

**UNIVERSITY OF VAASA**

**FACULTY OF BUSINESS STUDIES**

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**Video game editors and the choice of their  
business model**

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**ABSTRACT:**

The purpose of this study is to present and analysis the sector of video game edition and draw an overview of its issues in terms of business model and monetization. From the conceptual analysis of what is a business model and what it implies in terms of competitive advantage, value chain optimization and innovation management, this study's aim is to apply it on video game editors' structure and value chain to see how they manage to create value with their products. At that point, we can show different kind of business models based on two different relevant characteristics of video game field: remuneration model and financial accessibility. Remuneration-based business models exist according to the mod of profitability of a game for the editor. It depends on which technical choice editors made to earn profit from their games. It can be by added content purchase, charged subscription, advertisement and initial new game purchase. We can identify 2 other kinds of business models according to their financial accessibility: Free-to-Play and Pay-to-Play. The first one represents games with a free version available to everybody while the second is the more traditional purchase of the game to play it. All these business models are linked and this study shows that editors can link them to create combinatorial business models. Thanks to a questionnaire proposed to 283 people, this study could analysis the reaction, key factor of success and player sociological aspects for every combinatorial business model. This data is really relevant of the very diversify market of video games.

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**KEYWORDS:** Video game, Editors, Business Model, Free-to-Play, Pay-to-Play



## I- INTRODUCTION

2015's League of Legends Worlds championship Final in Berlin has been seen in live by about 36 million of unique viewers which is a worldwide record in terms of audience for a video game competition (LoL eSport 1, 2015). For the same competition but one year later, the total prize pool amounts \$5,070,000.00 USD that have been shared between those qualified for the finals (LoL eSport 2, 2016). On another game, Dota 2, the International 2016 competition raised the record of cash prize ever distributed for a gaming competition to \$20,770,640.00 USD (eSport Earnings, 2016). This figures show that this field now known as eSport for Electronic Sport has grown up into huge potential. We can actually expect eSports' revenue to reach \$465 million USD in 2017 through game publisher investments, sponsorship, online advertising, licencing and tickets (Challenges, 2016).

As we can see, eSport has become a real new profitable business field. Beyond eSport, we can think about what implies this evolution. We can see a professionalization of gaming (eSport) but in the same time there is a universalization of the practice of playing video games. ESport is one aspect of that shift.

The democratization of the Internet and more recently of video games has transformed deeply players' behaviour in every connected country. European households have been more and more equipped with mobile and connected devices which are very performing and technology is now with people in public transportation and places. Thus, smartphone and tablet are now getting over autumn literature books and allow the user to access many functionalities. Real time localization, main stream Internet access and a lot of useful applications are inventions that transform this technological device into a modern people's must-have tool (Bohnsack, 2014).

Among this functionalities we can find one which is really desired by users: video games. This cultural product which was formerly reserved to a small percentage of people deeply interested by technology has now become in a few years more accessible to a larger audience and can now reach a big part of the population. No need to be a video games fan to be good at using the last free mobile app available on the Appstore.

Video games have never been as accessible and popular as it is nowadays. This new accessibility has transformed consumption mods of players allowing the arrival on the market of new kinds of players who are casual gamers or previously uninterested by video games culture. These people are now part of players' community even if they often don't really consider themselves as so.

These recent shifts have driven editors to take a closer look to this more diversified and spread gamers community. Thus, they had to innovate in order to identify this new potential customers and understand new consumption mods as a matter of fact. This necessity to innovate has lead editors to transform their own way of producing and create new business models. From these critical thinking have been born many new development strategies such as the creation of new game systems dedicated to a less expert audience (Nintendo Wii) or the emergence of mobile applications or eventually the conception of brand new gaming systems (virtual reality).

However, these business model modifications made by editors do not automatically implies future commercial success. Therefore, the universalization of video games is not a quantifiable or predictable phenomenon. It is still nowadays difficult to evaluate and quantify the effects of this long term strategy shifts.

The choice of this field for my thesis is not neutral as I am very interested in gaming competitions. Actually, I am an amateur gamer who participates from time to time to minor competitions, but I enjoy following the news on eSport and the mercato,

watching streamed matches and going physically to major events' finals. Furthermore, 4 years ago I created with some colleagues our own association named Play Again promoting eSport and gaming inside our Business School in Marseille. I was the Event Organisation executive of my association so I had to take an active part in gaming competitions. I organised many tournaments for students of my school but also some competitions between different French Business and Engineers Schools. It was very interesting and I really enjoyed working in this purpose (PlayAgain).

That is why I helped creating and then joined another association called Student Gaming Network (SGN) which aims to reunite all student gaming activities and associations in order to create links between them. It also organises the Student Gaming League (SGL), a French national-wide gaming competition on several different games whose first edition gathered more than 400 players. I am currently responsible for the organisation of the competition for one of the games for the 2017 edition. This second edition gathered 1300 students around a 9 weeks competition. The SGN also organises in partnership with other European associations a competition between the winners of many European countries. It is named University Esport Masters (UEM) (SGNW). Eventually, I am an active member of a French association called PJV2020 which aims to create an entertainment park around video games theme.

In this context and with my personal background I decided to take this opportunity of writing a thesis about a subject which matters to me and which tends to be very important in the numeric economy right now and for the next years. Working on this thesis can also give me the opportunity to meet more people of this specific field and can get me closer to the labour market of eSport and video games editors with a business approach.

I am also planning to find a first job in video games field as a producer in video games editors' studio. This job consists in being the project manager who gathers and creates the links and relationships between the different teams who work on the production of a game. The role of a producer is to manage the project in order to deliver the game in time, in quality and to keep the budget. Defining the business model of the game and the related supply chain is also a big part of the producer responsibility. This study will be then very useful for my future profession as I will have a very good interpretation of different kind of business models available and those we can further imagine.

### **1.1 Research gap**

The gaming sector is quite recent and particularly appreciated by teenagers and young adults even if this tendency is changing. The fast recent evolution has not yet been analysed that much. For example, eSport is one aspect of major changes in video games field: in the United States of America, in 2016, 73% of the eSport audience was less than 35 years old (Newzoo, 2016). This is a factor why there is only a few university studies about gaming, too few researchers are interested in this very new field. The major part of the few existing studies have been written a few years ago and doesn't match with the current reality anymore (Marchand, 2013). However, classical media are writing more and more articles about it, so does the specialised media (mostly websites). We can give the example of Eclypsia.com or afjv.fr which are specialized websites writing good quality articles about issues and news in the video game sector. Julien Lалу, Mathieu Weisser, Vincent Berry, Antonin Congy and Alexis Blanchet explained in their conference about the issues, problems and outlets of university research in video games field in France and in the world (2014) that the theoretical framework in the video games sector is quite poor and needs to be filled. This study has the purpose to create a complete vision of the current business model of the video games field in order to participate in the theoretical conception and

evolution of the sector. This study, being written with university criteria and methodology, will go deeper in the subjects than classical media articles used to do.

The lack of university-quality framework about the specific field of video games is quite a challenge for writing this thesis, so it will be written by using information and data from all sources (university researches and publications, previous thesis, specialised and classical media...). Though, general literature concerning business models will be used in order to give a wider perspective and a theoretical context to this specific sector.

Furthermore, video games field is a very fast moving area and I find important to draw a map of the process of its creation and evolution. As video games conception, production and business models sphere won't be the same in a few years, working on how it is now organised is necessary.

## **1.2 Study's limits**

This study is about video games field which is quite a large and dynamic one but will focus on editors' point of interest and place them as the centre and future user of this study. Therefore, we will not consider the particular interests of other major video games actors such as specialized retailers (Micromania, etc.), gaming competition (eSport) which is a subsector of video games general field but deserves a special treatment, community of users (gaming associations, cybercafé, Twitch, etc.) and different kind of promoters (professional players, casters, streamers, etc.). However, this study will take care of the consequences of business model choices over these other major video games actors. In other words, we will analysis through the video game editors' point of view the implications of the different kinds of business models.

The point of view adopted is an objective one with the desire to popularize the special words and issues of the video game field in order to give the opportunity to everybody to understand it. The aim is to place the reader as a member of the audience so he can see the issues and then place him as an actor in an approach of understanding and interpreting business models.

### **1.3 Aim and research question**

This study's aim is to create a typological analysis of current editors' business models through their supply chain logic, revenue strategy, marketing implications and customer targets. This will lead to define many ancient and new business models and to analysis their strengths, weaknesses and consumer implications. Thanks to this methodology, we will be able to compare the different business models and to combine them in order to find the best ones according to each strategies. Another important aim of this study is to provide help to video game editors in their business model decision making process by analysing the characteristics of each business model and their implications for the consumers.

As a matter of fact, the research question is: What impact does the universalization of video games has on editors' business models?

This study aims to answer to this question with a typological analysis of the different specialized video games business models. This will enable to measure the impact of this cultural product universalization on a premade combinatorial business models declination. This method will in fine permit to conclude that the combination of some business models is the best strategic choice for editors.

#### **1.4 Structure of the study**

The first part will be about the theoretical analysis of the concept of business model and of the consequent issues for firms thanks to university papers and references. We will show the actual definition and issues around the concept of business model and its application.

In a second part, we will develop the methodological approach used in this study and we will present data collected.

Eventually, the third part will precise each combinatorial business model and will propose a deep analysis for each obtained result in order to give pieces of advice to editors in their business model choices.

## **II - Concept and theory**

### **2.1 Business model concept**

#### **2.1.1 Business model: definition and limits**

The concept of business model is currently a very usual pair of words as it has different definition according to its context. Therefore, we have to define this concept by describing each of its nuances in order to determine the limits of the study. Before all, we have to precise that this concept will exclusively be used in a microeconomic purpose that is to say in the firms' scale. Indeed, this term also means the logical and macroeconomic function allowing States and international organizations to apply general economic policies. In order to remove every pieces of ambiguity, we will use the terms of "business model" only in microeconomics purpose.

According to Casadesus-Masanell and Ricart (2010), a business model is "the mirror of the strategy decided by firms". The concept of business model seems therefore to be closely related to the very firm strategy itself. Thus, it seems necessary for the firm to adopt a business model according to its own chosen strategy.

According to Magretta (2008), the business model of a firm is "the answer to some of the fundamental questions. Who is the consumer? What are the firm's values? How do the firm generate revenue? And eventually, what is the consequent economic logic explaining the way the firm generate value towards consumers with appropriate tastes?". These fundamental questions will enable us to indirectly define firm's business model and value creation process.

We also find these ideas of value creation and logical choices with Shafer (2005) who define a firm's business model as "the representation of logical choices and key strategies allowing to create and capture value inside the same value network". Business models would format all choices leading creation process and value retention.

In the context of highly technologized market, Björkdahl (2009) adds that “an appropriate business model offers the possibility to the firm to improve a technology’s attraction potential and the value creation of an innovation in order to obtain a competitive advantage”. The concept of competitive advantage will be described a bit later in the study.

Thanks to these definitions, the business model concept is something primarily linked to the process of firm’s value creation, and therefore has to be decided according to its strategy.

The following definition will be used as a base for this study: “Business model represent a logical process allowing a firm to create and capture value inside a network. It is how firms think and applicate their strategy in order to generate a revenue and obtain a competitive advantage.” Value being the amount of money consumers are ready to pay to get the product or service.

## **2.1.2 Competitive advantage and value chain**

### 2.1.2.1. The importance of competitive advantage

According to the previous definition a business model has as main objective to create and capture value in order to give the firm a competitive advantage. Therefore, it is important to define the concept of competitive advantage. Theorized by Porter (1985), the competitive advantage is a strategic strength allowing a firm to be better and get over its competitors. On the difference of a key factor that ensure the success of the firm, competitive advantage is a success factor which is handled and mastered by the firm much better than its competitors, permitting it to improve its competitiveness and have a unique strategic position on the market. This competitive advantage is therefore a supplement of value competitors don’t propose (Chakravorti, 2010).

According to Porter (1985), this supplement of value comes from either “lower prices proposed by a firm than competitors for the same product”, or “something unique proposed by a firm on the market”. In other words, Porter distinguishes two types of competitive advantage: one through cost leadership and one through differentiation. Companies therefore have to choose between those two kinds of competitive advantage and adopt an adapted strategy.

Strategy based on competitive advantage by cost leadership consists in positioning the firm as the cheapest on the market by proposing the lowest prices. For example it is the case of “low cost” companies (fly, supermarkets) who diminish production and logistic costs at their minimum to guarantee the lowest prices.

Strategy based on competitive advantage by differentiation consists in proposing totally unique on the market, that no competitor proposes. In other words, it is proposing a product or a service which characteristics are totally unique on the market. In this matter two kinds of differentiation have to be distinguished: sophistication and purge.

Sophistication, also called differentiation by above, consists in proposing a more elaborated offer than competitors and selling it at a higher price. When it is a success, a product or service is joined by a better consideration from consumers. Then, it is possible for the company to higher prices of this product of service even more than the original increase of costs generated by the differentiation. This leads to an increase of row margin. This positioning permits to obtain high profits and is the one chosen by many big firms such as Apple and BMW.

On the contrary, purge, also called differentiation by the bottom, is when a firm proposes less elaborated products than the ones on the market but selling it at lower prices. Even if customer perception can be affected by this positioning, the lower price remains an essential factor of attractiveness. Company’s aim in that case will be

to achieve to reduce production costs even more than the reduction of prices in order to generate a bigger profit (Porter, 1985).

Once companies have determined their strategy, they have to rebuild their value chain in consequences from the positioning on order to optimize it.

#### 2.1.2.2. Optimization of the value chain

Defined by Porter (1985), this concept of value chain represents all the firm's interdepending activities allowing it to obtain a competitive advantage. These interdepending activities are different logical steps which are necessary for the value creation process, and represent the total value produced by a firm. They have two different implication levels in the value chain: main activities and support activities.

Main activities are directly linked to material creation and product or service selling. They represent the business heart of the company. They are 5: internal logistics (reception, raw material stock and delivery), operations (conception and production), external logistics (final product collect, stock and delivery), sales centre and marketing, and services (after purchase service, reparation, guaranties).

Support activities bring a complementary help to main activities, allowing the creation of synergies between different activities. There are 4 support activities: procurement (provision supply), research and development (internal technological development), human resources management, and company's infrastructure (administration, finance, quality management).

