

# Let's make them play! How insights of gamification research can help to improve the performance of loyalty programs.

Term Paper



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## **Abstract**

During the last decades loyalty programs became very common in business to customer contexts. Miles & More and Payback are only two of many well-known names. But not only big companies are using loyalty programs –the snack bar around the corner is offering some kind of loyalty program as well: a simple collecting stamp card.

Recent research focused mainly on economic reasons for people to join loyalty programs and for changing their purchase behaviour afterwards. Instead, this paper will use the gamification framework and motivation theory to derive hypothesis to explain enrolment and purchase behaviour. It will be argued that if a customer enjoys certain game design elements highly and he is exposed to a loyalty program containing corresponding loyalty program characteristics, this customer is more likely enrol for this loyalty program and increase his purchase behaviour as well.

In this work a possible methodology including conjoint analysis and panel analyses will be proposed followed by possible shortcomings of this methodology. This paper ends with an outlook for managerial implication and further research.

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## List of Abbreviations

AQ	Added question
LP(s)	Loyalty Program(s)
LPC(s)	Loyalty Program Characteristic(s)
MUD	Multi User Dungeon Games
OQ	Original question
SDT	Self-determination theory
SOW	Share-of-Wallet

## 1. Introduction

Games are the only force in the universe that can get people to take actions that are against their self-interest, but in a predictable way.

Gabe Zichermann

During the last decades, companies of many different industries launched loyalty programs (LPs) (Leenheer, 2004; Rowley, 2004) which reached tremendous scopes: In 2011, the well-known LP Miles & More of Lufthansa had 20 million members worldwide and more than 20 million people in Germany used a Payback-Card. But not only the big companies are using LPs – even the snack bar around the corner is offering some kind of LP: a simple collecting stamp card.

Companies are using LPs to increase the loyalty of their customers (Bolton, Lemon, & Verhoef, 2004; Dorotic, Bijmolt, & Verhoef, 2012; Leenheer & Bijmolt, 2008) while those customers are joining LPs mainly for economic reasons (Bolton et al., 2004; DeWulf, Odekerken-Schroder, Canniere, & van Oppen, 2003; Mauri, 2003). Despite these obvious reasons the majority of recent research did not cover other possible explanations for LP enrolment and increased loyalty (DeWulf et al., 2003; Dorotic et al., 2012): The personality of customers has been disregarded widely (Antin, 2011). Instead, the focus of previous research laid on understanding the effects of prior purchase volume (e.g. heavy vs. light buyers) on changes in purchase behaviour if customers enter LPs (Liu, 2007). However, the motivation of customers to join LPs, or to buy more after joining, is not fully understood until now.

This paper will contribute to close this gap by using the findings of a new branch of research, which arose during the last two decades: Gamification. As LPs contain similar elements as games (e.g. customer tiers respectively levels Zichermann & Cunningham, 2011), the gamification framework and its findings can be used for a better understanding of the customer (Zichermann & Linder, 2010).

In this work I aim at proposing a connection between the preferences of customers for game design elements (GDEs) and the LP characteristics (LPCs) regarding enrolment and purchase behaviour of customers by drawing on the gamification framework and motivation theory.

Based on understanding this connection, advertising campaigns can be adjusted to the needs of the customers, the structure of LPs can be redesigned and the benefits for members can be enhanced. Thus, the enormous investments in implementing LPs (McBride & Sansbury, 2011) can be justified and the effects of LPs on customer behaviour can be enhanced.

First, the current knowledge about LPs relevant for this paper will be summarized. Then, the gamification concept will be introduced, followed by the presentation of different GDEs and player types. From these concepts, based on motivation theory, hypotheses will be derived, how different preferences of customers for GDEs can cause different enrolment and purchase behaviour. Subsequent, I will present a methodology which can be used to test these hypotheses. As this term paper contains no empirical part and offers therefore no data, the methodology chapter is followed by a discussion of possible shortcomings of the proposed studies. I will end my term paper with an outlook for practical applications and further research.

