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ScienceDirect

Procedia - Social and Behavioral Sciences 148 (2014) 194 – 202

Procedia
Social and Behavioral Sciences

ICSIM

Gamification in Consumer Marketing - Future or Fallacy?

Garm Lucassen*, Slinger Jansen

Department of Information and Computing Sciences, Utrecht University, Princetonplein 5, 3584 CC Utrecht The Netherlands

Abstract

Academic literature examining the expected adoption rate of gamification in marketing campaigns is nonexistent. Peculiar, as gamification's primary goals perfectly align with three core-marketing concepts: engagement, brand loyalty and brand awareness. Marketing executives interviewed for this study agree that the potential impact is promising. As a consequence, we expect the adoption rate to accelerate in the near future. The knowledge contained in this paper facilitates marketing agencies in making a more informed decision on whether to enter the gamification market and provides directions for future academic research.

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Selection and peer-review under responsibility of the 2nd International Conference on Strategic Innovative Marketing.

Keywords: Gamification; marketing; digital marketing; e-marketing; applied gaming;

1. Introduction

In early 2011, Deterding et al. (2011b) proposed that gamification is "the use of game design elements in non-game contexts", receiving broad support with 102 citations on June 16, 2013. Two years before, nowadays leading gamification product provider Bunchball was the first to adopt the term for its 'Nitro' platform Paharia (2010). Twelve months later, gamification finally entered the Zeitgeist Google (2013) and began to spread. Although there are many other names for this concept Deterding et al. (2011a), gamification is the only term that managed to settle into industry and academic jargon.

In the past couple of years, gamification concepts have been successfully applied to a variety of fields such as consumer products Deterding (2012), education Khan Academy (2006), idea competitions Witt et al. (2011), citizen science Khatib et al. (2011) and marketing Zichermann & Linder (2010). Goals of these applications include increasing engagement, loyalty, brand awareness, motivation, purpose and/or ownership over tasks Muntean (2011),

* Corresponding author.

E-mail address: garm.lucassen@gmail.com

Pavlus (2010), Witt et al. (2011). Coincidentally, the first three goals are key concepts of consumer marketing Keller (1993), Sirdeshmukh et al. (2002), Haven (2007). Due to this success, the potential of applying gamification to marketing is slowly being embedded in the minds of marketing executives and the gamification market is expected to grow to \$2.8 billion in 2016 Meloni & Gruener (2012). Despite this apparent growth in relevance, no literature is available that identifies the expected adoption rate of gamification. This paper addresses this knowledge gap by conducting interviews with domain experts, i.e. marketing executives. To this end, we formulate the following research question: Do marketing executives expect to adopt gamification in their marketing campaigns? Additionally, we propose a framework that matches core marketing goals to gamification mechanisms.

This article continues with an overview of literature on gamification and marketing in section 2, identifying the relationship between both. Section 3 clarifies the research approach. Next, we present the results gathered during this study in section 4. Section 5 subsequently discusses the implications of these findings. Marketing executives gave positive responses for 9 out of 10 interview questions and expect to adopt gamification more frequently in their future work. Additionally, they believe an engagement increase is the main benefit of gamification, expecting to leverage 14 out of 19 gamification mechanisms for this goal. Section 6 examines two case studies explicated by respondents during the interviews and discusses the mechanisms applied in these campaigns. Finally, this paper ends by presenting the research limitations, a conclusion and future research possibilities in section 7. Although marketing executives are predominantly positive towards gamification, they emphasize that gamification is not a goal in itself.

2. Theoretical Background

Deterding's definition of gamification, "the use of game design elements in non-game contexts" aligns with our perception of the term and is used as the foundation for this work. In a subsequent article in late 2011, Deterding further explicates this definition by emphasizing the focus on gaming versus playing and utilizing parts of versus whole concepts Deterding et al. (2011a): the use (rather than the extension) of design (rather than game-based technology or other game-related practices) elements (rather than full-fledged games) characteristic for games (rather than play or playfulness) in non-game contexts (regardless of specific usage intentions, contexts, or media of implementation).

Media scholars have observed that video games and related fields have joined mainstream culture over the past three decades. They refer to this phenomenon as "the socio-cultural trend of ludification" Deterding et al. (2011a); games in a variety of forms have become ubiquitous in our daily lives and as a result are now a cultural medium on par with literature, movies or television during earlier generations Montola et al. (2009), Raessens (2006).