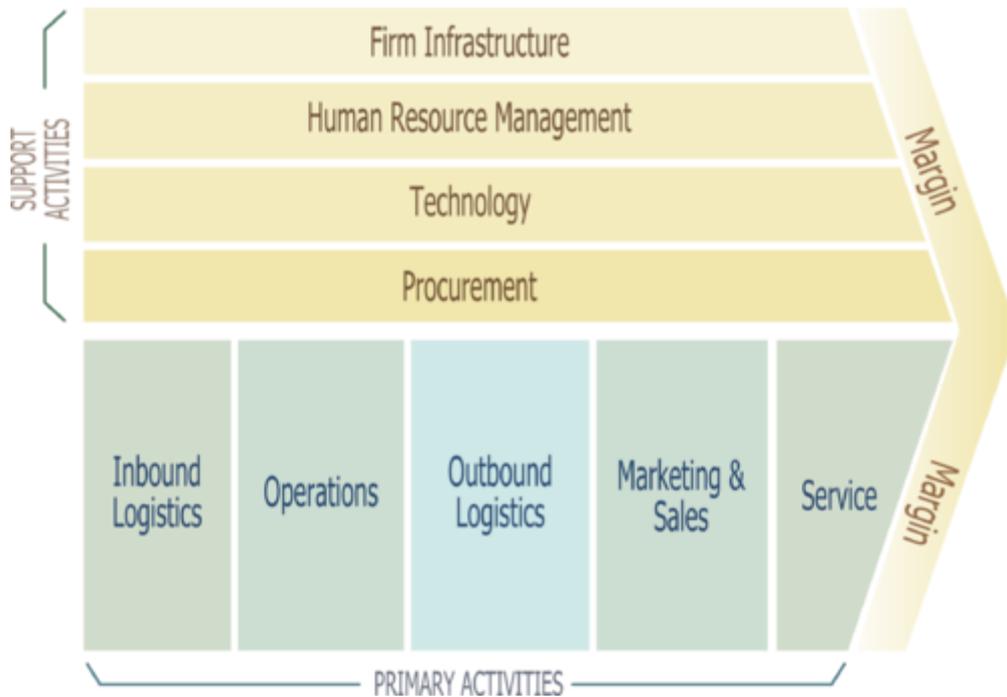


Figure 1: Porter's Value Chain

Building a value chain is questioning on the way the company generate value towards consumers with appropriate costs (Magretta, 2008). For a firm, this supposes to do an internal diagnostic of strengths and weaknesses in order to underline the main advantage of each activity. From that diagnostic it is will be then possible to determine how important each activity is compared with the rest of the value chain, and therefore optimise value creation process by assigning optimised specific costs to each activity. It is also important to consider the “bridges” between different activities (main and support) that permit their complementarity.

### **2.1.2.3. Lasting competitive advantage**

From then on, a firm possessing a competitive advantage is able to propose to their consumers higher value products and services, and generate a more important profit. That's why one of the main challenge companies have to take up is to make this advantage lasting in order to guarantee firm's competitiveness (Porter, 1985). The

term 'lasting competitive advantage' is used when a company achieved to keep this advantage on the long term (Porter, 1990).

However, keeping this advantage is no easy thing as acquiring a competitive advantage today does not mean keeping it safe tomorrow. Actually, if a firm archive to obtain a competitive advantage, its success will make competitors' eyes focusing on it and they will try to copy it, removing this competitive advantage (Porter, 1990). That's why it is vital for every company possessing a competitive advantage to archive to lock it on the market thanks to its own resources and skills. This characteristics have to be rare, non-substitutable, hard to copy and must create value for the customer in order to guarantee deeply the lock of the competitive advantage. They represent key factor of success which can be innovative exclusivity patent, specialized savoir-faire or guaranties of access to performing distribution channels.

In the same idea, a firm strategy success aiming to develop a lasting competitive advantage is relative to its innovation level.

### **2.1.3. Innovation as a value creation empower**

#### **2.1.3.1 Invention and innovation**

Before all, it is important to differentiate innovation and invention.

Invention is a technical discovery, unique and isolated, coming from a creative idea which result is unexpected. In other words, from a micro-economic point of view, it is the creation of a new product or a new process unknown before that (Quenderff, 1986). Thus, as the results stays unknown, invention doesn't suppose that it exists a market corresponding to this discovery. Invention is not an applicative approach, on the contrary of innovation.

Still on a microeconomic point of view, innovation is the process that consists in improving more or less existing things – product, service, process, business model, managerial way, etc. Innovation is built on an invention but not all invention results in an innovation.

More concretely, transistor invention in 1947 resulted for modern informatics to take away in the nineties without having foreseen it at that time. Thus, recent technical progresses realized in modern informatics are product innovations that would not have been possible without this invention.

### 2.1.3.2 Classifications of innovation

Innovation concept is often used as a common word associated to many definitions in different contexts. Indeed, there are different innovation levels that we can typologically identify and classify. Thus, it is primordial to define this concept with precision in order to delimitate this study's aim.

Many authors tried to propose typologies in order to categorise the different innovation levels.

One of the most famous is certainly Schumpeter's (1934). He distinguishes five forms on entrepreneurial innovations: product innovation (manufacture of a new product of a new characteristic), process innovation (new methods of production), outlet innovation (creation of new markets), raw material innovation (new sources of raw material) and organisation innovation (new market organisations and structures).

Even if this typology is more about macroeconomy than microeconomy as it concerns exogenous economic and political factors, it is still about innovation on the company scale. Indeed, product, process and organisation innovations, are applicable on the business scale. These three kinds of innovation are most of strategic

shifts inside companies. However, this typology stays too generic as it doesn't provide with clear answers about business models. Therefore, it is hard to categorize with precision innovation in business models from this typology.

Moreover, there is no clear proposal of a typology identifying business model innovation as one of the major level of innovation in academic literature. Indeed, most microeconomic typologies existing in this subject are only about product innovation and internal organisation mods, excluding of their classification the issue of business models. In the same idea, they don't only cover innovation nature but also their impact on the market. It is the case for Henderson and Clark matrix (1990) which details the impact of an innovation over a product or service development.

		Technical capabilities	
		Preserved	Destroyed
Market capabilities	Preserved	Regular	Revolutionary
	Destroyed	Niche	Architectural

Figure 2: Henderson and Clark model (1990)

In this typology, innovation is considered as a concept constituted by components which more or less improve a system (product or service). Here, the authors distinguishes two types of improvements: those directly made on system conception, and those on the system different components.

Consequently, this typology cannot be applied on business model innovations. Thus, the majority of academic literature proposing a classification of business model innovation does so without including business model innovation.

Nonetheless, business model innovation is a subject which have been covered many times in a specific way by being an analysis object in academic literature.

### 2.1.3.3. Business model innovation

Companies' competitiveness is often linked to their capacity to propose new innovative products or services. Indeed, product innovation is a strategic lever which has made its proofs and stays one of the main performance factor for firms. It is the reason why a real innovation race has taken place in numerous sectors.

However, it is not the only innovation form that concerns companies. Business model innovation is also a very interesting innovation form for firms as it stimulates companies to rethink their strategy on markets.

It is important to precise that product innovation does not necessarily imply a business model shift. Indeed, the majority of companies are often lead to propose new innovative products without feeling a need of changing their business model. On the contrary, business model innovation mechanically implies to process important shifts in the proposal of value produced by companies (Daganova, 2009).

However, some situations can constraint firms to adapt their business model if they want to survive. These particular situations are generally the consequence of important innovations called "radicals" (Clark, 1990) that can have unpredictable consequences on production and consumption mods. These innovations represent major shifts compared to the existing. One of the most recent examples is probably Apple's iPhone which changed the use we had of traditional phones. Thus, these shifts can lead to obsolescence a firm's competitive advantage and then affect its value creation process. New business models are necessary, allowing firms to

redesign their organisation mod toward their new product and services portfolio. For example, a business model adapted to the market can permit a firm to increase the attractiveness of one of its technologies, to completely improve the capture of an innovation value or to lead to the procurement of many elements of mix marketing and cost structure.

An example of recent business model innovation is the American big company Amazon specialized in eBusiness. This firm achieved to disrupt traditional selling ecosystem (physical selling places) called "brick and mortar", by proposing a new online way of selling build on a performing supply chain and technological innovations in terms of information system. To do so, Amazon has rethink traditional selling mix marketing by modifying its "4P": first, a great number of products are available to be sold (Product); second, products are available everywhere at any time (Place); third, prices are low thanks to performing management of actives and economies of scale (Price); and forth, online advertisement and search online optimization methods are efficient and cheaper than traditional schemes (Promotion). These four forces permit to Amazon to conquer and consolidate a competitive advantage: proposing a greater quantity of products than competitors, with lower prices (Daganova, 2009).

Thus, innovation in business model matter is having the opportunity ti acquire a competitive advantage and make potentially lasting (Porter, 1985). This constitutes an important value creation source for companies (Teece, 2009), which represents one of the most important challenge in firms.

## **2.2. The particular case of video games market**

### **2.2.1. Video games editors' business**

#### **2.2.1.1. Editors and manufacturers**

We can determine two major kind of companies in video games edition market (Marchand, 2013).

The first one is limited to the activity of video games edition. It is the classical editing scheme which can internally conceive video games or make them externally conceived by independent development studios.

The second kind consists in editing video games and constructing or making constructed informatics systems called console exclusively dedicated to these video games. Firms issued from this big kind are three big console constructors – Sony, Nintendo and Microsoft – generally called “first party editors”.

It is important to precise that this double-activity of systems construction and games edition are out of this study aim as it only concerns this second company kind. Only firms’ edition function and their business models are taken in account in this study. Construction function won’t be analysed. In other words, this study will only concern business models linked to video games edition function without first party editors.

#### 2.2.1.2. Editors’ value chain

In order to understand the issue of video games market, and more precisely edition function, we first have to analysis editors’ way of organisation and their chain value issues. Thus, the aim is optimization of this value chain allowing to acquire a competitive advantage. All the activities available to be optimized (main and support) and all the locked activities – that is to say not disposing of a big enough room of manoeuvre to pretend to deep shifts in changing their organisation mod – will be treated (Desyllas, 2013).

##### a. Activities likely to be optimized

### i. Conception

One of the most important activities in the creation value process is video games conception. This activity is generated by development studios charged to conceive video games according to a precise bill of specifications ordered by editors. Development studios are often independent little or medium size firms but can also be part of the editors' organisation (Flew & Humphreys, 2005).

In the case of integrated studios, editors have more visibility and room of manoeuvre towards conception activity as the video game internally conceived is not the result of an external service provider. In this vertically integrated companies' model rights linked to games creation are totally the property of editors. However, because of the irregular and flexible character of the demand, conception activity has to be important enough for integrated studios to be profitable enough.

In the case of independent studios, editors have less visibility over conception activity because they outsource it with a bill of specifications. Still, editors can more implicate studios in their global value creation process through financial incentives as royalties sharing produced video game's rights. The more the game is a commercial success the more the royalties are high. Even if this method is more profitable in case of success, it stays riskier than a regular forfeit agreement inside of which it is stated that studios will received a fixed remuneration for their work.

Video game conception is a hard activity to industrialize. There is no miracle method that rationalise writing, design and playability work of a video game. Inside a development studio, many professions collaborate in a very complementary way on every aspect of the game. Each of these professions are very specialized and are required for the conception activity: programmers, game designers, scenario writers, translators, computer graphics designer, musicians and testers. As for cultural industry, it is difficult to realise economies of scale and productivity gains because of

the unpredictability of creation activity. The atomisation of the development studio market is a direct consequence of editors' incapacity to consolidate the sector (Marchand, 2013).

## ii. Sales and marketing

Sales and marketing is one of the strategic chain value activity on which editors can have an important room of manoeuvre. It consists in proposing an offer to satisfy demand on a precise target.

Without taking into account video games' quality, the success of sales activity depends on their accessibility, visibility and availability. In other words, video games must be visible to the targeted audience thanks to a coherent choice of distribution channels (physical or numeric), competitive prices and an efficient promotion. Thus, editors are able to optimize the activity of sales and marketing by using each lever they have – advertising, distribution channel choice and price determining – in order to increase commercial profitability of sold products (Marchand, 2013).

## iii. Services

Service activity is also an important main activity in video game editors' value chain. It consists in increasing or maintain video game's value on the long term.

In practice, it can be translated into a regular development of updates, mods, or charged added content. Service activity is then a very important lever for every game based on durability such as online games for example. Thanks to this developments, editors are able to extend life duration of their games making them more attractive.

Thus, added value created by service activity can potentially be increased and optimized (Marchand, 2013).

#### iv. Human resources management

Human resources management activity is also one of the most important activities of the value chain because even if it is a support activity it symbolises one of the pillar of video game editors' success: brains. Indeed, as editors have an important role in a video game production (physical support, notes, packaging, content) and promotion (marketing and commercial strategies), the activity of human resources management have to be able to optimise its competency portfolio and attract new talents.

In order to do so, editors can settle internal training programs permitting to increase the skills of a decent number of employees, or they can create recruitment programs in order to catch new talents and then acquire new competencies (Marchand, 2013).

#### v. Infrastructure

A firm's infrastructure is one the essential part of an editor's value chain? It represents administrative activity of the entire chain and it is committed to ensure firm's management and strategical decision taking for medium and long term. It includes executive board, administration and finance board, legal board, quality control and planning.

Thanks to its executive status, this activity is at the heart of business model innovation? Its objective is to acquire a lasting competitive advantage thanks to value chain optimisation. More concretely, it means for an editor to evaluate the efficiency of its business models (P2P, F2P, etc.) and to change it if needed (Marchand, 2013).

#### b. Locked activities

### i. Internal and external logistics

Internal and external logistics activities are two main activities for which it is hard for editors to do deep shifts. They consist on the one hand in supplying, stocking and controlling every needed raw material, and on the other hand in supplying distributors and consumers with final product.

The main issue of both activities are information flow mastery allowing to optimize communication between different actors (sales point, distributors, wholesaler, etc.).

Editors can also choice to use exclusively numeric distribution channels permitting to drastically reduce external logistics costs (Marchand, 2013). This point will be developed latter on.

### ii. Purchase

Purchase activity is very important in a company as it allows to furnish to the whole of employees needed production means (informatics material, licence, etc.).

However, potential value gains a company can acquire by optimizing this activity are not exclusively reserved to video game edition sector and stays an inherent issue for every firm. Actually, purchase is generic activity which does not possess any speciality in video games edition sector. The question of purchase optimization in the value chain won't be developed in this study in order to not get too far from this study's aims.

### iii. Research and development

Research and development is also a very important activity of the value chain as it is mandatory for video games conception activity. Its role is to select technologies that

are going to be used in the different video games and to develop the video game engine which is the basics of every creation (Fiet, 2008).

According to its deep technological aspect, research and development activity is often linked to development studios. Thus, except for integrated studios, editors are often not able to optimize this value chain activity.

### **2.2.2. Current business models**

The video game sector is quite special as it is composed by editors with specifications in terms of business models. In that matter of speech, every editor has to decide the business model of every single game it edits. The notion of business models is there way more volatile and various than other companies. The way they make money can change from one game to another.

In this part we are going to show the current existing various business models.

There are many ways to categorize video game business models. In this study two kinds of classification will be taken in account: the first characterize business model kinds according to the revenue nature, the second analyses them depending on their accessibility towards users.

#### 2.2.2.1. Classification based on remuneration model

In this section, the whole of existing business models will be classified according to the remuneration model, that is to say by distinguishing the methods allowing editors to generate profit. Consequently, this classification adopts the point of view of the editor towards its market.

##### a. Arcade games

Arcade games is a very old and memorable business model in video games field and which golden age was from the late seventies to the mid-eighties.

This game model takes the shape of furniture items with interactive screen and a control device enabling the user to play to a previously installed game.

In order to be accessible to everyone, arcades are usually settled in public places as malls of dedicated video games places known as arcade rooms. In the way as

gambling machines or phone boxes, the user has to buy one or more credits and filling the device with coins to turn on the game. Subsequently, the commercial success of an arcade can be easily measured thanks to the total amount of coins collected (Wolf, 2008).

When these devices appeared, the competitive advantage was in the localisation and the number of arcade games. In other words, companies had to be able to propose a great number of arcade devices in many strategic places well-known by the audience.

In order to assist this phenomenon, many arcade rooms were created especially in big cities and traditionally linked to video games areas.

Once market maturity reached in the early eighties, localisation and volume were not enough to keep the competitive advantage and game quality became a third key factor of success to be taken on board in order to guarantee a lasting competitive advantage (Gallagher & Park, 2002). The importance of video game licence (that is to say to run a particular and much appreciated video game that competitors do not own) creates a competitive advantage. Games like *Space Invaders* (1978), *Galaxian* (1979), *Pac-Man* (1980), *Battlezone* (1980) and *Donkey Kong* (1981) have now achieved posterity.

