Because Players Pay:

The Business Model Influence on MMOG Design

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ABSTRACT
The authors explore Massively Multiplayer Online Games (MMOG) business models in order to characterize two main problems: big initial investment and continuous expenditures. The four main actors of a MMOG environment – game producer, Game, Players and Business Model – are analysed resorting to Actor Network Theory in order to understand their alignment in Business Models and how they can influence game design. The conclusion ends in the fact that the Business Model, directly or indirectly, influences and constrains the game design in the following ways: the high economic risks inhibits game design innovation, the players have power to demand poor game design decisions while the virtual economy games simply embrace the business model into its design.

Author Keywords
MMOG, Game Design, Business Model, Actor-Network Theory, Massively Multiplayer Online Games

INTRODUCTION
To create a Massively Multiplayer Online Game (MMOG) is a great challenge. Its success is measured not on the number of copies sold, but on the number of registered players and the total time it is maintained online. A MMOG is meant to be played by the largest number of players, through the longest period of time possible. This fact creates a whole set of new challenges for the game design, new technological problems and new forms to operate the business; and all this to promote two things – player base and game sustainability. It is a battle fought in three fronts:

- Game play longevity - the game must be fun to play for a long time;
- Infrastructure scalability - a good MMOG system is expected to deal with several thousands of simultaneous users;
- Economic sustainability - the business must generate income to support the continuous costs of running a MMOG;

The whole problem reaches new levels of complexity when we realize that these factors are interdependent. The specific influence or relation that is object of study approached in this article is the influence of the business model over the game design. We will start by pointing the economic difficulties of maintaining a MMOG, in terms of defining and managing the business. Then we will map influences from an Actor-Network Theory (ANT) based analysis in order to relate the four actors involved in a MMOG: the game producer, the player, the business model and the game itself.

THE BUSINESS PROBLEM
The multi-billion dollar computer games industry [2] is diversifying. Most of the games are still being developed targeting the goods retail supply chain. Massively Multiplayer Online Games (MMOGs), however, require a business models that allow the sustainability of the game throughout a much larger cycle, hopefully years, but the key question is: are these business models adequate?

The production of a computer game usually involves different entities such as game developers and the publisher, but in this paper we will group and name them as "game producer". The client of the computer game is the player.

Using the terminology developed by Osterwalder [4], the Business Model Ontology (BMO), we can propose some basic characteristics of a good business model:

- **Revenue model is congruent with the cost structure,** i.e., one where the investment and maintenance costs from the supplier are compensated in an opportune timeframe relatively to his costs.
- **The customer has to understand the proposed value** (utility and quality of the product) throughout the supplier/client relationship.

Next, we will discuss the particularities of MMOG business models, stressing the differences against the single player game.

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Single-player game business model

Most of the effort of developing a typical single player game is spent before the game reaches the stores, where the game is sold as a final product [7]. Making a game and putting it on the market requires a big initial investment that will, hopefully, get returns within a few months after its release [7]. The game producer assumes this risk of the investment. The buyer will also perceive the game as final product, which means that the business model consists on a simple and fair trade of values. The customer relationship is almost inexistent, since the customer buys the product "as is" of the shelf after a long distribution channel.

MMOG business model

In a MMOG, the business model can be quite different from Single Player games. The value proposition of a MMOG is an online gaming experience, or technically, a game supported by an Internet infrastructure. The game producer has costs not only in the development of the game, but there's also a very large amount of resources spent to keep the game running [12], including:

- distribution of content and game servers (in many cases involving large server farms and clusters),
- game masters (people that give in-game support and problem solving services),
- marketing and community support (to attract more players and keep the game community alive).

A good MMOG also requires a very costly Customer Service infrastructure which, according to Gordon Walton [12], is very people intensive, thus very expensive, and yet a critical point for the MMOG business. It was, and to a certain extent still is, a problem that the Game Industry was not used to or prepared to deal with, at this scale [9].

