Pay to win: Attitudes towards in-app purchases in a mobile game community

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Abstract

The freemium model along with freemium games is rapidly expanding markets. This study is aimed towards further gathering knowledge about how the freemium model is received amongst players and whether in-app purchases are affected by any kind of social control. This study focuses on one mobile freemium game and tries to determine the overall community attitude towards in-app purchases. The study was conducted through a triangulated method consisting of an online questionnaire, forum observations and in-game observations. It is found that the game community is positive towards in-app purchases and that the in-game advantages they entail compose the main purchase motivator. Some unexpected differences between player types are also revealed; hardcore and high level players are more positive towards in-app purchases than casual and low level players. The study further discusses causes for these results and proposes future studies which may further explore the area of freemium games.

Keywords
Casual players, community, freemium, game, hardcore players, in-app purchases, in-game advantages, player types, social control, status, virtual items
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1.1. Introduction

1.1. Background

The game market is becoming increasingly dependent upon freemium games. The freemium model consists of free products with the possibility to buy additional premium content. This means that the game is free-to-play with some restrictions which are possible to overcome by conducting in-app purchases (The Freemium Blog n.d).

With more games competing for the customers, the market of virtual items has become not only part of the business model, but an important competitive factor for the developers. Allowing players to play for free and thus removing the subscription fee creates a bigger player base (Oh & Ryu 2007). Amongst players, these items can provide both in-game advantages as well as a way of expressing their personality. They may also serve as an additional way of achieving status in the game. By purchasing additional content, whether it is upgrades for the player or aesthetic expressions these additions help distinguish the player amongst the community and may result in fame or status (Lim & Seng 2010). Much developer focus lies on how to allure players to spend more money. However, little research has been made to determine how the players perceive the freemium model.

One of the factors that may affect player attitudes towards in-app purchases is how and why they play games. Both game developers and researchers have made several attempts to categorize players by player types or styles of play. In some recent studies, like Lim and Seng (2010), player types or motivations to play have been suggested to be related to in-game purchase behavior. Also, Hsu and Lu (2003) find that social norms, attitude and flow experience are important motivation factors for online play. These approaches differ from the more well-known definition of player types introduced by Bartle (1996). Bartle identifies four distinct player types: Achievers, Explorers, Socializers and Killers. Bartle emphasizes that there are crossovers between the player types, but that many players have a primarily style and will not switch if it does not bring them closer to their main goal (Bartle 1996).

Among game communities and game developers it is more common to distinguish between casual players and hardcore players. Casual players are seen as being more social,
playing more casually and sporadically and not competing in the top. Hardcore player are described as experts of the game, competitive and elitist (Taylor 2006).

Player attitudes towards in-game purchases are also influenced by the general attitudes in the game community. Within the social sciences sociologists like Merton and Hirschi presume that all social groups are governed by a normative system. Norms are rules or expectations of social behavior that are developed and maintained by the group members (Sarnecki 2003, Williams & McShane 1998). Opinions of a group are not formed by a compromise of its members’ thoughts, although it has been shown that the general opinions of a group are strengthened and polarized when the group is collected (Allpsych n.d., Burke 2006, Forsyth 1999, Psyblog 2009b). This is called group thinking and is based upon the constant wish for harmony (Allpsych n.d., Psyblog 2009b). These rules help provide the members with a sense of belonging and identity. They also provide a socially accepted way to punish and exclude non-conforming members in order to preserve the security provided by a stable society abiding by the established rules of behavior (Sarnecki 2003, Taylor 2006, Williams & McShane 1998). Conforming to these norms increases the probability of social acceptance, while deviance composes a risk of being deprived of group affiliation (Burke 2006, Forsyth 1999, Psyblog 2009a). This form of social control can also be found within the game world. In other words game communities are another type of society regulated by norms constructed and maintained by its members (Taylor 2006).

1.2. Problem statement
The research area regarding computer games is young, as is the freemium model. Studies regarding freemium games have focused upon the psychological reasons why players will buy virtual items. These studies have been an asset for game developers. Yet there is a lack of knowledge regarding how players do perceive the freemium model, which by some is seen as the future of online gaming. In order for the freemium model to be truly successful and long-lasting it is vital for companies to know their customers’ opinions and experiences regarding their payment system.

There is also an insufficient amount of studies conducted to provide insight about how different player types differ in their view on the freemium model, although a connection has been
suggested (Lim & Seng 2010). Freemium games may not be successful with all different player types and developers may gain from determining this potential difference.

As earlier studies have shown, the balancing of freemium games is greatly important. How well this is taken into account regarding status and in-game advantages can determine what freemium games will be successful and which will not.

Earlier research has also found conflicting results regarding the effect of norms and social control in social games. To establish this fact will surely be an important knowledge for the future, both for game developers to boost sales, and perhaps even more so, to drive the ethical question regarding psychological affections in purchases further. As the freemium market continues to grow these questions are all relevant in order to create a better understanding for the customers.

1.3. Research questions

- How does a game community in a mobile freemium game experience the possibility to conduct in-app purchases?
- Is there some kind of social control being exerted between players to regulate in-app purchases?
- Do the players perceive that the possibility of in-app purchases results in any kind of imbalance in status or in-game advantages in the game?
- Do different player types display differences regarding attitudes and purchase behavior towards in-app purchases?

1.4. Working theory

Shadow Cities is mainly played by hardcore players. Mana purchases can disturb the game balance by causing in-game advantages and status improvements. Hardcore players do not generally approve of in-app purchases, which may lead to in-game advantages, and also think that status should be earned, not bought. Therefore, social control exists within the Shadow Cities community in order to prevent mana purchases. The casual players, if there are any, should possess a more relaxed and overall more positive attitude towards mana purchases.
1.5. Delimitation
This study will only include one freemium game; Shadow Cities. Shadow Cities was chosen partly due to its positioning as an MMO game as this genre is still rare on mobile platforms. Furthermore, Shadow Cities’ in-app purchases are the same as its in-game currency, making it the basis for the whole game. Shadow Cities also has an active online community allowing forum observation alongside in-game observations. Shadow Cities is seen as a hardcore game which increases the chance of finding social control regarding in-app purchases which may lead to in-game advantages and/or status. Also, Shadow Cities is played by people from all over the world, offering an opportunity to detect potential cultural differences.

Although there exist several models for classifying players this study is restricted to two. The player types which will be examined to investigate if they are connected to certain opinions regarding mana purchases are Bartle’s (1996) four player types and the general definitions of casual and hardcore players. These definitions are the most widely used and cover both the players’ and the developers’ divisions of players.
2. Extended background

2.1. Freemium
In modern society the Internet and mobile phones have become natural parts of daily life. According to media researchers technology influence as well as is influenced by social processes (Kerr 2006). A related trend is the freemium business model. Freemium is a term created by the unification of the words ‘free’ and ‘premium’. It refers to a business model wherein the core product is free and profit is made by selling premium products to a small percentage of the users. (Freemium blog n.d.) Usually less than 5-10% of the users buy any of the premium products, numbers which appear catastrophic if seen from the traditional business point of view. This business model would not be possible without the recent years’ advancements within digital production and Internet distribution. It is innovations within these areas that has enabled the corporations to copy and distribute free products to larger customer groups at minimal costs and thus transformed freemium into a sustainable business model (Freemium blog n.d.)

As Nicholas Lovell (2010), founder of Gamesbrief, points out the old media model relied on physical distribution which made it impossible to provide personalized experiences in a cost-effective way. According to Lovell the Internet has changed that and today’s media companies can: “generate the same revenue from a combination of free and high-quality, high-status products for its true fans as it used to be able to do by offering the same product at the same price to everyone” (Lovell 2010).

2.2. Freemium games and virtual items
Spawning from the erupting freemium market is its natural successor of a steadily growing consumption of virtual items (Reuters 2010). Though most often referred to as a game feature, virtual items has spread well beyond the game world. Twesents, presents available to buy and send to friends via twitter, Facebook gift shop devoted to the same purpose and personalized smileys and emotion expressions to complete your emails are all profitable venues of virtual items (Beuker2009).
The freemium model was quickly and successfully applied onto the game market. The analytics firm Flurry has analyzed over 57 million purchases across the Android and iOS platforms and found that mobile gamers tend to spend the majority of their money on consumable virtual goods. The by far most popular in-app purchase is in-game currency (Valadares 2011a). Flurry earlier claimed that 65% of revenues from the 100 top grossing games on the US App Store in June 2011 were from freemium titles. This had increased from 38% in January 2011 (Dredge 2011).

Carter Dotson, a freelance writer from Texas who has covered the mobile and gaming industries since 2009, thinks that freemium games have obtained an undeserved bad reputation. He concludes that while freemium games can be controversial as many of them entice people to spend money on in-game purchases in order to avoid absurdly long waits and get hold of necessary tools, the mobile gaming industry consist of many smaller studios and independent developers who push for a change and strive to create more ethical freemium games. Ian Marsh of NimbleBit, creator of Tiny Tower, states: “We take a very simple approach in designing fair free-to-play games, which includes making everything in the game available without paying for it and balancing the game around the free player” (Dotson 2011).

Oh and Ryu (2007) has found that, in Korea in particular, these virtual items has developed into an important competitive factor in the game market by allowing players to spend their money at their leisure and not binding them to a specific game through a subscription. Oh and Ryu (2007) further theorize that a very fine balancing of in-game advantages is needed to keep players satisfied with the fairness of the game and losing this balance may result in abandonment of the game. To obtain this balance Oh and Ryu (2007) makes a distinction between functional and ornamental items where functional items which result in impact upon gameplay shall be temporal and ornamental items shall be permanent.

These virtual products have become not only a vital part of the economic side of freemium games business plan, but also in how the socialization amongst players takes shape (Lim & Seng 2010). Status problems, defined as a state where an individual is having difficulties in achieving respect within their social network (Williams & McShane 1998) is a reality also within the game world. The social interaction between players in a game world resembles the social interaction between people in the real world, consisting of more than one culture and norm systems (Lim & Seng 2010). Lim and Seng (2010) found that the status brought through the
acquisition of virtual items is a strong purchase motivation among social players. Meanwhile there is also an assumed disliking against in-app purchases within hardcore game communities (Rosenberg 2012). In-app purchases resulting in in-game advantages have received bad publicity from game critics and it is generally assumed that skilled players are more negative towards the freemium model.

Jeremy Liew (2009), managing director at Lightspeed venture partners, says in an interview that: “My theory is that people buy digital goods for the same reason that they buy goods in the real world; (i) to be able to do more, (ii) to build relationships, and (iii) to establish identity.” Thus, this supports Lim & Seng by proclaiming the importance of virtual items in social relations. Lin (2008) takes the importance of virtual items further, claiming that the purchase of virtual items offers the same satisfaction as real world purchases. Thus, it can act as a substitute for real world shopping which may result in environmental benefits.