Despite correct results in Europe and Northern America during the nineties, commercial success of this model has never stopped declining in favour of progressive universalization of consoles (NES, Master System and MegaDrive) and portable game console (Gameboy). These new devices have totally disturbed players' consumption mods by proposing a more accessible alternative. Indeed, players no longer have to go to arcade rooms to play video games and can do it now from home. They no longer have time constraints such as strict open hours (Gallagher & Park, 2002).

Despite this progressive decline, a real cultural bound to this gaming model is existing particularly in Japan where arcades stay one of the iconic symbol of player communities (Kum, 2011). Moreover, retrogaming phenomenon (that is to say the activity consisting in playing and collecting old video games) nowadays enables to give another life to arcades.

#### b. Physical distribution network

Since the uprising of console during the nineties and until the beginning of the 2010s, the use of traditional physical distribution network – large retailers and specialized retailers – was the most usual method used by editors to sell physical video games (diskettes, cartridges, cassette tape, CD-ROM, DVD, Blu-Ray). These layout networks possess an important territorial spread with a succeed implantation of superstore and specialized stores in city centres, therefor guaranteeing an excellent visibility of products towards consumers. Thus, the researched competitive advantage of editors is to achieve to use these distribution networks in an exclusive and optimal way in order to make their games more visible and accessible than competitors (Marchand, 2013).

However, this optimal use of the different networks supposes the success of some factors. First, editors have to be able to develop specialized partnerships with different intermediaries. This can be translated by the setting up of performing Trade Marketing strategies (which is a discipline consisting in developing partnership or specific agreements between distributors and producers on products range in order to anticipate and satisfy consumer demand) in order to negotiate with the different retailing brands and independent stores. Secondly, it supposes the creation of a logistics chain by editors which is performing enough to control stocks and rapidly and efficiently supply every point of sale. Third, editors have to be able to elaborate

efficient commercial strategies which are enough adapted to both point of sale physiognomy and customers.

Once those three keep factor mastered, editors can optimally use physical distribution networks. However, an excellent visibility of its products is not enough to give a company a competitive advantage compared to competitors. They have to combine these different key factors of success with a differentiation strategy or cost leadership in order to pretend to a real competitive advantage.

### c. Numeric distribution

Numeric distribution is a supply model consisting in making accessible dematerialized products, that is to say without any physical support. In other words, video games are provided and commercialized numerically directly on the Internet through distribution platforms of online content. The most famous are the Appstore (Apple), Google Play (Google), Steam (Valve), Origin (Electronic Arts), Metaboli (Unlimited Gaming), Green Man Gaming, GamersGate, GOG, DesuraNET, GameStop, Gamefly.

In order to buy a game, the user have to be able to directly download every pieces of required data of the game on its own computer from one of these downloading platforms. This supposes that the user have to possess an Internet connexion strong enough to download with a decent flow.

That is why recent progress in connectivity since the early 2000s, especially in bandwidth capacity, have make possible the distribution of download content (video games, upload or extensions). This phenomenon is slowly taking over traditional distribution by capturing more and more market shares (Marchand, 2013).

These technical progresses lead editors to more and more adopt this numeric distribution model because it has true advantages compared traditional distribution. First, numeric form video games require much less intermediaries in the sales process, which means more profit for editors. Moreover, second-hand and import market becomes obsolete. Secondly, numeric support is available everywhere to everybody at any time which is not the case for traditional distribution. Third, numeric form video games' visibility do not have the same codes than physical distribution. The timeless aspect of online downloading platforms removes the former use of replacing old games by new ones on store's shelves. Forth, production and selling conditions are less costly when a game is numeric. For example, logistics (packaging, transport, etc.) represents between 3% and 6% of the final price of a game (Lehoux, 2014).

Thanks to that, the video game editor Valve became in the same time a numeric distributor by launching its own download device: Steam. Its strategy of openness to other editors on its platform enabled this company to become nowadays a strong leader on numeric games market which represents about 1 billion dollars.

Therefore, we could think that progressive dematerialisation of video games will mechanically lead to lower unit prices. However, new games being more and more performing thanks to major informatics innovations, their size (file size in bits) never stopped increasing. This phenomenon implied for editors an increase of data transfer and mechanically higher downloading costs. It represents a real technologic challenge for editors and for every company that have chosen numeric distribution as they will have to find a solution to this data transfer issue, especially because the size never stops rising.

Despite this, numeric distribution stays a very good alternative to editors. It is a real key factor of success which has been experiencing a huge economic growth since the

early 2010s, enabling editors to optimize their value chain and potentially acquire a competitive advantage. Thus, 90% of computer video games and 40% of console games have been delivered on a numeric support in 2016 in Europe according to Forbes (2016).

#### d. Advertisement

Advertisement in video game field includes some different categories (Marchand, 2013). In order to be more exhaustive, only the two major categories will be analysed: the “advergame” and the “in-game advertising”.

The advertigame, contraction between advertisement and game, is a kind of video game which only consists in promoting a brand image. This method is more and more used as an alternative to traditional brand communication enabling to more easily reach out some consumer categories.

In-game advertising is the most used kind of advertising in video games. It consists in using a game environment for promotion purposes. In other words, it means product placement in video games. More concretely, this kind of advertisement can be translated by the presence of diverse object – advertising boards, shop front, poster, devices, vehicles, weapons – intentionally included in a video game in order to bring a more or less visible advertising message to the player (Emery, 2002).

On the same mod as traditional advertisement, generated profit through in-game advertisement is provided through advertising sponsors, that is to say the amount payed by a brand in exchange for an advertisement message. A huge growth of this model is visible recently and have reached 7.2 billion dollars in 2016 according to Forbes.

Moreover, in-game advertising can be perfectly applied to some kind of video games such as sport games or car racing games because it is a way to substitute traditional advertising massively used during sport events and add a realistic touch to this virtual worlds. It can also be coupled with other kind of business models such as the “Free-to-Play” which is going to be analysed later on in this study, because it allows to generate a revenue without degrade game playability or accessibility.

#### e. Subscription

In the first place mostly used by magazines and newspapers, subscription is also an available remuneration model for video game editors. It consists in making players pay most of the time monthly so they can keep playing.

On the contrary to usual games that players buy for an unlimited use, subscription games are often free of charges when acquired but need to get a periodic charged subscription (Williams, 2009). It is most of the time payed by credit card and renewable.

#### f. Micropayment

Micropayment is a mean of alternative payment to credit card for purchasing a game of online content. This method enables video game editors to ease low added value content purchases. These contents can take the shape of complete low cost mobile apps or added contents which aim to create an additional value to the original game (object, extensions, updates, game accelerator, etc.).

There are many micropayment systems available to editors. Still, it is hard to classify these different systems by importance order as consumers’ behaviour toward the use of these systems is very different from a country to another. For example, in France, the favourite ones are payment through monthly mobile phone or Internet provider

facture, the sending of taxed SMS with a key word in order to obtain in return an access code, and a PayPal account from what we can do low amount payments.

The use of micropayment have many good aspects for players in comparison with credit card. Indeed, it is a secure (unique use safe code), confidential (no registration or personal data needed) and fast (operation done in less than thirty seconds) mean of payment. It enables to the whole of players to execute Internet transactions while easily and efficiently controlling their budget without excluding some player categories like the youngest ones who cannot have a credit card.

In the same idea, this mean of payment can be very advantageous for editors. Actually, its operational efficiency, as previously said (fastness, confidentiality), is really liked by players, so the editors can obtain a better conversion rate than through the use of credit card. This payment solution can also be easily integrated through a video game user interface.

These numerous advantages make micropayment a particularly popular financing method for online games as it can be complementary added to other financing sources such as subscriptions or direct sales. For example, it can allow players to acquire virtual money or charged additional content (Whitson, 2011) from a game bought in a specialized shop. On the contrary, this model can also authorise players to convert virtual objects into real money, or exchanging virtual goods among them.

#### 2.2.2.2. Classification based on financial accessibility

We can distinguish video game business models according to their financial accessibility based on a price discrimination for the consumer. This new classification distinguishes charged games of "Pay-to-Play" model from free of charges games of "Free-to-Play" model (Davidovici- Nora, 2014).

It is important to notice that for both these business models, the user have to previously possess the required material and device – console, graphic card, screen, computer, smartphone, joystick, etc. – so the games can work correctly. Moreover, Free-to-Play also supposes an Internet connexion performing enough to guarantee an access to dedicated networks.

#### a. Pay-to-Play

Historically speaking, it is the most employed model used in video game sector. The principles of Pay-to-Play model (P2P) is also used by most services or consumption goods of courant life and entertainment. It considers that before everything else a game is a cultural product comparable to any kind of consumption goods. This concept is not unique to video games sector. In practice, it supposes consumers to proceed for a purchase of the product or service before being able to use it.

If we take video game market as the referential, this means users must first buy the game before playing it. Once the video game bought, users can play without any time limit. For example, a consumer will be able to buy a new or second-hand console game in a specialized shop, and then he will be able to play with it as much as he wants on his own console or a friend's one.

Based on purchase conditions and reserve price of the consumer (maximum price a consumer is willing to pay), this financing method has represented until the end of the nineties the main revenue source of editors. In this model, the objective is to sell enough game units in order to reach the inflexion point (when revenues equal expenses) and then generate profit. Thus, an efficient use of distribution network represents a real key of success for editors.

However, the universalization on the Internet and the high household equipment rate from the early nineties enables a growth of a new game mod: online gaming. At

the origin, it is a technology consisting into giving the possibility for players to play with other players on the Internet. Even if internal network gaming (called LAN for Local Area Network) already existed back in that time, it required a very important logistics and technical organisation from players. The online functionality allowed to remove those constraints and propose new functionalities to P2P games.

First adapted to traditional offline games, this technology then created a new flow for games which were working partially or totally with internet connection, as it is the case for Free-to-Play games.

Adaptable to every kind of video games, online technology has made possible the raise of the whole of alternative financing models, such as charged payment or micropayment allowing editors to diversify their revenue sources in terms of P2P. Thus, players are no longer obligated to buy a game stuck in timeline as it was the case for offline P2P games during the nineties but they can now buy a “living” game in which it is possible to add charged additional content downloadable thanks to micropayment systems.

More recently, this word is used for distinguishing online charged games (P2P) from online free games (F2P). In this context dedicated to online games, the P2P model particularity is that it is necessary for a player to exercise a payment before he can totally be playing. This payment takes often the shape of a monthly subscription permitting players to have access to the game and to its network (Davidovici- Nora, 2014).

## b. Free-to-Play

### i. The free of charges challenge

On the contrary of Pay-to-Play model, Free-to-Play is a business model which exists exclusively in the online video game sector for which no previous purchase is required for playing. In other words, players can partially or totally enjoy a video game without having to pay anything. The game is then freely accessible via content distribution platforms (Davidovici- Nora, 2014).

Actually, F2P games' free status makes editors wonder about the profitability of this business model. They cannot rely on direct game sales as it is for P2P and they have to be able to find a way to generate alternative revenue (Desyllas, 2013). Their main issue is then to achieve to coherently mix an initial free system inherent to F2P games with other forms of added revenue in order to be profitable. These combinations of generic business models enable to establish solutions that exist only for free online video games.

The first solution is the use of micropayment. This business model is one of the most usual revenue source used by online games rather they are F2P or P2P thanks to its capacity to be easily and complementary combined with other remuneration models. It allows editors of F2P online games to keep the free of charges aspect of their video games while still having an alternative revenue. Thus, the word "Shareware" is used when micropayment is used for the integral purchase of a low added value game, such as mobile phone games and social network games. In that case, the game possess a limited initial version, freely accessible and downloadable, and a charged version available through micropayment giving an unlimited access to the game. Purchases of that kind of game can also be done thanks to the business model of numeric distribution via traditional payment mean like credit card. In the same idea, the word "Freemium" is used when the micropayment is used for a facultative premium offer of a game, giving access to added content (virtual money, cheating tools, extensions, updates, game accelerators, better levels, etc.) or for premium services (priority of connexion, in-game advertisement removal).

This kind of premium offer can also allow to solve profitability issues thanks to the settle of charged subscriptions intended to an experienced audience. This second solution permits to retain regular and experienced players and create a strong community of gamers around which some casual players come and go.

The third solution is the use of in-game advertisement which can also finance a part of the production of the video game itself. However, revenue generated thanks to this model stays most of the time low and must be combined with other remuneration models.

Thus, F2P games profitability is based on the coherent and efficient use of these combination of business models which mix free offers and charged offers and which enable in fine editors to generate profit (Davidovici- Nora, 2014).

However, settling hybrid business models, consisting a fundamental key factor of success for editors, does not mechanically implies commercial success. Indeed, profitability of a F2P game do not only depend on its business model but also on its playability. Thus, Editors have to consider other non-economic key factors in order ti guarantee the commercial success of their F2P games.

## ii. Game mechanics

Out of the coherence of the chosen business model, profit generated by a F2P game depends on the number of players ready to go further the simple free version of the game to invest in a charged offer. Thus, the editors' objective is to encourage the targeted audience to make that decision thanks to a convincing playability. Some key factor of success can explain a succeeded F2P playability (Marchand, 2013).

First, editors have to underline and invest on the First-Time User Experience, that is to say the first feeling of the player when he discovers and experiences its first game

session. In other words, the playability has to be attractive and accurate enough in the very first minutes of the game to keep the player's attention and make him play again. In practice, editors can therefore propose players a demonstration of the charged version in which the progression is easy, enjoyable and fast and then make them move after a period of time to the free version in which the progression is harder. Even if the issue of the first experience of players is also important for Pay-to-Play games, it is even more for Free-to-Play games. Indeed, the great accessibility to F2P games has drawbacks, it can be very attractive for numerous players but it possesses a lower return rate (that is to say the proportion of players coming back to play to this same game). In other words, players are more likely to give up the game if it is free of charges.

Secondly, editors must encourage players to adopt routinely behaviours in order to retain them. Players are then stimulated in investing more in the game through simple and repetitive actions over time. In practice, it can be translated by the advancement level of a game element (experience points, virtual money, etc.).

Thirdly, editors have to create a frustration feeling to the player in his actions in-game which take more and more time. In order to do so, the difficulty level of game mechanics is function of the player immersion. In other words, the more the player progresses the more it will take time to progress again. In order to remove this constraint, players can subscribe to charged offers proposing them cheat tools or acceleration services for example in order to reduce the difficulty and progress faster on.

The level of difficulty between the free version and the charged versions depends on a previously determined balance made by editors (Davidovici- Nora, 2014). This balance has to be astute enough for not creating a suspicion feeling for players which could involve a radical loss of engagement. When this balance gives a significant

advantage to players in charged versions, the game is considered as a “Pay-to-Win” game (P2W). Consequently, the balance degree of P2W games determines the weight of real money in game mechanics and in the player’s progress. Even if this game logic seems unfair, it is still used in most F2P games with different degrees (from nearly absence to total invasion). However, a high degree of Pay-to-Win may not affect players’ sensations. For example, games as “World of Tanks” and “Hearthstone: Heroes of Warcraft” deeply favouring players paying charged offers are major commercial success thanks to their implication in electronic sport field, or eSport.

Forth, editors have to be able to identify and attract players with high potential of expenditures. These “Whales” as they are called are very regular and passionate players ready to spend big amount of money in F2P games. They represent about 1% of players and they are the source of a big part of F2P game revenues. For some of these players, expenditures can reach a few thousand euros (Davidovici- Nora, 2014).

