



The Impact of Gamification in Social Live Streaming Services

Katrin Scheibe^(✉)

Department of Information Science, Heinrich Heine University,
Düsseldorf, Germany
katrin.scheibe@hhu.de

Abstract. Gamification – the implementation of game mechanics and dynamics in non-game contexts – has become a central part in designing websites and mobile applications. It is used to improve the motivation and engagement of users and should change their behavior. The general social live streaming service YouNow, which is mostly used by adolescents, offers its users many gamification and motivating elements. Therefore, it is used as a case study in this investigation. Some of the gamification elements are, for example, coins, levels, and different kinds of rankings. What gamification elements does YouNow offer to its users? To what extent are YouNow’s users motivated by the game mechanics (gratifications sought)? What are the most motivating elements for producers, participants, and consumers? To what extent are the game elements perceived as a reward (gratifications obtained)? What are the most rewarding elements for specific user groups? To answer the research questions an online survey was conducted. It was available in five different languages and had 211 YouNow users as attendees.

The results show, that the producers are the most motivated as well as rewarded user group by obtaining actions of gamification elements. For them, getting fans is the best action. The participants are the most motivated by commenting streams as well as the most rewarded by making premium gifts. The best ones from the game mechanics for all users are coins as well as levels. All gamification elements, except for moments and “The Top Moments” ranking, which are both perceived as neutral, are highly leading users to gratifications sought as well as obtained.

Keywords: Social live streaming services · Gamification
Uses and gratifications · Motivation · User behavior · YouNow

1 Introduction

Games have always been a fundamental part of our society. Even our everyday life is influenced by games. Who does not know the “airplane landing” method, used by many desperate parents to lead their children to eat unwanted food by making it fun. Adding the promise to give the child a treat (reward) after finishing the meal makes the perfect combination to achieve the influence and change of the child’s behavior [1]. This phenomenon called “gamification” is already applied in various situations, be it in school, or at work, in how we stay fit, or the way we travel. The implementation of

game mechanics and dynamics in non-game contexts is used to increase one's engagement, motivation and activity. Therefore, it is no surprise that social media services and mobile applications already utilize it [2].

Social media, also known as "Web 2.0" [3], are web based open access services "which are predicated upon the active participation of broad masses of users" [4, p. 259]. Users generate a large number of data while using such services [5], thereby a user may produce information, as a producer, as well as consume the published information, as a consumer. Toffler [6] named this shared characteristics and behavior of users as "prosumers."

One arising kind of social media are social live streaming services (SLSSs). Live streaming is described as a synchronous function – users are producing live videos and viewers are able to interact in real-time with a broadcaster. This happens via chat messages or likes, rewards, or other gratifications, e.g. becoming a fan. The person being live is able to react immediately. Some SLSSs are known for being topic-specific, like Twitch for virtual games and electronic sports events, or Picarto for art, but most of them do not have any thematic context and are considered as general SLSSs, e.g. YouNow, Periscope, Ustream [7]. On YouNow, most of the users are highly motivated by the applied gamification elements [8, 9]. Therefore, YouNow was used as a case study in this paper.

To describe the impact of gamification and motivating elements in an SLSS like YouNow, this investigation refers to the model of users' information behavior on a gamified social live streaming service [10]. The model applies various theoretical aspects, such as the sender-centered Communication Formula by Lasswell [11] as well as the audience-centered Uses and Gratifications Theory by Blumler and Katz [12] with the differentiation between Gratifications Sought and Gratifications Obtained from Palmgreen et al. [13] as well as, additionally, the Self-Determination Theory of human motivation [14].

Users apply a certain service, because they are searching for gratifications [12] and to satisfy certain needs [14]. Palmgreen et al. [13] discuss the aspects of gratifications sought and gratifications obtained in relation to the uses and gratification theory – "since a gratification is sought it must necessarily be obtained" [13, p. 183]. Additionally, uses and gratifications are related to different information production, as well as reception behaviors. Users have a certain motivation and therefore are searching for gratifications. When users are getting a reward, certain gratifications are obtained. Gamification is considered as rewarding as well as motivating factor, regarding to Deterding's explanation: "gamification's guiding idea is to use elements of game design in non-game contexts, products, and services to motivate desired behaviors" [15, p. 14].

Users of social network services, respectively SLSSs, can be divided in three different user groups, namely producers, participants, and consumers [16]. Producers are users who are streaming live. They are producing content in a live stream. Participants are watching and are taking part by commenting, liking, or rewarding. Finally, consumers are users who are watching streams and reading comments, but are not producing any content and are not participating at all. Each user group has different motives for the usage of a social live streaming service. Consumers are using a service for entertainment as well as for information. Participants have the same motives as

consumers and, additionally, the aim of social interaction. And finally, producers have additionally the goal to achieve self-realization and self-presentation.