The costs of maintenance have to be supported, and this is why most MMOGs (Lineage, Star Wars Galaxies, World of Warcraft, etc.) demand a monthly fee (or similar pre-payment scheme). Other MMOGs (such as Entropia Universe and Roma Victor) rely on their *virtual economies* to generate income, by exploiting some taxing or dissipatory effect. Second Life's business model is based on selling virtual terrain in their virtual world, in a manner similar to a real estate business, except that it requires a maintenance fee to preserve it. Other sources of income can be obtained resorting to game expansions, virtual/real merchandizing, premium subscriptions and in-game advertising. One way or another, every MMOG requires a steady and continuous flow of income to keep it running, since the cost structure also involves a continuous flow of, usually proportional, maintenance costs. That income comes from players that are actually playing and paying, and therefore, a MMOG needs a constant and large population or number of players to grant its survival [4]. This influences a significant change: while a single player game is sold as a final product, the MMOG has to be sold as a service.

THE SETTING

A MMOG can be viewed as a socio-technical network involving four actors: the game producer, the player, the business model and the game itself.

The Game Producer

The game producer, as we have been considering, is the responsible for the game design, development, marketing, and distribution of the MMOG. For simplicity of analysis we will consider that the game producer is the ultimate responsible for keeping the game online. He can control the game, add content or even change the game rules. In order to sustain it and eventually generate profit the producer has to generate income, and he does so by restraining the access to the game accordingly to a business model he pre-defined.

The Game

We can define a game as a set of rules that are applied in a space of play or arena, and a set of goals that can be achieved interactively by the player. In a MMOG, the game is composed by the virtual world, i.e., the virtual places where the virtual character or avatar can go. Each MMOG has its own version of the universe, such as, Azeroth (World of Warcraft), Roman Empire (Roma Victor), Kesmai (Islands of Kesmai) or a galaxy far, far away (Star Wars Galaxies). In these virtual worlds, the player will assume a role and be able to interact with the environment and other players. In most virtual worlds there is not a predetermined goal. They are usually very open-ended concerning how the player develops the virtual character, as he cannot actually "finish" it as a game. A MMOG must include a set of rules that limit the actions of the players, the way their avatars can evolve in the game and determines the responses to the actions of the players.

The main purpose of the game is to entertain the player; nevertheless, the game needs players. The presence of players in the game enhances the experience it can provide to other players. A MMOG without players or with a reduced number of players may be perceived as "empty" and unattractive.

The Player

The player... well, he plays. He supports the game since he is the source of income to the system. The player also contributes to the game with his social interactions, sharing the game experience with other players, which is a differentiating factor from single player game [11].

Richard Bartle [5] proposed a taxonomy for MMOG players, where he divided them in four categories: *achievers*, *explorers*, *socializers* and *killers*. The *achievers* will pursuit the goals proposed by the game (e.g. level, reputation, treasure…). The *explorers* are more interested in discovering the virtual world (geography, physics, etc.). Both *killers* and *socializers* like to interact with other players, but whilst the firsts do so by imposing themselves upon them, the seconds are keen on role-play and communicate with fellow players.

However, every player, whatever category, shares a common goal – to have fun! A MMOG design will enable the player to have fun if:

- The player feels she is pursuing interesting goals, which will vary according to the category she fits in;
- The game proposes challenges that are balanced with the player's skills and abilities. This implies that the game must enable "fun" to the newcomer as well as to the experienced player.
- The player must receive feedback (the reward of the experience) in relatively short periods of time.

Keeping the players' quality of experience is of critical relevance for operating the game system, and the reason is simple: they can choose not to play. If the players leave the game *en masse*, the whole business model collapses since the act of playing is directly related to the act of paying, which in some cases, is the only source of income, like with the free distribution of the game software and the absence of initial payments, e.g. from selling the game in stores.

The Business Model

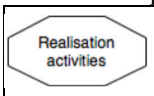
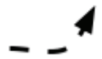
In order to begin describing the business models, we will resort to *Value Nets*, as proposed by Cinzia Parolini [10]. Using the Value Net methodology for Business Modelling enables a good understanding of the business context of MMOGs [3]. The Value Net methodology is based on the use of concepts such as business entities, activity systems and value flows, to map value networks at the level of value-producing and value-consuming activities, within and across business boundaries.