### iii. An innovative business model

Free-to-Play is an innovative business model for many reasons (Desyllas, 2013).

First the free of charges aspect of F2P model guarantees a great accessibility to the games for players. Apart from the required material (support devices, internet connexion), the absence of entry barriers for players stimulate a large audience to adopt F2P games. However, the free model has drawbacks because players, having spent anything, do not feel obligated to make profitable their game and they are more likely to give up.

Secondly, F2P model encourage the creation of games with low added value and that do not require too much specifications in terms of material resources (computer

software, mobile phone apps, etc.) allowing to guarantee low production costs and enabling anyone to access it.

Third, the very concept of free of charges makes obsolete the question of video game piracy. Indeed it is useless to pirate a game when there is a free version available. Piracy fighting is a major issue for game editors for whom it represents a great loss of profitability. So, F2P model represent an innovative solution for editors.

Forth, editors can settle motivational sponsorship systems in order to encourage players to invite their friends thanks to virtual rewards. This process permits to create an alternative distribution network beside the numeric one. Thus, the player becomes an ambassador of the F2P game and contribute to the animation and promotion of the game.

To conclude, F2P is an innovative model inciting editors to redesign their profitability strategy. However, mastering the whole of the key factor of success as previously detailed (coherent remuneration models, free of charges principle, game mechanics for addiction, balance of charged offers) do not guarantee editors a commercial success but enable them to be competitive on a very aggressive market.

Editors have to be able to redesign their value chain and to combine it with an optimized F2P business model in order to acquire a competitive advantage on their market (Marchand, 2013).

We have just seen the current criteria to define a business model for video game editors. They have to value their market and get to know what the most important criteria are for their target consumers. The aim of this study is nonetheless to draw a

map of the existing choices of business models but also to help editors in their choices by analysing the different criteria a consumer can value.

In this following methodological part, we are going to see how we performed in carrying out an opinion from real consumers about business models.

### 3. METHODOLOGY

#### **3.1. Methodological approach**

According to Saunders, Lewis and Thornhill (2009), the research philosophy is linked with the way the author views the world. It means that the researcher's personal perspective in generation knowledge is shown. Saunders et al. (2009) differentiate between four research philosophies: positivism, pragmatism, interpretivism and realism. The aim of positivism is to produce general rules to forecast behavior with a minimum margin of uncertainty. Research based on a positivist philosophy tends to be based on deductive theorising, where a number of propositions are generated for testing, with empirical verification then sought (Babbie, 2007). Interpretivism is on the other extreme of that of positivism. Researchers who adopt this philosophy consider reality as socially constructed, that is, their meaning of reality is affected by their values and their way to see the world; other people's meaning; the compromises and agreements that come out of the negotiations between the first two (Fisher, 2007). Realist research is an approach that resembles to a large extent that of positivism but takes into consideration, and comes to terms with, the subjective nature of research and the paramount function of values in it (Fisher, 2007). Realism still aims to be scientific but makes fewer claims to knowledge that perfectly mirrors the objects of study. Researchers with this stance recognise that things such as 'strategy' and 'job satisfaction' cannot be measured and studied in the same way as can chemical and physical processes. ). In pragmatism the most important determinant is the research question. This view allows the researcher to work with both positivist and interpretivist positions to choose the best way to answer the question (Saunders et al. 2009).

Three approaches are used to handle theory, whereby two of them are the basis: inductive and deductive. In the inductive approach data is collected and theory is developed based on the analysis of the data, whereas in the deductive approach

theory and hypotheses are developed to test those (Saunders et al., 2009: 124). Both approaches have advantages, but also disadvantages. The abductive approach is a combination. Theory is generated parallel with data collection and analysis (Davies, 2007: 234). The researcher goes back and forth between theory and empirical evidence.

The nature of this study suits the inductive approach and relies on interpretivism as it aims to understand the behaviour and collect information about video games consumers according to different business model proposed by editors.

The universalization of video games is a phenomenon that is quite difficult to quantify and there is no specific common sociological denominator between individuals that share the same behaviours and consumption modes as Davidovici-Nora (2014) showed in her own study. Therefore, analysing a specific kind of audience, previously chosen, won't mechanically allow to understand the cause and effect relationship that exists between groups of individuals and business models.

This study purpose is to consider the problem upside down, and starts with an analysis of the combinations of economic models in order to identify different levels of impact produced by the universalization of video games. The objective of this study is to execute a combinatorial analysis of the business models of the editors in order to underline the impact of each model combination on the population. With this aim in mind, this study relies on methodological dichotomy separating video games according to their accessibility to the mainstream: on one hand the Pay-to-Play model which represents all the charged games with obligation of purchase, on the other hand the Free-to-Play model embodied by all the online free games without obligation of purchase. Those emblematic business models are used as generic elements allowing the creation of a variation of combinatorial business models.

This study is using a mixed method approach which embraces a method and philosophy that combines the insights provided by qualitative and quantitative methods into a workable solution. Mixed methods research makes full use of the positive parts of both qualitative and quantitative methodologies by combining approaches in a single research study to enhance the scope of understanding (Johnson, Onwuegbuzie, and Turner, 2007). In other word, this study uses quantitative and qualitative approach and data in order to consider the issue in its entirety. As mentioned by Bryman and Bell (2007), a combination of qualitative and quantitative results would lead to a better understanding of the data and help in a better way to answer to the research objectives. As the education sector research field keeps on changing, so too does its methods and therefore the researcher has used the mixed method approach for the current research.

The research design of this study is descriptive. Descriptive study seeks to provide a clear picture about the phenomenon as it already occurs (Hedrick et al., 1993). Research using a descriptive design simply provides a summary of an existing phenomenon by using numbers to characterize individuals or a group where it assesses the nature of existing conditions (McMillan & Schumacher, 1997). The purpose of most descriptive research is limited to characterizing something as it is. Afterward, this study goes beyond this limitation by concluding on the strengths and limits the description provides to editors' monetization perspective.

This study will therefor analysis the different basic business models and create a combination matrix between them. Then, these combinatorial business models are to be submitted to potential customers in order to analysis consumer profiles, involvement level and expenditure potential. These information can be used to test the different business models in order to show the strengths and weaknesses of each.

Once this business models determined, the realisation and administration of a questionnaire composed by twenty one questions to 283 volunteer people permit to collect numerous pieces of useful information.

### **3.2. Administration mod and method**

The conception of the questionnaire was realised thanks to the specialized online platform "surveymonkey" which was chosen for its strength compared to its competitors. It allowed very useful tools to combine answers and profiles which was a crucial element in this study. Twenty one questions have been conceived and presented in three successive steps. The first one consists in measuring the engagement level of the questioned person, the second one analyses in detail the expenditures potential, and the third one gathers the sociological information for each individual.

One of the main limits encountered during this study was the administration of the questionnaire. Actually, the questionnaire was mainly digitally administrated through the Internet for a lack of means (administrating the questionnaire physically in the streets or by phone would have too constraining for me alone). This administration canal is unequally accessible according to the kind of audience, for example seniors, and doesn't cover representatively the population studied.

In addition to the digital administration mod, the word of mouth also contributed to collect many high quality responses. However, the important presence of the 18-35 years old category in this chosen communication canals implies a bigger representation of this age bracket.

In the same idea, the great interest from the community of gamers for this study inevitably lead to a big proportion of video games fans to answer to the questionnaire. Even if the approach is valuable, these people are sadly not the most concerned by the universalization of video games as they are already fans of gaming

for many years. On the contrary, the low interest to the subject from the casual players, who are completely concerned by this phenomenon, drove many of them not to answer the study.

### **3.3. Constitution of combinatorial business models**

As we saw in the previous part, there are many criteria to take into account in order to construct a video game business model. However these criteria can be combined in order to create a complete and exhaustive list of business models. In this following part, we are going to see the different possible combinations.

The principles of the Pay-to-Play (P2P) model assumes that the consumers have to purchase a video games in order to use it entirely without any limit. On the contrary, the principles of the Free-to-Play (F2P) model proposes to the gamers to be able to access a playable version of the game without having to pay. The objective is to encourage on midterm players to subscribe to premium offers in order to improve the playability or the durability of the game.

These two models can also be combined with other business models as already told ahead, by using systems of micropayment, regular charged subscriptions, and the use of advertising inside of the very game.

Subsequently, Free-to-Play and Pay-to-Play models can be declined in combination of business models allowing in fine to obtain a set of combinatorial business models:

- The complete model: combining systems of micropayment, subscription and in-game advertising.
- No advertisement model: combining systems of micropayment and subscription

- No subscription model: combining systems of micropayment and advertising
- No added content model: combining systems of subscription and advertising
- Advertisement model: combining advertising systems only
- Customizable model: combining micropayment systems only
- Subscription model: combining subscription systems only

This set of combinatorial models can be applied to each major business models (Free-to-Play and Pay-to-Play) in order to determine their impact on the whole players.

These combinatorial business model are submitted to the game consumer various people thanks to a survey which is presented below.

## 4. Data Analysis

As seen in the previous part, the essay is about providing a list of combinatorial business models available to video game editors and to analysis the marketing implications of each. In order to do that, a questionnaire has been created in order to submit it to video game consumers. This part will show what data has been collected.

### 4.1. Data presentation

The analysis is founded on the answers of 283 people to a questionnaire which objective is to understand players' behaviour and their consumption principles.

#### 4.1.1. Sociological aspect of observed population

##### 4.1.1.1. A young and qualified population

Among the 283 questioned people during this study, about 73% are between 18 and 29 years old, and 39% of them are women. This young and masculine population is in majority in this study because of the restrictive administration methodology of the questionnaire as said earlier. This implies a less important representation of other age bracket. Thus, 21% of questioned people are more than 30 years old, people that are more than 40 represent only about 7% of the population. It is interesting to notify that the age bracket 14-17 years old representing 6% of the total questioned population is only masculine. On the contrary, the parity is close for the age bracket 18-29 years old with 56% of men for 44% of women.

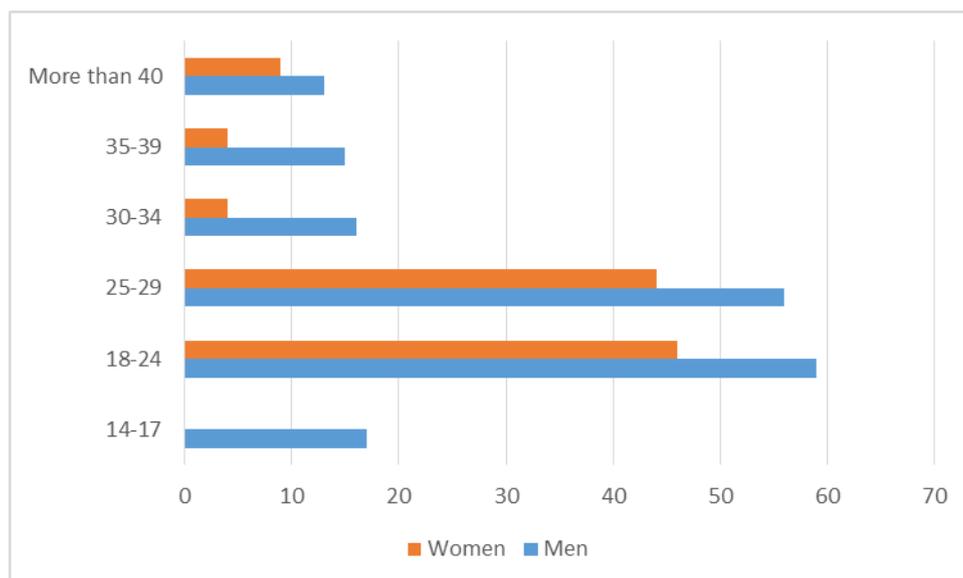


Table 1: Age graphic of the entire sample– the importance of the 18-29 age bracket

The education level of these 283 questioned people is higher than the average, mainly because the use of specific administration canals and material restrictions.

Thus, 43% of the population have a master degree for an average of 15% for the European population. In the same idea, 73% of questioned people during the study have an upper education degree while it's only the case of 44% of European population.

While upper education graduated people seem to be more represented in this study, people having a low qualification level (primary education degree or no diploma) are lacking. These people represent in Europe nearly 33% of the population but only concerns 6% of questioned people.

#### 4.1.1.2. A majority of student and employees

For good reasons as confidentiality and precision, it is dangerous to try to identify groups of people from purchasing power or remuneration information. Thus, a big part of the population does not want to reveal financial information (salary, personal estate, etc.) in the context of private analysis. In order to avoid this coercion and to not have to ask intrusive and sensitive questions, questioned people only had to furnish their profession of socio-professional category.

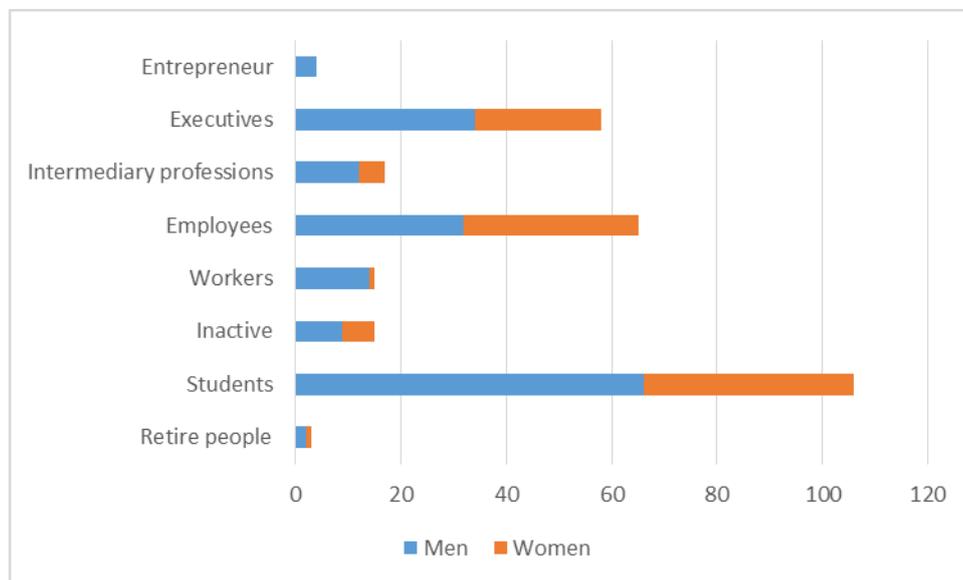


Table 2: Socio-professional categories of the entire sample

Three categories can be underlined in this study: students, executives and employees.

The important part the 18-29 age bracket in the study implies a big proportion of students who represent 36% of questioned population and 63% of them are men. Just

behind them employees represent 24% of the population with a majority of women. Finally, executives represent 21% of questioned people and 62% of them were men.

Even if there are more men than women in the study, some categories still reach parity men/women. It is the case for inactive people (53%/47%) and employees (49%/51%).

#### 4.1.2. Multiples consumption mods

As it has been explained in the theoretical part of this study, there are a lot of video games consumption mods available to players. These consumption mods represent the main part of editors' revenue source from the setting up of adapted and consistent business models. In order to understand consumption behaviours, this study takes care of players feeling about the different video games consumption mods.

