comparison to similar brands and products. Schmalz, et al. (2018) argue the ratings race is a key part of the review economy because it drives competition between applications and compels developers and managers to pay attention to how reviews may impact user interest.

App reviews, such as those featured on Google Play or the Apple App Store, are an opportunity to study the review economy in non-owned reviews spaces. Chou and Mayo (2009) and Passon, et al. (2018) note that these spaces are particularly important because of the relatively little known about how brand managers respond to reviews within these spaces. Further, it is unclear how reviewers discursively construct their own views and see their effect on application development within these spaces. Fuggetta (2012) argues that reviews on non-owned spaces often incorporate three discursive elements. First, a critique of the quality of a product or service. Second, an articulation of desired changes in organizational practices (such as a product fix). Third, a reflection of the value of the review, its trustworthiness, or the value of reviewing as a general practice. Calls from Fuggetta (2012), Passon, et al. (2018), and Heng, et al. (2018) articulate a need to further understand this third discursive part of reviews on non-owned review spaces.

Reviews and consumer-driven design

The review economy and non-owned review spaces impact both individuals and organizational practices. Organizations may turn to reviews in an effort to modify practices to better meet the needs of consumers. Consumer driven design, a theory popularized by looking at how organizations solicit feedback from the public using point-of-purchase reviews, denotes that organizations use customer feedback in order to meet the needs of the public (Gofman, et al., 2010). Historically, organizations used traditional feedback collection practices, such as recording consumer phone calls or in-store conversations, to understand consumer experiences. Today, with the emergence of digital technologies, organizations turn to online spaces to receive the same type of feedback. Chen and Huang (2019) note digital spaces expedited the feedback process for organizations, reinforcing the importance of reviews in developing new products or modifying business practices.

Individuals also readily adopted digital review spaces as a way to provide feedback to organizations and influence the consumer decision-making process because it’s seen as a way to enact change in organizational practices (Allagui and Breslow, 2016). Consumers understood the assumptions of consumer-driven design as a way for organizations to take feedback and improve customer experience (Wang, et al., 2011). Implied within this relationship was the assumption that listening to the public would increase an organization’s likelihood at success (Wang, et al., 2011). Additionally, consumers provided reviews because they wanted to contribute to the decision-making process of other potential customers (Gonçalves, et al., 2018). Gonçalves, et al. (2018) reflect that customers believe in the power of their reviews to warn others about potential negative experiences. Similarly, reviewers believe contributing to review spaces aids in warning other consumers and helping others avoid similar problems (Ott and Theunissen, 2015).

Ultimately, the assumptions of consumer-driven design are articulated within online reviews. Studies on third-party review sites like Yelp found reviewers may voice appreciation when an organization adopts recommended changes, frustration when their reviews are ignored, or even engage other reviewers in debate when sharing opposing points-of-view (Margolin and Markowitz, 2018). This study aims to examine how the consumer driven design process is articulated by reviewers within the Google Play Store.

Applications are a growing part of the digital economy, and are part of crowded and competitively-intense categories. As Schmalz, et al. (2018) argue, these crowded product categories makes the consumer-driven design process even more important for organizations attempting to create successful products.
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Mobile gambling applications

Gambling has a long history in the United States. It was completely outlawed in many states for centuries due to the corruption associated with it, despite multiple attempts to legalize it nationally. In the 1960s, the industry saw a resurgence in demand for legal, but restricted, gambling. Most acknowledge the creation of lottery programs as the first legally approved gambling operations in most states: New Hampshire was the first to create a lottery in 1964, with other states introducing their own lotteries over the next few decades. By 2000, lotteries were legal in 48 states and several states embraced other gambling operations such as casinos (Petry and Blanco, 2013). By the early 2000s, according to Gainsbury (2012), online gambling grew rapidly, with global gambling Web sites appearing as early as 2001 with over 400 sites dedicated to lotteries, casinos, sportsbooks, and bingo games.