2.1. Synergy between Marketing and Gamification Goals

Marketing is a multi-faceted field, which encompasses many disciplines and goals. Philip Kotler and Kevin Keller define marketing management as "the art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value" in their authoritative book series "Marketing Management" Kotler & Keller (2009). Within it, they break down the holistic marketing concept of "everything matters in marketing" into internal marketing, integrated marketing, performance marketing and relationship marketing. This concept "aims to build mutually satisfying long-term relationships with key constituents in order to earn and retain their business" Kotler & Keller (2009). Three key relationship marketing concepts are relevant in the gamification context: engagement - "high relevance of brands to consumers and the development of an emotional connection between consumers and brands" Rappaport (2007), brand loyalty - "the relationship between relative attitude and repeat patronage" Dick & Basu (1994) and brand awareness, "the rudimentary level of brand knowledge involving, at the least, recognition of the brand name" Hoyer & Brown (1990). Although to date no consensus on the purpose of gamification has been reached, a 2011 survey by M2 research found that gamification customers are primarily looking to impact these three concepts Meloni & Gruener (2012). The synergy potential with relationship marketing is significant. Engagement in particular is often mentioned as the main goal of gamification Bunchball (2010), Hamari & Järvinen (2011), Witt et al. (2011). A small body of exploratory research confirms this positive effect of gamification in specific settings such as websites, e-learning and online idea competitions Muntean (2011), Witt et al. (2011). Other academics believe gamification will drastically improve our

world by creating a society of healthier, more productive and engaged citizens Pavlus (2010). Despite these promising results, big expectations and common goals, the intersection of marketing and gamification is largely ignored by academia. This article investigates this intersection through the eyes of 13 marketing executives.

3. Research Approach

Nine semi-structured interviews were conducted with marketing executives of marketing-communication agencies. Respondents' backgrounds ranged from an independent gamification expert providing consulting services to the head of a digital creative agency with 150 employees in three countries. Three more interviews were conducted with local marketing executives of well-known, multinational brands. Despite the differences in background, all interviewees also shared some common characteristics. They were from Dutch origin and were all active in or closely associated to the marketing-communication industry.

3.1. Research Method

The objective of the interviews was to measure whether marketing executives are interested in applying gamification to marketing campaigns. The interview questions are based on five concepts of the Unified Theory of Acceptance and Use of Technology (UTAUT) model: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions and Behavioral Intention. UTAUT was formulated in 2003 by Venkatesh et al. (2003) based on eight prominent, earlier models. Each of the concepts are empirically validated to reliably predict user acceptance and usage behavior of new technology Venkatesh et al. (2003). Research that uses UTAUT is typically conducted by means of a standardized survey. However, because of the exploratory nature of this research, the researcher had to be able to ask follow up questions when interviewees freely discussed the topic. Therefore, a formally structured interview or standardized questionnaire was unsuitable for this research Corbetta (2003), Kajornboon (2005). Instead, semi-structured interviews were applied to allow respondents to speak freely while maintaining the ability to compare responses.

Interview guidelines were developed to ensure a standardized structure during all interviews. The interview contained sections with unguided questions, guided questions and cross-validation topics. First, the researcher and the research topic were introduced. Next, subject familiarity was evaluated with the interviewer and if necessary, the gamification concept was further explicated. Subsequently, the respondents were asked questions such as: "do you expect gamification to enhance the effectiveness of marketing?" and "does your organization have the knowledge to apply gamification?" In total, the researcher posed ten questions to determine interest. The entire list of questions and responses can be found in the appendices. Finally, interviewees were asked to match a list of gamification mechanisms to what marketing goal each is primarily leveraged for. After conducting an interview, the answers to all questions were extracted within 24 hours.

4. Results

Current Knowledge of Gamification - Eleven out of twelve respondents were familiar with the term gamification and are currently applying it in a project or have consciously applied in the past. Three explicitly mentioned that incorporating gamification in their work is not a goal in itself. Instead, they leverage gamification concepts for effective communication of a message when appropriate. A marketing executive of a major consumer brand was not familiar with the term. However, after explanation of the topic, he recognized that his brand had launched gamified marketing campaigns in the past¹.