2.3. Player types
The game study field is relatively young, but there have been several attempts by researchers to categorize players by player types or styles of play. In some recent studies, like Lim and Seng (2010), player types or motivations to play have been suggested to be related to in-game purchase behavior. Also, Hsu and Lu (2003) found that social norms, attitude and flow experience are important motivation factors for online play. These approaches differ from the more well-known definition of player types introduced by Bartle (1996). Bartle identified four distinct player types, which are motivated by different aspects of a game. Achievers seek and collect points and treasure. Explorers travel and investigate the game world, always looking for new ways and information. Socializers above all appreciate the company and collaboration with other players. Killers like to prove their strength by fighting and defeating other players. Bartle emphasizes that there are cross-overs between the player types, but that many players have a
primary style and will not switch if it does not bring them closer to their main goal (Bartle 1996). Studying MMORPG* players Yee has developed another set of player types consisting of different motivations. Initially they consisted of achievement, social and immersion (Yee 2006), but further research together with Williams and Caplan (2008) made him change his model, which now include the following motivations: achievement, relationship, immersion, escapism and manipulation.

A more general separation of players which is most commonly used among players themselves is the definitions casual player and hardcore player. Taylor (2006) does the same division but with the terms casual player and power player. She points out that these kinds of generalizations are difficult due to the complexity of humans, but that they are necessary to enable game designers to contempt both player types. Taylor further discusses the inability to understand, and sometimes intolerance against, the other type of players. Casual players tend to play more relaxed, focus on having fun while hard core player on the opposite focuses on a play style that may be seen as work (Taylor 2003). However, Taylor (2006) also theorize that is the same basic possibility that interests all players; the ability to play with reality and create something that’s one’s own.

2.4. Social control
Steinkuhler (2006) has found online games to be a useful instrument when studying cognition and its change over time; both on an individual level and a collective level. The game environment offers an opportunity to study how a given social context affects and molds the behavior and activities of individuals. Taylor (2006) has found that these social rules created within the game context are sustained by the constant risk of punishment. Hence, it would seem that the same social control can be found within games as in the real world.

There are many different theories regarding social control. One of the most generally accepted and widely used is Hirschi’s theory of social bonds. Hirschi distinguishes himself from earlier criminologists by studying why people are law-abiding, not why they commit crimes (Pratt et.al 2010) He explains conformity by social bonds; the stronger social bonds, the less likely deviance becomes. Hirshi discriminate between four different social bonds (Pratt et.al 2010, Sarnecki 2003, Williams & McShane 1998). These bonds may be applied on players
within a game community and help explain why some conform to the community norms and others do not.

- **Attachment (sensitivity to others disliking).** In a game community players show consideration to different extent and everyone does not care if their behavior disturbs other players. A social player who has befriended other players and takes their opinions into consideration is less likely to deviate from the established community norms.

- **Commitment (investment in a conventional life style).** A player who has invested time (and money) in conventional gameplay and has something to lose by deviating from the community norms, like the acceptance by their team mates, is less likely to do so.

- **Involvement (involvement in conventional activities).** The more time spent partaking in conventional activities, the less time the player has to deviate from the community norms.

- **Belief (moral conviction to abide by the society laws).** Players who agree with the community norms are less likely to deviate from them.

Merton is inspired by Émile Durkheim’s theory of anomie. Anomie may occur when a society undergoes drastic economic or political changes and is the dissolution process which dissolves the existing normative system. Durkheim found that deviant behavior varies in correlation to the extent of norm dissolution (Sarnecki 2003).

Merton further developed Durkheim’s theory by arguing that it is the life goals established by the society that cause criminality and other social problems. The life goals are built on middle class values but apply to all members of a society, while the possibility to fulfill them greatly varies between its members (Sarnecki 2003, Williams & McShane 1998).

In the case of this study, the society can be said to consist of the game community. Although there might not be any life goals a game community does revolve around both rules and goals which, in similarity to Merton’s theory, do apply to the whole society even though the ability to follow and fulfill them vary among the players.

Merton finds five different alternatives for an individual to adapt to the societal goals (Sarnecki 2003, Williams & McShane 1998).
• Conformity applies to people whose institutionalized means correspond to the societal goals. These individuals will not suffer from the strain of being unable to fulfill the societal goals and thus will not have to develop one of the four strategies to handle it. Conformity thus applies to players who agree with the goals constructed within the game community and who use accepted means to reach them.

• Innovation applies to people who strive to fulfill the societal goals, but lacks the means in doing so and therefore innovates and uses non-confirmative methods. Innovation applies to the players who are unable to fulfill the goals using accepted means and who innovate and choose to rely on methods conflicting with the community norms.

• Ritualism applies to people who possesses the institutionalized means, but loses the sight of the goals; they follow the rules, not caring where and what their actions lead to.

• Retreatism is the least common adaptation and applies to people who are excluded from society; they reject the societal goals as well as the institutionalized means. Neither ritualism nor retreatism seems meaningful to apply on the game community, at least not within this study.

Rebellion applies to people who revolts against the current normative system concerning the goals as well as the means to achieve them. This struggle may include criminal offenses. In a game community rebellion can be said to apply to players who create new goals along with new rules; in other words they create a new game within the old game’s framework.

1938 the Swedish sociologist Thorsten Sellin published his theory about the conflict of conduct norms. According to him social groups develop different social norms depending on their surroundings that set them apart from each other. When the norms of one cultural or subcultural area migrate to or come in contact with those of another conflict is inevitable. The violations of norms will not cease until the acculturation process has been completed (Williams & McShane 1998).

House rules are more or less outspoken game norms constructed by players within a specific group or context. Their purpose is to clarify how the players should behave in otherwise ambiguous in-game situations. House rules vary between groups and may cause confusion and
unexpected conflicts when players from different groups arrange common game meetings (Salen & Zimmerman 2003).

Social behavior is defined as the moment in which a specific person or group of persons are kept in mind whilst performing different actions. Whilst acting according to another person. Social interactions are dynamic parts of these social actions between groups and individuals which affect their actions and reactions based upon the actions of the interaction partner (Dahl, Simonson & Winér n.d.).

2.5. Group psychology

Group psychology is ever present in society and plays an important part in defining self-identity (Burke 2006, Psyblog 2009b). Group behavior is evoked before its members have met; the mere knowledge that there are other individuals in support of personal values and opinions will aid persons in forming social identity (Burke 2006, Psyblog 2009b). Groups can arise from almost nothing, pointing to the human needs of belonging and to create identity (Burke 2006, Psyblog 2009a).

Whilst partaking in a group a conformity, which aligns the thoughts and opinions of its members is formed (Burke 2006, Forsyth 1999, Psyblog 2009a, 2009b). To rebel within a group is highly risky and to not conform according to the group often result in the individual being ostracized (Psyblog 2009a). Studies have shown that individual strength of group identification will determine how strongly conformity towards, and actions in line with, group norms are developed (Jetten, Spears & Manstead 1997).

A group is highly capable of affecting its members’ productivity. This may result in an eagerness to perform and to compete or create a concerted withdrawnness due to the capability of hiding as an individual within a group (Burke 2006, Forsyth 1999, Psyblog 2009a, 2009b). The larger the number of participant within a group, the less individual responsibility is experienced. This can cause problems both within group projects and during more serious occasions i.e. while witnessing a crime. Also, the internal wish to help others is reduced by the size of the group (Allpsych n.d.).

Decision making concerning social groups tends to result in one of two scenarios; either the group is generally agreeing or seriously discontent. Due to the fact that group harmony
always is sought after those things upon which agreement is not instantly reached will be solved with ease (Allpsych n.d., Forsyth 1999). Due to the fact that members of a group often stem from a similar background and values a group tends to accept majority decisions fairly quickly. This is defined as group thinking. Opinions of a group are not formed by a compromise of its member’s thoughts but it has been showed that the general opinions of a group are strengthened and polarized when the group is collected. Group thinking may however result in decisions being made impulsively through misbegotten, or lack of, discussion (Allpsych n.d., Burke 2006, Forsyth 1999, Psyblog 2009b).

2.6. Game description: Shadow Cities
Shadow Cities is a location based massively multiplayer online game for iOS. The game world is based upon the real world maps and consist of realms represented by neighborhood gateways. There are two ways for the players to travel in the gameworld; either they can jump to visible friendly targets such as the neighborhood gateways or they can teleport to different areas by jumping to beacons summoned by their teammates.

When creating their account the players are able to choose between two teams, the Architects and the Animators. These teams represent two opposing mage schools competing for world domination. Furthermore, the players are also divided into battlegroups depending on their physical location. The battlegroups compete for energy during weekly campaigns. The campaigns are composed of three rounds; the team which gathers the most energy during the most rounds is declared the winner of the campaign. During the campaigns there is also an individual competition between the players. The players who gather the most energy will have their name printed on top of the battleground’s scoreboard and will be rewarded with one or more mana pots.

The two mage teams are able to engage in battles and wars against each other. The players are able to defeat an enemy mage with magic and this result in ‘banishment’ where the defeated player is taken out of the game for a short time. All players are also able to banish spirits. Both these activities result in an energy gain, as does the completion of missions which most often involve banishing specific spirits. Destroying entities belonging to enemy mages also provide an energy reward. Finally, energy may be gathered through the harvesting of dominators.
Dominator are energy gathering entities which a player may attach to gateways in order to conquer a specific area.

Inside the game the players communicate through four different chat systems. In each battleground there are two team chats, one private to the Architects and one private to the Animators, as well as a crossteam chat, wherein the teams may communicate with one another. There is also a newsfeed in which players from different battlegrounds may communicate with each other. Instead of being battleground specific it is adapted to the players in-game friend list; a player may read and participate in all threads initiated by a befriended player. Lastly, the players also have the possibility to send private messages to each other.

The players are able to cast spells. Each spell consumes mana and will lower a player’s mana meter. The mana meter slowly regenerates, but may be immediately refilled by using a mana pot. Mana pots are sometimes rewarded through missions and are randomly dropped by spirits. Mana pots may also be bought through Gray Area’s mana purchase system. Mana is not only necessary to cast spells; it also acts as the in-game currency. Gateways are bought by mana, as are special sigils and avatars. While sigils and avatars are merely ornamental, the ownership of a realm may raise a player’s will power and vitality stats. Willpower increases the power of a player’s spells while vitality accelerates the regeneration of a player’s mana and health meters. Mana pots may also be used to create an emergency beacon, which compose a call of help and will result in all offline players getting a push notice.
3. Scientific method

The study originates from earlier theoretical assumptions and makes use of a working theory, which in turn results in a deductive approach (Bryman 2008). However, there are inductive elements and while the research questions are based upon earlier research, the two sub questions concerning player types and in-game balance would not have been studied if early findings during the initial data gathering had not been taken into consideration.

