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This paper explores how Generation Y engages with gamified health and fitness mobile apps focussing on the popular Nike+ and Fitbit apps. An interpretative approach was adopted whereby ten in-depth interviews were carried out to explore this phenomenon from the perspective of the user. Findings suggest that consumers enjoy receiving intrinsic rewards but these only hold value when players understand the behaviour or activity for why they are being rewarded. It was also found that consumers would welcome social media integration in the gamified apps only if a purpose is clearly identified. Finally, competitive elements, such as leaderboards, points and status, are most likely to enhance consumer engagement but brands need to create opportunities for constructive competition.

Keywords: Gamification, Brand Engagement, Theory of Flow, Mobile Apps

INTRODUCTION

Gamification is seen as a growing trend in mobile promotional communication whereby brands are applying game mechanics and design to non-gaming contexts in order to connect with consumers in a more engaging and creative way (Tegtmeier et al. 2013). One of the most widely accepted definitions of gamification is "the use of game design in non-game contexts" (Deterding et al. 2011, p.1) where a game can be conceptualised as an activity comprising of goal setting, clearly established rules, a feedback system and voluntary participation (Galloway 2004, McGonigal 2011).

The notion of gamification has been applied in various contexts (Morris et al. 2015, Hanus and Fox 2015, Siexas et al. 2016) but with the exponential growth of smartphones, the mobile web, and social media, there has been a growing popularity of the use of gamification in mobile apps (Kim and Lee 2015) with a growing potential for health and fitness apps since, according to Zuckerman and Gal-Oz (2014, p. 1717), "gamification makes physical activity more enjoyable, thus motivates users to become more active".

Therefore, the health and fitness industry could be the sector that would benefit most with the application of gamification (Zuckerman and Gal-Oz 2014) though more research has yet to be conducted in that specific area (Pereira et al. 2014, Lister et al. 2014). Health and fitness apps have become increasingly popular especially among Generation Y or Millennials. According to a recent Mintel report, Millennials tend to show a greater-than average level of interest in health and well-being, partly due to the widespread availability of health and fitness apps (Mintel 2015). This paper explores user engagement with apps using gamification techniques in the health and fitness category focussing on the popular Nike+ and Fitbit apps.

LITERATURE REVIEW

Gamification

The notion of gamification within the realm of marketing has been receiving increasing attention in recent academic studies. Burke (2014) argued that the purpose of gamification is to change behaviour, develop skills and drive innovation among consumers. Robson et al. (2016) supported this notion and postulated that gamification can be only defined as a means to change behaviour through the application of game design principles in non-gaming contexts. It is also worth noting that the notion of reward is being seen as a crucial element in influencing consumer behaviour. For instance, Zichermann and Cunningham (2011) argued that the possibility of receiving a reward provided consumers' incentives in engaging with game playing. Such reward systems would be guided by progress tracking whereby an objective is mapped out by a sequence of intermediate goals to encourage user engagement (Buckley and Doyle 2014). Therefore, it can be argued that brands can shape consumer behaviour through the distribution of rewards (Robson et al. 2016). It has also been suggested that brands need to make the gaming experience evolve progressively to ensure continuous engagement. For example, Robson et al. (2016) suggested that brands should add different levels of difficulty for competitive players and get new players involved for the social players as they progressed through the gaming experience.

Another key aspect of gamification that has been identified as a prime influential of consumer behaviour is the element of competition. Zichermann and Cunningham (2011) suggested that competition is a key element in driving engagement and which can be achieved through status, levels, leader-boards and badges using gamification principles. Similarly, Paharia (2013) also mentioned competition as a key mechanic in a gamification interface along with onboarding, fast feedback, goals, badges, points, levels, collaboration, community, and transparency. However, Burke (2014) warned brands to use competition judiciously as it could reduce motivation for underachieving players. Although there are many benefits for brands that apply gamification, as the player becomes more experienced the challenges become easier, which makes the process less exciting for the user (Hamari and Lehdonvirta 2010). Zichermann and Cunningham (2011) stated that players pursuing rewards will not remain loyal when the game ends; for this reason, brands need to incorporate gamification elements that are continuous. Using experience points could achieve this because the player is continuously developing, instead of working towards a specific goal. Key aspects of gamification