Value Net mapping includes the activities that contribute for the creation of value in multiple forms and the different types of value flows, which are interesting for a study of value relationships in the study of massively multiplayer online games creation, distribution and play. Three types of value flow will be considered: goods flow, information flow and monetary flow, although these concepts will be adjusted to the reality of this kind of business.

In a first approach, there are no physical goods flowing on a MMOG, because all contents could be described as information flowing on the Internet. Some game producers actually ship the client software, but the main product consumed by the clients is the online content, so this "content" will be our "goods". In-game currency plays an important part not only for the operation of the game itself, but also for the Business Model, so monetary flows must be described in our value net mappings. Value Net diagrams will be created from the basic elements depicted in table 1.

We will focus two types of MMOGs: the subscription-based and the virtual economies since most MMOGs will fit in one of these categories. Linden Lab's Second Life will fall out of these two categories, since it works as a "virtual real estate" business model. Then again, Second Life is more of a virtual environment, and less of a "game".

Table 1: Adapted Value Net notation

	Realisation activities
	Support activities (with dashed outline)
	Virtual content flow
	Information flow (dashed)
	Real currency flow
	Virtual currency flow (dashed)

Most of the current MMOG still fit into the subscription-based category. Among the most popular, there are: Sony's Star Wars Galaxies, Blizzard's World of Warcraft and Final Fantasy XI.

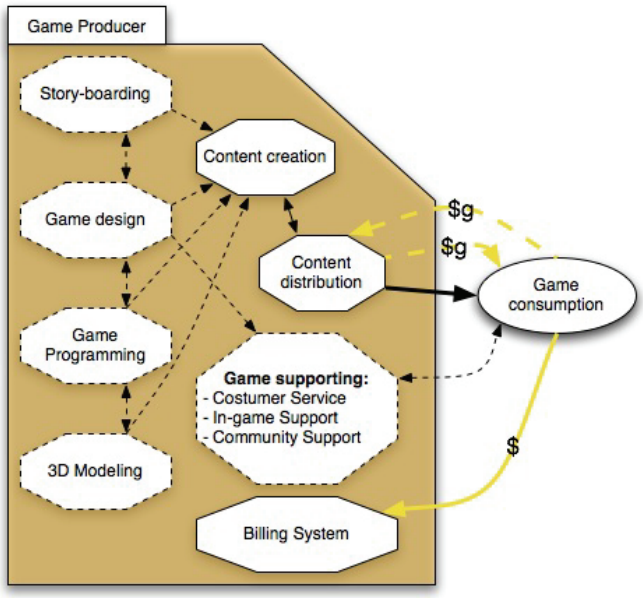


Figure 1: The subscription-based business model.

The Value Net in Figure 1 is a representation for the value creating system typical in the subscription-based category. In this diagram we identify the Game Producer that defines the service frontier that includes the organization of a set of

activities including design, production and distribution of the game. The player is attached to the activity of consuming the game experience, in which he gains and spends virtual currency. The revenue model is based on a simple fee, which gives unlimited access to the game during a certain period of time, usually (usually from US$10 to US$15 per month).

There are variations from the previous model. Some MMOG are emerging with a different perspective on buying and selling virtual items. Among them we chose as prototypical the Entropia Universe and Roma Victor.

Entropia Universe revenue model is based on selling currency for use in a virtual in-game economy. According to Entropia Universe's Director of Concept Development, Marco Behrmann, the entire game was built from the business model [1]. In order to progress in the game, the player has to buy in-game currency, Entropia Universe Dollars (PED), which has a fixed exchange rate: 10 PED is worth $1 US. The player needs virtual money not only to buy items (from other players or from the game), but also to fix those same items, since every object inside this MMOG decays. There is always the possibility to exchange PEDs back to US dollars, but item trading is done uniquely inside the game. There is no subscription or periodic fee and the game can be downloaded for free.