3.1. Choice of method

3.1.1. Data gathering methods

The research questions of this study demand a methodological approach which enables measurement of player attitudes, social control within a game community, player experiences and player types. As previous studies (Farago 2011, Rozwandowicz & Warman 2012, Valadares 2011c, Valadares 2011d) have found differences in in-app purchase behavior depending on a players’ age, gender and nationality these demographics should also be announced and if possible used as control variables.

Attitudes

An attitude is "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan 2005). Attitudes may be measured by direct or indirect methods (McLeod 2009). Direct methods gather quantitative data and enable statistical comparisons, while indirect methods gather qualitative data and enable in-depth analysis. The main objective of this study is to obtain an overall view of how the Shadow Cities community experiences the possibility to conduct mana purchases, not to understand why individual players hold certain opinions in the matter. Therefore, direct methods of attitude measure appear to best serve the purpose of the study.

A problem which needs to be addressed when conducting attitude measures is social desirability; the respondents may not answer truthfully and instead try to provide a socially accepted answer in order to appear as well adjusted individuals (Bryman 2008, McLeod 2009). Social desirability is especially apparent in self report studies regarding potentially sensitive
subjects like ethnicity, sex and religion (McLeod 2009). In comparison, mana purchases are not a highly disputed subject and should not cause social desirability to the same extent. Furthermore, if the participants are granted anonymity social desirability should become even less of a problem (Bryman 2008, McLeod 2009).

A problem related to and a possible effect of social desirability is divergence between the attitude and behavior (Bryman 2008, LaPiere 1934). To examine whether the Shadow Cities players’ attitudes towards mana purchases actually correspond with their mana purchase behavior the players’ purchase behavior also needs to be announced. Since social desirability is not restricted to attitude measure studies, but is known to also affect behavior (Bryman 2008, LaPiere 1934) it would be preferable to monitor the participants’ purchase behavior without their knowing. However, such an approach leads to both ethical and methodological difficulties. The surveillance data would have to be gathered without consent and with risk of intrusion of the participants’ personal lives. It would also somehow need to be matched to the participants’ declared mana purchase attitudes, which could compose a time consuming task without a reliable tool. Furthermore, disregarding both consent and the risk of intrusion in personal life does not appear ethically justifiable, why such an approach will not be used. Instead, despite the possible effect of social desirability, the participants will get to state their own purchase behavior.

Likert scales are an example of a direct attitude measure method and have been used within game studies earlier. For example, Hsu and Lu (2003) use Likert scales to measure attitudes in their field survey about motivations to playing online games. An advantage of Likert scales opposed to yes and no questions are that they allow the respondents degrees of opinion and may also give them a choice to have no opinion at all. Furthermore, the quantitative data obtained is rather easy to compile and analyze by for example summarizing the answers with median and mode and by showing the distribution in bar charts (McLeod 2008).

Social Control
To investigate the potential occurrence of social control regarding mana purchases one can try to access the question by studying the players own experiences through interviews, questionnaires, or by combining the two methods. Another approach is to observe social relations and behaviors through field studies.
Hsu and Lu (2003) measure social influences along with attitudes by Likert scales in the above mentioned questionnaire. Lim and Seng (2010) also use Likert scales in their self-report study about what factors, there among social, act as in-game purchase motivators.

A perhaps more common approach to study social phenomenon in online game worlds consist of field studies. To examine multiplayer gaming life Taylor (2006) performed a multi-year ethnography of Everquest. During her study she observed the complex social networks and noted how social control is carried out by the players in order to maintain the game community norms. Taylor was not a complete participant and the studied players were aware of her research, which enabled her to compliment her observations with interviews.

In a field study like Taylor’s (2009), gaining the respondents’ trust and be given access to their environment may become a time consuming process. Also, if the respondents are aware of them being studied they may alter their behavior which in the end may tamper the results. By conducting a field study as a complete participant these two difficulties are avoided. However, this choice gives rise to other issues. Firstly, it may obstruct the researcher from taking notes and using other data gathering methods like interviews as such conduct would compose a risk of exposure. Secondly, being under cover may cause the researcher to stress because of the said risk. Lastly, being a complete participant means going against two fundamental ethical principles of the social sciences, namely the requirements of consent and information (Bryman 2008, Frankfort-Nachmias & Nachmias 1996).

In this study, the use of a complete participant approach would mean the players being unaware of their playing and chat comments being analyzed. However, it can be argued that multiplayer games always involve a degree of observation of both teammates and opponents. The difference relies in the purpose and potential consequences of the observation. Entering the game world of Shadow Cities the purpose would be to join the game community, observe and adapt to its norms; not to question, provoke or in any way try to change the current order. In other words, the researchers would play the role of an eager newcomer, but the gained knowledge would be used to analyze the players as well as to play the game. In summary, the ethical consequences of a complete participant approach would be small.
**Experiences**
To examine the players’ experiences of the game and the community there are several possible methods, both quantitative and qualitative. Foo and Koivisto (2004) investigate player experiences by interviews in their study about grief play*. Player experiences have also been studied by questionnaires (Hsu & Lu 2003), forum observations (Bartle 1996) and field studies (Taylor 2006).

As Taylor (2006) points out MMO games are designed for sociability and the complex networks built by the players cross both online and offline spaces. Shadow Cities is not an exception. The players interacts in-game, on the official game forums, fan pages and also arrange real life meetings (Shadow Cities Mage Meetup n.d.). The players exchange and discuss their player experiences in all these spaces. Examining the official game forum threads concerning mana purchases might provide important additional insight if implemented in this study, which show what the players experience as important and therefore should be announced in the questionnaire.

**Player types**
Similar to player experiences there are several methods available to study player types and their potential correlation with for example in-app purchases.

Earlier research has conducted statistical analysis on raw data (Rozwandowicz & Warman 2012, Valadares 2011c) wherein different comparisons between for example time-rich and money-rich players are made. Player types have also been addressed through questionnaires (Lim & Seng 2010, Hsu & Lu 2003, Yee 2006, Williams, Yee & Caplan 2008), document studies through game forum observation (Bartle 1996) and field studies (Taylor 2006).

This study differs from those mentioned above by not striving to define new or testing old player types, but instead using established player types and letting the players define themselves according to these in order to enable comparisons in mana purchase attitude and behavior. A questionnaire appears as the most efficient way to achieve both the division and the comparison. However, in-game observations and forum observations of player styles may lead to additional interesting contributions.
**Chosen data gathering methods**
As seen above earlier research has shown how questionnaires can enlighten all the areas which this study strives to further examine. Thus, despite its flaws regarding for example social desirability effects questionnaires appear as an approved mean to investigate game communities. Furthermore, it is a fast and inexpensive data gathering method with the capability of providing easy manageable and analyzable data. All these reasons make a questionnaire a well suited method for this study.

Observing behavior is a mean to control whether the respondents’ attitudes correspond to their actions. While not being able to provide information as to why respondents act in a certain way, observation studies can compose a complement and mean to validate the results of questionnaires or interviews (Bryman 2008). Therefore, in-game observation as complete participants will also be conducted.

Forum observations offer an additional method which may illuminate the overall community norms and attitudes as well as the in-depth arguments expressed directly by the players. In contrast to the in-game observations these opinions are written in a more time consuming way and not during game play. This allows for further development of opinions and motivations thereof.

In summary, to strengthen the validity of the results within this study a combined approach consisting of triangulation (Bryman 2008, Frankfort-Nachmias & Nachmias 1996) will be conducted. The questionnaire will compose the main data gathering method, while the forum and in-game observations will act as data confirming sources.

**3.1.2. Participants**
Concerning the questionnaire the most preferable approach in regard to external validity is to conduct a complete study of the Shadow Cities community by giving every registered player the possibility to participate. Probability sampling offers different alternatives which decrease the amount of data to analyze, while maintaining the study’s external validity and enabling generalization of the results (Bryman 2008).

Due to the difficulties in accessing the players’ contact information neither a complete study of the population nor any of the probability sampling methods appear viable within this study. Therefore a convenience sampling needs to be applied instead.
Participants for the questionnaire will be found at Shadow Cities’ online community forum and by in-game advertising in chats and news feed. The aim is to acquire as large a group of respondents as possible in order to achieve an accurate picture of the Shadow Cities game community.

Participants in the forum observation will be restricted to the surveyed forum threads, while in-game observation participants will consist of players encountered in the game world and in the in-game chat channels.

3.1.3. Data analysis methods
The questionnaire may supply much data. However, this collection does take place outside the possibility of quality control done by the authors. Due to the fact that there are no guarantees that the respondent, while answering the questionnaire, is in a state of mind which allows neither full concentration nor that enough time is taken to provide an adequate answer. This may provoke an uncertainty regarding the validity of the data.

The majority of the questionnaire will consist of close-ended questions. Variables of the interval, ordinal, nominal and dichotomous scale levels will be used. Univariate analysis will be followed by bivariate analysis. The interval variables will be analyzed separately by using median, mean and range, while ordinal, nominal and dichotomous variables will be displayed in bar charts. The bivariate analysis will consist of contingency tables and line charts.

Statistical significance will not be possible to measure since a non-probability sampling will be used. Otherwise Cramer’s V, Chi-2 and Spearman’s Rho could have been applied to test the covariance.

The open-ended questions will be analyzed with content analysis, which mean that the participants’ answers will be coded according to appearing themes and that occurrences will be counted (Bergström & Boréus 2005, Bryman 2008).

The forum and game observations will be analyzed with qualitative content analysis. Hsieh and Shannon (2005) define qualitative content analysis as “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns”. The method appears well suited to handle the sorting of impressions during in-game observation as well as an efficient way to organize the occurring forum norms and opinions.
While performing an observation there is always the risk of misconceptions. The process of correctly analyzing data is naturally highly dependent upon the quality of the source. Whilst analyzing human emotions and opinions in such an informal context as online forums and chats provides an even greater challenge where symbols and clarifications of intent, such as smileys, must be taken into a great account.

### Methodological approach

**Research questions**
- How does a game community in a mobile freemium game experience the possibility to purchase mana for real money?
- Is there some kind of social control being exerted between players to regulate in-app purchases?
- Do the players perceive that the possibility of in-app purchases result in any kind of imbalance in status or in-game advantages in the game?
- Do different player types display differences regarding attitudes and purchase behaviour towards mana purchases?