¹ Three marketing executives that did not contribute to this research but did respond to a request for respondents, stated that they were unfamiliar with the term.

Performance Expectancy - All marketing executives consider gamification a valuable addition to the marketing activities of their customer or their brand because of the increase in engagement through positive interaction. However, to achieve this desired impact, the gamified part of a campaign needs to be relevant and well executed to connect with the target audience. Explicit warnings were given against campaigns that originate from an unjustified sense of urgency to apply this novel concept. These forced experiences can generate negative consumer impact instead of increased engagement. However, a gamified campaign does not necessitate a holistic, immersive experience. On the contrary, a limited set of mechanisms used as a vehicle to enhance the process of going through a simple online form can be relevant if it initiates intended behavior. One respondent stated:

“In ‘speel je toekomst’ we leveraged achievements to activate curiosity in a certain consumer group. The goal was to initiate the thought: Surprising, I earned something. What else could I earn? If I click here, AEGON will donate one e to a charity and I will earn another achievement.”

All respondents think that gamification will increase the effectivity of their marketing impact. The sentiment that gamifying an experience primarily benefits consumer engagement was repeated. Gamification requires the consumer to act, effectively deepening your customer relationships. This aggressive funnel, however, reduces the reach of a campaign. In comparison to traditional advertising, gamification is ineffective for improving brand awareness. However, although many consumers do not respond to your invitation to participate, they do appreciate being asked to participate in an interactive experience. Three respondents recognize the potential to improve loyalty through action - reaction mechanisms or rewarding long-term customers. Simultaneously, several respondents acknowledge a number of drawbacks. First, no accepted industry standard for measuring the concrete results of gamification is available. Measuring sales increases is inapplicable because consumers seldom proceed to buy a product just because an offered experience is fun. Second, the current form of gamified campaigns generate short-term results but have limited long-term impact. Last, in the experience of one respondent gamification is less effective than well executed social media campaigns in terms of costs, making gamification investments less attractive to consumer brands.

Effort Expectancy - All respondents believe that they have the skills to technically implement gamified campaigns. The industry demands marketers to be skilled in contemporary technologies and adopt conceptual developments, which are currently focused on consumer interaction. One marketing executive stated: “If you do not grasp the opportunity to interact with your customer, I think you are a bad marketer”. Yet, according to marketing agency executives gamification’s main challenge is convincing clients of the concept its benefit. The conceptual phase and technical realization is comparatively easy. Moreover, contrary to traditional forms of advertising, gamifying an experience requires close collaboration and substantially increases costs and time investments in exchange for unclear, unmeasurable results.

Due to the diverse nature of the respondents, opinions on mastering the concept were varied. All brand executives realize they are capable of applying the basics of gamification but require marketing agency assistance to achieve the full potential. Half of the agency executives mentioned that they employ experts in all necessary domains and will master the entire process. The remaining marketing agencies rely on partners to assist in executing their concepts, but are confident they are capable of mastering all theoretical concepts. On the other hand, several respondents mention that the field of gamification is still in its infancy and will evolve in the coming years. One respondent:

"I think gamification is in a stage of rapid development. Currently, mastering the concept is possible from A to F and in ten years the industry will arrive at A to Z. It is in our DNA to continuously adapt to these changes and to create concepts incorporating the new possibilities. That will always be within our capabilities.”

Social Influence - All marketing agency executives encountered and recognized the potential of gamification on their own by doing research, domain media outlets or as the result of a business opportunity. No one in particular had ever advised them to start applying gamification. One respondent explains that “In our advisory role, we have the responsibility to be aware and inform customers of new developments within the marketing domain. This includes gamification.” Indeed, the first introduction to gamification for each brand executive was through advisors, marketing agencies or peers. Due to the shift towards interactive marketing, superiors and colleagues of brand

executives are receptive of gamified campaigns. However, one respondent stated that gamification pitches of marketing agencies are infrequent and often do not align with his brand goals. Likewise, executives of marketing agencies experience that customers are receptive of gamification ideas, as long as their budget is sufficient and the concept fits within client’s strategy. However, convincing clients of a holistic approach generally requires additional persuasion.