include badges, levels and leaderboards, however it has also been argued that these only hold value when they are made public to all players (Harwood and Garry 2015).It is also vital for brands to understand the different types of players and their unique desires and motivations before designing a gamified experience (Eyal 2014). For example, a competitive player will enjoy badges and leaderboards, whereas social players will appreciate integration across social media platforms (Robson et al. 2016). Research from Bartle (1996) categorises players into: Killers, Socialites, Achievers and Explorers. Killers are defined by competition that focus on winning and engage with leaderboards, levels and points (Bartle 1996). Socialites are defined by social integration and engage with online communities, Achievers are defined by status and engage with goal tracking (Bartle 1996). Lastly, Explorers are defined by a drive to discover the unknown and engage with the narrative of the game (Bartle 1996). It is important for brands to acknowledge the different player types within a gamified app, as understanding player motivation increases user engagement (Robson et al. 2016).

Although there are many benefits for brands that apply gamification, as the player becomes more experienced the challenges become easier, which would make the process less exciting for the user (Hamari and Lehdonvirta 2010). Zichermann and Cunningham (2011) stated that players pursuing rewards would not remain loyal when the game ends; for this reason brands need to incorporate gamification elements that are continuous. Using experience points could achieve this because the player is continuously developing, instead of working towards a specific goal. Key aspects of gamification include badges, levels and leaderboards, however these only hold value when they are made public to all players (Harwood and Garry 2015).

Gamification and Generation Y

Tegtmeier et al. (2013) collected qualitative research on Generation Y's attitudes towards gamification and identified that they value peer approval of brands. Balakrishnan et al. (2014) supported this by highlighting a relationship between electronic word of mouth (E-WOM) and online communities with brand loyalty and product purchase intention. Tegtmeier et al. (2013) identified that Generation Y used gamification to receive discounts and rewards, access exclusive information and consumers who participate in gamification typically possess stronger brand loyalty and engagement.

Brands are finding marketing to Millennials (aka Generation Y) more challenging than traditional consumer groups since they have been found to be notoriously disloyal and also tend to view traditional marketing strategies as mediocre and disengaging (Lazarevic 2012). The Millennial generation has also been described as a multi-tasking generation who have grown up digital and therefore brands need to think of implementing increasingly engaging marketing strategies to maintain their attention (Tegtmeier et al. 2013). An example of this is mobile gamification. The proliferation of smartphones and mobile devices are strong contributors for Millennials' habit of using technology on the go (Brigham 2015) which includes mobile gaming - estimated sales for the worldwide gaming market were $91.95 billion with mobile gaming surpassing console games globally in 2015 (Brigham 2015). Brigham (2015) also argued that "with the increasing ownership of smartphones plus a growing ease in the use of game design

tools, digital games are becoming more pervasive in the daily lives of most individuals" (p. 472). Such a perspective supports the argument that brands need to understand how the apply gamification as a marketing strategy to be engage with the mobile Millennial generation. For instance, Tegtmeier et al. (2013) identified that Generation Y use gamification to receive discounts and rewards, access exclusive information and consumers who participate in gamification typically possess stronger brand loyalty and engagement.
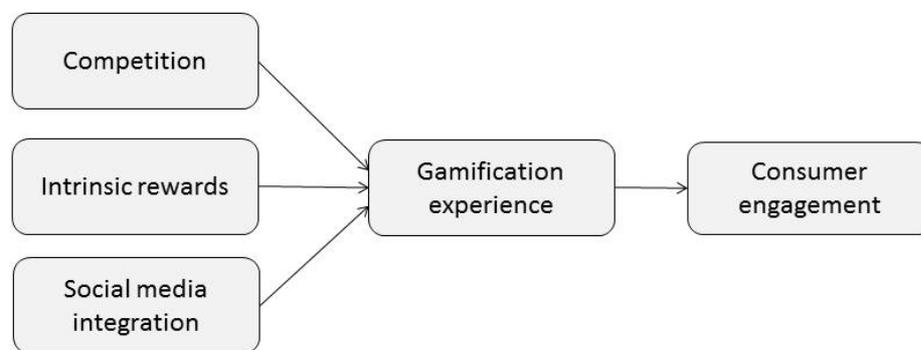
The Theory of Flow