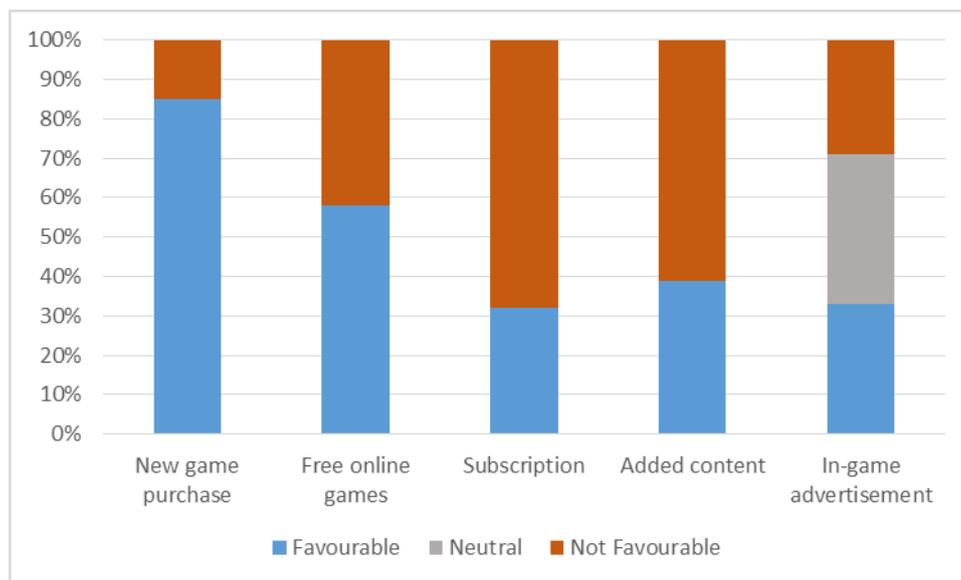


Table 3: the weight of different business models according to the entire sample

##### 4.1.2.1. Preference to purchase new or second hand games

Buying in stores or online new or second hand video games keeps being players' favourite consumption mod. Thus, 86% of questioned people declare to be ready to buy a new game in the close future. Even if physical supply seems to be a declining business model, good scores of virtual distribution confirm this tendency.

This globally positive results could stimulate editors to keep this business model based on supply chain optimisation.

#### 4.1.2.2. Other more specific consumption mods

The other consumption mods have globally less impact than the one of new video game direct purchase. Only 34% of players say being in favour of taking a monthly or annual charged subscription. It is the same case for the casual purchase of added content through micropayment systems which gathers 40% of favourable opinions. These two consumption mods will be more deeply analysed later in the study in order to identify the different concerned audiences.

Even when they are free of charges, online games do not win unanimous support. Indeed, 58% of questioned people (whose constituted by 62% of men), say that they play free online games. In the same idea, this study will try to underline different players' profiles among people interested by Free-to-Play games according to their consumption mods.

Eventually, even if it does not represent any kind of expenditures for players, advertisement stays a good way for editors to generate revenue without players to pay anything. Thus, 37% of questioned people about this subject do not consider advertisement as an important factor and keep neutral towards in-game brand presence.

### **4.1.3. Very different player profiles**

Universalization of video games implies a diversification of players' consumption behaviours which cannot only be summed up by a few categories anymore but by a multitude of different profiles.

#### 4.1.3.1. Heterogenic equipment rates.

Players' equipment rates in terms of game systems permit to underline big differences between men and women.

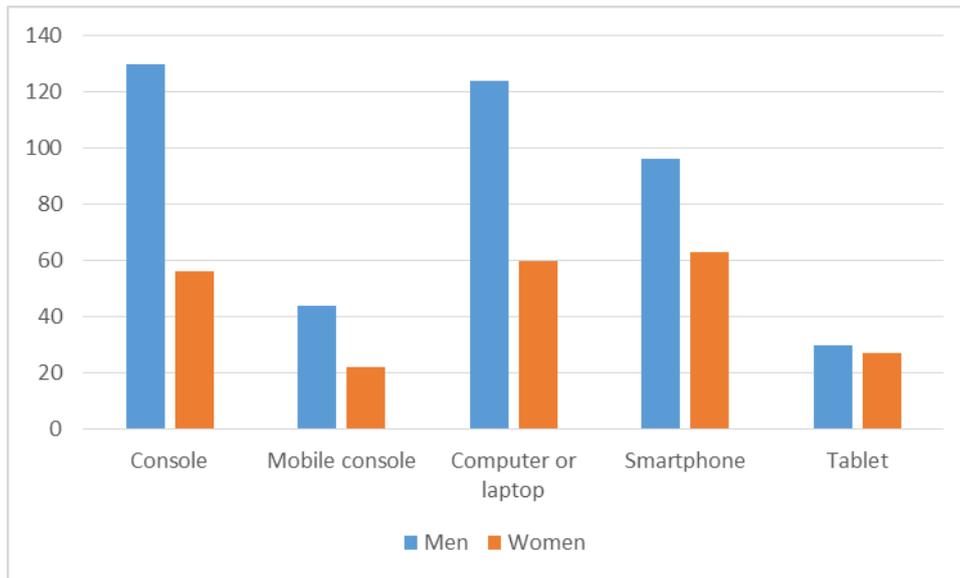


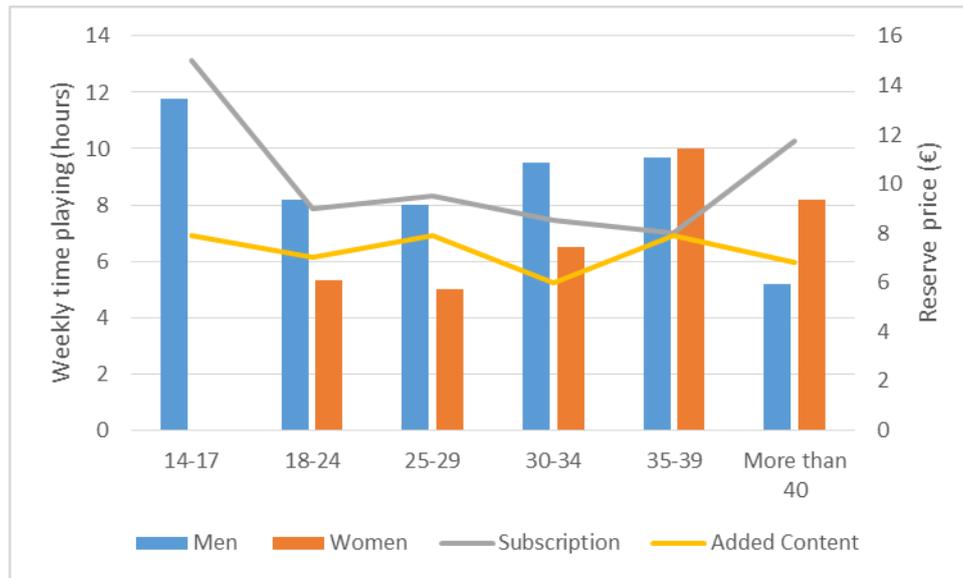
Table 4: Equipment rate by gender of the entire sample

Men are globally better equipped than women. 76% of them have at least one console and 72% have a computer, that represents 2,5 times the equipment rate of women.

Nevertheless, this equipment rate difference is lower for mobile device. Actually, women tend to get more equipped with non-specialized devices (smartphones, tablets) than men. This allows a less efficient but more diversified usage (mails, internet access, etc.).

#### 4.1.3.2. An important and stable involvement rate

Players' involvement rate is also a very good way to discriminate according to their experience and expertise in video games. The more players will tend to invest time playing, the more they will get a deep knowledge and taste to video games and the more they will be willing to spend money on it.



**TABLE 5: Players' involvement by age bracket and their reserve prices of the entire sample**

Average gaming time of masculine players is one hour and fifteen minutes a day. This represents between eight and ten hours playing per week for each age bracket except for people over than 40 years old who play much less: about forty five min a day. The age bracket 14-17 seems to play more than the others with an average spending of about one and half hour a day.

Women tend to spend an average of fifty minutes daily on video games. However, more than 35 years old women play longer than men from the same age bracket.

This involvement is also an expenditures origin. Thus, 14-17 years old bracket represents the most important expenditures origin in terms of subscription which can be explained by a desire of better spending control. They are more ready to spend 14€ a month in order to play video games. This result is not surprising as subscription lead players to involve more as they want to make their investment worth it.

In the same idea, more than 40 years old are ready to spend about 14€ for a monthly subscription for a game, this can also explain why they spend more time playing than men from the same age bracket.

Purchasing added content through micropayment systems is stable between 6€ and 8€ for every age bracket.

## **4.2. Data analysis**

This study objective is to discover combinatorial business models that answer to different consumption mods of players. This analysis will try to underline the impact

of each combinatorial business models on players' feelings. In this part, we will expose every single combinatorial business model as seen in the previous parts and we will related them to the data collected. This will show the kind of population is interested in each business model.

To do so, it is very important to proceed before everything else on doing a methodological dichotomy, founded on video game accessibility to the general public, by analysing separately on the one hand online free of charges games (Free-to-Play) and on the other hand traditional charged games (Pay-to-Play).

In this part, we will see the opinions and social aspects of questioned people claiming corresponding to each business model. The aim is to analysis the specific features of each population in order to understand the strength and weaknesses according to editor's perspective. At the end of every business model data description, we will conclude with an advice to editors in their business model choices.

#### **4.2.1. Pay-to-Play model: various remunerative offers**

Pay-to-Play is the traditional video games business model. It consists in conceiving complete games and sell them directly or indirectly to the consumer. Players will have to purchase the game to enjoy it and he will be able to use unlimitedly every game functionality.

However, new business models have emerged thanks to video games universalization and the rising trend of Free-to-Play, both giving editors many opportunities.

The analysis of gathered data through this study enable to show combinatorial business models related with Pay-to-Play: complete Pay-to-Play, no advertisement Pay-to-Play, no subscription Pay-to-Play, no added content Pay-to-Play, advertised Pay-to-Play, customizable Pay-to-Play, subscription Pay-to-Play and traditional Pay-to-Play.

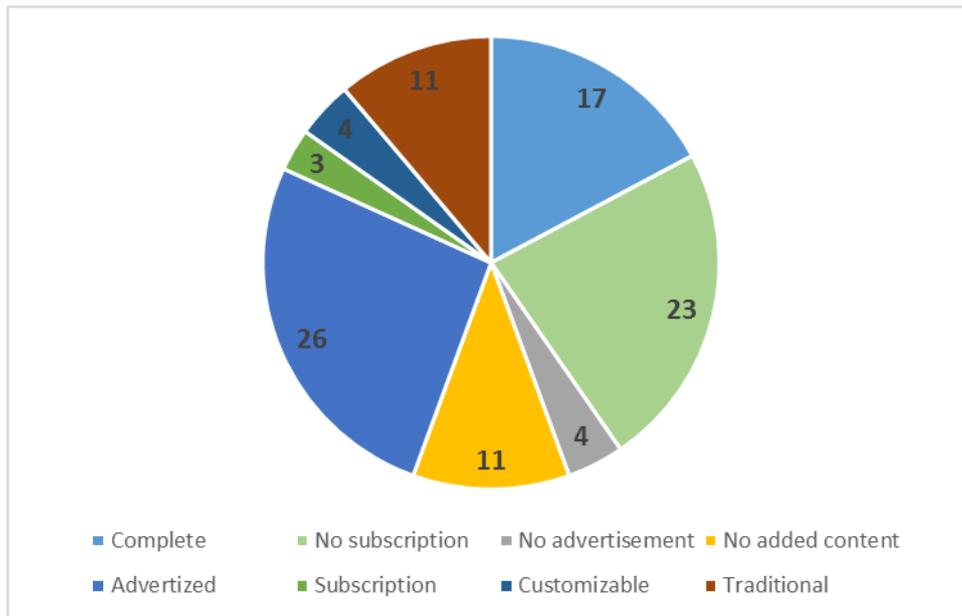


TABLE 6: The repartition of different combinatorial business model among P2P (%)

#### 4.2.1.1. The complete Pay-to-Play model

Among the 283 interrogated people, 17% are ready to play to a Pay-to-Play video game combining the whole of business models available to editors, that is to say purchase in a shop or online, punctual charged added content purchase, subscription monthly or annual and in-game advertisement. Even if players will not be all concerned by this combination of consumption mods, they still agree on the eventuality.

In other words, they are ready to acquire charged and advertised games in which they will be able to subscribe to a premium offer such as monthly subscription of micropayment systems for added content purchases.

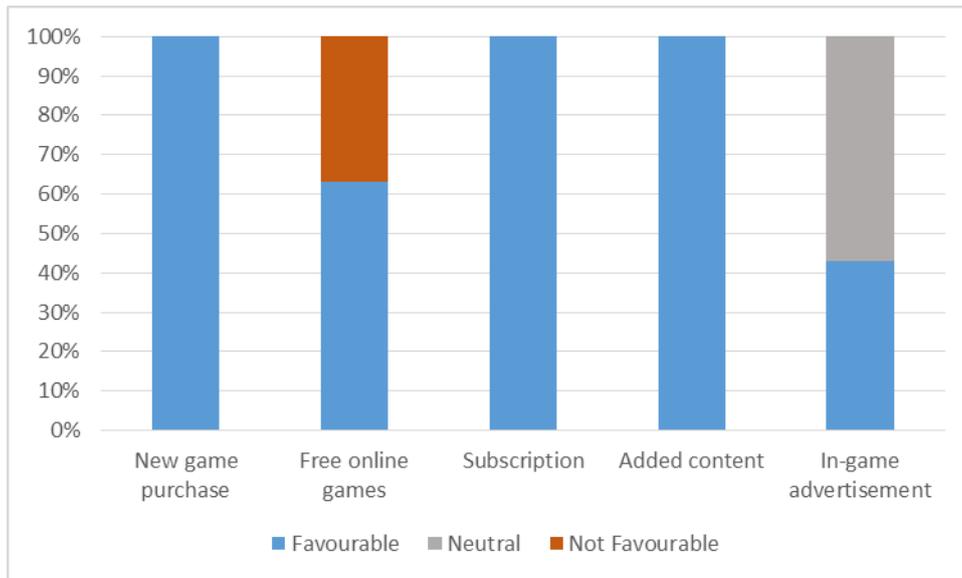


TABLE 7: Opinion of people in favour of complete P2P model

55% of them are not receptive to advertisement even if 31% of them think it is a realism factor when it is integrated in the virtual environment with success.

This high remuneration potential model concerns essentially men (75% of the concerned audience).