**Working theory**
Shadow Cities is mainly played by hardcore players. Mana purchases can disturb the game balance by causing in-game advantages and status improvements. Hardcore players do not generally approve of in-app purchases which may lead to in-game advantages and also think that status should be earned, not bought. Therefore, social control exists within the Shadow Cities community in order to prevent mana purchases. The casual players, if there are any, should possess a more relaxed and overall more positive attitude towards mana purchases.

**Main method**

**Complementing methods**

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**Questionnaire**
- Data gathering method: Online survey distributed on Shadow Cities’ official game forum consisting of required closed-ended questions and a few voluntary open-ended questions
- Data analysis methods:
  - Univariate analysis by median, mean, mode and frequency tables
  - Bivariate analysis by contingency tables and line charts
  - Open-ended questions: Content analysis with coding of appearing themes and counting of occurrences

**Forum observation**
- Data gathering method: Search for ‘mana’ and ‘buy mana’ on Shadow Cities’ official game forum
- Data analysis method: Qualitative content analysis during which the forum posts are coded according to the appearing themes

**In-game observation**
- Data gathering method: Complete participant observation with mental notes followed by preliminary notes and detailed event descriptions
- Data analysis method: Qualitative content analysis during which the field notes are coded according to the appearing themes

![Figure 1 Methodological approach](image-url)

### 3.2. Alternative methods

An alternative to Likert scales could have been the semantic differential technique of Osgood et al. (1957). In questionnaires wherein the semantic differential are used the respondents are given a topic to rate using a set of bipolar adjectives, all of which are represented by a seven point scale.
(McLeod 2009). While semantic differential technique may indeed lead to a more nuanced picture and in that aspect more fairly portray the players’ attitudes towards mana purchases the big disadvantage in comparison to the Likert scales are the more extensive questions and the probably increasing loss of respondents (Bryman 2008).

Another possible method to approach the research questions is focus groups, which would have meant semi-structured interviews with small groups of players. The players would then have been asked to discuss mana purchases from given questions, statements and scenarios in order to examine their attitudes and eventual experiences of social control as well as mana purchases potential effects on the in-game balance. Assuming that a discussion friendly environment had been created the interaction between the interview participants ought to have worked well. The study would then have reached a larger depth than in individual interviews as the respondents not only would have been faced with prepared questions, but also have had the opportunity to question and discuss each other’s views on the subject. Focus groups are also a method that enables the participants to highlight key areas that the researchers might otherwise have overlooked. However, focus groups are difficult both to organize and manage. Furthermore, the method is extremely time consuming, which is one of the main reasons to why it is not used within this study (Bryman 2008). Even more important, it is questionable whether social control should be studied by this method as the players may in fact experience and be too affected by community norms in order to express themselves freely. Social desirability may become an issue (McLeod 2009). The sample group would also have been restricted to Swedish players.

Experiments do not appear as a common research method within the field of in-app purchases as the literature search did not reveal any study of that kind. However, exposing the players to pre-designed in-game situations in order to examine their reactions might be a way to address the research questions. The pre-designed situations could for example consist of recurrent extensive mana usage during multiplayer activities, outright questions, statements or even complaints uttered by the researchers in order to provoke and start a discussion among the players. The perhaps most important objection to this approach is the risk of the results mirroring a false reality. By manipulating game factors it will not be possible to determine the state of the natural game situation and hence not be able to correctly answer the research questions. This approach would also mean ignoring three of the social sciences’ ethical principles. Besides the requirement of consent and information, the experiment may also damage the participants by for
example causing stress and provoking them into committing blameworthy actions. Since less intrusive methods most likely are sufficient, there is no need to expose participants to such risks. Furthermore, the results would not enable comparisons between expressed attitudes and actual purchase behavior, if not the final ethical principle of privacy also is disregarded and the players’ mana purchase history is collected. Another major disadvantage of this study would be the time consuming work of preparation and conducting of the experiment. Compiling and analyzing the data would also demand tedious and rigorous work. It is also uncertain whether the gathered data would be quantifiable or not.

3.3. Method application

3.3.1. Questionnaire

The questionnaire, which may be found as an appendix, was sent out through Shadow Cities’ online community forums and chat systems. It was presented by a short message informing the players about the purpose of the questionnaire and how the data would be used.

The questionnaire was carefully designed to be easy to understand and use for the respondents and enable ease of analysis to the study. Most questions were formulated so that answers were provided on a scale, hence making clear comparisons available. Only five voluntary free text questions were given to each player, with the intention of increasing the response rate due to the added work these involve from the participants. Also, the questionnaire made it clear which questions were optional by using both text and graphical design.

The questions in the questionnaire were based upon the study’s research questions. The participants were firstly asked to state their basic demographic information. Age and country was prompted due to earlier research which has found that players from different cultures and within different age groups may display different playing styles. This data may also be compared to earlier studies which has shown that the mobile social gamer segment consist of mostly female, wealthy players and that the most attractive segment according to big brands and agencies are 18-34 year old men.

To gather information regarding the respondents basic purchase behavior and their familiarity with the game the players were asked to state their mage level, their mage team and whether they had bought mana, and if not, if they had considered it.
The main research question within this study is how the players perceive the possibility to buy mana. The players were asked to state their opinion regarding mana purchases in a free text field as a first question regarding mana. This was done to capture the players’ initial thoughts before being exposed to alternatives by the questionnaire. Further down in the questionnaire, they were asked to state their opinion based upon a 5-point scaling. Directly after stating their personal opinion the participants were asked to provide their perceived community attitude towards mana. This was done as to provide additional information regarding the overall player attitude and to access their experiences of the community attitude.

The second research question was regarding possible changes in player status or received in-game advantages due to the purchasing of mana. To find the main purchase driver the players were asked to state the main reason(s) why they had bought mana. It was also possible to develop their answers in a free text field. Then, for comparisons reasons the participants were asked to answer ‘yes’ or ‘no’ as to whether it was possible to buy status and in-game advantages through mana purchases. To further gain insight into these questions a free text field followed both questions.

To look into the research question concerning social control and its implications on mana purchases the participants who had bought mana were asked whether their purchase had led to any reactions from other players, positive or negative. They were also asked to state whether they had been prompted by another to buy mana, or not to buy mana. Also, the question regarding the main reason(s) not to buy mana included options connected to social control. An optional free text field was offered to complement this question.

The final research question concerns different player types and their opinions regarding mana purchases. To be able to do this comparison the players were asked to define themselves and their playing styles by categorizing themselves both as a hardcore or a casual player as well as one of Bartle’s (1996) four player types, with the option of freely explaining further in a free text field.

The participants were finally asked whether they would be willing to participate in an interview with further questions, should this be necessary.
3.3.2. Observations in official game forum
A search was made in the official game forum on the 17th of January 2012. To find forum threads concerning mana and purchases the words chosen as keywords for the search was ‘mana’ and ‘buy mana’. The posts found through this search were read and those that were considered as being relevant to the study were saved in a document for further analysis.

The document was thoroughly read and a summary and conclusions were written. These were used during the analysis and as a source for quotations.

3.3.3. In-game observations
The observation was conducted by observing player behavior inside the chat rooms and specifically how the players conversed regarding mana and the purchase of mana.

Both of the authors played Shadow Cities during three months. While one of the authors focused on solo missions, the other partook in multiple raids, wars and boss fights and focused on social play. The first played as a casual achiever/explorer, the second as a hardcore Socializer/Killer.

The game was played in a natural way to prevent play style to disturb immersion or to give a false impression of the game. Also, while playing no mentioning was made of the study in order to keep the game situation unaffected.

Due to the different playing styles there was a profound difference in number of in-game friends. This enabled two separate views of the game and its players’ behavior and both observations have been taken into account in this study.

3.4. Ethical considerations
Researchers approach ethical dilemmas in different ways; some advocate universalism and reckon that the ethical principles should never be adventured. Others favor situation estimations and state that the end justifies the means. There are also researchers who claim that all studies in one way or another are compromising the ethical principles (Bryman 2008). As should have become clear in the methodological discussion above this study use situational ethics.
In the questionnaire, when asking the participants to state their gender, an ethical choice was made when including the alternative ‘other’, taking into consideration those who do not strictly identify themselves as male or female.

All participants in the questionnaire are anonymous, also to the authors of the study. Players who have been quoted from the forums are not mentioned by name. These players have not been asked whether their forum post may be used in this study. However, the posts are fully public and do not require an account in the game to read.

The authors created game accounts and befriended several people in order to conduct in-game observations. They stayed anonymous and no mention of this study was made. The ethical issue regarding whether it is acceptable to observe people without their knowing is always an important one. However, in order to keep the results as true and natural as possible it was deemed as necessary to remain complete participants. To avoid identification of players their character names are omitted from the report.
4. Results

Twenty-five players responded on the questionnaire. There was a large distribution regarding the respondents’ age, which range between 13-55 years. The mean age is 30 and the median age 31, which seem to coincide with the increasing age of players in general (Entertainment Software Association 2011) Ten of the respondents are between 13-25 years and the remaining fifteen between 26-55 years, a division which enabled comparisons in mana purchase attitude and behavior between the two age groups.

A majority of the questionnaire respondents are from the USA. The other players reside in Sweden, Finland, Italy and Singapore and are heavily underrepresented in comparison. There is also an uneven distribution considering the gender; men are highly overrepresented and compose 84% of the respondents. Hence, neither cultural nor gender differences regarding mana purchase attitude and behavior are studied.

Out of the respondents 52% have bought mana and 48% have not. 56% of the participants have reached level 18, the current highest level in Shadow Cities, while the remaining ranges between level 6 and 15. The even distributions enabled several comparisons between buyers and non-buyers and between high and low level players.

![Mage level distribution among the questionnaire respondents](Figure_2_Mage_level_distribution_among_the_questionnaire_respondents.png)
4.1. Attitudes

In the questionnaire 44% of the participants state positive attitudes towards mana purchases while 24% are of a negative opinion. The remaining 24% consider themselves neutral in the question.

When players rate the overall community attitude, they believe it to be less positive than they are themselves and it appears to be experienced as predominantly neutral. However, not all players experience the community attitude as neutral; 24% estimate it as positive and 20% as negative.

The questionnaire respondents were also given a voluntary free text question about their opinion regarding the possibility to conduct mana purchases. Many of the answers are analytical and discuss pros and cons of the freemium model. 68% of the players utter positive opinions, while 28% point to possible negative effects. Thus, even though 12% of the players mention different payment models, most seem to be satisfied with Gray Area’s choice of payment model. 4% think mana purchases are too expensive in comparison with subscription MMO games, a discussion which occurs both in the forums as well as in the questionnaire. These results correspond to the large share of participants stating a positive attitude towards mana purchases. When comparing
the free-text opinions with the stated fixed-scale attitude regarding mana no deviations were found.