## **2. Theoretical Foundations**

### **2.1 Loyalty Programs**

Based on Leenheer's (2004) characterisation of LPs, in this paper a LP is seen as a system of different relational instruments and marketing actions that aims to increase member's loyalty to enhance their profitability. Such actions can range from simple collecting stamp cards given to customers by diner owners to more sophisticated frequent flyer programs. With their comprehensive paper in 2012, Dorotic et al. showed that in general LP membership increases loyalty measures such as "penetration levels, average purchase frequency and average SOW" (p. 221).

In order to achieve these benefits, LPs have all one basic characteristic in common: Members are offered incentives for certain behaviour which is desired by the LP provider. Despite this similarity, the countless LPs contain very diverse combinations of multiple LPCs. Some of these are shown in Table 1 (Leenheer, 2004; Meyer-Waarden, 2004; Yi & Jeon, 2003):

Table 1  
Different LPCs

Basic Categories	Detailed Categories
General characteristics	Customer tiers
	Discount cards, collecting stamp cards
	Card differentiation
	Number of partners in the LP
	Short-term vs. long-term LPs
	Virtual currency (e.g. miles)
Enrolment specifications	No subscription vs. a subscription is needed
	Adhesion expenses
	Personal data offered
Rewards	Immediate vs. delayed rewards
	Tangible vs. intangible rewards
	Indirect vs. direct rewards
	Points, saving points (preferred treatment based on frequency)
	Lotteries (free products)
Service	Individual recognition
	Special Events
	Mailings, Newsletters, Internet pages, Magazines with information
	Telephone Hotline

Many researchers designed studies to identify the effect of such LPCs: They found e.g. that the ownership of loyalty cards of bigger grocery chains increase share-of-purchase and share-of-visits (Mägi, 2003). Immediate and delayed incentives are appreciated differently depending on the involvement of LP members (Yi & Jeon, 2003) and have different influence on perceived switching costs (Kim, Shi, & Srinivasan, 2001). Tangible incentives decrease post-program loyalty and increase instead loyalty towards the incentive (Roehm, Pullins, & Roehm Jr., 2002), the relative attractiveness of a LP drives the SOW (Leenheer, van Heerde, Bijmolt, & Smidts, 2007; Wirtz, Mattila, & Oo Lwin, 2007) and cue-compatible incentives increase brand associations and post-program loyalty (Roehm et al., 2002). These



studies show the effect of diverse LPCs on purchase behaviour, but do not cover the underlying psychological reasons. Mostly economical reasoning is used to explain the obtained results.

More psychologically oriented studies found effects of jealousy (Feinberg, Krishna, & Zhang, 2002), embarrassment (Chandon, Wansink, & Laurent, 2000) and some kind of irrational behaviour in choosing less preferable options (Hsee, Yu, Zhang, & Zhang, 2003; Kivetz & Simonson, 2003). But they cannot explain why sometimes LPs fail and sometimes succeed in influencing customer's behaviour. As Liu (2007) showed, researchers have to control for the customers nature. Thus, I assume that there exist psychological factors influencing purchase behaviour. In chapter 2.3 I will derive hypotheses from motivation and gamification theory to shed light on possible factors.

In previous research it was also studied why customers became members of LPs and mainly economic reasons were found: expected costs and rewards (Bolton et al., 2004; DeWulf et al., 2003; Mauri, 2003).

Despite these economic reasons, researchers found that the feeling of being a smart shopper (Kivetz & Simonson, 2003), using less time to find a provider of a desired good, experienced entertainment (Chandon et al., 2000), and enjoyment (Leenheer, 2004) – in short hedonistic reasons (Dorotic et al., 2012) are affecting LP enrolment. As well as data disclosure (DeWulf et al., 2003). However, it could not be fully explained why customers become members of LPs. Solely investigated whether members enjoy LPs.

Based on these studies and the insight of Reynolds & Beatty (1999) that shopping can be intrinsically motivated as well, I draw the conclusion that there are unexplored factors influencing LP enrolment. To formulate a corresponding hypothesis, I will at first introduce the concept of gamification in the following chapter and afterwards derive my hypotheses in chapter 2.3.