Many game designers have been inspired by the Theory of Flow developed by Csikszentmihalyi (1975) to enhance user intrinsic interest, curiosity and attention (Faiola et al. 2013). The Theory of Flow was developed to explain why people enjoy playing games. Csikszentmihalyi (1990) categorised Flow into nine elements: setting clear goals, receiving feedback, matching personal skills with challenges, merging action and awareness, concentration, control, a loss of self-consciousness, an altered sense of time and intrinsic rewards (Faiola et al. 2013). Competition has been identified as a key element for achieving Flow, as Sharek and Wiebe (2014, p.571) argued: "Csikszentmihalyi proposed that one of the most powerful experiences in Flow occurs when a person is faced with difficult obstacles that they judge are worthwhile to overcome." Huang and Hsieh (2011) researched into the uses and gratifications of Flow to predict consumer's loyalty towards gamification.

The research revealed entertainment and challenge elements help to increase consumer loyalty. However, surprisingly, sociality and interactivity produced negligible side effects on loyalty (Chang et al. 2013). Flow can also be responsible for increased engagement as it relates to intrinsic motivational factors, perceived enjoyment, concentration and perceived control. Therefore, if brands can successfully incorporate Flow into mobile apps, they could increase the likelihood of repeated use and a behavioural change in engagement and loyalty. The Theory of Flow also identified the experience of total absorption within an activity and which would be usually associated with a challenge that requires skill, action and awareness (Harwood and Garry 2015). Crucially, "the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (Csikszentmihalyi, 1975, p.4). "This is therefore a key component of gamification, which arises out of comprehension and experiential mastery of the challenges within a particular environment and the accompanying emotion" (Harwood and Garry 2015, p.535).

Richard and Chandra (2005) found that Flow in online environments strongly affect users' behavioural intentions positively. Bilgihan et al. (2016, p. 110) also came to a similar conclusion in their study of online shopping behaviour among Millennials: "When Gen Y shoppers achieve a state of flow during the shopping experience, the theory suggests that they are more likely to be motivated to continue the experience and engage with the website". Liu and Shiue (2014) suggested that Flow can be categorised into four factors: sociality, interactivity, challenge and novelty. Faiola et al. (2013) define the Theory of Flow as a highly enjoyable experience where the player is immersed in deep concentration as their skillsets are matched with the games challenges. Sociality is when

a player recognises their social position within the game (Liu and Shiue 2014). Interactivity is "the degree of social cohesion provided by interactions" (Liu and Shiue 2014, p. 126). Challenge is receiving competition from players and overcoming perceived difficulties and novelty is linked to cognitive curiosity when playing games (Liu and Shiue 2014). A review of the literature indicated a growing interest to better understand how brands can use gamification techniques to enhance engagement with consumers. Three constructs derived from Csikszentmihalyi's (1975, 1990) Theory of Flow were identified as salient in the literature related to consumer behaviour: intrinsic rewards, social integration and competition. In this present study, these constructs would be explored with reference to a specific category of users of health and fitness apps exclusively.

Figure 1: Conceptual Framework and Areas of Investigation

The conceptual framework indicated the areas of investigation and parameters of study. The main objectives of this study would be to (1) gain insights on the relevance and role of these constructs on users' gamification experience of health and fitness apps and (2) gain a better understand on users' forms of engagement with such apps.

METHODOLOGY

An interpretive and qualitative approach was adopted for this study just to the exploratory nature of this investigation probing into Generation Y's motivations and attitudes towards mobile apps incorporating gamification and the impact on user engagement. A purposive sampling strategy was adopted to ensure the participation of the right user profile who regularly engages with health and fitness mobile apps with gamification elements. In-depth semi-structured interviews were carried out with ten female users aged between 20-22 years old living in the UK. Data was analysed using a thematic approach (Grbich 1999, Braun and Clarke 2013). Sets of codes were first established and then transformed into longer-phrased themes. A theme is defined as an outcome of coding, categorisation, or analytic reflection, not something that is, "in itself, coded" Saldana (2013, p.14). After a familiarisation with the data, initial codes were generated. There was then a search and review for themes which were then refined (Silverman 2011).