Furthermore, they notice that although the majority of brands would benefit from following ”the socio-cultural trend of ludification” by incorporating gamification in their marketing, clients seldom agree with this sentiment and do not acknowledge the added value. One brand executive was happy to hear that his competition is skeptical, expressing distress over the loss of novelty if every brand starts incorporating gamification:

”Gamification is popping up left and right and is, more often than not, clumsily executed. Consumers do not take those campaigns serious. If this continues, they will start to grow annoyed of being required to play ’games’ all the time and stop participating in gamified campaigns entirely. I hope the market will converge to strictly A brands executing great campaigns to prevent this fatigue.”

Behavioral Intention - All respondents expressed the intention to apply gamification in the coming year. The expected percentage of projects containing gamification varied between 10% and 80%. Three respondents expect to apply it more in this year than in the years before, two predict a decline due to the increase in length of projects and a focus shift to integrating mobile and social media in favor of gamifying a project. Mechanisms vs. Goals - For each gamification mechanism, Table 1 displays what marketing goal it is first and foremost leveraged for relative to the number of total respondents. Each marketing goal with more than 50% for a mechanism is in bold face to emphasize the relevant mechanisms. The underlying theories of why these mechanisms are focused on one marketing goal are discussed in section 5.

Table 1. Marketing goals for each gamification mechanism

Progress	Engagement	Loyalty	Awareness
Popularity/status	27.77%	40.28%	31.94%
Competition	59.77%	13.86%	26.38%
Scores	38.90%	47.25%	13.86%
Badges	31.82%	63.64%	4.55%
Leaderboards	61.13%	27.77%	44.09%
Achievements	23.60%	44.45%	31.94%
Levels	65.30%	31.94%	2.75%
Progress mechanisms that allow users to flaunt their progress are expected to be more effective for a specific goal than personal mechanisms.			
Rewards	Engagement	Loyalty	Awareness
Prizes	43.07%	30.55%	26.38%
Effort rewards	69.47%	11.09%	19.43%
Fixed rewards	36.36%	27.27%	36.36%
Monetary rewards	31.82%	27.27%	40.94%
Non monetary rewards	43.95%	34.85%	21.20%
Variable rewards	48.62%	36.11%	15.26%
Free goods	27.27%	40.91%	31.82%
Virtual rewards	40.91%	50.00%	9.09%
Marketing Executives consider rewards to be a blunt, ineffective way of achieving any goal in particular. Effort rewards are an exception because these require significant investment from the user.			
Social Mechanisms	Engagement	Loyalty	Awareness

Gifts	22.73%	40.91%	36.36%
Altruism	40.00%	30.00%	30.00%
Cooperate with friends	43.07%	9.68%	47.25%
Rate community submissions	39.40%	39.40%	21.20%
Help a friend	50.00%	22.73%	27.27%
Feel part of a group	54.17%	37.50%	8.33%
Differentiate from peers	59.09%	40.91%	0.00%
Control over peers	63.64%	36.36%	0.00%
Cooperation mechanisms are not necessarily used to increase brand awareness. Social mechanisms that increase the user's status impact engagement.			
Restrictions	Engagement	Loyalty	Awareness
Punishment for not participating	44.44%	44.44%	11.11%
Expiration	60.00%	30.00%	10.00%
Scarcity	54.17%	33.33%	12.50%
Time constraint	66.67%	16.67%	16.67%
Limited resources	62.50%	25.00%	12.50%
Turn based	72.73%	18.18%	9.09%
Access restrictions	23.32%	73.37%	3.30%
Traditional gameplay techniques that restrict the user are considered essential for an engaging experience.			
Other	Engagement	Loyalty	Awareness
Challenges	43.07%	26.38%	30.55%
Collection	36.36%	50.00%	13.64%
Promotions	18.03%	18.03%	63.94%
Goals	52.79%	27.77%	19.43%
Lottery	21.20%	25.75%	53.05%
Classic marketing mechanics promotions and lotteries are still considered as effective methods to increase brand awareness.			