With the theoretical backgrounds on uses and gratifications, the three user groups, and the difference between sought and obtained gratifications in mind, there are occurring three research questions about gamification on YouNow:

- *RQ1*: What gamification elements does YouNow offer its users?
- *RQ2*: To what extend are YouNow's user groups motivated by the game mechanics (gratifications sought)?
- *RQ3*: To what extend are the game elements on YouNow perceived as a reward (gratifications obtained) by the special user groups?

There are already several studies about live streaming services, about YouNow [17–20] as well as on gamification in social media, and gamification in general. Also, the worldwide popular video game live streaming platform Twitch.tv earns lots of attention from researchers [21]. Actually one investigation about giving and taking gratifications on YouNow [22] as well as another by Wilk et al. [23] about gamification on live streaming services, in particular, about gamification influencing the user behavior of mobile live video broadcasting users could be found. The researchers developed a mobile live broadcasting application in three different versions. The first version (A) was applied as base version. It consists of a simple overview page, as well as a view for watching the live video, and one for recording a live broadcast. The second version (B) includes the opportunity of leveling and the overview of one's process to the next level. The last version (C) applies all functions of version B as well as the performance of challenges and the chance of receiving badges. Each version was evaluated by different users. Some users have streamed over a longer duration with the implementation of levels, and users are significantly more motivated by the challenges and rewards, than using the base version.

2 YouNow and Its Gamification Elements as a Case Study

As YouNow is an SLSS which is mostly applied by teenagers and young adults between the age of 13 and 22 who are bored and want to have fun [8], it strikes that YouNow offers many gamification features as motivating factors. All gamification elements that are shown by the action of viewing a stream as a recipient are highlighted and listed in Fig. 1.

On Facebook there are friends, on Twitter as well as on Instagram there are followers, and on YouNow there are fans. Users connect with other users and stay up-to-date by following them via a so called fanning function (blue button above the live stream). There is also the opportunity to become a subscriber (white button above the live stream) of selected broadcasters, if you are willing to pay a monthly fee. Subscribers have special and additional functions: "Subscription entitles you to Super Chat privileges [...], you will have access to a Super Gift" and one will receive a "special" and "unique badge" that will "identify you as a subscriber" as well [24]. Speaking about badges, there are three different types on YouNow. The first one, the "Subscription Badge", was already mentioned. The second one is the "Broadcast

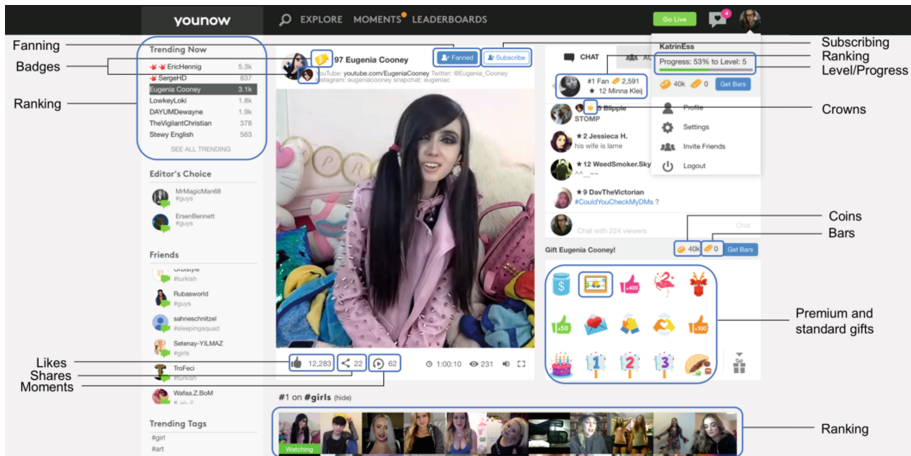


Fig. 1. YouNow live stream with marked gamification elements.

Badge”. Only producers (streamers) are able to get this badge. It represents the users’ broadcasting skills. There are nine different levels of this badge; each can be reached by different challenges. The levels are, namely and by order: Novice, Rookie, Junior, Captain, Rising Star, Boss, Ace, Superstar, Pro and finally, Partner. Users are moving up to a next status, if they reach certain goals (e.g. getting a determined number of fans or likes). Coming to the last badge which is called “Crowns”, those badges are symbolizing top fans, who are supporting a streamer with bars. The more bars a user spends, the higher is his or her “Crown level”. The “Crown level” is represented by one to five red or golden crowns. Those are shown on the user’s profile, as well as beside one’s username by commenting in the chat.