FINDINGS AND DISCUSSION

Intrinsic Rewards are the Foundation for Consumer Loyalty

Zichermann and Cunningham (2011) explain that intrinsic rewards must be contextual, use real-time feedback, integrate with social media and be a vehicle of accomplishment. Participant 1 described the gamification reward elements of Fitbit as, *"levels, badges, trophies and status."* When asked if these concepts increased engagement with the brand participant 1 said, *"If you want to win a trophy you do get quite competitive."* When asked what element of gamification is the most effective for brand engagement, participant 2 replied:

> "I think probably the rewards just because that is an incentive and I think everyone likes a bit of a reward. I think as long as there is a reward at the end everyone is going to want to use it. It's nice to feel rewarded for doing something."

Zuckerman and Gal-Oz (2014) advised that rewards should contain goal-setting, instruction, reputation, status and group identification. However participant 1 explained:

> "the Fitbit app doesn't really promote the badges and it doesn't clearly say what you need to complete in order to achieve a badge."

When participant 5 was asked how she feels when she achieves a badge she revealed, "It makes me laugh, but like in a good way, it does engage you." Participant 7 mentioned, "It makes me feel very positive, it encourages me to go running again." Participant 8 added:

> "It's a nice surprise, it's nice to get an update and I think it does spur you on. I think if the badges were on the first screen and they blacked out the ones that you haven't achieved and told you what you needed to do to get them that would be more effective."

Zichermann and Cunningham (2011) suggest that earning a badge represents player effort and accomplishment; these are appealing factors as most people enjoy defining or expressing themselves through achievement and acquisition. It is highly important to understand how players engage with rewards because Robson et al. (2016) suggest that brands can shape consumer behaviour through the distribution of rewards. Seixas et al. (2016) state that whether the reward is tangible or intangible it should be presented after an action, with the intent to repeat the specific behaviour. However participant 1 revealed that with the Fitbit app:

> "Badges are distributed every now and then and it will pop up saying that you have achieved one when you don't necessarily know what for."

Participant 1 added if Fitbit were to display player's badges for everyone to see it would make them more motivational. This supported the research conducted by Harwood and Garry (2015) that intrinsic rewards only hold value when they are made public for all players to view.

Zichermann and Cunningham (2011) claim that rewards are vital for growing loyalty as they encourage behavioural change. This is supported through participant 1's statement that:

> "If you decide to download an app that has gamification elements such as earning rewards or achieving a status, you will therefore go out and use that app more to build up points." Participant 4 agreed: "I like the feeling of winning something, it provides you with a relationship to the brand."

Participant 4 also agreed that intrinsic rewards influence behavioural change because:

> "If you are one point away from something free, when you're making the decision of where to go, you'll choose that place."

This supports the notion for brands to include tangible rewards into the game, whereby players can use the rewards in real-time, for example a store discount. When asked what element of gamification (social integration, competition or intrinsic rewards) is most successful for brand loyalty, participant 1 responded:

> "Intrinsic rewards because it's like the brand is giving something back to you for being so loyal and I think that is a great way for getting people involved with the brand."

Participant 9 agreed that intrinsic rewards are the most effective for achieving brand loyalty. Participant 5 believed that competition and intrinsic rewards would be the most successful for brand loyalty:

> "Because I know very few friends who would share their activity on these apps through their social media."

Participant 8 mentioned that:

> "Everyone likes to get something free or a nice perk, but it probably depends on the age range or person."

Participant 10 concurred: "an intrinsic reward scheme is what attracts my custom, which could lead to loyalty." Participant 1 added: "It's all about saving money and winning something."

Integration of Social Media Requires a Purpose

This study revealed that social component of mobile gamification would have a positive impact on consumer engagement only if they see a clear purpose of such integration in the gaming experience:

> "I don't like it, it's annoying and unless it's something interesting I think it would put people off looking at your social media" (Participant 1).

While in a previous study, Burke (2014) concluded that social integration is a key amplifier in motivation, this study argued that participants need to see a clear purpose: I think it depends on the brand and how they decide to use it, there has to be a purpose to it" (Participant 2). For instance, participant 10 described herself as a really competitive person and claimed that one of her favourite features of the Nike+ running app was that she could share her progress with her friends on social media. Participant 1 mentioned that she liked the social integration because:

> "Every now and then they send you a notification like you haven't been on a run lately, if you do this much you're going to burn this amount of calories or reach this level."