In its long history, gambling has been associated with unethical behavior. There are moral arguments against advertising gambling, as it can lead to pathological or addictive tendencies. For example, in the 1990s, gambling addictions became more prominent, in part to legalization and the boom of advertising in states like New York or Iowa (Kindt, 1998). As a result, it led to a broader discussion on whether the gambling addictions were caused purely from legalization or due to external factors. In addition, politicians may view gambling as immoral and unethical as it may abuse those with gambling addictions, or encourage others to take advantage of wealthier classes. Discussions will continue to determine if gambling is dangerous enough to be considered illegal, or can openly continue on if under the correct laws and regulations (Huggins, 2015). These debates also extend to research and academic endeavors, which can mistakenly promote the benefits of gambling or identify practices that may help advertisers encouraging gambling amongst vulnerable populations. While this project identifies the ways in which individuals interact with gambling applications, it does not provide specific recommendations to application managers that would specifically target vulnerable populations or non-current users.

Approximately 46 percent of adults aged 16 and older have engaged in gambling in the United States, with all age groups seeing an increase from 2015 to 2018. While historically gambling and video gaming were considered two separate industries, Bramley and Gainsbury (2015) argue the Internet’s reach made it easy for the two groups to intersect, beginning to combine gambling aspects into gaming-styled mediums. As technology improved to allow better graphics, more complex coding and sound improvements, online gambling companies moved to mobile devices. Mobile applications brought together key facets of gambling: avoiding the crowds within physical casinos while recreating the ambiance and thrills of gambling.

Despite the early surge of online gambling sites, legal regulations have affected the industry’s popularity and reach. The Unlawful Internet Gambling Enforcement Act of 2006 regulated online gambling and outlawed most financial transactions involving many online gambling Web sites (Rose, 2017). However, the market continued to find ways to circumvent financial restrictions. For example, in the Google Play Store, the app marketplace regulates gambling advertising by categorizing applications based on online/offline capabilities, social aspects, and country. Every country uses different regulations based on its laws and regulations. Google’s restrictions are overall lax, allowing real-money gambling and “Promotion of social casino games, which are online simulated gambling games where there is no opportunity to win anything of value, such as money or prizes” (Effertz, et al., 2018; Google, 2020).

Gambling applications fall within one of two categories: lifestyle or gaming. Gaming is one of the largest categories on Google Play Store because of the 17 subgenres within it, including casino and card. As of December 2019, there were 2.9 million applications on Google Play Store, with 165,580 categorized as lifestyle and 7,441 casino games. There are no regulations directly from Google regarding how applications are categorized. Instead, it is fully up to the developers to decide what category their applications fall under (Google, 2020).

Previous scholarship documents that the lax categorical markers make other information provided in the Google Play Store even more important to helping users research and consider potential downloads (van...
Rooij, et al. (2010). Effertz, et al. (2018) argue that when the structure or category of the application store gives little insight into the content of an application, users are more likely to turn to user-generated reviews and other information provided within the application’s page when evaluating options. Freddolino and Blaschke (2008) hypothesized that online reviews of gambling applications would grow even more important because of the intense competition within the industry for user attention and engagement. Despite the clear importance of user reviews within application stores of gambling applications, no studies have specifically examined content shared in these spaces or how reviews are part of consumer-driven design or the review economy. This study seeks to fill this void in an effort to illustrate user expectations for consumer-driven design in the mobile gambling industry through online reviews.

Methodological approach

To study how users invoke consumer-driven design and the review economy in the review sections of gambling applications, this study employed a discursive analysis approach. Discourse analysis is a methodological tool used to study how individuals make meaning of and within digital platforms and spaces. Described by Gee and Handford (2011), discourse analysis allows researchers to explore message boards, social media, and other spaces of digital communication to look for meaning-making behavior. This project applies Gee and Handford’s (2011) seven meaning-making tasks: significance, practices, identities, relationships, politics, connections, and sign systems/knowledge. Through this application, scholars can answer the following research questions:

1. How do users communicate about gambling app quality and experience in a third-party review space?
2. How do users invoke the consumer driven design, the review economy, and other parts of consumer experiences in their reviews?