The virtual currencies on YouNow are coins as well as bars. Bars have to be bought with real money. They make it possible for users to bestow a broadcaster with so called premium gifts. The other virtual currency (coins) may be collected during certain activities on YouNow (e.g. broadcasting live). Coins are needed for site actions, such as bestowing a broadcaster with gifts. A user even needs coins for the action of liking a stream. Likes can be considered as some kind of feedback function by users or some kind of reward. Besides to likes, there are also shares and captured moments, which are presented below the live video (Fig. 1). YouNow live streams can be mentioned on other social media sites by sharing it. There is the opportunity to share it on Facebook, Twitter, or Tumblr. One may even invite fans to a live stream to support the broadcaster. By capturing a moment, the previous 15 s of a live stream will be saved to one’s profile as well as to the “Moments Feed”, and may be shared on social media platforms as well. Another function of YouNow is to be guest in a live broadcast of another streamer (there is normally a tab in the chat box, it is covered by the level, as well as level progress bar). The host has to accept the guest request first. This feature offers the opportunity to collaborate with other streamers. Returning to gifts as well as premium gifts (below the chat box), most of them are like stickers or icons in the chat, but some of them even have an influence on the stream (e.g. applause). They have varying prices,

serve as a reward for streamers, and “they are a symbol of your dedication and appreciation” [25]. Furthermore, levels show the user’s experience on YouNow and the level progress bar should motivate one to reach the next level. YouNow offers its users many leaderboards to compare their performance and accomplishment to the one of other users. The most utilized one is the “Trending Now” ranking (top left corner). The list displays the broadcasters being live and having the most viewers. The greater the audience of a broadcaster at the moment, the better he is ranked. Consequently, the one with the most viewers is ranked on top. While watching a stream, there is also the “Top Fans by Streamer” ranking (above the chat) as well as the “Trending by Hashtag” ranking (below the stream). The “Top Fans by Streamer” ranking shows which fan spent the most bars regarding to one streamer. The other ranking shows other streams with the same hashtags, regarding to the number of audience. Furthermore, other rankings are displayed on a special leaderboard site (Fig. 2).

































 Editor's Choice Latest Picks	 Top Broadcasters 24 Hours	 Top Fans 24 Hours	 Top Moment Creators 24 Hours
★  AmazingPhil 1.7M Fans	1  BrentMorg... 872,158 Likes	1  Ilo... Sachi_V + 23	1  Berblan 1,481 Likes
★  de... 64.9k Fans	2  ItsNickHorton 544,065 Likes	2  de... BrentMorgan...	2  RENE.GONGORA 836 Likes
★  whoi... 13.3k Fans	3  ItsConnorWade 522,451 Likes	3  nicho... ItsNickHorton	3  JaySandler 429 Likes
★  JaclynGlenn 56.5k Fans	4  WoohootsEthan 501,288 Likes	4  Bl... ItsPaxx + 7	4  RolaBishimi_sy 257 Likes
★  OfficialOcean 55.3k Fans	5  AlexSilenceSings 447,509 Likes	5  Michael_825 youngirmelly	5  Scooby.Doo.PaPa 160 Likes
★  danielhowell 2.2M Fans	6  EricHennig 380,540 Likes	6  whoi... BrentMorgan...	6  onelovoflife 135 Likes
★  TheDapperRa... 130.1k Fans	7  BrattyCup... 376,700 Likes	7  North... LainieLovee + 6	7  trikelow 121 Likes

Fig. 2. Leaderboards on YouNow. (Color figure online)

On the one hand, there is the “Editor’s Choice” ranking (green). It shows streamers who are discovered as talented by the editors of YouNow. “Editor’s Choice is awarded on a rotating basis and will be removed after a few weeks” [26]. Following, there is the “Top Broadcaster” ranking (purple), it lists “broadcasters with the highest number of likes in a particular broadcast” [27]. Furthermore, the “Top Fans” ranking (pink) “shows fans who have supported broadcasters with the greatest value of gifts in the past 24 h” [27], and finally, the “Top Moment Creators ranking” (blue) displays captured moments that have been liked by users. Concluding, YouNow offers many gamification elements, whereof seven items are rankings and there are three different kinds of badges. Nearly all of the elements allow the interaction or comparison with other users. In this investigation, the currency of bars as well as subscribing have been considered

as further motivational features, because they cost real money. Also, commenting streams as well as sharing streams have been added as further motivational element. Furthermore, the “Broadcast Badge” has not been considered in the online survey, because it is a new element that has been added in the time frame of this investigation. Other SLSSs like Periscope or the live streaming function on Instagram only offer their users the opportunity to show attention during flying hearts.

The mentioned gamification elements and their related actions can be associated with the three different user groups (Fig. 3). Producers (blue) can receive or get something (e.g. comments, gifts) during the action of streaming live. The action one user receives during a stream has to be taken or sent by another user, the participant (yellow). Therefore, there are opposite actions for producers as well as participants. If a viewer participates in a stream, the producer will consequently perceive the action. There are some gamification elements, which can be used by all three user groups (white) – producers, participants as well as consumers. These are levels, coins, badges, crowns, and different kinds of rankings.