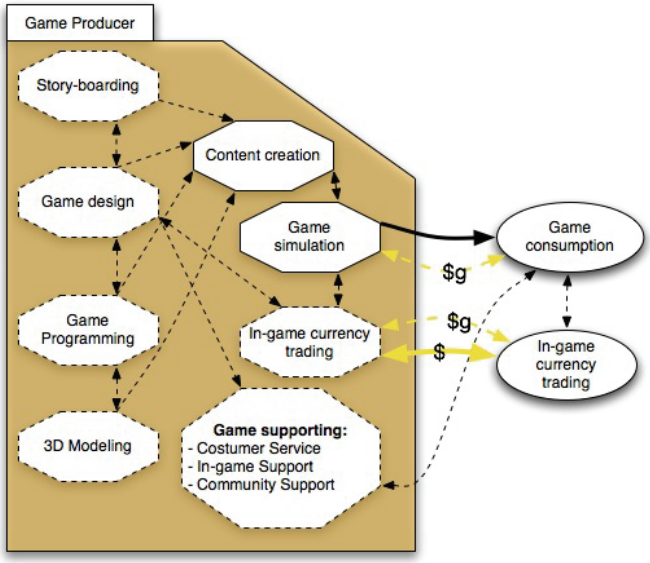


Figure 2: The virtual economy business model.

MAPPING THE SOCIO-TECHNICAL NETWORKS

In order to describe and analyse the forces and constraints that are present in MMOG contexts, we will resort to Actor-Network Theory (ANT). John Law, one of the precursors of this theory, once called ANT "semiotics of materiality" [8], precisely to evidence the ANT's main characteristic: it maps heterogeneous relations that are simultaneously material (between things) and 'semiotic' (between concepts). This fact suits our analytic needs because we will want to relate Human agencies (players and the game producer) with abstract and material agents (business model and the game). Another implied idea in ANT is that the agency of an actor is defined by its relationships. In other words, an actor *is* defined by the influence it has in the other actors he relates to.

Looking at the gaming contexts from an Actor-Network perspective will enable us to draw some conclusions on how the business model affects the design of MMOGs. ANT specific constructs will appear in italic to differentiate them. A quick reference for ANT can be found at [2].

Because they need money

The first thing we will point to is the simple fact that the game producer needs money to keep the game online. He depends on the Business Model (BM) to survive as a viable enterprise in a business where the expenditures are high. Since producing a MMOG requires a multi-million dollar investment in a project that can be very risky, how does this influence the game design? The game producer wants to minimize the risks of failure, which means that every game has to be a great success. The game producer *translates* his wish to generate income into the game design. And this is the reason why we see limited innovation in MMOGs. If we look at the current MMOG panorama, we find that most AAA titles are clones of the first successful games (like Everquest and Ultima Online) with some details that make them a little different. There are MMOGs in different settings and lore (in futuristic worlds, in space, in medieval ages, etc.), or with an improvement in one or another aspect, such as improved graphics and art or new crafting systems.

Because they want to play

Despite the apparent lack of innovation, the main newly launched MMOGs keep having economic success, simply because players keep playing them. Players seem to get easily attached to new MMOGs since they manage to fit the several gamming styles (*achievers*, *explorers*, *socializers* and *killers*) [5], where the player can find a suitable way to make progress, while reaching for higher or self imposed goals and thus enjoying the game experience. MMOGs have an inherent interpretative flexibility that let players find their performance niche.

In Figure 3 we see a perverse effect of the subscription-based business model. The game producer needs players because he is highly attached to the subscription-based Business Model, while the players want to make the best of the game. This gives players a high power over the game producers, which is translated in a series of features or design changes requested by players during the game design stage and the game exploration. This influence travels over *artefacts* created by the game producer (such as online forums) that act as *intermediaries[6]*. The game producer will create a series of *substitutions* in an attempt to keep the customers (players) *associated* with the game.