“Fine with it though there is the potential for more wealthy mages to use their wealth to their advantage and gain higher scores which then, with the free pot rewards for gaining energy, can further tip the balances in their favor.”

“I think it's reasonable – both because Grey Area needs an income stream and because it allows people with more money and less time (like adults with real jobs where you can't play all day) to be competitive in the game.”

“My opinion doesn't relate solely to mana purchases in SC, but rather in app purchases in general. I think that game developers use IAP not only to gain profit, but also to give the player a false sense of accomplishment, so that in turn people continue to buy IAP to get that sense of accomplishment. That is all”

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss revenue of Gray Area</td>
<td>48%</td>
</tr>
<tr>
<td>Show understanding to Gray Area's need of revenue</td>
<td>44%</td>
</tr>
<tr>
<td>Express positive attitudes towards freemium games</td>
<td>68%</td>
</tr>
<tr>
<td>Express negative attitudes towards freemium games</td>
<td>28%</td>
</tr>
<tr>
<td>Would prefer paying a monthly/weekly/bi-weekly fee or a one-time fee</td>
<td>8%</td>
</tr>
<tr>
<td>Experience Shadow Cities as an expensive game in comparison to subscription MMO games</td>
<td>4%</td>
</tr>
<tr>
<td>Discuss in-game balance</td>
<td>48%</td>
</tr>
<tr>
<td>Discuss in-game advantages</td>
<td>24%</td>
</tr>
<tr>
<td>Discuss the possibility to advance without purchases</td>
<td>12%</td>
</tr>
</tbody>
</table>

Figure 4. Subjects and opinions occurring in the voluntary free text question about the players’ opinion regarding mana purchases.

Most of the forum posters show a general understanding for Gray Area’s need for revenue and seem accepting towards the current payment method, as in the questionnaire.
“I think that the mana purchase system works perfectly. I have purchased some to support the developers, which I put straight into a realm.”

In order to validate the results of the questionnaire, the respondents’ attitude towards mana purchases were compared to their mana purchase behavior. To a large extent, the players’ behaviors are corresponding to their attitudes. None of the players who state to be negative or very negative towards mana purchases have bought mana. However, 12% of the players who state to be positive or very positive towards mana purchases have refrained from buying mana. These respondents offer personal reasons as to why they have not conducted any mana purchases; one player states to be poor, another means that there is no need and the third that the game holds too many bugs and glitches.

![Figure 5. The players’ mana purchase behavior in relation to their mana purchase attitude](image)

Out of the 48% of the participant who state that they have not bought mana 50% have considered it at one or more times.
4.2. Social control

During the forum observations, conflicting attitudes regarding mana purchases were found. These findings indicate a divided game community, wherein different groupings of opinions construct and maintain their own set of norms. The polarized yet analytical posts contain arguments as to why a certain attitude regarding mana purchases should be adhered and compose explicit attempts of social control.

Mana purchases were never mentioned in the chat channels during the period of in-game observations. Thus, in-game observations show no explicit signs of norms regarding mana purchases. However, there are more or less explicit norms regarding mana usage. Players are expected to help each other by responding to emergency calls and participate in raids, wars and boss fights. Consequently, the players are expected to use mana in order to cast attacks and healing spells. These ethical rules compose an implicit social control; the players are expected to store mana and being able to cast spells when needed.

In the questionnaire the players who have bought mana were asked if other players have shown any reactions regarding their purchases. A majority of 67% have not noticed any reactions from other players regarding their mana purchases. 33% of the players have experienced positive or mixed reactions, while none have experienced solely negative reactions.

![Figure 6. The players' perceived reactions on their mana purchases](image_url)
The results from the questionnaire show that the majority of the respondents have neither been told to buy nor to refrain from buying mana. However, 20% of the respondents have been explicitly urged by others to adopt a specific purchase behavior; 4% have been told to buy mana and 16% have been told not to.

When asked to state their main reason as to why they have not purchased mana the players were able to choose one out of four pre-stated alternatives or provide their own in the ‘other’ field. 42% of the respondents claim that it is not the proper way to play the game. 8% think that it is too expensive to buy mana. The remaining 50% provide their own alternative. Of the players providing their own alternative to refraining from mana purchases 33% are unable to purchase mana for various reasons and 17% feel no need to buy mana. 33% refer to their dissatisfaction with the game while 17% state to be against micro-transactions. None of these reasons involve inter-player relations.

As established above in-game observations did not reveal any direct social control or norms regarding mana purchases. There were however many recurring examples of social control which illustrate how the Shadow Cities players do adapt to the established in-game norms in order to gain and maintain social acceptance within the game community. The most prominent norms are composed by rules and ethics concerning raids, wars and boss fights. These norms are
typically taught to newcomers by experienced players in the newsfeed, where rules and ethics are frequently posted and re-posted in accordance to the present need. The newsfeed is also used as a mean to announce trespasses and deliver warnings and reprimands. While most players seem forgiving towards newcomers committing novice mistakes, some actions cause rage and/or exclusion from large groups of players. An example of the latter is 'alt farming', the excessive use of alternative characters* that often is considered unethical in online game communities. In Shadow Cities alt farming consists of creating additional account(s) on the opposing team in order to create enemy entities for one’s main character to destroy and thus ensure fast and easy energy gathering. Somewhat linked to the discussion about alt farming and alternative characters is the discussion about team switching; while some players appear to enjoy the challenge of starting over at the opposing side, the majority seem to view team switching as a form of treachery.

4.3. In-game advantages and status
In-game balance appears as an important subject in all three data gathering methods. While mana purchases’ potential effect on the in-game balance is a recurring subject in both the questionnaire and the examined forum threads the subject is never discussed during the in-game observations.

The majority of the questionnaire respondents think that mana purchases lead to in-game advantages and/or a higher status. Only two are of the opinion that mana purchases do not provide any in-game advantages or status improvements. This is contrasted against the forums where the opinions are much divided.

The players seem more concerned with in-game advantages than status. A larger majority of the respondents in the questionnaire think that in-game advantages can be bought and 24% chose to discuss the subject also in the voluntary free text question regarding their opinion about mana purchases. In comparison status improvements through mana purchases is not discussed anywhere except in the two appointed questions. Nor is it mentioned in the examined forum threads.

Among the questionnaire respondents, mana is primarily bought in order to become more powerful, but the ability to level more quickly and to buy realms composes nearly as strong purchase motivators. Likewise, the wish to support the game developers appear as a prominent
reason to conduct mana purchases. However, special sigils and avatars do not seem to act as purchase motivators among the Shadow Cities players.

![Figure 8. The players' mana purchase motivators](image)

One of the individually provided responses states that a reason for buying mana is the possibility to pot emergency beacons. The other two alternative answers involve options already chosen in the pre-stated list and will therefore be disregarded.

The forum opinions appear as divided and polarized as in the questionnaire. Some players feel that the current system makes it possible for players to use real money to advance to the top of the game.

“Yes, the mana regeneration is not instant but a person with more mana has a substantial advantage over someone who has less. The ability to buy mana exacerbates this issue because you can buy mana at a much higher rate than you can earn it. Gateway ownership bonuses will make this even worse.

I have no problem with Grey Area making money [...] but with the current system you can essentially buy your way to the top.”
“In 3000 years of recorded human history, no culturally significant game has ever offered a competitive advantage because of the amount of money you choose to spend. There is no reason to have this corruption of an otherwise wonderful game. […]”

Other forum posters emphasize that most of the buyable items are ornamental and thus will not lead to any in-game effects. The exception is realms; ownership of realms will result in bonuses, which will affect all the players, not just the buyer.

“In sigils or avatars are just about anything you can buy doesn't actually affect the game, it can't really be considered game-breaking. Realms are the only thing that have in-game effects, and they affect EVERYONE, not just the owner. And as X showed us, an unlimited mana supply doesn't make you a lean, mean, mage-killing machine.”

In the questionnaire 60% of the players declare that the in-game advantages enabled by mana purchases are due to the possibility to use mana pots in wars and fights to increase one’s power and/or efficiency. 24% mean that the buffs provided from realms give an in-game advantage, while 12% claim that mana purchases lead to higher campaign scores. 4% state that buying mana removes the ‘grinding for pots element’.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consume mana to increase power and/or efficiency</td>
<td>60%</td>
</tr>
<tr>
<td>Buffs received from realms</td>
<td>24%</td>
</tr>
<tr>
<td>Achieve higher campaign scores</td>
<td>12%</td>
</tr>
<tr>
<td>Remove ‘the grinding for pots’ element</td>
<td>4%</td>
</tr>
</tbody>
</table>

Figure 9. Reasons why mana purchases leads to in-game advantages.

When asked to provide details as to how mana purchases result in a status increase 28% of the respondents state that the power and efficiency enabled by mana potions are a source of status. 24% answer that the ownership of realms provides status. 12% of the players answer that by
being a skilled player, status is received. 8% say that status can be achieved by changing the looks on your avatar.

<table>
<thead>
<tr>
<th>Status through the power and efficiency provided by a large mana supply</th>
<th>28%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership of realms</td>
<td>24%</td>
</tr>
<tr>
<td>Respect by skillful play</td>
<td>12%</td>
</tr>
<tr>
<td>Special avatars</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Figure 10. How mana purchases may result in status increases**

“The more mana pots you have, the more battles etc. you can participate in, and the higher you can score since you don't have to wait around for your energy to refill. It seems to me that the mages who have the most respect in the community burn pots almost constantly.”

“You can change your look by using pots. Some player thinks it’s cool. A way to show off that they got pots. Or you can spend 8000+ pots to by a gold realm and get some nice bonuses that other player can be jealous of. Also you can drink a lot of pots in fights and be almost unkillable, in this way you can get a reputation.”

In-game observations show that a player’s status is closely linked to performance and contribution during raids, wars and boss fights and thus can be said to support the results from the questionnaire. A sympathetic impression also seems to be highly evaluated as a player’s social behavior is often taken into consideration during vouches*. 

<table>
<thead>
<tr>
<th>Players who believe it is possible to buy status (68%)</th>
<th>Players who do not believe it is possible to buy status (32%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have purchased mana</td>
<td>65%</td>
</tr>
<tr>
<td>Have not purchased mana</td>
<td>35%</td>
</tr>
</tbody>
</table>

**Figure 11. Opinion regarding status increases compared to purchase behavior**

<table>
<thead>
<tr>
<th>Players who believe it is possible to buy in-game advantages (84%)</th>
<th>Players who do not believe it is possible to buy in-game advantages (16%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have purchased mana</td>
<td>52%</td>
</tr>
<tr>
<td>Have not purchased mana</td>
<td>48%</td>
</tr>
</tbody>
</table>

**Figure 12. Opinion regarding in-game advantages compared to purchase behavior**

Although the forum posters are divided in the question whether mana purchases affect the in-game balance, they seem to generally agree upon the fact that it is possible to play and conquer the game without purchasing mana. This is seen as something which improves Shadow Cities in comparison to other freemium games.