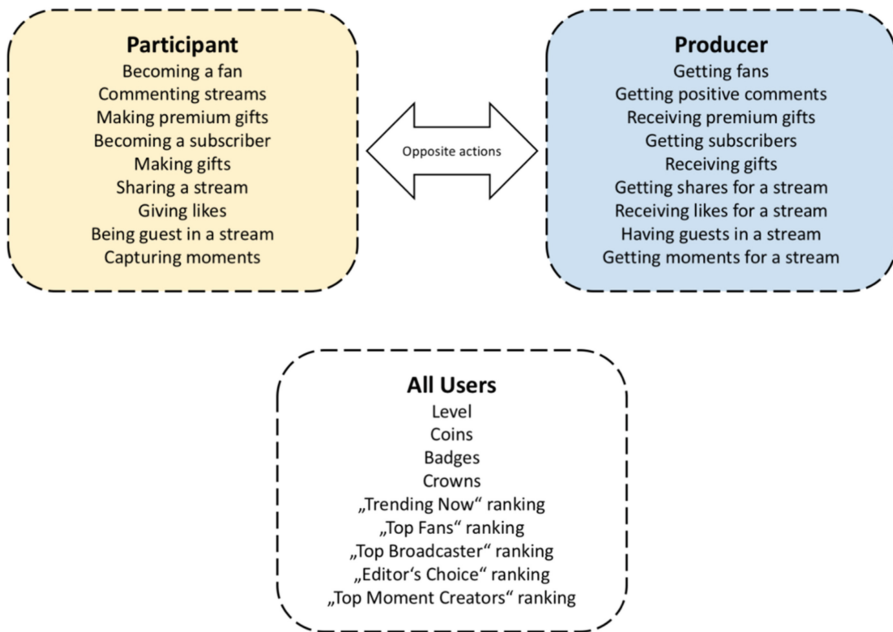


Fig. 3. User groups and the related game elements and actions on YouNow. (Color figure online)

3 Methods

As investigative method and to collect the required data, an online survey was conducted on umfrageonline.com. It was available in five different languages, namely English, German, Spanish, Arabic, as well as Turkish. The German survey was

translated to English and Spanish, and the English version was translated to Arabic as well as Turkish. The main part of the survey consists of pre-formulated statements about the game mechanics and dynamics, and motivational elements on YouNow. As shown in Fig. 4, a picture of the respective element was presented. For every statement a seven-point Likert-scale, from “strongly disagree” (1) to “strongly agree” (7) [28] with equidistance between neighboring numbers was prepared. The Likert-scale had an uneven number to have the opportunity of a neutral (4) point. Additionally, the statements could be answered by “I don’t know”. The pre-formulated statements in the survey were based on different theoretical backgrounds:

- Motivation (gratification sought [1, 2, 13])
- Reward (gratification obtained [1, 12, 13])

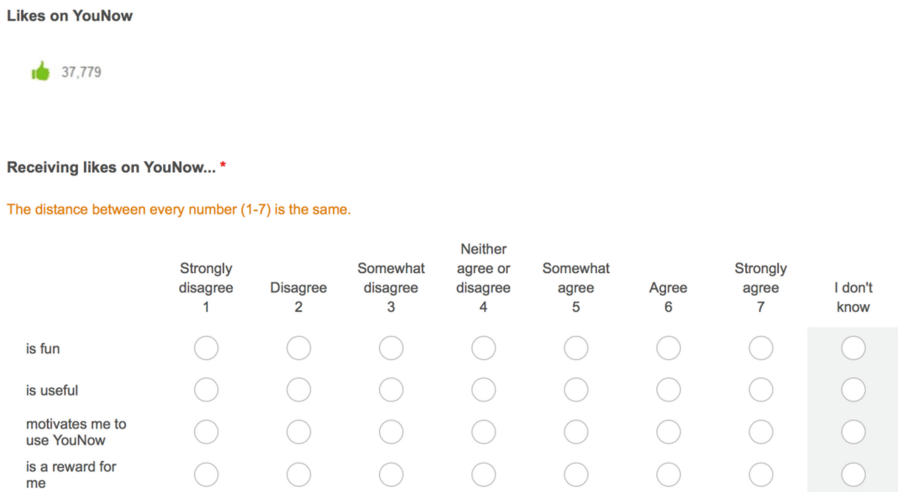


Fig. 4. Online survey item (statement about likes).

The first question asked the attendee what he or she uses YouNow for, with the options to choose between “Only streaming”, “Only watching streams”, “Both: streaming and watching streams”, or “I do not use YouNow”. Either the attendee was only a producer (streaming), only a consumer (watching streams), or both, producer and consumer (streaming and watching streams). If the attendee was not a user of YouNow, the survey was finished. Furthermore, the attendee was asked with different questions if and with what actions he or she participates in streams. Some of the next survey items (questions and statements) were separated by the given answer of this question. Therefore, the survey items have a varying number of N. Finally, the survey participants were asked about age, gender as well as country. The survey was available from August 30, 2016 until March, 2017 and reached 211 YouNow users as participants.