To conduct this discourse analysis, the researchers examined 1,000 randomly sampled reviews posted to the Google Play store. Researchers read each review independently, and analyzed using Gee and Handford’s seven meaning-making tasks. Researchers then met to identify a set of discursive patterns that comprehensively and completely describe how users communicate in the review section of the four gambling applications. After, researchers independently reviewed the random selection of reviews to identify reviews that exemplified each discourse. A summary of the discursive patterns can be found in Appendix A. A step-by-step procedure is found in Appendix B. Appendix C includes descriptive statistics about the reviews for each application. Although this is not a quantitative endeavor, these descriptive statistics help contextualize the following findings.

Discourse analysis is used to examine large textual datasets to find patterns of discursive construction. As individuals provide and share reflections on their own experiences, they collaboratively construct a set of discourses that describe an organization, brand, individual, or in this case, a digital application. Discourses are incredibly important, especially when they are available to the public, because they shape the reputation and perception of an entity to future audiences. As noted by Novak (2020), discourses on review platforms impact how potential customers interact or engage with an organization. Applying discourse analysis methodology provides researchers with an understanding of the patterns of reference used in review spaces.

For this project, four gambling applications were selected based on the following criteria: number of downloads, ranking, and number of reviews. Each application has at least five million downloads as of January 2020. At the time of selection, all four applications were among the top 10 in their respective categories. Each application has more than 250,000 accessible reviews during the discourse analysis period. Selected gambling applications include: Lucktastic, Lucky Money, Cash Frenzo Casino, and Jackpot Party Casino. Each application is described below as well as its rationale for inclusion.

Lucktastic
Lucktastic is a lifestyle application launched in late 2013 by Jump Ramp Games. The application uses free themed scratch cards, with variations based on holidays and special promotions. Consumers can win trips, giftcards, and products from brands. It holds contests with prizes such as US$100 giftcards to TJMaxx, in-game currency, and magazine subscriptions. The app includes a bonus system where consumers can install and use other apps for in-game currency. The app’s minimum for cashing out is US$5 for a gift card, and US$10 for a check. As of February 2020, the application has over 10 million downloads and has no in-app purchases available.

**Lucky Money**

Lucky Money is a lifestyle application created by Lucky Money Studio. It’s currently the only application launched by the company. Despite launching in July 2019, it has more than five million downloads. It uses scratchers, slot machines, raffles and lotteries in the application. The app prides itself on its clean and appealing designs. In order to access more games or multiply winnings, users can watch 30-second advertisements and many of these benefits can stack. When redeeming rewards, the in-game currency is exchanged for gift cards or use PayPal to cash out, with a US$10 minimum each time.

**Cash Frenzo Casino**

Cash Frenzo Casino is a casino game with over five million downloads. It uses different types of free slot machines, but premium slot machines are available for users. The developer is listed as GrandeGames — Free Slots Casino Games, but the Web site leads to Bole Games. On the site, there is no reference to Cash Frenzo Casino or other games listed with the developer on Google Play Store. In-app purchases range from US$1.99 for 375,000 coins to US$49.99 for 13.5 million coins, with the first purchase doubled.

**Jackpot Party Casino**

Jackpot Party Casino is a casino game created by Scientific Games Interactive. It’s an American company that creates gambling products and services for external organizations, but the application is developed through SciPlay, a former division of Scientific Games Interactive. The app uses slot machines based on existing casino games. The app directly states in its description that it’s intended for an adult audience of 21 or older. The game does not offer “real money gambling or an opportunity to win real money or prizes.” In-app purchases range from US$4.99 for 20 million coins to US$249.99 for four billion coins [1].

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**Discourses of gaming application reviews**

**Time as a part of gambling and gaming apps**

As reviewers provided their experiences with the apps on Google Play [2], at least 100 reviewers in each application invoked time as a critical function of their relationship with each application. For users, the phrase “killing time” referred both to their desire to use the app to fill leisure time, as well as the effect of the app on their productivity.