## **2.2 Gamification**

### **2.2.1 Definition and Current Knowledge**

Mankind is playing games for a very long time. Some of the oldest games are Go (Legge, 1872), Nine Men's Morris and Backgammon (Bell, 1979); even Hermes,

messenger of the gods, is said to have invented the game of dice. With the emersion of computer games, especially online games, more and more researchers became interested in this field of study (Deterding, O'Hara, Sicart, Dixon, & Nacke, 2011; Huotari & Hamari, 2012; Ryan, Rigby, & Przybylski, 2006). During the rise of the computer and online game industry to a big and profitable one (total gaming market spending in 2011: ca. \$74 billion McGall & van der Meulen, UK, 2011), other industries tried to use game mechanics to influence people (Deterding et al., 2011; Lugmayr et al., 2009).

This process of using “game design elements in non-game contexts” (Lugmayr et al., 2011, p. 9) is formally called **gamification** and is used to “improve user experience (...) and user engagement” (Deterding et al., 2011, p. 2425).

Research has shown that gamification can be used to improve performance of users in the context of calibration (Flatla et al., 2011), learning (Kapp, 2012; Malone, 1981), employee health (Abshire, 2013), creativity (Roth & Schneckenberger, 2012) and recycling ("Gamification Revolutionizes Consumer Recycling Incentives," 2012). Researchers draw thereby on e.g. intrinsic motivation (Deci, Koestner, & Ryan, 1999), competition (Lugmayr et al., 2009), fun (Flatla et al., 2011; Koster, 2005), and flow (Csikszentmihalyi, 1991) to explain why gamification is such a powerful instrument.

Although some researchers aligned GDEs with marketing elements and it was shown that gamification in practice is successful (Hamari & Lehdonvirta, 2010; Huotari & Hamari, 2012; Zichermann & Linder, 2010), research did not cover the effects of a combination of several GDEs on an individual. It is argued why several gamification campaigns in business environments did work well in general, but not why one specific customer is attracted to a certain gamified business interface (e.g. a LP) which contains several GDEs (e.g. LPCs).

### **2.2.2 Game Design Elements**

Depending on the complexity of the game, the number of GDEs differs tremendously from game to game. In table 2 is a (not exhaustive) list of GDEs, which are more or less typical for many games (Fecher, 2012; Hamari & Lehdonvirta, 2010; Huotari & Hamari, 2012; Zichermann & Cunningham, 2011)

Table 2

List of GDEs

Broad category	Game design element
Basic settings of the game	Rules, landscape and story
	Avatar for player
	Virtual currency
Interaction with others	Duels and combats
	Fame, rankings and leader boards
	Guild, horde and other groupings
	Collaborative actions
	Community and chat (rooms)
Development	Levels and progress bar
	Achievements
	Experience points
	Status
Achievements	Goals
	Items, badges and collecting them
	Quests

There are only few studies covering the effects of gamification on consumer behaviour (e.g. concerning virtual goods: Hamari & Lehdonvirta, 2010 or social games: Hamari & Järvinen, 2001). In their book “game-based marketing” Zichermann & Linder (2010) provide examples of successful gamification campaigns and explain qualitatively why they might have worked and how to reproduce this success. The present paper aims at offering a theoretical and empirical explanation of these phenomena.

Thus, this paper will close the already mentioned research gaps by bridging from player preferences (or rather customer attributes), firstly introduced by Bartle (1996), over GDEs (used as LPCs) to customer behaviour.

### 2.2.3 Player Types

Bartle (1996) was one of the first authors introducing a description of different player types. In his analysis of a discussion in a multi user dungeon game (MUD) he derived four different player types: killers, achievers, socialisers and

explorers. In this classification Bartle stated that every type likes certain parts of the game more than others. For achievers points-gathering and to level up is mostly important. Even if Bartle's methodology was more qualitative and intuitive, his basic model is widely cited and used as it is easy to understand and to apply (see: Bartle Test<sup>1</sup>). In his later work, Bartle (2004) highlights some of the shortcomings of his model: self-selection and therefore non-representativeness of general playing population, poor tie-handling and the inability to combine player types. But most importantly, the Bartle Test uses simple dual questions, thus a player can influence the outcome quite easily.

But even Bartle's (2004) expansion of his model to eight types did not consider that the human mind is not that simple. It cannot be put into a corner of a rectangle (or later a cube). Gamers are not only killers or achievers. They can be both at the same time.

To pay attention to this, Yee (2005) conducted a factor analysis to offer not only a more empiric methodology but also a more complex answer to the question: What are the reasons for people to play? In his work he constitutes three main components which are largely uncorrelated. These three components comprise ten subcomponents representing the ten factors the factor analysis yielded (see table 3).