This supports the research from Morris et al. (2013) that one purpose for social integration is feedback. Feedback is a useful tool for engaging and motivating players, however, it should provide specific and sufficient information for goal achievement and the player should receive the feedback shortly after the event is being evaluated (Morris et al. 2013). When asked about the feedback delivered by Nike+ and Fitbit participant 1 explained:

> "I would say Nike's maybe once a week, not too often otherwise that would annoy me, Fitbit updates you once a day when you've almost completed a challenge to help motivate you to accomplish it."

These forms one of Paharia's (2013) ten key mechanics of gamification: fast feedback. When participant 1 was asked if she ever used the social media sharing options to share her Nike+ and Fitbit activity she claimed:

> "No I don't, no one cares and I don't want to keep annoying other people's news feeds."

When asked if she ever shared any of the badges achieved through Fitbit on her social media she said: "No I think it's showing off and a bit cringe." Participant 5 added:

> "I don't particularly like it, like I don't really care, I don't mind it when it's linked to something like Instagram, but when it's like share this product, I don't think there's a need for it."

Participant 8 liked the convenience of signing into apps through social media but she wouldn't share her Nike+ activity because:

> "I don't think anyone really cares if I've gone on a 5K run! I don't share my badges because I don't think anyone would care, there's not a purpose as to why you should share it, like a competition or an incentive."

When asked about Nike's in-app motivational messages from famous athletes participant 1 said: "I find it really annoying because when I'm running I'm focused and it disrupts me." This function could impact player's Flow experience; which is an important dimension to gamification as Flow explores the positive psychology of gaming and studies positive emotions, feedback on individual performance, heightened skill level through competition and intrinsic rewards (Morris et al. 2013). Participant 8 explained:

> "The motivational messages from famous athletes might even de-motivate me because if you are in the zone listening to your music and then something just comes on it might break up your rhythm and that would be annoying."

Participant 3 added, "I think it's a bit cringe to be honest." Participant 3 also believed that the motivational messages would be more effective with a variety of celebrities instead of just famous athletes. Participant 7 also mentioned that:

> "It's quite cheesy, it doesn't really make me feel anything, but I'm sure it does something psychological."

WOM and E-WOM are significant factors for participants when deciding to download or purchase an app. Participant 1 admitted that she would not download an app if it had less than a four-star rating. Participant 5 downloaded the Fitbit app because, "all of my friends had it and I wanted to get involved." Participant 6 preferred looking at the star rating rather than the reviews when deciding to download an app because it's easier to digest the information and quicker to access. Participant 6 admitted:

"I don't really use the Nike+ app that much anymore since I've downloaded the Fitbit app, because so many people I know have Fitbit instead."

Participant 9 relied on WOM and the star rating before deciding to download an app:
> "I wouldn't go for an app with less than three stars, but if I was paying for the app I would probably read the reviews."

Participant 8 downloaded Fitbit because all of her friends had it and she wanted to get involved, she also relies firstly on WOM from her friends, then online reviews. Participant 8 declared that:
> "Everyone around me had a Fitbit so it was nice to get involved, it was a bit of a fashion statement at university."

Participant 8 was put off the Nike+ app because her online community was really small as opposed to her community on Fitbit. Furthermore, Balakrishnan et al. (2014) support this by highlighting a relationship between E-WOM and online communities with brand loyalty and product purchase intention.

Competition Increases Engagement if Used Judiciously

Seixas et al. (2016) explained that some players are motivated through accomplishment and work towards goals; these players seek challenges and status. Participant 1 supported this, "If your friends are on a higher level it'll motivate you to go out for a run." Participant 5 agreed:
> "I think it's good because you'll aspire to other people's achievements on the leader-board, and no-one wants to be at the bottom. You could almost view it as the weakest player."

Participant 6 added:
> "My friends and I actually had a competition the other day and we were even getting up in seminars and walking around, just to try and win the competition!"

Hanus and Fox (2015) believe that competition will increase if results are made public to all players within the online community. This can be tested through participants' views of the leader-board that is public, or the NikeFuel element which is private. Participant 1 said:
> "I prefer the leader-board because it's more motivating and shows how far you're off winning or getting ahead."

Participant 3 revealed:
> "I really like the NikeFuel because you can track your progress and see your improvement. It's also really easy to see the levels and it does push you to go that little bit harder."