Since the data is ordinal scaled and not normally distributed, the median was considered as first benchmark. Furthermore, the mean as well as the standard deviation (not mentioned in the table) were added as second and third sorting criterion. For the analysis of YouNow's ease of use, its usefulness, trustability, and giving users the experience of flow, we calculated the median and the interquartile range (IQR). In order to analyze the correlations between the positions of the actions of two rankings, Spearman's Rho rank coefficient has been calculated via SPSS. The common thresholds were used, namely two stars (**) for 99% as well as "ns" for "not significant."

4 Results

Considering Alexa's online traffic statistics [29] about YouNow.com, most users are from the United States of America (30.1%), followed by Germany (11.6%), Turkey (8.1%), Saudi Arabia (6.5%), and Mexico (4.0%). The majority of survey attendees are from the United States of America (29.25%), or Germany (20.75%). Some attendees are from the United Kingdom (6.60%), Canada (5.66%), Saudi Arabia (5.66%), the Netherlands (4.72%), Turkey (2.83%), or New Zealand (2.83%) as well. Only a few are from Mexico (1.89%), Algeria (1.89%), Colombia (1.89%), Australia (1.89%), or Austria (1.89%). There are also participants from MENA countries (3.76%), other Latin American countries (3.76%), and other European countries (2.82%). In total participants from 26 different countries have applied.

Total 50.94% are male and 48.11% are female, the remaining amount would not state their gender. The participants are aged between 12 to 62 years, the median age is 23 and the modus is at the age of 17. From all participants 101 are only watching streams, 19 are only streaming, and 91 are watching streams and streaming actively as well. Most users (86.1%) are commenting streams and only a few (9.1%) do not, whereby 4.8% prefer not to say if they do (N = 165). Nearly half (47.8%) of the participants have at least bought bars once, the other half (49.5%) did not, and 2.7% would not state this question (N = 182). 54.42% of the users who have already bought bars think it was money well spent, only 27.93% think the money was not well spent. The remaining 17.65% points have a neutral point of view to this. With 48.9 percent points, slightly more users have already subscribed to someone, while 47.8% have not subscribed yet, and 3.3% prefer not to say if they do (N = 182). Already 52.7% have been a guest in a live stream on YouNow, and 45.6% have never been guest in a stream, only few attendees (1.6%) would not answer this question (N = 182).

Regarding to what users think about the SLSS YouNow (Fig. 5), for most users (min. 75%) it is easy and funny to use, and they have also experienced the feeling of flow (min. 75% as well) while being on YouNow (median is 6, each and IQR from 5 to 7). With the median at 5.5, users also noticed YouNow as a useful system. But, some users seem to have doubts whether YouNow is trustable, or not (median: 4).

Table 1 shows two different rankings regarding to gratifications sought (top ranking) and gratifications obtained (bottom ranking) through the different gamification actions for producers. In both rankings, we can see a similarity at the positions and the median of the actions of "getting fans" (first rank, median of 7), "receiving premium gifts" (third rank, median of 7), "receiving gifts" (fifth position and median of 6),



Fig. 5. What YouNows users think about the service (N = 160).

“having guests in a stream” (eighth position, median of 6) as well as “capturing moments for a stream” (ninth and last position, median of 5). One other action, “getting positive comments” is on the second position in the first ranking and on the fourth position in the second ranking, both with a median of 7. The action of “getting subscribers” is on the fourth place in the ranking for gratifications being sought and on the second position in the ranking for gratifications being obtained. Therefore, the positions for these actions have switched in both rankings. In the first ranking, the action of “getting shares” is on the sixth rank and “receiving likes” is on the seventh rank. Looking at the ranking about gratifications obtained, “receiving likes” is on the sixth rank and “getting shares” on the seventh rank. As mentioned, on the last two positions of both rankings is the action of “having guests in a stream” followed by the action of “getting moments.” The first four positions of both rankings have a median of 7, the following positions, from five to eight, have a median of 6 and the last position has, in both cases, a median of only 5. The correlation between the positions of the actions of the two rankings, according to Spearman’s Rho rank coefficient, is 0.917**.

Looking at the rankings of actions by gamification elements being sought as well as obtained for participants (Table 2), it strikes that the action on the first position of the first ranking, “commenting streams”, has a median of 6 and the first position of the second ranking (gratifications obtained), “making premium gifts”, has a median of 6.5. Comparing it to the previous table, the first rank starts with a smaller median for participants. “Commenting streams” is on the sixth place for gratifications obtained and “making premium gifts” is on the fifth position for gratifications sought. The second element in the ranking about gratifications sought is “being guest in a stream”. Participants are motivated by being guest in a stream. Comparing it to the ranking about the reward, “being guest in a stream” is on the eighth ranking. Nevertheless, they both have a median of 6 and a similar mean value (5.48 for sought; 5.40 for obtained). Moving on with the third place, there is the action of “becoming a fan” in both

Table 1. Rankings of gamification elements for producers (gratification sought/obtained).