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<sup>1</sup> <http://www.gamerdna.com/quizzes/bartle-test-of-gamer-psychology>

Table 3

Main components and subcomponents of player preferences

Achievement	Social	Immersion
<b>Advancement</b> Progress, Power, Accumulation, Status	<b>Socializing</b> Casual Chat, Helping Others, Making Friends	<b>Discovery</b> Exploration, Lore, Finding Hidden Things
<b>Mechanics</b> Numbers, Optimization, Templating, Analysis	<b>Relationship</b> Personal, Self- Disclosure, Find and Give Support	<b>Role-Playing</b> Story Line, Character History, Roles, Fantasy
<b>Competition</b> Challenging Others, Provocation, Domination	<b>Teamwork</b> Collaboration, Groups, Group Achievements	<b>Customization</b> Appearances, Accessories, Style, Color Schemes  Escapism Relax, Escape from Real Life, Avoid Real Life Problems

Note: The table is taken from Yee (2006, p. 6).

Depending on the player's component scores he enjoys GDEs differently (Yee, 2005). Thus, I think that customers will be attracted by certain GDEs implemented in their shopping environment as LPCs, if they correspond to their GDE preferences.

### 2.3 Hypotheses

Nunes & Drèze (2006) and Zichermann & Linder (2010) pointed out that GDEs or games in general can be used in marketing or as marketing tools. By taking a close look at LPs, it is obvious that they contain several LPCs which are very similar to GDEs.

In the previous chapter I already summarized why people enjoy in general to play games (because of flow, fun etc.). As LPCs and some GDEs are very similar in conception, I assume that people attracted to certain GDEs are also attracted to respective LPCs. To underpin this assumption I draw on McClelland's theory of needs (McClelland, 1985) and self-determination theory (SDT) (Ryan & Deci, 2000). According to McClelland (1985), men are motivated implicitly and explicitly by the three motives power, achievement and affiliation. Ryan et al. (2006) argued that

according to SDT the needs for competence and autonomy are largely important in the gaming context to create intrinsic motivation. As McClelland (1980; 1987) stated, motives energize behaviour and align it to certain goals. Keller (1981) proposed that motivation serves to activate and orient behaviour. Thus, depending on the individual motivational pattern of a customer, he values certain LPCs more than others (Wirtz et al., 2007) as they fulfil his needs more effectively. Therefore, I propose the following hypotheses regarding relevant GDEs:

H1: If a customer values one of the following GDEs, he values at the same time the respective LPC (table 4).

H2: If a LP contains more LPCs which correspond to GDEs a customer enjoys, he is more likely to enrol for this specific LP.

Table 4

Assignment of GDEs to LPCs

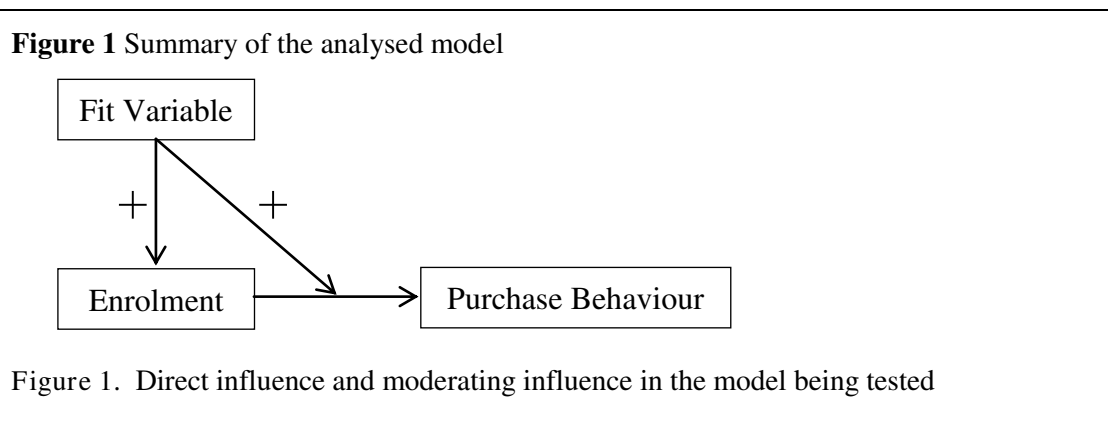
GDE	LPC	Satisfied need
Ranks representing different levels of mastery	Customer tiers (different levels of treatment – rare cards, better service and conditions – depending on purchase volume)	Power, achievement
Ranking of players	Ranking of members	Power
Gaming community	LP-Community	Affiliation
Easy quests with common awards	Immediate, not so valuable rewards (buy one get one free)	Achievement, competence
Difficult quests with valuable rewards	Delayed but valuable rewards (get the 10th item for free)	Achievement, competence
Badges for specific achievements	Badges for specific achievements (e.g. five purchases in a week, biggest shopper in town)	Achievement, competence, Power