“I place first in my battlegroup almost every round without having purchased a single potion. [...] They gave me a hell of a time but I still came out on top with a bit (a lot) of hard work. [...] Challenge is fun, you also can't expect to place high without putting real effort in, that includes potion buyers as well.[...]”

“ [...] Sure, the pots take real world cash and sure, they'll make or break combat at times, but here's the good part: they're not restricted to paying customers. This game is no Nexon or Zynga product; you'll gain pots at a steady rate
whether you pay or not. [...] The important thing is knowing that you have that choice.”

“ [...] it's frustrating when the ONLY way to get further ahead in a game is to break down and make a purchase. I like having the option to take my time and earn it myself, or buy it if I really want to.”

The discussion regarding the possibility to conquer the game without purchasing mana is also frequent in the questionnaire, in which similar opinions are conveyed.

4.4. Player types
Shadow Cities is regarded as being mainly a game for hardcore players. However, when the respondents of the questionnaire were asked to state whether they regard themselves as casual or hardcore players, 68% states to be casual and only 32% as hardcore.

Shadow Cities further defy its regarded presumptions. As established in the background the wide approach regarding casual and hardcore players states that the a hardcore player tends to be more determined to beat the game using skills and hard work and thus not be prone to buy in-app purchases. In Shadow Cities however, none of the players who categorize themselves as hardcore are negative against the possibility to buy mana. Also, the percentage of hardcore players who has bought mana is higher than the percentage for casual players. Another interesting finding regards the fact that only a few casual players have stated to be neutral towards mana purchases. The majority of casual players are polarized either positive or negative towards mana purchases.
<table>
<thead>
<tr>
<th></th>
<th>Have conducted mana purchases</th>
<th>Very positive/positive</th>
<th>Neutral</th>
<th>Very negative/negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casual players</td>
<td>41%</td>
<td>47%</td>
<td>18%</td>
<td>35%</td>
</tr>
<tr>
<td>Hardcore players</td>
<td>75%</td>
<td>63%</td>
<td>38%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Figure 13. Differences between casual and hardcore players in mana purchase attitude and behavior*

Furthermore; this study shows that the high level players are more positive towards mana purchases than the low level players. High level players might be suggested as being hardcore players due to the amount of time and work put into the game to reach a high level. This makes this result as remarkable.

<table>
<thead>
<tr>
<th></th>
<th>Have conducted mana purchases</th>
<th>Very positive/positive</th>
<th>Neutral</th>
<th>Very negative/negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level players</td>
<td>36%</td>
<td>36%</td>
<td>18%</td>
<td>45%</td>
</tr>
<tr>
<td>High level players</td>
<td>64%</td>
<td>64%</td>
<td>29%</td>
<td>7%</td>
</tr>
</tbody>
</table>

*Figure 14. Differences between low and high level players in mana purchase attitude and behavior*

Upon reviewing the forum threads regarding mana, discussions concerning different player types are found on several occasions. Some players discuss different player styles as a possible cause and/or consequence to the present dissents regarding mana purchases. One recurrent distinction is time-rich and money-rich players:

"Pay $4.99 for 35 potions and call it your monthly subscription. Play through those potions then come back next month and pay for more. [...] the in-app purchase option allows those determined not to pay to do so by slogging through missions. Those who are time-poor but cash-rich can just buy a bunch of potions and grind through spirits without the downtime."
In the questionnaire 24% of the respondents note that the possibility to buy mana offer different ways to play. Overall there seem to be an understanding for that some are rich in time, while others are rich in money.
“It’s an excellent option to have. Some people have money, some people have time.”

One player makes the same comparison between skill and money. The respondents are quite agreed that Shadow Cities enables both of these player types to enjoy and beat the game and that the freemium model therefore is implemented in a successful way. Several players also express an added game challenge in trying to beat the game without buying mana.

“When i started to play SC i didn’t like the fact that you can buy mana pots for real money. But since i am not some person that pvp* all the time i does not matter. I try to see the positive in it, i get to play free and get the challenge to conquer the game without buying pots.”

In-game observations find no indications of a division between time-rich and money-rich players. However, examples of divisions of other player styles are noted. Some players appear casual while others seem more hardcore. For example, in the Swedish battleground a small group of players appear more hardcore than the rest as they are topping the score board almost every week, show a high daily activity in the team chat and plan and partake in time consuming raids. They are frequently encountered in the game world during both solo missions and multiplayer activities. Furthermore, the apparently hardcore players are helping other players to increase their efficiency regarding energy gathering by for example announcing boss fights in the team chat. The assumed casual players on the other hand do not play to the same extent, typically engage in shorter play sessions and are seldom visible in the game world and in the different chat channels. There is also a difference whether the game is foremost enjoyed as a solo or group activity. A few utterances along with in-game experience suggest that Finnish, American and Canadian players are generally active and fast to respond to in-game emergency situations.

The participants were also to state their primary goal when playing Shadow Cities. The four pre-stated description alternatives are based upon Bartles’ (1996) four player types. This reveals that the two most prominent player types in Shadow Cities are Socializers and Achievers. It is not possible to determine any difference between these player types when comparing attitudes towards mana purchases. Neither can comparisons of purchase behavior be made.
5. Analysis

The results in this study are remarkable when compared to regular presumptions concerning freemium games. The overall concept of hardcore players as being focused on skillful play as the way to achieve respect and advantage cannot be adapted on Shadow Cities. The hardcore players of Shadow Cities are more positive towards mana purchases than the casual players. Furthermore, those players who have reached a high level are more positive towards mana purchases than those who are playing at a low level.

5.1. Attitudes

How does a game community in a mobile freemium game experience the possibility to conduct in-app purchases?

Upon examining the forum threads it appears that there is a conflict between the players; some are for and others are against the possibility of conducting mana purchases. The uttered opinions are often strong and supported by argumentation. Recurring subjects are the freemium model and its possible effects on the in-game balance. The questionnaire does not present this divided community. In the opposite, responses are overall neutral or positive.

It is commonly assumed that a skilled player does not approve of the possibility to buy advantages or being able to pay to win. It is possible that by proclaiming to be against mana purchases a player can make a public statement to be a skilled player. These negative opinions are clearly visible and may result in those who are in disagreement to keep quiet. This can explain the different results gathered from the forums and the questionnaire.

Mana purchases are never mentioned during any of the game sessions. Thus, unlike the results from the forum and the questionnaire the in-game observations show no signs of a diverse or discussing community regarding mana purchases.

When the participants in the questionnaire were asked to state their perception of the community attitude towards mana purchases the answers were mainly neutral with a few divisions. There was no option among the pre-stated alternatives which represented a divided community. Thus, the players who perceive that there are conflicting attitudes within the community may also have chosen the neutral alternative to communicate this opinion. Therefore the result may be interpreted as if the players do experience the community as divided in the
question. In other words, it could be a reflection of the opinions occurring the forums, where the observations showed a divided community. However these results can as well be mirroring the results of the in-game observations, wherein no conflict regarding mana purchases was found.

The majority of the participants in the questionnaire claim that the system which enables mana purchases is positive. These results indicate that the payment model is not the foremost reason why players refrain from purchasing mana. Also, 44% of the players who participated in this study express understanding towards Gray Area’s need for revenue. It is possible that this understanding is one of the reasons as to why the community is overall neutral towards mana purchases.

This kind of questionnaire ought to attract many players who are dissatisfied with the payment model. The results however show that the respondents are generally positive towards mana purchases.

In conclusion, the game community seems to be divided although the overall player attitude towards mana purchases is positive and it is perceived as an acceptable and necessary payment model. This is due to Gray Area’s need for income and the well managed balancing of the game.

5.2. Social control
Is there some kind of social control being exerted between players to regulate in-app purchases?
The results from the questionnaire as well as the official Shadow Cities forum threads indicate that there might be different player groups who conform to their own specific set of norms regarding mana purchases. However in-game observations, where the newsfeed is a vital element to inter-player relations and thus plays a major part in social control, did not encounter any explicit social control regulating mana purchases. These contradicting results imply two things. Firstly, there is no dominating norm regulating mana purchases. Secondly, attempts of mana purchase regulation takes place outside of the game.

When asked to state their main reason why any mana purchases had not been conducted none of the respondents answered that their in-game friends would not approve or that another player had told them not to buy mana. These results support the findings from the in-game
observations, wherein no explicit social control regarding mana purchases could be found. Therefore it does not seem as if the 20% of the respondents who chose the alternative ‘it’s not the proper way to play the game’ as their main reason not to buy mana did so out of social control. However, the 16% of the respondents who stated that they have been told not to buy mana contradicts the lack of social control. These results contradict the results from the in-game observations wherein no social control regarding mana purchases were found. Instead these findings echo one of the norms apparent in the forums, where some players claim that mana purchases lead to in-game advantages. It is possible that the 20% who chose the alternative ‘it’s not the proper way to play the game’ as their main reason as to why they have not purchased mana have been affected by this norm and thus have refrained from buying mana.

In-game observations showed that there are norms regarding mana usage, which indirectly may affect mana purchases. Players are expected to cast spells during multiplayer activities. Therefore players are expected to possess a mana supply. Players who lack time to gain mana through grinding spirits may therefore implicitly be expected to invest money in mana purchases.

Conclusively, there does not seem to be any dominant norm regulating mana purchases and attempts of mana purchase regulation takes place outside of the game. Thus, mana purchases, in difference to mana usage, do not appear to be subject to direct social control in in-game situations.

5.3. In-game advantages and status

Do the players perceive that the possibility of in-app purchases result in any kind of imbalance in status or in-game advantages in the game?

When asked to state how in-game advantages are achieved through mana purchases the players are in agreement. The increased power and/or efficiency in the game is the main reason as to why purchasing mana can provide in-game advantages over other players.

The main reasons as to why players choose to purchase mana provide the insight that the in-game advantages which the usage of mana gives the player is the strongest purchase driver. None of the respondents have bought mana to be able to modify their graphical representation. This is interesting since this is one of the things stated to affect status.
In-game observations suggest that status is earned. A player’s reputation seems to depend on activities and take both skills and presence into account.

The lack of forum discussion regarding the possibility to buy status through mana purchases could indicate that the Shadow Cities players view unbalanced in-game advantages as a more severe game design flaw than unbalanced status.