5. Discussion

Answers given by respondents were predominantly positive towards the adoption of gamification. The performance expectancy attitude is positive towards whether gamification is a valuable addition as well as the increase in marketing effectiveness. The increase in engagement through positive interaction is seen as the main benefit of applying gamification. However, a gamified campaign needs to be well executed in order to achieve the intended goals. The majority of respondents do not believe it will be easy to leverage gamification concepts, implement them technically and master the concept in the future. However, they are convinced that they are capable of achieving these goals. Executives of marketing agencies do experience challenges in convincing clients of the added value of gamifying a campaign, due to the absence of a method to measure the direct results of gamification. External social influence is absent for marketing agency executives, who recognized the potential of gamification themselves when they first encountered the concept. As advisors, they subsequently introduce brand executives to the concept. All respondents experience that customers and superiors are receptive to campaigns that include gamification. The facilitating conditions knowledge and resources are available to all respondents, either in house or at external partners. Both major brand executives and marketing agency executives hold the belief that most brands will benefit from incorporating gamification. As a consequence it is no surprise that all interviewees intend to incorporate the concept in the coming year, although the expected quantity varies.

A reason for the overwhelming positive responses is the attitude of marketing executives towards gamification as a label for a set of mechanisms that marketeers have been applying for decades. As Jesse Schell puts it: "When a

restaurant gives out a T-Shirt to anyone who can eat their Inferno Wing Platter, well, guess what? That’s gamification. It doesn’t have to be complicated” Dailytekk (2013). This raises the issue of the lack of an industry-wide accepted definition. Although Sebastian Deterding’s definition “game-elements applied in non-game contexts” has received broad support, respondents express doubt over the abstract nature of this definition. Should the term encompass everything from a singular action-reward mechanism to holistic experiences, which include gamification in every aspect of the campaign? In September 2011 Gabe Zichermann and Sebastian Deterding participated in a heated discussion through a series of blog posts that highlight the chasm between two sides of this debate. The former advocating gamification as a form of chocolate covered broccoli, the latter in favor of gamification as a tool to improve the experience of the core of a product Habit Labs (2011). Perhaps the industry will benefit from future research into formulating a definition for both sides of the debate, segmenting gamification in, for instance, pointification and experience gamification.

5.1. *Gamification Mechanisms*

Respondents expect to use competition, leader-boards and levels primarily for engagement because an unknown amount of input to achieve certain goals provokes curiosity in a sub-set of consumers. Badges, on the other hand, are mainly deployed for loyalty because they contain well defined goals for the user that are typically designed to entice frequent buying.

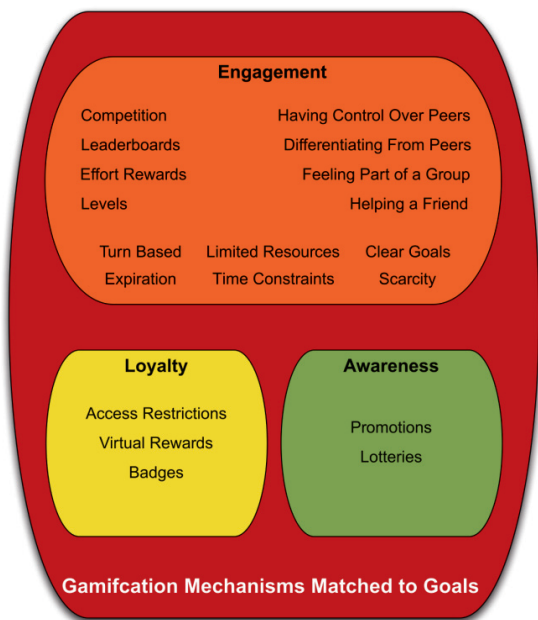


Fig. 1. Framework Matching Marketing Goals to Gamification Mechanisms

Virtual rewards are status symbols such as badges, achievements or special privileges; similar to badges they will incur loyalty if these rewards are structured to entice frequent visits or buying. The social mechanisms helping a friend, feeling part of a group, differentiating from and having control over peers engages individuals because humans are more inclined to actively and seriously participate when your peers participate as well. Expiration, scarcity, time constraints and limited resources are all mechanisms that engage consumers by invoking a sense of urgency, prompting them to act fast, before their chance is over. A turn based mechanism engages by repeatedly challenging users for a long period of time. Access restrictions by design provoke loyalty because these restrictions are typically only lifted when a customer is within the top X% spenders. An example is Gilt Noir members, the top .01% customers of Gilt Groupe, whose only perk is being able to browse the new collection 15 minutes before regular members. Respondents link collection to loyalty because collectable items are given away upon each sale, generating frequent buying behavior. Clear goals provide the consumer with an engaging end-point.