Actions by gamification elements for gratifications being sought (motivation)				
Rank	Median	Mean	Action	N
1.	7	6.20	Getting fans	80
2.	7	6.20	Getting positive comments	79
3.	7	6.05	Receiving premium gifts	61
4.	7	6.01	Getting subscribers	74
5.	6	5.97	Receiving gifts	65
6.	6	5.68	Getting shares for a stream	56
7.	6	5.65	Receiving likes for a stream	81
8.	6	5.46	Having guests in a stream	57
9.	5	4.70	Getting moments for a stream	56
Actions by gamification elements for gratifications being obtained (reward)				
Rank	Median	Mean	Action	N
1.	7	6.30	Getting fans	79
2.	7	6.12	Getting subscribers	75
3.	7	6.10	Receiving premium gifts	61
4.	7	6.04	Getting positive comments	78
5.	6	6.12	Receiving gifts	65
6.	6	5.75	Receiving likes for a stream	79
7.	6	5.70	Getting shares for a stream	57
8.	6	5.19	Having guests in a stream	57
9.	5	4.71	Getting moments for a stream	55

rankings. “Becoming a subscriber” is on the fourth position at gratifications sought (median of 5.5) and on the second ranking (median of 6) for gratifications obtained. “Sharing a stream” has a median of 4 in the first ranking (8th rank) and a median of 6 in the second ranking (7th rank). Again, “capturing moments” is at the last position in both rankings. For the positions of the two rankings in Table 2, the Spearman’s Rho rank coefficient correlation is 0.233 and it is statistically not significant.

Considering the median values of the rankings about gamification elements concerning all user groups (Table 3), only the first rank of the motivating ranking (gratifications sought) has a median of 6, the second to eighth positions have a median of 5 and the last place has a median of 4. The other ranking, about gamification elements are experienced as a reward (gratifications obtained), has a median of 6 from the first to the fifth ranking. The sixth place has a median of 5.5 and the others a median of 5. Therefore, the standard game mechanics are generally experienced as more rewarding than motivating. Looking at the ranking positions, levels are on the first place for gratifications sought and on the second place for gratifications obtained (median of 6, each). The second position of the first ranking (sought) displays the gamification

Table 2. Rankings of gamification elements for participants (gratification sought/obtained).

Actions by gamification elements for gratifications being sought (motivation)				
Rank	Median	Mean	Action	N
1.	6	5.60	Commenting streams	116
2.	6	5.48	Being guest in a stream	58
3.	6	5.22	Becoming a fan	131
4.	5.5	5.24	Becoming a subscriber	72
5.	5	5.03	Making premium gifts	68
6.	5	4.94	Making gifts	114
7.	5	4.63	Giving likes	133
8.	4	4.49	Sharing a stream	100
9.	4	4.03	Capturing moments	101
Actions by gamification elements for gratifications being obtained (reward)				
Rank	Median	Mean	Action	N
1.	6.5	6.00	Making premium gifts	68
2.	6	6.04	Becoming a subscriber	72
3.	6	5.99	Becoming a fan	128
4.	6	5.74	Giving likes	134
5.	6	5.71	Making gifts	112
6.	6	5.68	Commenting streams	114
7.	6	5.49	Sharing a stream	101
8.	6	5.40	Being guest in a stream	58
9.	5	4.55	Capturing moments	101

element coins and has a median of 5. In the second ranking (obtained), coins are on the first place and have a median of 6.

The “Trending Now” ranking is in both rankings on the third place and has a median of 5 for gratifications sought and a median of 6 for gratifications obtained. Placed on the fourth position of motivating gamification elements, is the “Editor’s Choice” ranking, it has a median of 5. On the fifth and sixth position are crowns (5th) as well as badges (6th), both with a median of 5 as well. In the ranking about rewarding gamification elements, the “Editor’s Choice” ranking can be found at the seventh rank with a median of 5, crowns are on the fourth position, and badges are on the fifth position, both with a median of 6. The “Top Fans” ranking and the “Top Broadcasters” ranking are on the seventh and eighth place of the first rankings and on the sixth and eighth place of the second ranking. With a median of 5, the “Top Fans” ranking is on the eighth position for gratifications obtained. Finally, the “Top Moment Creators” ranking is on the last rank for gratifications sought as well as for obtained. It has a median of 4 for motivating and a median of 5 for rewarding. The Spearman’s Rho rank coefficient correlation for the positions of the elements in the two rankings (Table 3) is 0.850**.

Table 3. Rankings of gamification elements for consumers, producers, and participants as well (gratification sought/obtained).