Note: The selection in this table is driven by two reasons: First, this study focuses on mid- and long-term LPs as they contain more GDE and it is more convenient to assess them. The second reason is a methodological one: The selection of attributes in the conjoint analysis must be mutually exclusive, independent and should be kept small. Therefore, categories such as saving points which are closely related to customer tiers are not regarded in the studies.

The assignments of GDEs to LPCs was done by me, using the definition of competence and autonomy (Ryan et al., 2006) and Winter's (1994) manual for scoring running text: After a LP member solved a "quest", he will "receive positive feedback" (Ryan et al., 2006, p. 349) which will satisfy his need for competence. Leader boards are a medium for "impressing others" (Winter, 1994, p. 17) and satisfy the need for power.

Based on the already mentioned need satisfaction, I assume that the fit between preferences for GDEs and the LPCs of a certain LP will moderate the relationship between LP enrolment and purchase behaviour: After enrolling to a LP, the new member is more likely to increase different measures of purchase behaviour if the LPCs appeal to him: E.g. penetration level, average purchase frequency and average SOW (Dorotic et al., 2012), share-of-purchase and share-of-visits (Mägi, 2003). To simplify this study, only the effect on purchase frequency and SOW, representing appropriate measures (Leenheer, 2004), will be analysed.

H3: The higher the fit variable as a measure of fit between LPCs and the GDEs a LP member enjoys, the more likely he is to increase his purchase frequency and SOW after enrolling in the LP.



### 3. Methodology

At first, the assignment of the different GDEs to the LPCs is verified by asking experts in these fields (e.g. experts in gamification and motivation theory). This procedure will test H1 in a qualitative way.

#### First study

In order to test H1 and H2 in a quantitative way, a conjoint analysis (Backhaus, Erichson, Plinke, & Weiber, 2011) will be conducted. Participants of a simple random sample will be asked what kind of LP consisting of different LPCs they are more likely to participate. A pair wise comparison method is used to reduce the complexity for the participants and expose them to a more realistic decision situation. The selection of LPCs shown in Table 4 is used in the conjoint analysis. Their exact values are shown in the following table 5:

Table 5

Attributes and values used in the conjoint analysis

Attribute	Values
Customer tiers (different levels of treatment – rare cards, better service and conditions – depending on purchase volume)	Yes / no
Ranking of members	Yes / no
LP-Community	Yes / no
Immediate, not so valuable rewards (buy one get one free)	Yes / no
Delayed but valuable rewards (get the 10th item for free)	Yes / no
Badges for specific achievements (e.g. five purchases in a week, biggest shopper in town)	Yes / no

Note: This six attributes can be combined to 64 stimuli. At a pair wise comparison a participant has to evaluate  $\binom{64}{2} = 2016$  pairs of stimuli in a full design. To reduce that effort to an acceptable amount, a reduced design will be used in this study.

As Phelps, D'Souza, & Nowak (2001) have shown, customers have concerns about giving data to companies. Therefore, in the conjoint analysis the participants will be told that data security is assured at all times. Giving consideration to Mauri's (2003) finding that customers choice of LP membership is also driven by the appeal of the chain, in the conjoint analysis neither a specific brand nor the branch will be named. To minimize further potential influences like this, the conjoint analysis will take place in a neutral laboratory setting. In addition the participants will be asked, to think about their precedent purchase behaviour as an average one to achieve stable but high loyalty effects (Liu, 2007).