Promotions and lotteries are traditional methods to spread brand awareness quickly, marketing executives recognize the potential of this mechanism in gamification.

6. **Case studies**

The Lost Phone Experiment - In 2012, Vodafone Netherlands set out to inform customers of what can happen when you lose your phone. Instead of conducting a survey and pushing the results to consumers, the marketing department intended to directly include individuals in the message. In the resulting campaign, a hundred mobile

phones were 'lost' all over the Netherlands and tracked remotely to collect usage information. If an individual brought back a lost device, personal information was recorded and as an effort reward, their name and hometown were put on a wall of fame. Online, anyone could follow the developments and track a multitude of competitions or leader-boards such as in which city it is safe to lose your phone, whether women are more honest than men (they are not) or if finders are more likely to call your mother or your father. Because this competition is non-individualistic, a broad audience was engaged with the outcome, as a result Vodafone taught customers in a narrative fashion instead of informing them of uninteresting facts through a press release.

Under Control - Shortly before the Dutch Film Festival of 2012, the organization drew global attention by directing a live feature film called "Onder Controle" with the help of social media. During the live broadcast, anyone could tweet the next line or plot turn. Although on first impression this initiative may not feel gamified, further inspection reveals that many gamification mechanisms are leveraged to engage users. Full control over the actors was given to a large group of participants that competed fiercely amongst each other. After all, this was the first and most likely last time to have a chance of influencing a film with national celebrities and this access restriction was only lifted for the duration of the film itself; a single hour. On top of that, as an effort reward the 'winning' tweet was shown during the scene, including that person his/her Twitter handle. In the end, only 100 out of 4000 tweets sent during the broadcast were actually used in the film. As a result, these individuals feel part of an elite, differentiating group of winners, increasing their social status. Within ten minutes of the start of the film, tens of thousands people viewed the live broadcast, joined the discussion on Twitter and made the hashtag of the film a trending topic worldwide. For a short moment, it overtook the hashtag of the Olympic Games of 2012.

7. Conclusions, Limitations and Future Work

The results of this study provide a detailed overview of the contemporary attitude of marketing executives towards gamification. Marketing executives' responses were positive for 9 out of 10 interview questions and expect to adopt gamification more frequently in their future work; indicating a promising future for the gamification industry. Despite these positive results, respondents emphasize that gamification should not be a goal in itself and necessitates diligent execution in order to reach the intended goals. Several respondents expressed doubt over the excessively broad definition of gamification, indicating that they would appreciate efforts to formulate sub-domains. Furthermore, marketing executives believe an increase in engagement is the primary benefit of gamification, expecting to leverage 14 out of 19 gamification mechanisms for this goal. Based on these results, we developed the first iteration of the MGGM reference framework, which practitioners can use to relate specific gamification mechanisms to their marketing intentions. Finally, this paper presented several case studies and discussed the underlying gamification mechanisms that powered the success of these marketing campaigns.

The survey questions used in this study are based on UTAUT, a technology acceptance model, which typically consists of conducting a survey among a large number of individuals. However, in this research semi-structured interviews were used, reducing the scientific validity of the results.

Many opportunities for future research on gamification are available. First, case studies into the effectivity of gamified marketing campaigns and their underlying mechanisms will improve our understanding of specific mechanisms and their impact. Combined with case studies on projects that attempt to incorporate gamification with standardized solutions from companies such as Bunchball, we can determine whether dividing gamification in multiple sub-disciplines is necessary. Ultimately, the goal is to augment the MGGM framework into a feature-complete reference framework that practitioners use to identify the appropriate gamification mechanisms for their specific goals.

Acknowledgements

The authors would like to thank Maarten Boer, Willem-Albert Bol, Nathalie Brähler, Willem van Eeghen, René Frankena, Wesley ter Haar, Hanneke van Kempen, David Nieborg, Matthijs Roumen and Dagmare van Willigenburg for their valuable contributions to this research.