Gamification elements for gratifications being sought (motivation)				
Rank	Median	Mean	Element	N
1.	6	5.21	Levels	113
2.	5	5.15	Coins	124
3.	5	5.03	“Trending Now” ranking	105
4.	5	4.86	“Editor’s Choice” ranking	101
5.	5	4.86	Crowns	98
6.	5	4.84	Badges	93
7.	5	4.79	“Top Fans” ranking	104
8.	5	4.64	“Top Broadcaster” ranking	104
9.	4	4.52	“Top Moment Creators” ranking	103
Gamification elements for gratifications being obtained (reward)				
Rank	Median	Mean	Element	N
1.	6	5.48	Coins	123
2.	6	5.36	Levels	108
3.	6	5.25	“Trending Now” ranking	101
4.	6	5.13	Crowns	100
5.	6	5.10	Badges	93
6.	5.5	5.05	“Top Broadcaster” ranking	96
7.	5	4.97	“Editor’s Choice” ranking	95
8.	5	4.97	“Top Fans” ranking	100
9.	5	4.65	“Top Moment Creators” ranking	97

5 Discussion

This investigation presented a first insight about game mechanics and their rewarding, respectively motivating aspect on general live streaming services, and, if and through what gamification elements users are searching for as well as obtaining gratifications. On YouNow, users are confronted with many types of gamification elements. Every registered user has a level as well as a level process bar to compare their experience with other users and to be motivated to reach a next status. While watching a stream the audience is able to reward the streamer with likes and gifts. There is the opportunity to share a stream on other social media services as well as to capture moments (15 s) of a stream. To collaborate, one is able to request to be guest in a stream of a producer. Users stay up-to-date through the fanning as well as subscribing function and collecting coins through several site activities. The other currency on YouNow, besides coins, that has to be bought with real money, is called bars. Bars are needed for special premium gifts. Moreover, YouNow offers its users seven different leaderboards to compare the performance towards other users and three different kinds of badges.

The online survey asked YouNow's users if they perceive the particular gamification elements as rewarding and motivating. According to the results, the actions a user perceives while producing a stream are experienced as the most rewarding as well as motivating. The rank order from the ranking about gratifications sought (motivating) is similar to the ranking about gratifications obtained (rewarding) for producers (correlation of 0.917**), even the median values of each action is the same in both rankings. For producers, getting fans is the best way to search as well as to obtain gratifications, whereas getting moments is the least.

The actions users perceive while participating in a live stream are conceived as slightly less rewarding as well as motivating as for the producers. They are gently more rewarded through the different gamification actions than motivated and they are not searching for gratifications as much as they are obtaining them. For participants, commenting streams is the most motivating action and making premium gifts is perceived as the most rewarding. The least action for participating is in both circumstances capturing moments.

Coming to the general gamification elements for all users, the most motivating one are levels and the most rewarding are coins. At the last ranking positions of both rankings was the "Top Moment Creators" ranking. In general, the standard gamification elements for all users of YouNow are perceived as the least rewarding as well as motivating, but all are at least perceived as neutral and the majority as thoroughly motivating, respectively rewarding. Users are more motivated by the actions they are able to perform on the service. Moments as well as the "Top Moment Creators" ranking are rated rather low, because YouNow's users want to replay and watch the full video instead of the captured moments (15 s). Additionally, the results show that YouNow is easy as well as fun to use, YouNow's users are experiencing flow while using the platform, and they think the information service is somehow useful as well.

As limitations of this investigation, one can mention the rather small number of participants ($N = 211$); also not every survey attendee has answered all questions concerning the high number of survey items. As alternative, qualitative interviews with producers as well as the audience will be more accurate than pure quantitative data. The interviews could be performed live on YouNow. Moreover, 50% of the survey participants are 23 years old and older. If more users from generation Z [30] had participated, the data will be more accurate. The common users of YouNow are mainly teenagers and adolescents. For further research, a comparison of other live streaming services' game mechanics would be helpful to have data on different live streaming services (as, e.g., Periscope is mainly used by generation Y and generation X and older people are mainly using Ustream). Moreover, an investigation about comparing the extent of gamification elements a service applies should be conducted. Also, an investigation about the distinction of users by gender, age, and culture will be an interesting research topic.

All in all, YouNow's game mechanics are accepted very well. The very young users of YouNow do really enjoy the gamification elements of the service.