For example, users adopted the language of “time” to describe the role of the application in their life: “Something to pass the time. The app itself does good and doesn’t mess up or anything like that ... At least it hasn’t so far for my boyfriend or me, and we play everyday several times throughout the day and night. I will however say that within the almost three weeks that we have had the app that we have only won all together a big whopping three bucks so far ... lol. so an app where you win millions ... ahhh ... not so much, decent way to pass the time describes this app much better.” Here, the user suggests the app helps them “pass the time” but doesn’t payout in the promised form of money. This reflects that there may be two purposes for users adopting these apps, both for entertainment and leisure, but also for financial gains. This
may explain why these applications appear in two sections of the Google Play store.

Similarly, the notion of “waste of time” was invoked by users who attempted to critique the applications for not paying out in the ways that they promised: “So not worth the time and effort. When you finally get enough coins to redeem for gift cards there is no gifts cards available EVER! I check periodically for over a month and they never actually get the gift cards available so therefore you’re playing for nothing! NOT WORTH IT!! I’m trying to give them the benefit of doubt but if they continue lie and deceive people I will take this app completely off of my phone. #NotHappyCamper.” Here, the user criticizes the application for wasting their time. The concepts of “worth” and “time” are woven here, invoking a relationship between the time invested in an application by a user and the perceived payout or worthwhileness. This is an interesting relationship because of the nature of gambling and gaming applications. While it is likely that most users understand the innate risks associated with gambling, there seem to still be expectations that the more time invested in these applications, the more worthwhile the rewards will be. This will be more explored in future sections.

Comparisons between applications

A discourse among the app reviews is comparisons to other similar applications. The comparisons range from seeing the app as better than others, to criticizing it for its features. It never references other applications by name, but instead labels it as ‘other apps’ or ‘these apps.’ There are a handful of exceptions to this, where one review cites Lucky Money as, “This app is very similar to Lucky Day in that you will never win cash prizes. Don’t expect to.”

There are expectations for users once they start using a similar application. These expectations vary from user to user. Some users expect to make more money because the applications use identical concepts, but are discouraged when it doesn’t happen: “Been playing for many months and still can’t make the $10.00. Other apps i have cashed out for $50.00 way quicker than this.”

Likewise, when users are happy with the app they’re more likely to praise it. When it’s their app of choice, it’s written in the review. If the user experience changes, they revoked the praise. While this user does not directly compare an application: “This WAS by far one of the best casino apps but over the past year the app has made several changes that have negatively impacted the app.”

Within the app comparisons, users look at advertisements as a measure of app experience. When users encounter more advertisements, they’re more likely to state it in a review. Users compare it to other applications with more or less advertisements. They attempt to write as experts in the reviews if they’ve used multiple applications: “I’ve used a number of these apps and this one has not only the most ads required, but also about a third of them are Yahoo ads.”

In-application advertising

Among all applications, references to advertising consistently appear in reviews. A problem among these reviews is complaining to developers about false advertising. This occurs in the app itself, as well as for advertisements of the app. Outside of false advertising, users complain about ads appearing in the application as well. The internal ads vary among the applications, but users will note if repeated messages appear.

Within the application itself, there are ads between certain parts of the game. Users complain about advertisements based on length, but continue to watch because of benefits: “Ads ads ads! Ugh! I get it, gotta watch ads to get tokens/free pennies but they’re way too long and too many.” The ads are used as incentives for users who want in-game currencies, but don’t want to spend real money. As a result, users see ads as a necessary evil, but don’t do anything to overcome it. Instead of opting to ignore advertisements, they continue to watch: “Just when you think the ads can’t get any longer or any more annoying, now you have to click through some Yahoo ad five times for 60 seconds between each scratch card to get like four tokens. Ridiculous.”
In addition, users complain about spending more time watching advertisements in the app than using it. In multiple reviews, the repetitive ads are noted as well: “Once the yahoo ads pop up. You spend 75% more time watching and navigating the ads then actually playing game. Get rid of the minute longs ads.”

For users, false advertising of the app relates to the expectation of winning. They are aware the people in the advertisements winning hundreds of dollars in a few minutes is unrealistic. Their views of the application are already impacted because of the messaging in the advertisement and criticize the production: “The ads are obviously fake as hell with people winning. Horrible acting.”