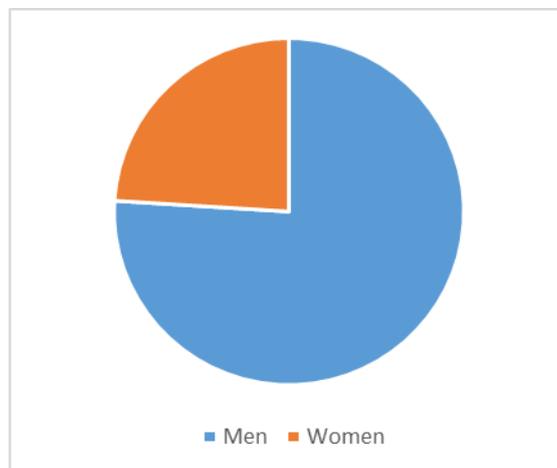
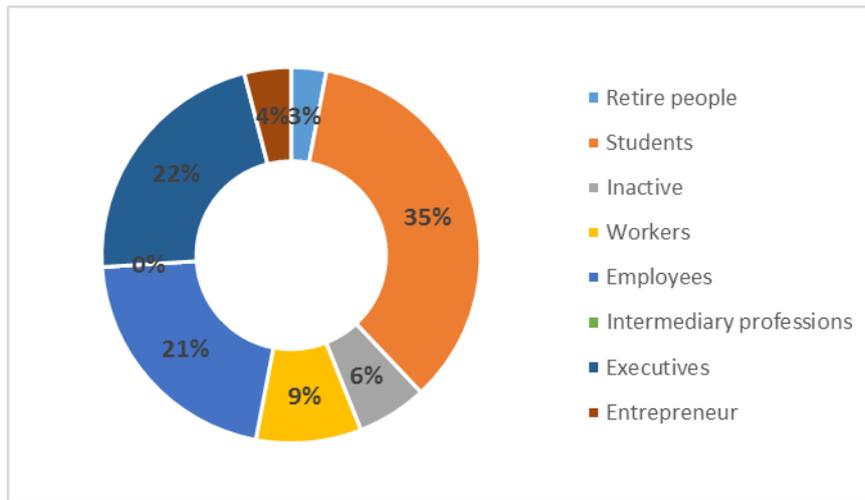


TABLE 8: Repartition by gender of people in favour for complete P2P model

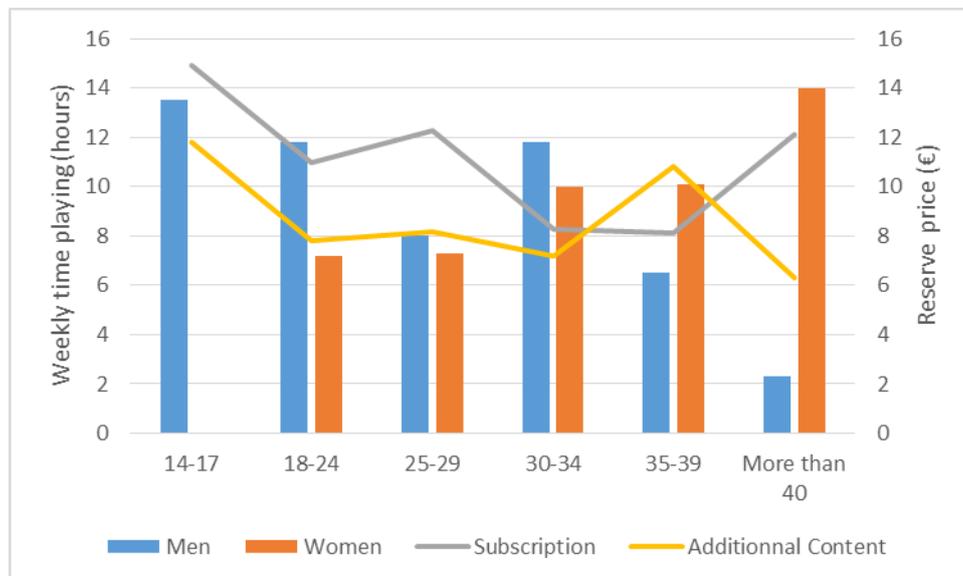
The surprise fact is that these players are students for 35% of them and therefore do not have an important purchase power. On the contrary, 25% of players belong to a high socio-professional category (executive), which contrasts a lot with the student community. These players have a higher living level and purchase power than the average. Finally, one person over five is an employee which is the average purchase power.



**TABLE 9: Socio-professional categories of complete P2P players**

Among these players 55% are video games passionate. 23% say considering video games as a real sport. They are 75% consecrating more than one hour a day playing.

Involvement of masculine players aged between 14 and 17 is the strongest representing an average duration of playing of two hours a day. The difference of engagement between men and women of less than 24 years old is very significant, men consecrating about twice the amount of hours of women. However, this difference of consumption diminishes considerably from 25 years old and reverse after 35 years old. Women more than 40 years old play 5 times more than men of the same age.



**TABLE 10: Involvement and reserve price for complete P2P players by gender and age**

14-17 years old people are more likely to spend more than other age bracket on monthly subscription (15€ of average). These expenditures stay high for the 25-29 years old with an average of 12,25€ and toward people who are more than 40 years

old with 12€ of average. The important part of students among them explains this low expenditures from the 18-24 years old people. In the whole, 60% of players are ready to spend at least 10€ per month whose 22% of them less than 15€.

In the same way, added content are greatly desired by 14-17 years old people with an average of 11.50€ per month. They are followed by the 35-39 age bracket who spent an average of 10.75€ per month for those punctual purchase.

Even if more than 40 years old women represent the kind of player playing the most they don't own the highest expenditure level. In the same way, involvement of women has less impact than men's on their general consumption level.

The objective of these expenditures is to improve the playability and the durability through the acquisition of premium services. They are 93% considering durability as an essential element of a game. Playability is the most important element of a game for 98% of them, so is the scenario aspect for 89%.

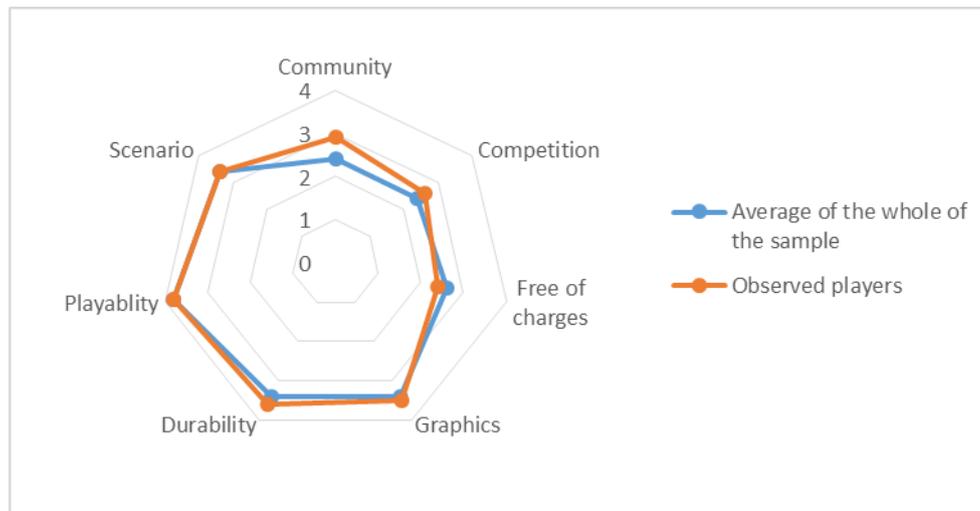


TABLE 11: Subjective importance given to different game element according to complete P2P players

Moreover, the increased importance given by players to the community and competitive aspect of a game can confirm the fact that the majority of these players are passionate players who like to play online on games dedicated to experienced players. They are 65% combining Pay-to-Play and Free-to-Play games. 58% of these gamers only play from home on a dedicated device, non-mobile. The whole of these players possess for example at least one console or computer and 55% of them say combining these two devices.

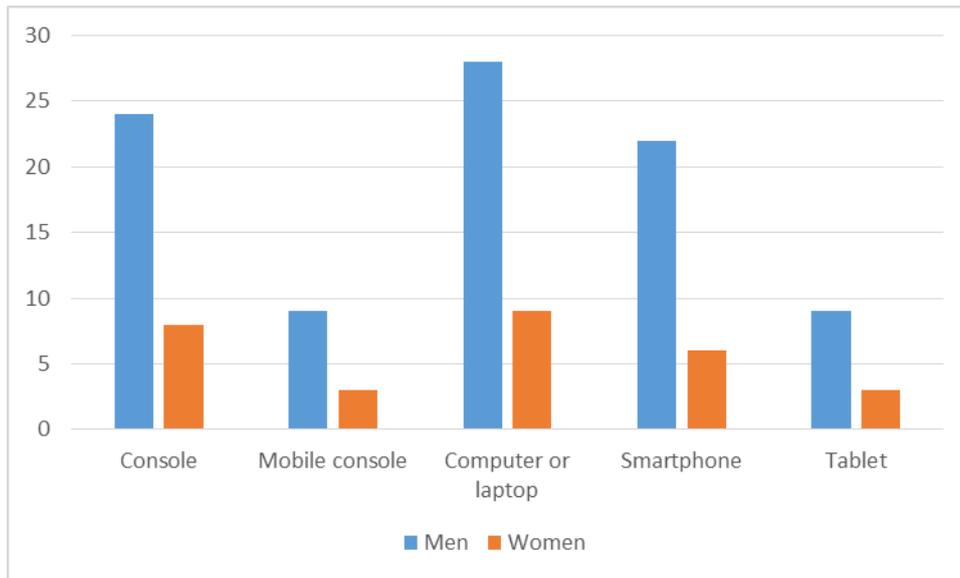


TABLE 12: Equipment rate of complete P2P players by gender

The very important share of men in this population explains the huge disparity in terms of equipment. Men are better equipped than women as they are 3 times more. However even is this difference stays stable, it is more important in terms of smartphone equipment. Men are more likely to play often on their mobile phone than women.

These players are in majority passionate of high added value video games on console or computer, they therefore don't hesitate to go from one device to the other according to the game they want to play.

This passion for video games implies important budget dedicated to their video games consumption. Thus, 71% of players say they are ready to spend at least 45€ for a game and 58% of them more than 60€. Only 9% of these players do not wish to spend more than 30€ on a game purchase.

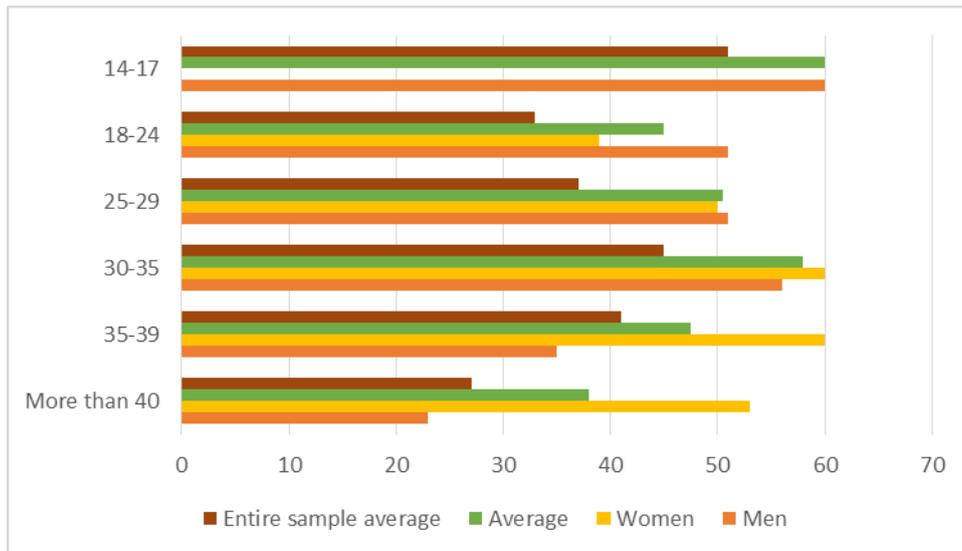


TABLE 13: Average reserve price for new game purchase by age bracket and gender of complete P2P players

Thus, the majority of the expenditures are much higher than the average of the whole of interrogated people, with a highest level of expenditures from women older than 30.

## RESULTS

These users are mostly men more than 30 years old and represent the heart of gamers' community. Two profiles can be underlined through this study thanks to their high expenditure level: first, masculine 18-24 years of players, students for most of them, but able to spend a lot in spite of a modest purchase power; second more than 30 years old women from middle or high socio-professional categories.

Their commune passion and consumption habits of video games drive them to consecrate higher budget than other players. They are ready to combine game purchase with punctual expenditures through micropayment or monthly subscriptions.

However, editors have to succeed in balancing their charged offers in order to adapt to these players' budget. Thus, a mandatory subscription to a game will imply in most cases a significant decrease of the purchase price in shop of this same game.

#### 4.2.1.2. No advertisement Pay-to-Play model

About 4% of these players are in favour of this business model linking micropayment systems and monthly subscription without any advertisement. These players combine for 80% of them Pay-to-Play games with Free-to-Play games.

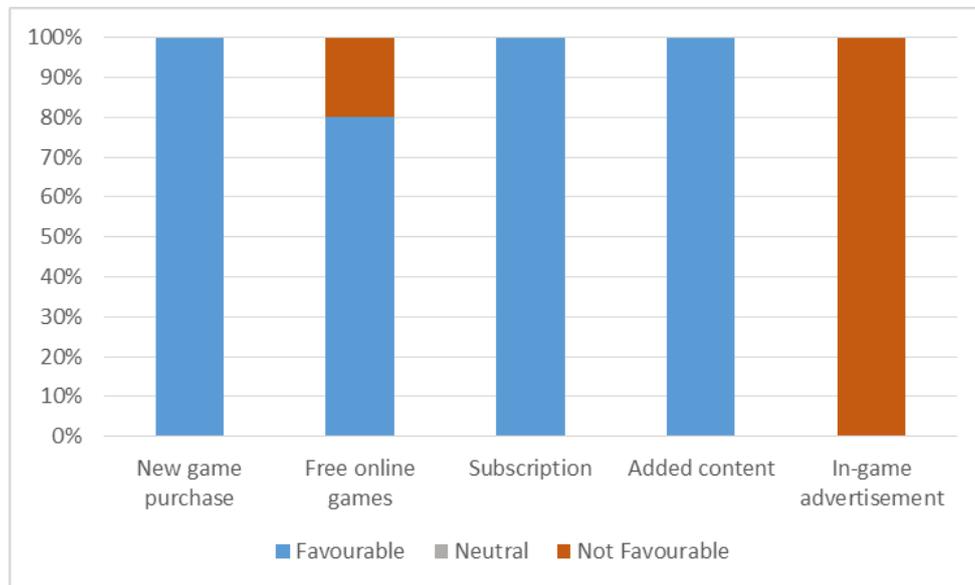


TABLE 14: Opinion of people in favour of no advertisement P2P model

Thus, 70% of these players think that in-game advertisement is intrusive because it lower the playability quality. They all consider playability as the most important factor for a game. It contrasts with the free of charges aspect of a game that players consider unnecessary for 90% of them.

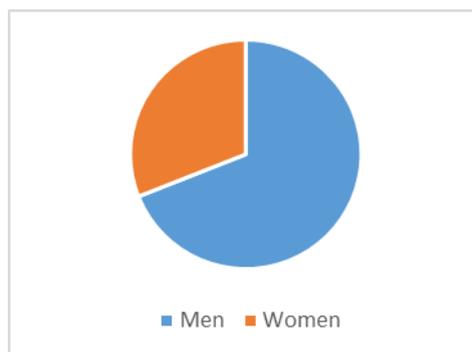


TABLE 15: Repartition by gender of people in favour for no advertisement P2P model

These players are 70% males from the middle class. 40% of them are employees and 10% are intermediary professions. Students represent 30% of these players. Thus the majority of these players possess an average purchase power. Only 10% of them belong to the superior socio-professional bracket (executive).

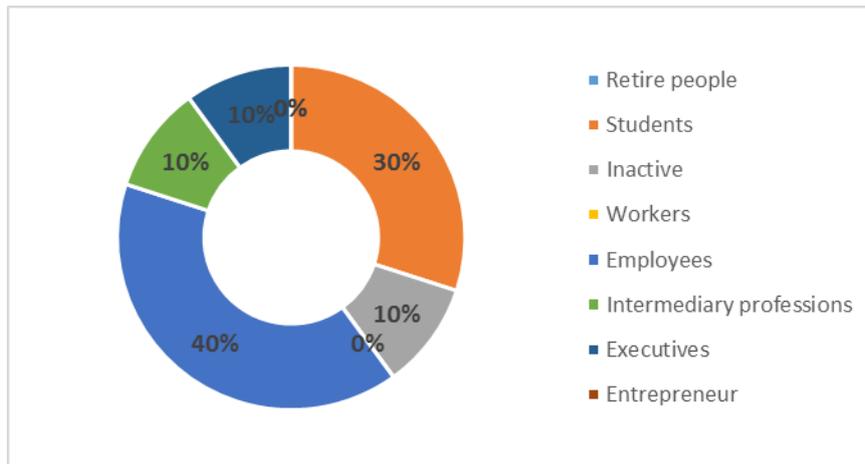


TABLE 16: Socio-professional categories of no advertisement P2P players

For the whole of these players, durability and scenario are the most important elements of a game. They underline the competitive aspect that is to say its level of difficulty and of progression in comparison with other players. They also think important the community factor which means the quality of the social network of a game.