References

- Bunchball (2010). Gamification 101 : An Introduction to the Use of Game Dynamics to Influence Behavior Gamification.
- Corbetta, P. (2003). *Social Research: Theory, Methods and Techniques*. London: Sage Publications Limited.
- Dailytekk (2013). Who Can Benefit From Gamification. <http://dailytekk.com/2013/01/16/who-can-benefit-from-gamification/> accessed: February 24 2013.
- Deterding, S. (2012). Gamification: Designing For Motivation. *Interactions*, 19, 14–17.
- Deterding, S., & et al. (2011b). Gamification : Toward a Definition. In D. Tan, & B. Begole (Eds.), *Proceedings of the 2011 Annual Conference Extended Abstracts on Human Factors in Computing Systems*. (pp. 12–15). Vancouver.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011a). From Game Design Elements to Gamefulness. In *Proceedings of the 15th International Academic MindTrek Conference on Envisioning Future Media Environments MindTrek 11* (pp. 9–15). ACM Press.
- Dick, A. S., & Basu, K. (1994). Customer Loyalty: Toward an Integrated Conceptual Framework. *Journal of the Academy of Marketing Science*, 22, 99–113.
- Google (2013). Gamification Search Trends 2009 - 2013. <http://goo.gl/o0NFM> (accessed: April 27 2013).
- Habit Labs (2011). Response to Gabe and Sebastian's #gamification Discussion. <http://blog.habitlabs.com/post/10490680475/gamification-by-design> accessed: May 3 2013.
- Hamari, J., & Järvinen, A. (2011). Building Customer Relationship through Game Mechanics in Social Games. In M. M. Cruz-Cunha, V. H. Varvalho, & P. Tavares (Eds.), *Business, Technological, and Social Dimensions of Computer Games*. IGI Global.
- Haven, B. (2007). Marketings New Key Metric: Engagement. *Marketing*.
- Hoyer, W. D., & Brown, S. P. (1990). Effects of Brand Awareness on Choice for a Common, Repeat-Purchase Product. *Journal of Consumer Research*, 17, pp. 141–148.
- Kajornboon, A. (2005). Using Interviews as Research Instruments. *E-Journal for Research Teachers*, 2.
- Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57, pp. 1–22.
- Khan Academy (2006). Khan Academy. www.khanacademy.org accessed: April 27 2013.
- Khatib, F., DiMaio, F., Cooper, S., Kazmierczyk, M., Gilski, M., Krzywdka, S., Zabranska, H., Pichova, I., Thompson, J., Popović, Z., Jaskolski, M., & Baker, D. (2011). Crystal Structure of a Monomeric Retroviral Protease Solved by Protein Folding Game Players. *Nature Structural & Molecular Biology*, 18, 1175–7.
- Kotler, P., & Keller, K. L. (2009). *Marketing Management*. (12th ed.). Prentice Hall.
- Meloni, W., & Gruener, W. M. R. (2012). Gamification in 2012, . <http://goo.gl/75Ph5> accessed: June 20 2013.
- Montola, M., Stenros, J., & Waern, A. (2009). *Pervasive Games: Theory and Design*. Morgan Kaufmann.
- Muntean, C. I. (2011). Raising Engagement in E-Learning Through Gamification. In *Proc. 6th Int. Conf. on Virtual Learning ICVL* (pp. 323–329). ACM Press.
- Paharia, R. (2010). Who Coined the Term "Gamification"? <http://www.quora.com/Who-coined-the-term-gamification> accessed: April 27 2013.
- Pavlus, J. (2010). The Game of Life. *Scientific American*, 303, 43–44.
- Raessens, J. (2006). Playful Identities, or the Ludification of Culture. *Games and Culture*, 1, 52–57.
- Rappaport, S. D. (2007). Lessons from Online Practice: New Advertising Models. *Journal of Advertising Research*, 47, 135–141.
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer Trust, Value, and Loyalty in Relational Exchanges. *Journal of Marketing*, 66, pp. 15–37.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27, pp. 425–478.
- Witt, M., Scheiner, C., & Robra-Bissantz, S. (2011). Gamification of Online Idea Competitions : Insights from an Explorative Case. In *INFORMATIK 2011*. Berlin, Germany.
- Zichermann, G., & Linder, J. (2010). *Game-Based Marketing: Inspire Customer Loyalty Through Rewards, Challenges, and Contests*. Wiley.