References

1. Zichermann, G., Cunningham, C.: *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*. O'Reilly, Sebastopol (2011)
2. Deterding, S., Dixon, D., Khaled, R., Nacke, L.: From game design elements to game-fulness: defining “gamification”. In: *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, pp. 9–15. ACM, New York (2011)
3. O'Reilly, T.: What is Web 2.0. (2005). <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>. Accessed 08 Feb 2018
4. Linde, F., Stock, W.G.: *Information Markets. A Strategic Guideline for the I-Commerce*. De Gruyter Saur, Berlin, New York (2011)
5. O'Reilly, T., Battalle, J.: *Web Squared: Web 2.0 Five Years on* (2009). <https://conferences.oreilly.com/web2summit/web2009/public/schedule/detail/10194>. Accessed 08 Feb 2018
6. Toffler, A.: *The Third Wave*. Morrow, New York (1980)
7. Scheibe, K., Fietkiewicz, K.J., Stock, W.G.: Information behavior on social live streaming services. *JISTaP* **4**(2), 6–20 (2016)
8. Friedländer, M.B.: And action! Live in front of the camera: an evaluation of the social live streaming service YouNow. *Int. J. Inf. Commun. Technol. Hum. Dev.* **9**(1), 15–33 (2017)
9. Scheibe, K., Zimmer, F., Fietkiewicz, K.J.: Das Informationsverhalten von Streamern und Zuschauern bei Social Live-Streaming Diensten am Fallbeispiel YouNow [Information behavior of streamers and viewers on social live-streaming services: YouNow as a case study]. *Inf. Wiss. Prax.* **68**(5–6), 352–364 (2017)
10. Zimmer, F., Scheibe, K., Stock, W.G.: A model for information behavior research on social live streaming services (SLSSs). In: Meiselwitz, G. (ed.) *SCSM 2018*. LNCS, vol. 10914, pp. xx–yy. Springer, Cham (2018)
11. Lasswell, H.D.: The structure and function of communication in society. In: Bryson, L. (ed.) *The Communication of Ideas*, pp. 37–51. Harper & Brothers, New York (1948)
12. Blumler, J.G., Katz, E.: *The Uses of Mass Communications: Current Perspectives on Gratifications Research*. Sage, Newbury Park (1973)
13. Palmgreen, P., Wenner, L.A., Rayburn II, J.D.: Relations between gratifications sought and obtained: a study of television news. *Commun. Res.* **7**(2), 161–192 (1980)
14. Ryan, R.M., Deci, E.L.: *Self-Determination Theory. Basic Psychological Needs in Motivation, Development, and Wellness*. Guildford Press, New York, London (2017)
15. Deterding, S.: Gamification: designing for motivation. *Interactions* **19**(4), 14–17 (2012)
16. Shao, G.: Understanding the appeal of user-generated media: a uses and gratification perspective. *Internet Res.* **19**(1), 7–25 (2009)
17. Zimmer, F., Fietkiewicz, K.J., Stock, W.G.: Law Infringements in social live streaming services. In: Tryfonas, T. (ed.) *HAS 2017*. LNCS, vol. 10292, pp. 567–585. Springer, Cham (2017). https://doi.org/10.1007/978-3-319-58460-7_40
18. Friedländer, M.B.: Streamer motives and user-generated content on social live-streaming services. *JISTaP* **5**(1), 65–84 (2017)
19. Honka, A., Frommelius, N., Mehlem, A., Tolles, J.N., Fietkiewicz, K.J.: How safe is YouNow? An empirical study on possible law infringements in Germany and the United States. *J. MacroTrends Soc. Sci.* **1**(1), 1–17 (2015)

20. Fietkiewicz, K.J., Scheibe, K.: Good Morning... Good Afternoon, Good Evening and Good Night: adoption, usage and impact of the social live streaming platform YouNow. In: Proceedings of the 3rd International Conference on Library and Information Science, 23–25 August 2017, Sapporo, Japan, pp. 92–115. International Business Academics Consortium, Taipei (2017)
21. Gros, D., Wanner, B., Hackenholt, A., Zawadzki, P., Knautz, K.: World of streaming. Motivation and gratification on twitch. In: Meiselwitz, G. (ed.) SCSM 2017. LNCS, vol. 10282, pp. 44–57. Springer, Cham (2017). https://doi.org/10.1007/978-3-319-58559-8_5
22. Scheibe, K., Göretz, J., Meschede, C., Stock, W.G.: Giving and taking gratifications in a gamified social live streaming service. In: Proceedings of the 5th European Conference on Social Media. Academic Conferences and Publishing International, Reading (2018)
23. Wilk, S., Wulffert, D., Effelsberg, W.: On influencing mobile live broadcasting users. In: 2015 IEEE International Symposium on Multimedia, pp. 403–406. IEEE, Washington, DC (2015)
24. YouNow: What is a Subscription? <https://younow.zendesk.com/hc/en-us/articles/206320655-What-is-a-subscription>. Accessed 14 July 2017
25. YouNow: What are Stickers and Bar-Based Gifts? <https://younow.zendesk.com/hc/en-us/articles/206320625-What-are-stickers-and-bar-based-gifts>. Accessed 14 July 2017
26. YouNow: What is Editor's Choice? <https://younow.zendesk.com/hc/en-us/articles/206320675-What-is-Editor-s-Choice>. Accessed 14 July 2017
27. YouNow: How Do I Get Featured on YouNow? <https://younow.zendesk.com/hc/en-us/articles/212230083-How-Do-I-Get-Featured-on-YouNow>. Accessed 14 July 2017
28. Likert, R.: A technique for the measurement of attitudes. *Arch. Psychol.* **140**, 5–55 (1932)
29. Alexa: Younow.com Traffic Statistics. <https://www.alexa.com/siteinfo/younow.com>. Accessed 30 June 2017
30. Fietkiewicz, K.J., Baran, K.S., Lins, E., Stock, W.G.: Other times, other manners: how do different generations use social media? In: 2016 Hawaii University International Conferences, pp. 1–17. Arts, Humanities, Social Sciences and Education, Honolulu (2016)