Thus, the relative weight of a specific LPC can be measured for each person to determine their preference for this LPC. The relative weights will be normalized in a way that applies:



$$w_{p,i} \in [0; 1] \quad (1)$$

$$\sum_{i=1}^n w_{p,i} = 1 \quad (2)$$

$w_{p,i}$  ... Relative weight of LPC  $i$  for participant  $p$

$n$  ... Number of LPCs used in conjoint analysis

In the same study the participants will be asked questions to determine their preferences for different GDEs. This questionnaire will be based on Yee's (2005) work and can be found in appendix A. For each GDE there are two questions. The preference of participant  $p$  for GDE  $i$  will be calculated from the normalized value of the mean of both Likert-scales and will be defined as:

$$g_{p,i} = \frac{l_{i,1} + l_{i,2} - 1}{4} \quad (3)$$

$l_{i,1}$  ... Value of Likert-scale of first question for the preference for GDE  $i$

$l_{i,2}$  ... Value of Likert-scale of first question for the preference for GDE  $i$

To verify H1 quantitatively, correlation analysis will be used to calculate the Pearson correlation coefficient for each possible pair of GDEs and LPCs ( $= 6! = 720$ ) over all participants. The correlation coefficients of the pairs in table 4 should be higher than other combinations. If necessary the combinations of LPCs and GDEs will be adjusted.

In order to measure the effect of the fit between the preference of LPCs and GDEs, a fit variable will be defined:

$$F_{p,lp} = \vec{g}_p \cdot \vec{w}_p = \begin{pmatrix} g_{p,1} \\ g_{p,2} \\ \dots \\ g_{p,n} \end{pmatrix} \cdot \begin{pmatrix} w_{p,1} \\ w_{p,2} \\ \dots \\ w_{p,n} \end{pmatrix} = \sum_{i=1}^n g_{p,i} * w_{p,i} \quad F \in [0; 1] \quad (4)$$

$lp$  ... Name of certain LP

$F_{p,lp}$  ... Fit between person  $p$ 's preferences for GDEs and his preferences for LPCs of  $lp \rightarrow$  dot product of  $\vec{g}_p$  and  $\vec{w}_p$

$\vec{g}_p$  ... Vector with all values of preferences for GDEs

$\vec{w}_p$  ... Vector with all relative weights of LPCs from conjoint analysis

The enrolment variable will be defined as  $E_{p,lp}$ , representing the decision of customer  $p$  to join  $lp$  ( $E_{p,lp} \in \{0,1\}$ ).

A logistic regression will be done to test H2: The independent variables will be  $F_{p,lp}$  and control variables such as age, gender, household income and family status. The dependent variable will be  $E_{p,lp}$ .

### **Second study**

In a second study a panel of customers will be built and then observed over at least one year. A larger timeframe would be better. The participants of the panel will be chosen completely randomly.

The preferences for GDEs of all participants of the panel will be measured in the beginning of the study by using the questionnaire in appendix A. Here again H2 can be tested using logistic regression: For it, pre enrolment purchase behaviour, proximity of the store (Leenheer et al., 2007; Mauri, 2003) as well as control variables such as age, gender, household income and family status (Leenheer et al., 2007) will be integrated into the regression model to determine the influence of  $F_{p,lp}$  on  $E_{p,lp}$ .

In order to test H3, variance analysis and multiple regressions will be conducted (Backhaus et al., 2011), controlled for multiple LP membership (Mägi, 2003), proximity of the store (Leenheer et al., 2007; Mauri, 2003), industry of LP, pre enrolment purchase behaviour as well as for age, gender, family status and household income (Leenheer et al., 2007).

To acquire the necessary data, all participants will be asked to report their enrolment and purchase behaviour at all companies they engage with and which are offering long-term LPs – especially if they don't enrol. For that purpose participants will receive a list of attributes (including all attributes and values of table 5) to evaluate the LPs they come in contact with. They will receive as well a tool (e.g. an Excel-sheet) where they can enter the necessary data to examine their LP membership and store proximity and the data required to calculate purchase frequency and SOW. These self-report measures will be analysed after the panel finished.

If the panel participants already joined a LP as the study started, the first month's purchase behaviour will be used as precedent purchase behaviour as did Liu (2007).