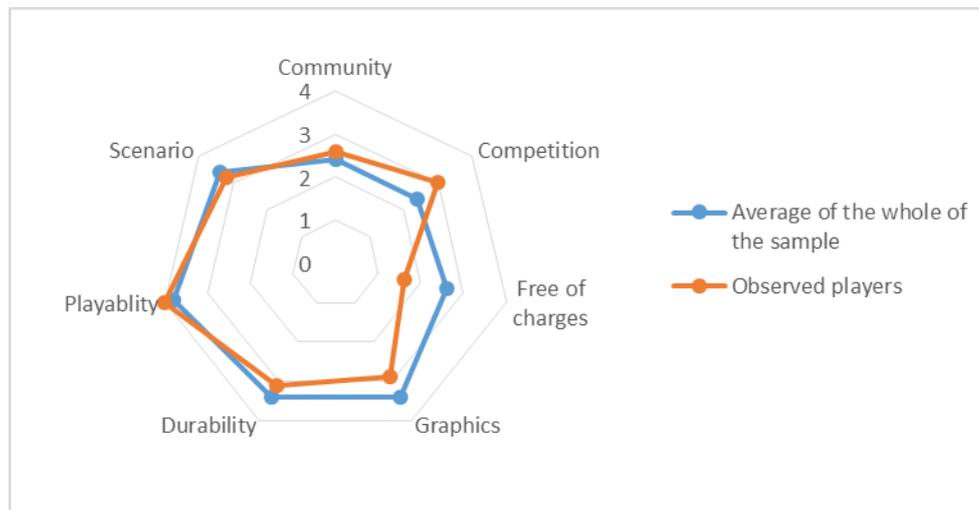


TABLE 17: Subjective importance given to different game element according to no advertisement P2P players

It can be explained by the fact that a majority of these players play online in cooperation with or against other players. This enthusiasm for online gaming encourage them to consider a game on its offline quality but also for the success of its online mod.

70% of these players dedicate a budget superior to 45€ for the purchase of a new game. This high expenditure level concerns firstly men who have an average budget of 53.50€.

On the contrary, women have a very diverse expenditure level according to their age bracket. Thus, they spend an average of 22.50€ for the purchase of a game between 18 and 29 years old, 52.50€ when they are between 35 and 39 years old.

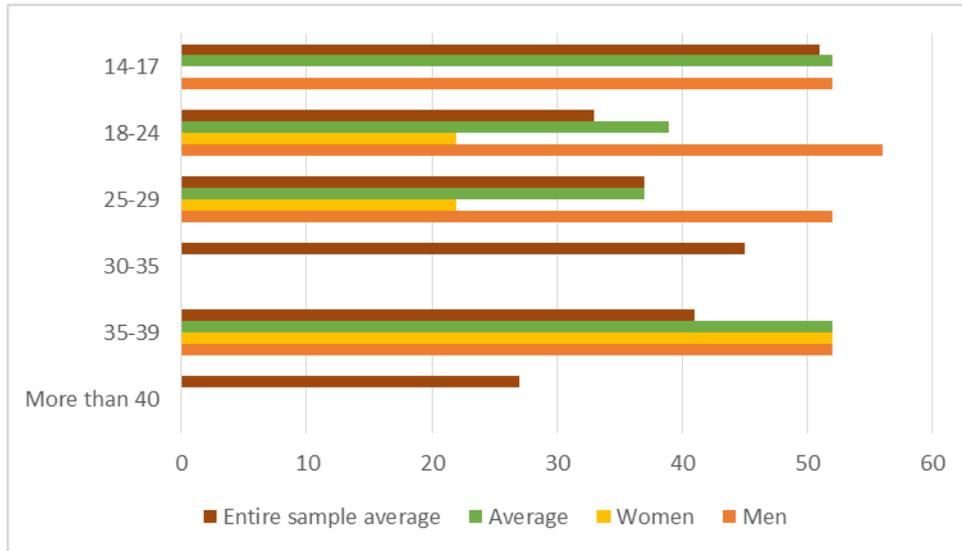


TABLE 18: Average reserve price for new game purchase by age bracket and gender of no advertisement P2P players

Most of these users are experienced players who spend more than two hours a day playing for 70% of them. Three profiles can be underlined in this analysis of weekly involvement.

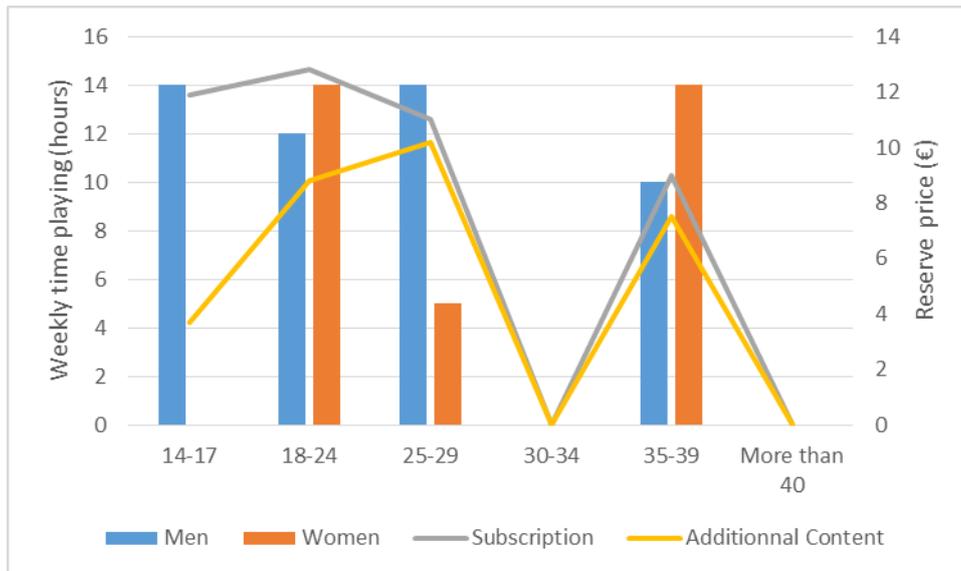


TABLE 19: Involvement and reserve price for no advertisement P2P players by gender and age

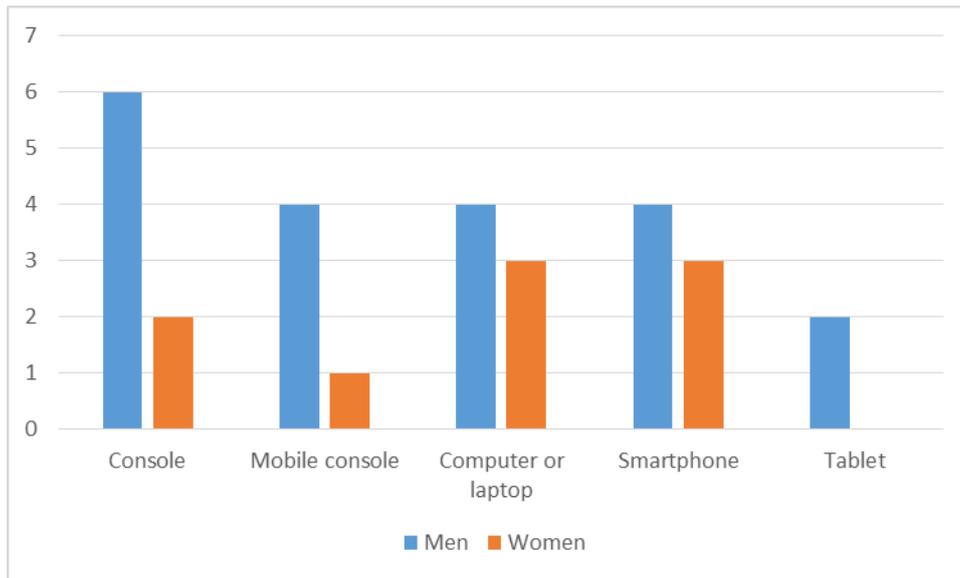
The first profile corresponds to a masculine audience aged between 14 and 29 years old dedicating between 12 and 14 hours playing per week, an average of 80 minutes a day. Their expenditures in terms of monthly subscription are high: 12.20€ a month. However, their expenditures for added content grow as they grow older. Thus the age bracket 25-29 is the one spending punctually the most through micropayment with an average of 10.75€ a month.

The second profile of players corresponds to a feminine audience aged between 18 and 24, essentially student, dedicating two hours a day playing. However, these players have average expenditures much lower than other age brackets despite a high involvement rate. They dedicate 2.8 time more time playing than 25-29 women.

The third profile is a feminine audience aged between 35 and 39. They dedicate 40% more time playing than men of the same age bracket. The average investment in terms of budget for subscription and micropayment stays mowrer than the two previous profiles.

Thus, the majority of these questioned people are passionate and demanding players. 40% of them are ready to spend at least 20€ in added content enabling to increase a game durability and add a scenario touch to original games. Content proposed by editors have to fulfil these conditions to get the attention of these users. They have to be a true added value.

These players play mainly on console (80%) and computer (70%). These games are in majority high added value games.



**TABLE 20: Equipment rate of no advertisement P2P players by gender**

The difference of equipment rate between men and women is very significant for consoles. These devices are very specialized as their first function is video game use. Thus, men are more equipped with these devices because they search for a finished user experience. They are real passionate players investing in advanced devices. On the contrary, women prefer non specialized devices and mobile ones, such as laptop or smartphone which are not only dedicated to gaming.

## RESULTS

The majority of these users are confirmed and equipped players. However, two profiles can be underlined in this analysis thanks to their high expenditure level and their important involvement.

The first one is a masculine audience aged between 24 and 29 possessing a high expenditure potential for every mod of video game consumption. Thus, they can acquire a high added value video game available on console or computer and then punctually purchase charged added content in order to improve their game experience. They can also subscribe to charged subscription in order for example to avoid advertisement they think intrusive.

The second profile corresponds to a feminine audience between 35 and 39 years old. These players prefer non specialized game systems allowing them to go easier from work to entertainment. Even if they are less likely to spend a lot in added content or subscription they still have a high expenditure potential.

#### 4.2.1.3. No subscription Pay-to-Play model

Among the 283 questioned people, 23% are in favour to in-game advertisement and micro payment systems. These players are ready to spend punctually little amounts of money in order to improve a game playability, element that 98% of them consider as an essential factor.

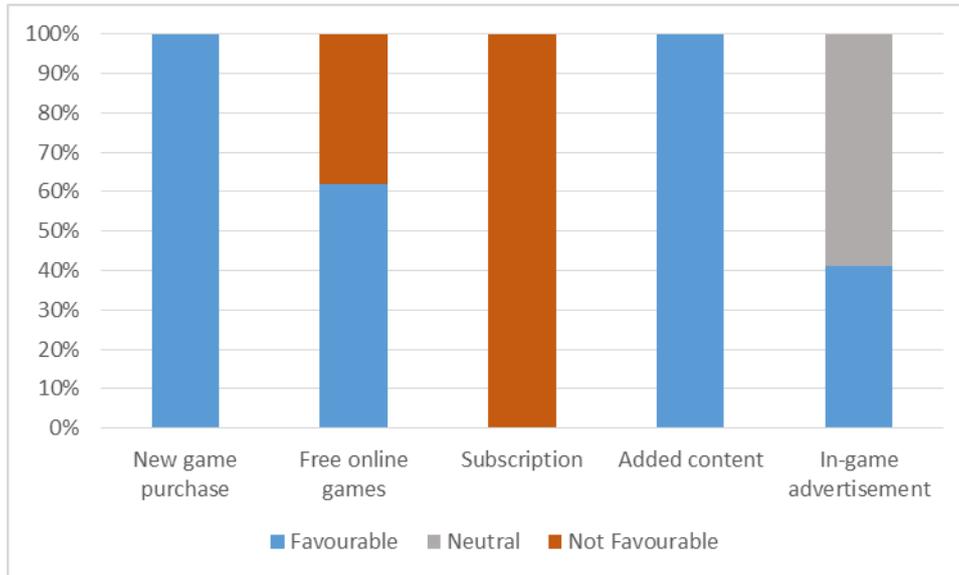


TABLE 21: Opinion of people in favour of no subscription P2P model

Among these players, 34% think advertisement is a positive factor allowing to add a realism or humour touch to a virtual environment. Still, 58% think that advertisement should take over game pleasure and must be adapted to game environment.

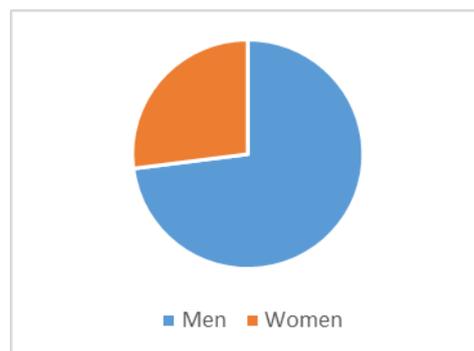


TABLE 22: Repartition by gender of people in favour for no subscription P2P model

This population of players is mainly composed by men (73%) from middle class (31%). 24% of questioned people are employees and 5% are works. The weight of student community being 51% of questioned people increases the fact that average

purchase power stays quite modest. 18% of questioned people are from superior socio-professional categories.

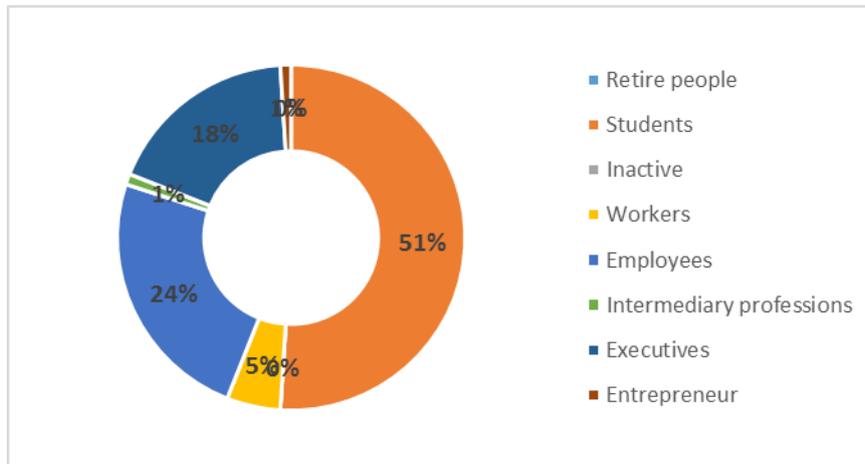


TABLE 23: Socio-professional categories of no subscription P2P players

These players who are open to advertisement and micropayment are big video games consumers with many different kinds of device: console (91%), computer (80%) and smartphone (65%).