Users understand the ads falsely promote the features and benefits of the application. It doesn’t match the real in-game experience. This results in reviews like these: “You all advertise the people getting to scratch the whole screen to get the reward. Please stop it. It’s ridiculous.” Commenters understand there is no way to win when it comes to these applications, they continue to use them despite the clear indication of a falsely advertised application and an overload of in-game advertisements.

**Ethical and moral expectations**

When frustrated with applications’ payouts or promises, at least 110 reviewers on each platform invoked a moral and legal framework to criticize app producers and managers. These reviews suggested that the applications should be held to moral and ethical standards set by users, and that currently, the applications failed to live up to these standards. For example, “This app, is fun, and attractive. But, the policy about how much one must earn before being allowed to have the money one has already earned, reveals a lack of integrity, and intent to cheat. The trick they play is, you earn very little per game, while being innundated with advertising, (how they earn most of their money). Because relatively few people will play long enough to get all the way to the payout amount, they never have to give folks the money they have earned. It’s almost stealing.” Here, the user describes their frustrations with the policies of the game, which they akin to stealing.

Stealing was frequently invoked by reviewers, who felt like the applications were designed to give the organization an unfair advantage over the consumers. For most reviewers, this advantage was beyond standard risk and luck, but reflected structural elements that would benefit the organization at the detriment of the consumer. The producers, managers, and application organizations were positioned as immoral because they violated “fair-play” expectations of users. For example, “it takes years to get enough tokens. You have to watch an ad FOR EVERY SINGLE SCRATCH OFF. And don’t trust the ‘click bait’ for taking ‘surveys’. You have to either end up buying a service, or sign your life away by getting HARASSED for signing up w/the surveys. I mean HARASSED. 20 phone calls/day, and 100’s of emails b/c they sell your information. Had to download HiYa to start blocking all these calls, saying they’re the IRS, Medicare, etc. I actually work for Medicare, so I have a go at them.” In this example, the user called out a specific practice (the ad-watching in exchange for scratch off tickets) to criticize the unfair nature of play on the application.

It is important to note that it is unclear why users had expectations of morality and fair-play when writing their reviews. As noted, there are relatively little legal regulations with these applications and users suggested that they had bad experiences with other applications in the same category. It may be a result of applying frameworks of physical casinos to the digital space, where users expect the same principles and policies that guide physical casinos should apply online too. Or, it may be a result of the juxtaposition between the advertisements for gaming and gaming applications that emphasize winning- and then the experience of losing frequently. Future research should examine how users apply expectations to these applications, and how those expectations may color their experiences.

**Communicating with an imagined audience**

Finally, reviewers invoked two types of audience members when writing reviews. First, they framed their reviews directly for the organization and brand managers who represent the application. This was often accomplished using “you” or directly calling out the organization through question. For example, “I deleted
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your app because your telling me it is luck of the spin. Well I can tell you I have figured out your way of thinking and fixing it so people lose all the coins. Everyone watch for the glitches in the game. If it pops up do you like this game rate us. If you don’t rate them they will make you lose all your coins. The glitches also do the same thing. If the spin takes longer to stop. That’s another sign. My suggestion is not to pay these thieves another penny of your money.” Here, the writer calls directly upon the organization behind the application suggesting they have discovered the strategic approach (and criticize its unfair nature by calling them “thieves”). The reviewer then turns to warn the audience, calling upon the readers to avoid the application and not waste time.

Calling directly upon the audience is the second form of speech used during these reviews. Here, writers may tell the reader exactly what behavior or action is best during a specific situation, or may ask them a question: “I have play this app for free for years. It is a free app in apple store. Then all of the sudden the publisher of the game charged my credit card $24.99. It’s not right to charge someone for a free app, especially without your knowledge. I have emailed them and they dont want to reund my money. Has anyone else had this issue?” Here, the writer asks the audience to contribute to a conversation about refunds and the failure of the game to respond to messages. It is important to note that although users can respond directly to reviews of other writers, this function was never utilized. Therefore, even though at least 100 reviews for each application ask questions of the audience, they never received a response.

Responses, when they do occur, come from the organization or brand representative. In almost all cases, there is a generic response, such as “please contact NAME to address your concern.” These responses are generic and fail to directly respond to comments or concerns.