#### 4. Discussion

This term paper did not include an empirical data collection. Thus, I will discuss in this section possible shortcomings of the proposed studies.

To begin with, the questions used in the first study came from a multiplayer online game environment. Not every participant might have been exposed to such kind of a game and some of them can be confused by the questions assessing  $g_{p,i}$ . This might result in less precise answers, but the effect should be small as the questionnaire will contain the assignment to think about all kinds of games.

The sometimes obvious questions in the questionnaire to determine  $g_{p,i}$  can cause manipulation by the participants. But as these questions are asked in a laboratory setting without letting the participants know, what the study is about, it can be assumed that they will not influence the outcome too much.

Additionally, it can be questioned whether the operationalization of the fit between preferences of LPCs and GDEs is properly done via the dot product of two vectors. There might be more sophisticated methods, but this simple "linear" methodology is easier to use and understand. As well, it will cover most of the effects of interest as a high weight of a LPC and a high corresponding preference for a GDE will result in a higher fit variable. Thus even small but significant influences will show that there is an influence which can be reviewed more deeply with more sophisticated methods.

It can be questioned as well whether the selected attributes in the conjoint analysis are meaningful in the assessed setting and really influencing customer behaviour. Though, a selection was necessary to reduce the number of attributes and avoid their interdependence. Nevertheless, the selected LPCs are very common in LPs as well as in games and should therefore be representative to find possible influences.

In my second study I cannot control for brand preferences. That is why H2 was tested in a laboratory setting to avoid such undesired influences. If the second study will refute H2, brand preferences and other confounding variables should be included into the model.

By using a panel observing all kinds of long-term LPs in all industries over a longer period two main advantages are covered: First, real before and after purchase behaviour will be measured. Therefore, endogeneity problems can be covered (Leenheer, 2004). Second, the findings will be more applicable. Most research is conducted in a specific industry while this study can show whether the effects can be found in all or just a subunit of industries.

In the field study it is hard to check whether panel participants provide all the necessary information – especially if they are not enrolling in a LP, the chances are high that they will not report their behaviour concerning this LP. A clear briefing to cover every LP the participants come in contact with should cover this problem.

## **5. Managerial Implications and Further Research**

The findings of the conducted studies may help managers to refine the design of their LPs. They can either examine the GDEs preferred by their existing customers, in order to add corresponding LPCs if necessary to increase enrolment and purchase behaviour. Or they can offer more GDEs as LPCs attracting all kinds of new customers. For instance if a company finds out that their customers value a community very high, it should think about creating a LP-community to increase member customer's involvement. Thus, the activity of members in the LP and their profitability can be increased.

Additionally, the method used in the present studies can be used to analyse what trade-offs customers require for disclosing their data: Long-term LPs require personal data and some customers don't like giving private data to companies (DeWulf et al., 2003). Using the proposed method, GDEs used as LPCs can be identified which will decrease such concerns.

In further studies different operationalization methods how to measure the fit variable can be tested and also the name and the prestige of the brand and their influence on enrolment behaviour should be assessed.

Furthermore, I only used a limited number of GDE-LPC pairs. For a broader understanding of other pairs, more research needs to be done.

The proposed studies based on Yee's (2005) research of player types and used motivation theory to derive a connection from GDEs to LPCs. As Ryan et al., 2006 pointed out, it would be a fruitful approach to directly investigate the underlying motivational factors influencing customer behaviour regarding LPs. Thus, also LPCs which were not assessed in the present studies can be evaluated.

Even if the underlying motivational factors of customer behaviour might be better to understand and predict their behaviour – assessing these partially subconscious factors is quite difficult as I summarized in my bachelor thesis (Thurm, 2012). Using preferences for GDEs as proxies for subconscious factors might be a valuable approach in motivation research as it is more convenient for the respondent and the researcher.

In the second study potential effects of competing LPs are only covered by asking for multiple LP-memberships. Considering Liu & Yang's work (2009), the market share of the companies and market saturation should be included into further investigations of this topic.

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## Appendix A – Questionnaire

The following questions are partially taken from Yee's (2005) factor analysis (indicated by OQ – original question) and partially made by me (indicated by AQ – added questions).

The numbers in brackets are indicating the value of the Likert-scale used to calculate the preference for a GDE.