Conclusively, mana purchases, to some extent, do seem to provide in-game advantages as well as status improvements. While both seem capable of inducing strong feelings in the players, the possibility to buy in-game advantages appear as the bigger issue. At the same time, the in-game advantages gained through mana purchases are the strongest purchase drivers among the paying players.

5.4. Player types

Do different player types display differences regarding attitudes and purchase behavior towards in-app purchases?

The questionnaire revealed the players as being mainly casual, although they are both active in the official forums and choosing to partake in a questionnaire. This raises very interesting questions. Are the players too modest to define themselves as hardcore? Is Shadow Cities a game where casual players are unusually active in the game community and forum? It is remarkable that so many casual players took the time to answer this questionnaire, and while doing so, provided plenty of details and thoughts in their answers.

When the respondents had been categorized into Bartle’s four player types it was not possible to identify any differences regarding purchase behavior or attitudes towards mana purchases. Instead, Shadow Cities’ different player types revolve around time rich vs. money rich players. These types are frequently discussed both in the questionnaire and in the official forums. Common in all these discussions are also a general agreement regarding that it is possible to play the game on both player types’ terms.

Based upon the questionnaire hardcore players are more positive towards mana purchases than casual players. This is mirrored by the fact that of those who answered the questionnaire 41% of the casual players and 75% of the hardcore players have bought mana.
In conclusion it therefore seems that there is a difference regarding mana purchase behavior and attitudes between different player types when based on the division of casual or hardcore players. Hardcore players are more positive towards mana purchases and have conducted purchases to a higher degree than casual players. Furthermore, high level players are more positive towards the possibility to buy mana than low level players. There is no difference between Bartle’s four player types.
6. Discussion

6.1. Results in relation to earlier research

Lim & Seng (2010) found that the status brought through the acquisition of virtual items is a strong purchase motivation among social players. In Shadow Cities, the in-game advantages gained through mana purchases are the strongest purchase drivers among the players who have bought mana. Having a large mana supply is also linked to the player’s status, as the advantages gained by the usage of plentiful mana pots enables partition in multiplayer activities. Being able to use plentiful mana potions therefore makes it possible to be noticed and play in a way that impresses other players.

As stated by the results and analysis, players are generally agreed upon the successful managing of the game balance. In agreement with Oh and Ryu (2007) Shadow Cities consists of both ornamental and functional virtual items which helps balance the game. This may be part of the explanation as to what makes the game community quite positive towards mana purchases.

In this study the importance of virtual items in social relations has been found equivalent to Lim and Seng’s (2010) and Liew’s (2009) studies. The commonly stated reasons as to why mana is purchased support Liew’s three reasons. To be able to do more might be seen as the most prominent reason due to the fact that most uses of mana allow the player to receive a kind of advantage. However, it is also expected from the community that mana be used generously when in battle or helping others. Therefore mana has also become an important mean when forming social relationships. In a game such as Shadow Cities where all characters look the same from the beginning it is not easy to make a graphic statement of the individual identity. By using much mana it is however possible to slightly adjust the graphical presentation of the character and thus create some distinction between the players. This was by a few players stated as being one of the reasons in which it was possible to buy status.

Taylor (2006) theorizes that players want to create their own reality inside a game world, a form of escapism and extended immersion. In this study it is possible that the possibility to purchase mana for real money provides a too strong reminder of the real, commercial world, and thus could be an explanation why some players do not approve of in-app purchases.
Taylor (2006) has further found that social rules created within the game context are sustained by the constant risk of punishment and exclusion. In-game observations confirmed that this behavior was also implemented within Shadow Cities, but not related to mana purchases.

In-game observations also discovered two of Merton’s (Sarnecki 2003, Williams & McShane 1998) alternative means to reach the established community goals. Both innovation and rebellion could be observed in one or more contexts. Innovation was implemented through alt farming where the player uses two parallel accounts, one on each mage team, to increase scoring on both accounts by playing them against each other. In another instance, the Singapore battlegroup was lacking the means to win campaigns due to heavily uneven numbers. Thus a new tactic was created and implemented to reach this goal. The battlegroup was not to engage in any wars with the other team and hence drain an important source of points for the opponents.

As seen in the results regarding in-game advantages and status as well as player types, rebellion appears frequently inside the game. Several players have created their own additional game inside Shadow Cities where emergent gameplay is created by beating the game without purchasing mana.

The in-game observations show that three of the four social bonds established by Hirschi (Williams & McShane 1998) are important to the Shadow Cities players and prevent them from deviating from the community norms, although it is unclear if and to what extent they affect mana purchase behavior. Attachment or sensitivity to others disliking is apparent during raids when players take care to follow the ethical rules in order to avoid upsetting other players and maintain social acceptance. As has been shown in the results regarding social control commitment prevents players who have invested a lot of time in the game from switching mage teams. Belief or moral conviction seems to play a strong part in the individual behavior and actions of Shadow Cities’ players. As can be seen in the results the players’ attitudes to mana largely coincide with their purchase behavior. However, whether and to what extent involvement acts as deviation preventions to the players was not possible to deduce from the results.

Basic group psychology could also be found within the forums, such as repetition of opinion and polarization of attitudes (Psyblog 2009b)

In Shadow Cities, status problems (Williams & McShane 1998) is a reality for revealed alt farmers, who are viewed as gamebreakers, as well as the players who deviate from the
community norms concerning tactics and ethics during raids, wars and boss fights. Mana purchase behavior however do not seem to cause status problems.

In accordance with Sellin (Williams & McShane 1998) in-game observations suggest that there might be cultural differences between players from different countries. There are however considerably more observations of divisions between new and experienced players, wherein the experienced players act as guides and teachers. In-game observations have also shown different levels of trust and expectations upon different players based upon their country of residence.

6.2. Limitations within this study
As noted in the analysis, it is remarkable that so many players regarding themselves as casual players answered the study. Generally, casual players are expected to have a very relaxed relationship towards a game, in which they do not invest much time. It is therefore confounding why these casual players would be active in the official game forum from where most respondents were recruited. It is also difficult to determine how the respondents chose to define themselves as a player. A style of play in a mobile game may be profoundly different from that of a stationary game. Thus, if perceived as a hardcore player when adapting one type of gameplay, it may be easy to mark other styles of play as casual when in comparison. Neither is it possible to determine how well the partition between casual and hardcore players from this questionnaire mirrors the sectioning of the game community.

A factor which must be considered in this study is regarding which players answered the questionnaire and are active in the official forum. It is possible to presume that this kind of questionnaire would attract those not in favor of mana purchases and be seen as a channel in which to express their dissatisfaction. However, the responses to this questionnaire were overall positive. Furthermore, the responses received were lengthy and analytical. This leads to the conclusion that those players who answered the questionnaire were both passionate and knowledgeable about the subject. Furthermore, this suggests that players of Shadow Cities are generally positive towards mana purchases.

It is also assumable that different players are active in the game during different times of the day. The questionnaire was always posted in the forum between 10am and 3pm. However,
responses have been received during other times of the day as well, making this concern seem irrelevant.

In-game observations suggest that play styles may vary between players from different countries and earlier studies have found that in-app purchases are more widespread in the USA than in Europe (Rozwandowicz & Warman 2012). Therefore it would have been desirable to study whether mana purchase attitude and behavior as well as player styles differ among the Shadow Cities players depending on their nationality. However, most of the questionnaire respondents were from the USA. Rather than fairly representing the entire Shadow Cities community, they may mirror common attitudes within their specific group and context. The high rate of Americans do not appear to be a major part of the explanation to the overall positive attitude towards mana purchases as 53% of them are either of a negative or neutral opinion in the matter.

The forum observations also show the game community as being divided in the question of mana purchases. However, from the questionnaire it is not possible to determine whether players perceive the community as neutral or divided with regards to their attitude towards mana purchases. In the questionnaire it was not possible to state that the community was considered as being divided. It is possible that the lack of a distinct alternative to state this resulted in deceptive attitudes where the neutral answer represented the divided community as well as a neutral community. However, these results can also be interpreted as a sign that the community is overall neutral in the question. This would help explain the low number of respondents, where a small group of players feel more strongly about mana purchases and that they are the one who can be found in the forums and in this study.

In-game observations could have been improved by exact note taking. This may however have disrupted the playing experience and thus resulting in less accurate observations. Furthermore, to actively provoke a discussion regarding mana purchases would without a doubt have affected the natural course of events and thus contaminating the results.

The low overall response rate makes it difficult to determine how well the results represent the overall game community. Furthermore, the response rate makes is impossible to seek differences within Bartle’s (1996) four player types.

Due to the poor division between men and women within the respondents it is not possible to make any statistical comparisons based on gender. This would have been preferable.
since there have been earlier studies which have found differences between men and women’s purchase behavior regarding in-app purchases (Valadares 2011d, Lim & Seng 2010).

The discussion regarding status in the game has some factors which need to be taken into account. How do the players perceive the meaning of status? It is possible that they have made different interpretations of the word as well as its impact on the game.

The questionnaire asked the participants whether they had been told to buy, or not to buy, mana. The results show that some players have experienced this, but the questionnaire did not seek to specify who had expressed this to the player. It is therefore not possible to conclude whether the urge came from other players or from another source.

It might also have been favorable to ask the respondents whether they prefer playing alongside other players or to play solo. This data could have been compared to see whether any differences towards mana purchases could be found between these two styles of play. In-game observations suggest that there are norms that demand players to consume mana during multiplayer activities such as raids, wars and boss fights. Therefore this study might also have gained information by asking the respondents whether there are situations where they experience coercion to consume mana.

Since observations in the forum were conducted on texts it is always at a risk of misinterpretation. To contact the authors and confirm the perceived views could have helped ensure the correctness. However, to confirm might lead to added values and thus be interfering with the original statement.

There is also a clear possibility that the chosen keywords on which the forum search was made was to narrow and thus excluded some posts and views. Neither is it possible to determine whether one individual is responsible for several posts due to the possibility of players using multiple accounts.

### 6.3. Conclusions

This study has found that the game community in Shadow Cities is somewhat divided but overall positive towards mana purchases. The general consensus is that the freemium model is an acceptable payment model and that the game developers’ income must be founded on something in a free-to-play game. However, this acceptance is much based upon the fact that the players are
satisfied with the balancing of the game and perceives that it is not possibly to beat the game only by purchasing mana.

The study did not find any dominating norms of social control regarding mana purchases but rather concerning the usage of mana. It is accepted to acquire mana by any means but it is expected that players use them generously during multiplayer events.

The players do believe that mana purchases, and hence the ability to use plenty of mana, does result in in-game advantages and status improvements. While status is discussed, the debate regarding in-game advantages appears more important to the players. It is also these advantages that serve as the main purchase driver among the players.