**Findings by app**

All four applications have their own issues and findings. Each application uses its own features and advertisements to continue bringing in new consumers. This results in similar and different findings with each app. Among all the applications, there was an outcry for a change with advertisements, both within the application and for the app itself. Negative reviews were longer than positive reviews on all four applications. In the lifestyle applications, users complained more about the lack of response from the company. In the gaming applications, users complained about the pay-to-win aspect.

Lucktastic is one of the older applications among the four. As a result, people are accustomed to a certain way of using the app. Recently, the application changed the way it allowed people to cash in prizes, something users noticed and commented on. There are multiple roadblocks in the way stopping users from using their points in-app. On Lucktastic, there are consumers using these applications for years, saving up to cash out US$100 gifts, only to be denied access because it’s ‘sold out.’ In addition, users must download other applications to access these gift cards, but continue to hit the same roadblocks. Despite an outcry within the reviews, consumers note Lucktastic’s customer service is ignoring their e-mail messages or responding with generic messages.

With Lucky Money, its largest issue is complaints over the technology within the application. The complaints fit into two categories: the rewards are randomly revoked when the app crashes, or the technology stops users from earning money after a certain amount is earned. Everyone has a slightly different issue, but nonetheless complain about the technology used within the app itself. Lucky Money had the most reviews with app comparisons, specifically with Lucky Day. These reviews were often negatively comparing, stating both applications were bad for their own reasons.

For Cash Frenzy Casino and Jackpot Party Casino, people complain about paying to win. The gaming applications include in-game purchases to allow users more chances to win prizes. It’s more evident in Cash Frenzy Casino, where numerous reviews discuss paying for tokens, and justify the losses because it’s fun and entertaining. Although, other reviews are discouraged from spending more money because they aren’t winning enough. Similar to Lucktastic, users claim Cash Frenzy Casino used to be better.

In Jackpot Party Casino, there’s a sense of entitlement among reviews because the reviews are more direct
and demanding compared to the other applications. The demanding nature can be because this is the only application where currency disappears after its purchases. Users don’t want to spend their money on in-game currency, only for it to disappear. Like in Cash Frenzy Casino, Jackpot Party Casino users have to pay for more in-game currency if they run out. In this application, users’ complaints aren’t as justified. Some compare the gameplay to a real casino, saying it’s unfair they’re not winning more money on the application. They feel because they’re investing money into an application, they should win real money as well, however, it’s still a form of gambling.

Discussion

It is clear that users are quick to voice frustrations in reviews on Google Play, especially when faced with gaming experiences that fail to live up to promises or are perceived to violate ethical responsibilities. For users, reviews help express confusion and build a sense of community with others who share a similar experience. Despite the lack of organizational responses in the Google Play store (most posts receive no feedback or response from game developers or managers), there is a clear desire for this type of engagement, as noted by the users who asked specific questions or attempted to respond to other reviews. In these cases, developers interested in consumer-driven design should take measures to use the functions of review spaces to meet consumer needs and adjust business practices.

For developers and application managers hoping to cultivate a positive relationship with users, Google Play reviews are a good place to start. Generating thoughtful and empathetic responses to user feedback may encourage current users to re-engage and use an application after vocalizing frustrations. For new users, or users considering downloading a program, this type of communication can reinforce perceptions of the rewards of participation.

Therefore, organizations seeking to use review spaces to work with customers and improve their own business functions should: (1) develop empathetic responses to user complaints; (2) foster engagement outside the review platform; and, (3) demonstrate how user feedback has produced organizational changes.

First, organizations should develop standard empathetic responses to user reviews, then use them to respond to each complaint. Like other customer feedback forums (such as telephone calls or customer service surveys), standardized responses may help users feel that their feedback is taken seriously and acknowledged by the organization. App managers should be trained to use the appropriate responses at the correct times to avoid accusations of insincerity. Managers must also be cautious to use empathetic language that demonstrates appreciation for user feedback and a commitment to resolving any problems.

Importantly, these statements should also encourage engagement off-line, therefore fulfilling the second best practice. To avoid publicizing negative comments further, managers should direct users to communication channels that are not publicly available, such as a phone number or e-mail address. This allows the organization to continue to work with the use, without risking the publicizing of additional negative comments. Here again, managers need to be trained to communicate empathetically and strategically with upset users.