### 1. Ranks representing different levels of mastery

How enjoyable is it to you to have a level which is hard to achieve and many other players do not have? (OQ)

- |                        |     |
|------------------------|-----|
| Not Enjoyable At All   | (1) |
| Slightly Enjoyable     | (2) |
| Moderately Enjoyable   | (3) |
| Very Enjoyable         | (4) |
| Tremendously Enjoyable | (5) |

How important is it to you to acquire rare items in the game that most players will never have. (AQ)

- |                        |     |
|------------------------|-----|
| Not Important At All   | (1) |
| Slightly Important     | (2) |
| Moderately Important   | (3) |
| Very Important         | (4) |
| Tremendously Important | (5) |

### 2. Ranking of players

How important is it to you to be well-known in the game? (OQ)

- |                        |     |
|------------------------|-----|
| Not Important At All   | (1) |
| Slightly Important     | (2) |
| Moderately Important   | (3) |
| Very Important         | (4) |
| Tremendously Important | (5) |

How enjoyable is it to you to compete with other players in the game? (OQ)

- |                        |     |
|------------------------|-----|
| Not Enjoyable At All   | (1) |
| Slightly Enjoyable     | (2) |
| Moderately Enjoyable   | (3) |
| Very Enjoyable         | (4) |
| Tremendously Enjoyable | (5) |

### 3. Gaming community

How enjoyable is it to you to getting to know other players? (OQ)

- |                        |     |
|------------------------|-----|
| Not Enjoyable At All   | (1) |
| Slightly Enjoyable     | (2) |
| Moderately Enjoyable   | (3) |
| Very Enjoyable         | (4) |
| Tremendously Enjoyable | (5) |

How enjoyable is it to you to chat with other players? (OQ)

- |                        |     |
|------------------------|-----|
| Not Enjoyable At All   | (1) |
| Slightly Enjoyable     | (2) |
| Moderately Enjoyable   | (3) |
| Very Enjoyable         | (4) |
| Tremendously Enjoyable | (5) |

### 4. Easy quests with common awards

How important is it to you to solve easy quests to acquire a common award? (AQ)

- |                        |     |
|------------------------|-----|
| Not Important At All   | (1) |
| Slightly Important     | (2) |
| Moderately Important   | (3) |
| Very Important         | (4) |
| Tremendously Important | (5) |

How enjoyable is it to you to receive common awards after solving easy quests?

(AQ)

- |                        |     |
|------------------------|-----|
| Not Enjoyable At All   | (1) |
| Slightly Enjoyable     | (2) |
| Moderately Enjoyable   | (3) |
| Very Enjoyable         | (4) |
| Tremendously Enjoyable | (5) |

### 5. Difficult quests with valuable rewards

How important is it to you to solve difficult quests to acquire a valuable award? (AQ)

- |                        |     |
|------------------------|-----|
| Not Important At All   | (1) |
| Slightly Important     | (2) |
| Moderately Important   | (3) |
| Very Important         | (4) |
| Tremendously Important | (5) |

How enjoyable is it to you to receive valuable awards after solving difficult quests?

(AQ)

- Not Enjoyable At All (1)
- Slightly Enjoyable (2)
- Moderately Enjoyable (3)
- Very Enjoyable (4)
- Tremendously Enjoyable (5)

6. Badges for specific achievements

How important is it to you to solve quests to acquire a badge, showing other players that you solved this quest? (AQ)

- Not Important At All (1)
- Slightly Important (2)
- Moderately Important (3)
- Very Important (4)
- Tremendously Important (5)

How enjoyable is it to you to receive a badge for passing a quest? (AQ)

- Not Enjoyable At All (1)
- Slightly Enjoyable (2)
- Moderately Enjoyable (3)
- Very Enjoyable (4)
- Tremendously Enjoyable (5)

## **Eidesstattliche Erklärung**

Ich erkläre hiermit ehrenwörtlich, dass ich die vorliegende Arbeit selbständig angefertigt habe. Die aus fremden Quellen direkt und indirekt übernommenen Gedanken sind als solche kenntlich gemacht.

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Die Arbeit wurde weder einer anderen Prüfungsbehörde vorgelegt noch veröffentlicht.

München, den 27. February 2013

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(Unterschrift des Verfassers)