Participant 2 also admitted that she is not the biggest fan of the leader-board because she preferred to keep her progress private and thought the leader-board could be quite elitist. Participant 4 also thought that the Nike+ running app was a bit too elitist. Participant 3 thought the NikeFuel element was good because it makes the app more interactive, "It creates an internal competition." However, she also liked the leader-board because it gives you something to aspire to and her and her friends use it to encourage each other.

When comparing the badges to the leader-board on Fitbit participant 5 admitted that she is more engaged with the leader-board because there is that element of competition. Participant 7 spoke of the NikeFuel:

"I think it's a good incentive, but it's quite hard to get to the next level, I'm on green at the moment which is 155 miles, but then to reach the blue level it's 620 miles. In my eyes that's very unrealistic, they obviously have a range of users, but for the normal everyday users it should be more varied."

Participant 8 declared:

"If I didn't have my NikeFuel for the day it would definitely motivate me to go out for a run and do some activity to get the level up."

Participant 9 claimed:

"I do think the NikeFuel is a good idea, but I think it's more effective if you are a long-distance runner. The leader-board is good because you can see the fastest time or longest distance that week. If one of your friends has run that day and you haven't it definitely motivates you."

When comparing the NikeFuel to the leader-board participant 1 said:

"I like comparing my scores to my friends and if I'm far behind it'll motivate me to go for a run."

However, this could incur social comparison.

Social comparison occurs when a player evaluates their own abilities by comparing them with the abilities of others, this is commonly used in fitness gamification apps to promote physical activity (Zuckerman and Gal-Oz, 2014). Participant 1 revealed:

"My friends and I will have banter about how much running we've done, or if someone's behind. It does motivate you within each other, when I look at the leader-board I will try and edge past them."

Some academics believe social comparison can heighten motivation by players wanting to outperform others. Whereas other academics believe it can be less effective, even having a negative effect on physical activity (Zuckerman and Gal-Oz 2014). Participant 6 spoke about the competition element:

"It makes you want to check it because of that competitive side, however it might be a negative aspect for people who aren't that competitive, but for me personally I think it works really well."

Hanus and Fox (2015) argue that the effectiveness of a leader-board depends on the player's position by offering upward and downward comparisons on performance. Players at the top of the leader-board may feel more positive and even superior; however, being top of the leader-board may also add unwanted pressure. Participant 7 claimed:

"I like being on the leader-board, obviously when you're not at the top it's not as good but sometimes that's unachievable."

The effectiveness of competition depends on whether it is constructive or deconstructive. Constructive competition occurs when competition is a fun experience for players, whereas deconstructive competition is a negative experience for at least one player (Hanus and Fox 2015). It is unclear whether leader-boards facilitate constructive or deconstructive competition, however, most leader-boards typically highlight one winner (Hanus and Fox 2015). Hanus and Fox (2015) argued that leader-boards might

be a form of deconstructive competition given the fact that it is easy for users to view other gamers' progress and make social comparisons. They suggested that this could lead to a negative rather than positive outcome. When asked if the competition element could de-motivate a user if they were low scoring on the leader-board participant 7 said:

> "I guess it depends on the person, some people would see it as a challenge but others might see it as a road block, personally no it wouldn't effect my engagement."

The reason brands incorporate social comparison into the design of fitness gamification apps is because users become more physically active in order to outperform others (Zuckerman and Gal-Oz 2014). When asked if the gamification elements increased engagement participant 1 said:

> "Yes, definitely because you have a competition with yourself and you want to see yourself achieve it each day. For example, if I'm only a thousand steps off my goal on Fitbit I'll motivate myself to go out for a walk to reach my target."

Participant 1 explained that the challenge and competition element in Nike+ and Fitbit are, "really good for getting people motivated through their friends." When asked if her engagement increases during a challenge with her friends, participant 1 said:

> "Yes, definitely. Even if I'm at work I'll make sure I get up and move around, or rather than catching the bus I'll walk, it definitely makes me more focused and I engage and check the app more regularly. When I'm trying to win a competition, I will do a ridiculous amount more."

Participant 3 agreed that competition was the most successful gamification element for increasing engagement. Participant 5 regularly participates in competitions with her online community through Fitbit, and during a competition she will engage more frequently with the app. When asked what element of gamification increases her engagement participant 5 said:

> "Competition, because even if you're not a competitive person, you'll always want to outdo yourself."