Third, brands should also be prepared to demonstrate how user feedback on Google Play has improved gaming applications. It is clear that users feel their feedback is ignored or that game developers are not using the feedback to modify the user experience. Publicizing how games are modified based on feedback from reviews would help users feel valuable and demonstrate the organization's recognition. There are a variety of ways that organizations can demonstrate the role of user feedback including responses to user reviews, pop-up notifications that explain recent changes to in-application features, and revising the “about” section of applications in the Google Play store.
Conclusion

These three best practices can help organizations use the power of reviews to improve relationships with customers and improve application experiences for users. As reviewers continue to provide feedback, organizations can benefit from paying attention and responding appropriately. Without these responses, it is likely that reviewers will continue to vocalize frustrations, possibly alienating potential customers who turn to reviews before making a purchase or download decision. Future work should more closely examine the effect of reviews on download decisions, particularly in the wake of the comment interventions and best practices mentioned above. Other work should similarly look at the role of review spaces in making contributors feel as if they are valued by the organization. This research will benefit those studying game design, reputation management, and app store development.

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Notes

1. Quotes are directly sourced from reviews and are not edited for grammar or spelling. Per IRB requirements quotes are provided anonymously, but researchers are happy to communicate privately about specific quotes or sources.

2. Although a qualitative endeavor, Appendix D contains some descriptive statistics about each discourse.

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### Appendix A: Meaning making practices.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Example from dataset</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Significance</strong></td>
<td>Text reflects importance of issue, case, or individual</td>
<td>It takes years to get enough tokens. You have to watch an ad FOR EVERY SINGLE SCRATCH OFF. And don’t trust the “click bait” for taking “surveys”. You have to either end up buying a service, or sign your life away by getting HARASSED for signing up w/the surveys. I mean HARASSED.</td>
</tr>
<tr>
<td><strong>Practices</strong></td>
<td>Text describes the issue, case, or topic for other users; or describes the application of a discourse to a set of actions; or</td>
<td>Something to pass the time. The app itself does good and doesn’t mess up or anything like that ... At least it hasn’t so far for my boyfriend or</td>
</tr>
<tr>
<td>Identities</td>
<td>Engages/provides action for other users in conversation</td>
<td>Me, and we play everyday several times throughout the day and night.</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Relationships</td>
<td>Text uses nouns and adjectives to describe the issue, case, or individuals</td>
<td>My suggestion is not to pay these thieves another penny of your money.</td>
</tr>
<tr>
<td>Relationships</td>
<td>Text connects issue, case, or topic to other events, or foci</td>
<td>This app is very similar to Lucky Day in that you will never win cash prizes. Don’t expect to. The redeemable gift cards are all you can realistically expect to win. But the prizes restock at random, and in my case I’ve been waiting to redeem a $10 Amazon card for over a month.</td>
</tr>
<tr>
<td>Politics</td>
<td>Text reflects on the social, historical, civic, or political nature of the issue, case, or topic</td>
<td>This app, is fun, and attractive. But, the policy about how much one must earn before being allowed to have the money one has already earned, reveals a lack of integrity, and intent to cheat.</td>
</tr>
<tr>
<td>Connections</td>
<td>Text discusses the relevance of the issue, case, or topic by comparing or relating to other issues</td>
<td>I definitely have been reminded of the reason why I deleted you previously! I don’t have any confidence in your app, but you’re running out of time to prove me wrong!</td>
</tr>
</tbody>
</table>
Appendix B: Step-by-step procedure

1. Researchers collected reviews manually through the Google Play Store by downloading review files in their entirety. The downloaded files allowed researchers to examine each review including all text written by the reviewer and any responses from the application manager. Reviews were downloaded and included in the analysis if they were published from 1 March 2019 to 1 March 2020. Appendix C includes descriptive statistics about the amount and type of reviews per application.

2. A random sample of 10 percent of each application’s reviews were selected for the discursive analysis. This 10 percent figure was adapted from the work of Gee and Handford (2011) to produce enough texts to identify representative discourses from a digital dataset.