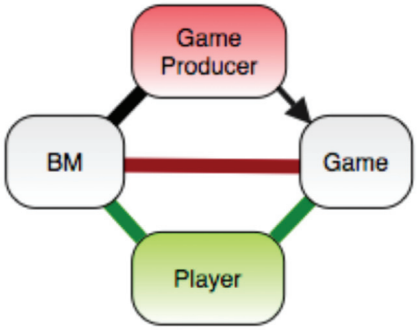


Figure 3: Actor network for the subscription-based game.

That phenomenon was evident, for instance, in World of Warcraft. Over a period of two years whenever a class (warrior, mage, priest, etc.) was revised, it ended a bit stronger, thus increasing the complaints from the other classes. At the same time, players complain about lack of content. Achivers and explorers tend to consume and exhaust the content very quickly. The game producer tries to keep up by adding more content[12], as the only way to compensate a problem mostly caused by a game design flaw – the game is not enjoyable to replay or the gameplay is strongly dependent on secret and disclosure. The long-term result of these decisions invariably leads to the emergence of an elite set of players that will actually enjoy new and more challenging game contexts. They will also consume those very quickly, so the problem of lack of content will soon rise again. The large majority of players will never access the new content, because it is designed for the high-end elite players. For the causal player, the new content contributes nothing but to their frustration, and the gap between them and the elite players enlarges. The power that players are given to influence game design ends up damaging the game, as their ideas of a good game design are, as Richard Bartle puts it, usually bad or poor [4]. Most of the players are relatively new to MMOGs, do not know how to design a game, and cannot think about the long-term implications of design decisions.

As for the virtual economy business model, the influence is even more evident. The ANT depicted in Figure 4 shows the clear relation between the game and the business model. In this case, the business model is inherently assumed as part of the game design. In fact, virtual economy games end up embracing a kind of trading activity that is marginal in the subscription-based games where, e.g., virtual property is traded outside the game, marginally and against the game producer's intentions. In the virtual economy model, the game designers *inscribed* the behaviour that once was an *anti-program of action* into the game design. The transactions between the virtual and the real world are now expected and stimulated since they became part of the *program of action* prescribed by the game designers. Still, the game producer will need to generate income. As a consequence, the game will be designed to consume resources from the real world *translated* in the form of player's money. Globally, the game will have some sort of energy dissipation or economic erosion in the sense that the game world will eventually consume resources that will be lost in the virtual environment to be found in the game producers' pockets. In Entropia Universe, every item decays. The player can only repair them by spending virtual currency. This is a most direct and evident case of a game rule that is a *translation* of a business model requirement into the game design. Other identifiable cases may manifest as: expected game rhythm when the player is paying for time online, as taxes over in-game transactions, as game action related costs, as requirements for periodic payments to keep your "virtual property" rights or persistence, as risk materializations conducent to acceptable losses within the game semantics, etc.

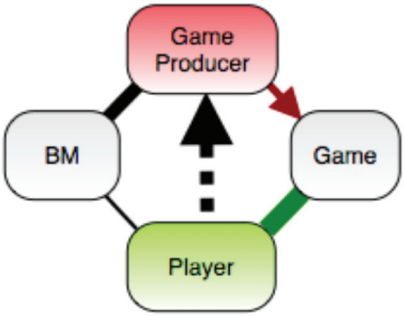


Figure 4: Actor network for the virtual economy game.

CONCLUSIONS

To make a successful MMOG requires a big initial investment and continuous expenditures. This fact will inevitably influence everything in the project, including the game design. One way or another, there are always constrains for the game designer. This may be working to limit the diversity of the offer in the MMOG market. Currently, to design a game is to design the business model. Maybe the future will bring new models that can provide a more business independent design, such as bringing value concepts related to participation like with some Web 2.0.notable cases. This would "ease" the financial burden of the MMOG industry, enabling innovation and independence from the business model.

As future work, the authors will attempt other Actor-Network Theory analysis of innovation in the gaming context as this proved to be a revealing and resourceful instrument. This paper is just the tip of the iceberg of what can be achieved using ANT to analyze gaming environments. John Law once criticized the kind of "have

theory, will travel" use of ANT [8]. We just did that, and it works.

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