Participant 6 thinks the competition element subconsciously increases your engagement because:

> "When my friends and I are involved in a competition we check the app all the time."

Participant 7 mentioned that she was currently in a competition with her work colleagues to reach 155 miles:

> "I think the levels and leader-boards are a good way of encouraging people to use the app."

When asked what element of gamification would increase user engagement participant 8 said: "Maybe the challenges because you have to get up and actively use the app."

CONCLUSIONS AND RECOMMENDATIONS

This study confirmed several aspects of the Theory of Flow identified previously in the literature that would have a positive impact on user engagement with health and fitness apps. However, it was also found that there were certain conditions that brands needed to take into consideration. Firstly, rewards must be presented to players after an action, with the intent to repeat the specific behaviour (Seixas et al. 2016). For instance, users

of the Fitbit app were surprised when they received a reward and often did not know the behaviour for why they were being rewarded. One way for brands to go about this could be to showcase all of the available badges on the homepage and underneath each badge clearly label the activity that needs to be performed in order to achieve the badge. Furthermore, Fitbit could black out each badge that is yet to be earned and make all badges available for the online community to see. This would support the research from Zuckerman and Gal-Oz (2014) that rewards should contain group identification. Rewards could also be provided in a tangible way to encourage consumers to move from gaming to store purchase, for instance product discounts could be offered in-game.

Secondly, in order to maximise engagement brands must develop apps that include competition, inevitably involving social comparison. Prior research argued that the effectiveness of social comparison depends on a player's position (Zuckerman and Gal-Oz 2014) and that leader boards facilitate deconstructive competition as only one winner is chosen (Hanus and Fox 2015). However, brands should present players with opportunities for constructive competition to override the negative effects associated with social comparison. For instance, brands could acknowledge players at the bottom of the leader-board and send a motivational message, facilitating upward performance comparison. Furthermore, brands could send randomised rewards to anyone on the leader board who did not win, increasing engagement, motivation and praising players for taking part. This would facilitate constructive competition as more than one player's achievements are recognised and competition is viewed as a fun experience. Brands also need to bear in mind that players enjoy competition and social comparison within their chosen online communities. However, when this is exposed to a much larger group, through social networking sites players worry about showing off and feeling pressurised. A recommendation for brands would be to integrate a social networking platform within each app, providing users with the opportunity to share their rewards, activity and results through the comfort of their chosen online community. Brands must identify a purpose for social media integration with mobile apps in order to engage with a Generation Y audience.

This research also found that the preferred purpose for social integration would be for feedback and notifications. Morris et al. (2013) believed that feedback was a useful tool for engaging and motivating players; however, it should provide specific and sufficient information for goal achievement and players should receive feedback shortly after the event is being evaluated. The research revealed that Generation Y seeks validation from peers through online communities, WOM or E-WOM, which supports the notion for feedback. Brands could develop a social networking platform through each app with the purpose of providing feedback. However, brands must find the right balance between notifications and updates, as too much interaction will discourage Generation Y to engage with the app.

Lastly, a key quality that the Generation Y seeks in mobile apps is convenience and they rely heavily on WOM and E-WOM before deciding to download or purchase an app. Generation Y live up to their so-called fickle and disloyal nature as they will swiftly delete an app if it is not serving a purpose. Main reasons for deleting an app are: too many glitches, adverts, too much sponsored content, hidden in-app purchases or if the app

takes up too much memory on their phone. A recommendation for brands looking to develop mobile apps is to not launch the app before it is completely ready, as this could impact Generation Y's view of the brand and causes a long-lasting negative effect. Generation Y view convenience as a key quality in mobile apps and look for quick assurance when deciding to download or purchase an app. Brands should invest time and effort in designing the app name, logo and reading the reviews posted by the app's users, as these are all key areas Generation Y look towards for validation. Most importantly, Brands avoid interrupting the players' Flow.

This paper chose to concentrate on gamification in health and fitness mobile apps focussing on Millennials because of their high usage with smartphones and social media. Future research could explore the effectiveness of gamification towards different demographic profiles such as different age groups or gender. There could also be future studies of a longitudinal nature that would help depict a change in engagement and loyalty over a period of time.

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