3. Two researchers independently read the sample from each application and applied seven meaning-making tasks to each post.

4. The researchers met to review discursive patterns and identify a series of discourses that exhaustively illustrated patterns of text within the set of reviews.

5. The researchers then returned to review the sample individually to identify representative examples of each discourse. Outliers were also identified and discourses were modified to include these examples.

Appendix C: Descriptive statistics about applications.

<table>
<thead>
<tr>
<th>Number</th>
<th>Number of 10%</th>
<th>Percentage</th>
</tr>
</thead>
</table>

I play the jackpot party slot and it doesn’t pay the same as the REAL slot game also the less people playing the less they let you win, I’m done spending real money on this game, it doesn’t let you win much at all, it should since it’s just a game, I can go to a casino and win real money easier than this game. You shouldn’t have to spend hundreds and hundreds of real money just to be able to keep playing a game.
<table>
<thead>
<tr>
<th>Application</th>
<th>of total downloads (as of 1 April 2021)</th>
<th>reviews downloaded (1 March 2019 to 1 March 2020)</th>
<th>random sample included in analysis</th>
<th>Average rating (out of 5.0)</th>
<th>Frequent descriptive words in reviews</th>
<th>of all reviews responded to by application managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucktastic</td>
<td>343,141</td>
<td>7,215</td>
<td>721</td>
<td>3.9</td>
<td>Winner (appeared in 18.2% of reviews), failed (8.8%), disappointed (4.2%), excellent (4.2%)</td>
<td>.4%</td>
</tr>
<tr>
<td>Lucky Money</td>
<td>302,936</td>
<td>13,298</td>
<td>1,330</td>
<td>4.1</td>
<td>Winning (43%), amazing (12.4%), limited (2.2%)</td>
<td>1.1%</td>
</tr>
<tr>
<td>Cash Frenzo Casino</td>
<td>472,445</td>
<td>87,085</td>
<td>8,709</td>
<td>4.8</td>
<td>Win (67%), loss (22%), glitch (20%), wait (18%)</td>
<td>.08%</td>
</tr>
<tr>
<td>Jackpot Party Casino</td>
<td>714,763</td>
<td>43,784</td>
<td>4,378</td>
<td>5.5</td>
<td>Win (54%), loss (41%), effort (12%), surprise (10%)</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Appendix D: Descriptive statistics about discourses.

<table>
<thead>
<tr>
<th>Discourse</th>
<th>Approximate number of reviews per application with uses of each discourse</th>
<th>Frequent descriptive words in discourse</th>
<th>Percentage of all reviews responded to by application managers</th>
</tr>
</thead>
</table>
| Time as a part of gambling     | Lucktastic: 277
Lucky Money: 811                                                           | Waste (34%), lots (12%),               | .08%                                                          |
<table>
<thead>
<tr>
<th>and gaming apps</th>
<th>Cash Frenzo Casino: 1,762</th>
<th>energy (10%), suck (8%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparisons between applications</td>
<td>Lucktastic: 199 Lucky Money: 565 Cash Frenzo Casino: 1,119</td>
<td>Worse (17%), not enough (12%), disappointed (11%)</td>
</tr>
<tr>
<td>In-application advertising</td>
<td>Lucktastic: 138 Lucky Money: 653 Cash Frenzo Casino: 957</td>
<td>Pop (31%), distract-ed, -ing (18%), relevant (11%)</td>
</tr>
<tr>
<td>Ethical and moral expectations</td>
<td>Lucktastic: 112 Lucky Money: 609 Cash Frenzo Casino: 809</td>
<td>Compared (19%), shame (10%), even (14%), frustrated (11%)</td>
</tr>
<tr>
<td>Communicating with an imagined audience</td>
<td>Lucktastic: 98 Lucky Money: 412 Cash Frenzo Casino: 518</td>
<td>Waste (18%), stay (11%), keep (15%), try (9%), other (4%)</td>
</tr>
</tbody>
</table>
“You will never win:” The digital review economy and mobile gambling applications by Erika Solis and Alison Novak.  
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