Hardcore players are more positive towards mana purchases than casual players. Also, the higher level the player possesses the more positivity is shown towards mana purchases. No difference could be found between Bartle’s (1996) four player types.

6.4. Future studies
It will be necessary to conduct an additional, more extensive, study upon Shadow Cities to verify the finding from this study and the deviation from the original working hypothesis. It would further be useful to perform comparative studies between several freemium games to see if this phenomenon might be found elsewhere, or in specific contexts within the freemium game market. Additionally, like in the case of Ledhonvirta’s (2009) study regarding virtual items, the significance this study constitutes may be further strengthened by providing a basis for future hypothesis based upon the results.

It can be debated that there is a possibility that the social players do experience an implicit social control regarding the consumption and purchasing of mana. As could be seen in the in-game observations it is expected to use an amount of mana when playing together with other players. This phenomenon might lead to an increase of mana purchases. It is interesting that there does not seem to be any conventions whether these mana pots should be gained by grinding and/or purchasing. This makes for interesting future research where a deeper understanding of interpersonal relationships in mobile games can be found. Also, in a future where the freemium model becomes more widespread among stationary games, how does player relationship change within these? Specifically, in MMO games where belonging to different
guilds is a great part of the social arena, how will guild members purchase behavior change? Will there be divisions between buying and non-buying guilds? Will there be a difference in social control within different groups of the game?

Another future study of interest is whether different player types, both based on Bartle’s four player types as well as the division between casual and hardcore, acts different when playing mobile games compared to stationary games. This study found that both the casual and hardcore players deviate from their expected behavior within Shadow Cities. It would be interesting to examine whether this is the case also for Bartle’s four player types. This study was unable to seek these differences due to the underrepresentation of Killers and Explorers.

A recurring division made by the players both in the forum and the questionnaire is time-rich in comparison to money-rich players. Is this the case also in other freemium games? Does the division really exist when compared towards purchase behavior? To further develop the different player types of casual games to include these may result in deeper understanding of player behavior.

6.5. Ethical and societal consequences
Taylor (2006) discusses how players often want to create their own reality inside the game world. As discussed in the extended background the use of in-app purchases may provide too strong a reminder and link to the real world outside the game where it is possible to buy oneself additional status. This may result in abandonment of freemium games which have not managed the in-game balance suggested by (Oh & Ryu 2007)

However, the constant expansion of the freemium model may be a sign of a changing general attitude towards the discourse in which only hard work should pay off. It is possible that an understanding and acceptance towards different life situations are beginning to show in the game community. Some players may have less time to play and more money and it should therefore be allowed to use whatever resource is available to proceed in the game, whether it is time or money.

This study has shown that most players of Shadow Cities do experience the freemium model as acceptable, greatly due to the fact that the game is playable also without purchases. As studies like Oh and Ryu (2007) makes a relation between balancing of the freemium model and
player satisfaction game developers may become more aware of the necessity of a good game balance. Perhaps Shadow Cities can be used as an inspiration in future game development. On the other hand these findings may lead to a more money driven market. Developers may focus on the fact that players are accepting of the freemium model and thus become less cautious in their game design and focus on increasing income. It is also debatable that these findings where the players are accepting the freemium model will lead to a more money driven market. Developers may become less cautious in their game design and focusing more on designing to increase income. One way to increase income may be to design the game in such a way that this study’s result regarding social control is used to place players in more controlling situations. Developers may seek ways to create in-game situations in which the players encourage each other to conduct in-app purchases and thus make use of the power of social control.

Freemium game developers will most probably continue to explore the player's acceptance towards advantageous in-app purchases. They may also seek ways to convince their players to regard in-app purchases as a token of commitment instead of gamebreaking. By purchasing mana players could show their trustworthiness by always having enough mana to participate and help in group activities and thus gain both status and respect.

A possibility is that more game developers will try the freemium model on hardcore players. Since Shadow Cities is perceived as a hardcore game the results found in this study may encourage game developers to design future games with less consideration towards the possible disliking of hardcore players.
7. References

Allpsych (n.d). *The Role of Groups*
Retrieved from:
http://allpsych.com/psychology101/groups.html
[2012-01-30]


Retrieved from:


Dahl, J, Simonson, B. & Winér, F (n.d). *Social interaktion*
Retrieved from:
[2012-01-30]

Dotson, C. (2011) *Why do freemium games get such a bad rap?*
Retrieved from:
[2012-01-24]

Dredge, S. (2011) *Want freemium mobile games success? Don't fail to net the whales. New data outlines just how lucrative high-spending mobile social gamers are*
Retrieved from:
Retrieved from:

Retrieved from:


Freemium blog (n.d). *What is freemium?*
Retrieved from:
http://www.freemium.org/what-is-freemium-2/


Retrieved from:
[2012-01-24]
Lehdonvirta (2009) Virtual item sales as a revenue model: identifying attributes that drive purchase decisions. *Electronic Commerce Research* 9(1-2) 97-113
Retrieved from:
http://online.wsj.com/article/SB123395867963658435.html
[2012-05-23]
Lovell, N. (2010) *The future of media, in 45 minutes*
Retrieved from:
[2012-01-24]
Retrieved from:
MacMillan, D. & Stone, B. (2011) *Zynga’s Quest for Big-Spending Whales. A tiny number of virtual-goods high rollers supply the bulk of the game maker’s revenue*
http://www.businessweek.com/magazine/zyngas-quest-for-bigspending-whales-07072011.html
[2012-01-24]
Retrieved from:
http://www.simplypsychology.org/attitude-measurement.html
[2012-05-21]


Thousand Oaks: Sage Publications Inc

Psyblog (2009a) *10 Rules That Govern Groups*
Retrieved from:
[2012-01-30]

Psyblog (2009b) *Essentials of group psychology. How groups form, conform, then warp our decision-making productivity and creativity*
Retrieved from:
[2012-01-30]

Retrieved from:
http://nygamecritics.com/2012/03/29/adam-rosenberg-is-free-to-play-the-new-cool/
[2012-06-05]

Rozwandowicz, A. & Warman, P. (2012) *Share of paying players amongst 101 million American mobile gamers rises to 36%*
Retrieved from:
http://www.newzoo.com/ENG/1504-Detail.html&id=109
[2012-05-05]

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Shadow Cities Mage Meetup (n.d)

Retrieved from:

http://www.meetup.com/shadowcities/

[2012-05-23]


Valadares, J. (2011a) *Freemium mobile gamers spend most money on items they don’t keep*

Retrieved from:

http://blog.flurry.com/bid/70096/Freemium-Mobile-Gamers-Spend-Most-Money-on-Items-They-Don-t-Keep

[2012-01-24]

Valadares, J. (2011b) *Free-to-play Revenue Overtakes Premium Revenue in the App Store*

Retrieved from:


[2012-05-15]

Valadares, J. (2011c) *Mobile freemium games: Gen Y plays, but gen x pays*

Retrieved from:


[2012-01-24]


Retrieved from:

http://blog.flurry.com/bid/72755/Mobile-Freemium-Games-Women-Thrifty-Men-Binge

[2012-01-24]


Appendix A. Terminology

* Alternative characters: A player may have both main and alternative characters; the player spend most time playing with their main character(s) while the alternative character(s) compose an opportunity to variation.

* Grief play: Grief play consists of conscious acts that disturb or destroy other players' game experiences.

* MMO: Massively multiplayer online game

* MMORPG: Massively multiplayer online role playing game

* Pvp: Pvp is an abbreviation of player versus player and refers to duels or battles between two or more players.

* Vouches: The act in which players consult each other in the newsfeed before either accepting or ignoring an in-game friend request.
Appendix B. Questionnaire

Mana purchases in Shadow Cities

Hi! We are two game developer students from the computer science department of Stockholm University in Sweden. We are currently writing our bachelor thesis about in-app purchases. We would really appreciate you taking the time to answer this questionnaire. All answers will be confidential and will only be used within our thesis study.

Kind regards,

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Age *
Please write your age in numbers, for example "14" or 36".

Country *
Please specify where you are currently living.

Gender *
Please choose one option.
Man
Woman
Other
Mage Team *
Please choose your mage team.
   The Architechts
   The Animators

Mage Level *
Please write your mage's level in numbers, for example "3" or "16".

What is your opinion about the fact that it is possible to buy mana for real money in Shadow Cities?
Please share your opinion about the possibility to buy mana in the text field below.

Have you ever bought mana? *
Please choose one option.
   Yes
   No

Page 2/4 (for the players who have bought mana)

For what reason(s) have you bought mana? *
Choose the option(s) that suits you.
   To become more powerful in battles against spirits and enemy mages
   To level more quickly
   To buy realms
   To buy special sigils and/or avatars
   To support the developers
   Other:

If you wish to share details regarding your answer please use the text field below.
Have your mana purchase(s) led to any reactions from other players? *
Please choose one option.
   Yes, only positive
   Yes, mostly positive
   Yes, equally positive and negative
   Yes, mostly negative
   Yes, only negative
   No, not that I have noticed

Page 2/4 (for the players who have not bought mana)

Have you ever considered buying mana? *
Please choose one option.
Yes
No

What is your main reason for not buying mana? *
Please choose one option.
   Too expensive
   It's not the proper way to play the game
   My in-game friends wouldn’t approve
   I was told not to by another player
   Other:

If you wish to share details regarding your answer please use the text field below.

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What is your attitude towards mana purchases? *
Please choose one option.
How do you perceive the overall community attitude towards mana purchases? *
Please choose one option.
   Very negative
   Negative
   Neutral
   Positive
   Very positive

Have you, in a more or less forceful way, been told to buy mana? *
Please choose one option.
   Yes
   No

Have you, in a more or less forceful way, been told NOT to buy mana? *
Please choose one option.
   Yes
   No

Do you think it is possible to buy status in the game through mana purchases in Shadow Cities? *
Please choose one option.
   Yes
   No

If so, how is it possible to buy status in the game?
Please explain how you think it is possible to achieve a higher status through different purchases.

Do you think that buying mana leads to in-game advantages in Shadow Cities? *
Please choose one option.
- Yes
- No

If so, how does that work?
Please explain how you think mana purchases lead to in-game advantages.

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When playing Shadow Cities, do you regard yourself as a casual or hardcore player? *
Please choose one option.
- Casual player
- Hardcore player

When playing Shadow Cities, what is your primary goal? *
Please choose one option.
- To meet and cooperate with other players
- To collect points and achieve as many goals as possible
- To battle and win against spirits and enemy mages
- To explore and travel around the (game) world

If you wish to share details regarding your playing style please use the text field below.
Would you be willing to participate in a short interview to follow up this questionnaire?
If you are interested and willing to participate, please fill in your e-mail address in the field below.