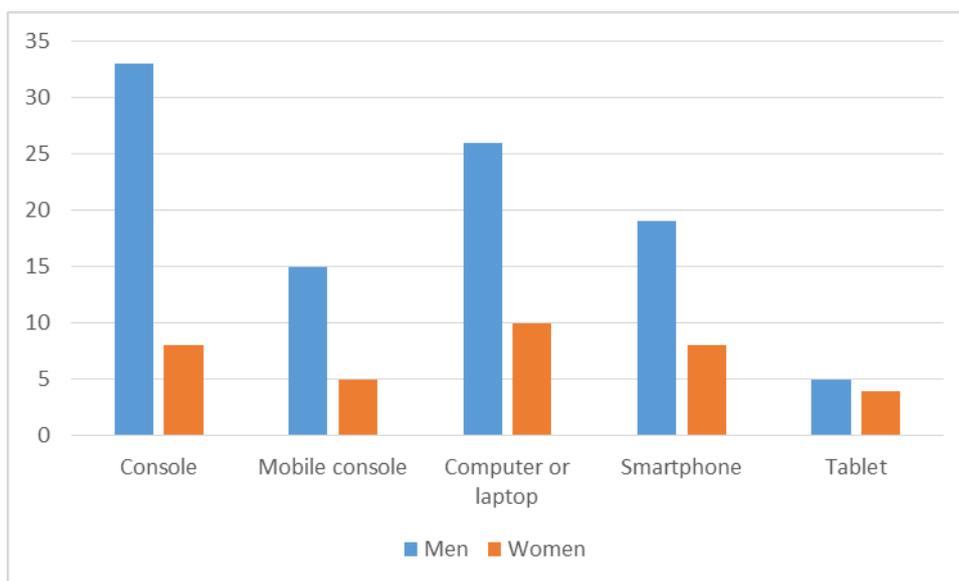


TABLE 24: Equipment rate by gender of no subscription P2P players

The difference in terms of equipment between men and women can be explained by the big proportion of men in this population. However, this difference is less important for non-specialized devices such as laptop, smartphone or tablet.

Women like more general audience video games which playability is simplified and improved to reach an amateur audience.

76% of men play at least one hour a day and consider video games a true passion. However, the age bracket 35-39 is the one spending the most of time playing with an average of two hours a day.

This high involvement level can be paired with a high expenditure level in charged additional content. They are ready to spend punctually an average of 12.50€.

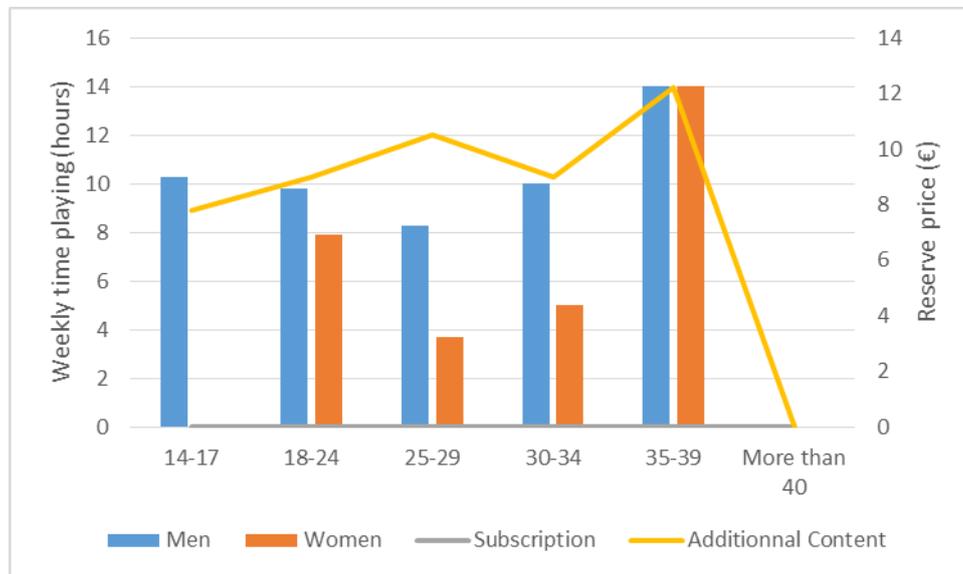
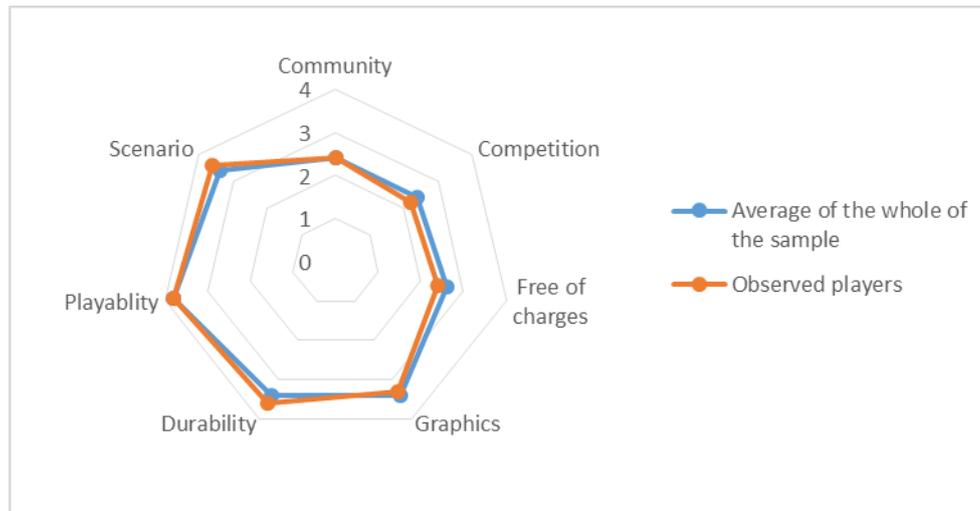


TABLE 25: Involvement and reserve price by gender and age for no subscription P2P players

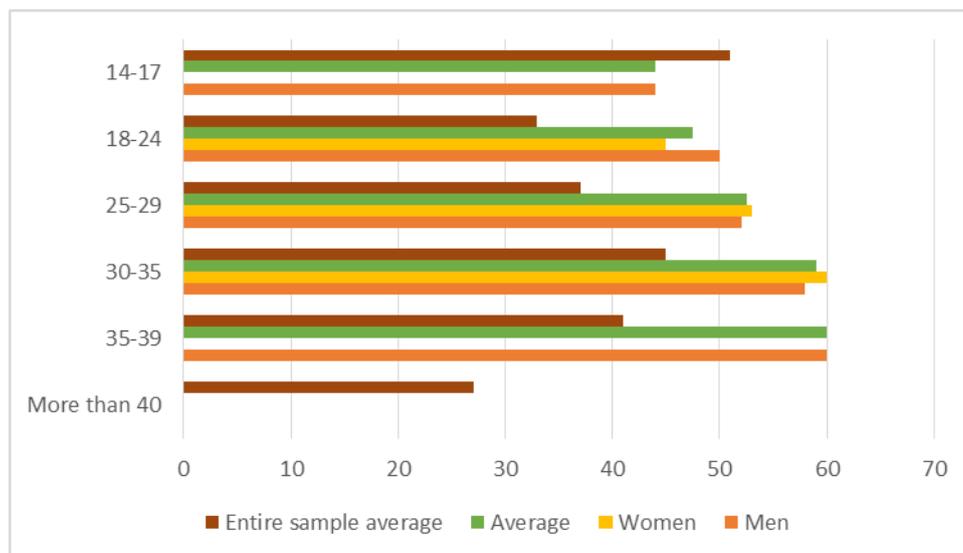
A majority of these players (69%) punctually spends between 5€ and 10€ in additional content purchases. The amount of this kind of expenditures can raise to 20€ for 20% of them. However, this added content has to bring renewal in the game and must be a true added value to the original game. It is the condition for most players to be willing to buy added content for a charged game. The importance of durability is more important than the average who see in these added content a way to increase a game durability.



**TABLE 26: Subjective importance given to different game element according to no subscription P2P players**

These players have a budget adapted to huge expenditures in terms of video games.

Thus, 91% of them spend at least 30€ in a game purchase. 49% of them (including 23% of women) are even ready to spend more than 60€ in the purchase of one game.



**TABLE 27: Average reserve price for new game purchase by age bracket and gender of no subscription P2P players**

Out of the 14-17 age bracket, the average expenditure level by age bracket is much superior than the average. Thus, we can conclude that these users are experienced players who are used to play from home with specialized devices (console, computer) and in optimal conditions. Even if they massively use mobile devices to play, 44% of them say playing mobiles app offline.

## RESULTS

These users are experienced players from the middle class. They mainly play to Pay-to-Play games with a high expenditure potential. Two profiles can be underlined through this study.

The first one concerns the age bracket 25-29. Even if they are in majority men, their involvement level stays high and homogeneous at around one hour a day. They have a budget dedicated to video games purchase much higher than the average and don't hesitate to buy added content despite a modest purchase power.

The second profile is the age bracket 35-39. They are from the middle class and dedicate a very important budget to video games. They represent the most interesting profile of this population for editors as their purchase power and expenditure level in terms of added content are high.

Paradoxically, the gender of people from these two player category does not affect final results. These men and women behave the same.

#### 4.2.1.4. No added content Pay-to-Play model

11% of questioned people are favourable to a charged subscription with in-game advertisements but without micropayment systems.

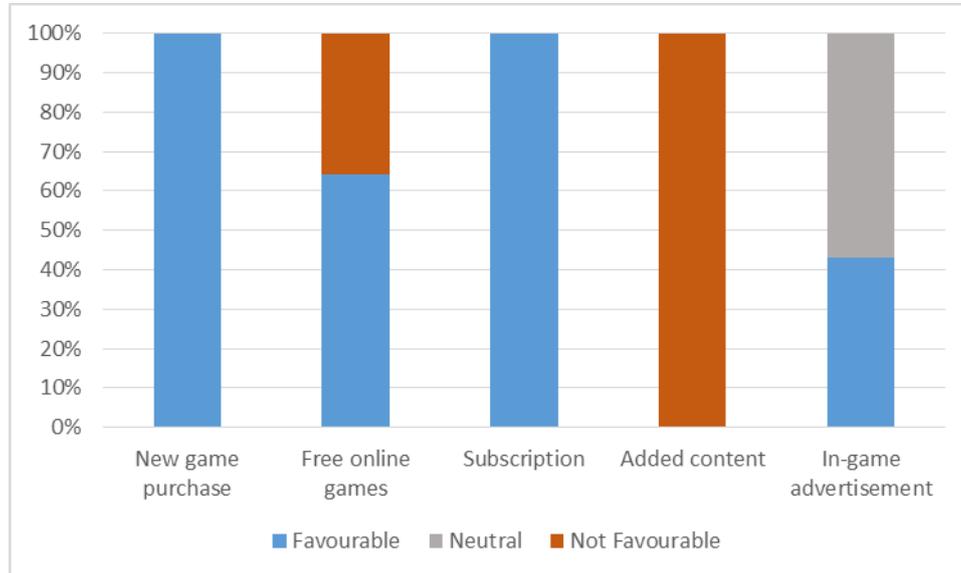


TABLE 28: Opinion of people in favour of no additional content P2P model

This population of players is composed by 2/3 of men and do not wish to spend punctually for added content. They are open to in-game advertisement. Thus, 40% of them think advertisement is a positive factor which adds a realism touch to a video game. These players can see a good brand image they can meet in virtual environments. However, this advertisements have to be perfectly integrated to the game environment and must not interfere with playability. We can notice that 7% of them find funny the presence of in-game advertisement. Thus, this category does not represent an animation lever around brands.

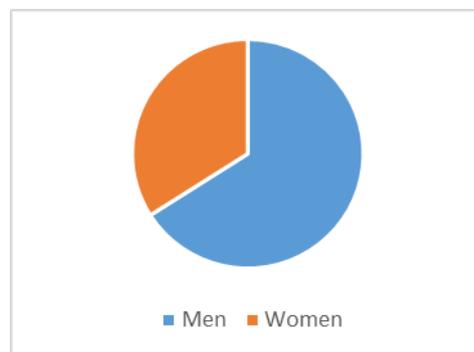


TABLE 29: Repartition by gender of people in favour for no additional content P2P model

The majority of this population is from the middle class. Indeed, 27% of them are employees. The student community is also well represented with 34% of the observed population. Executives constitutes 23% of players and intermediary professions are about 10%.

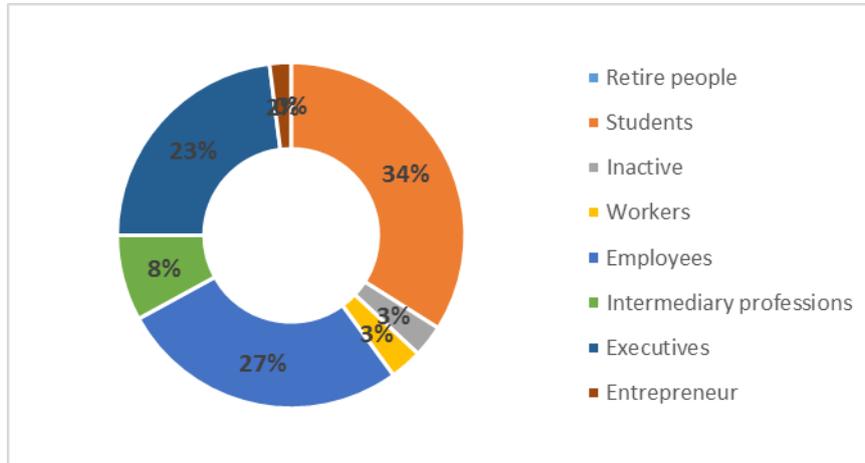


TABLE 30: Socio-professional categories of no additional content P2P players

Budget dedicated to the purchase of new games are mainly below the average of the whole of questioned players. 63% of these players have a budget superior to 30% and are ready to spend at least 10€ in monthly subscription. For players having a budget lower than 30€ (37%), the dedicated budget towards subscription expenditures is between 5€ and 10€ for 63% of them, whose 45% are women.

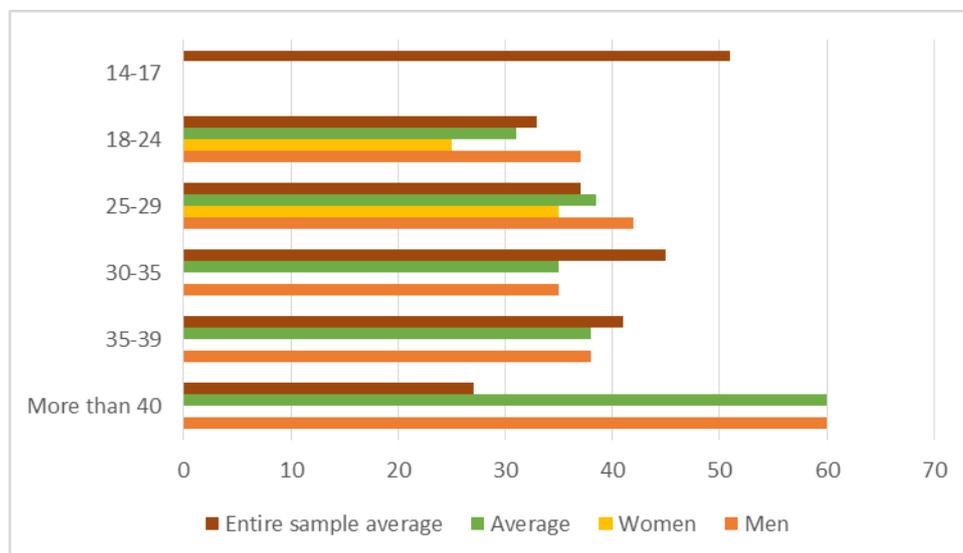


TABLE 31: Average reserve price for new game purchase by age bracket and gender of no additional content P2P players

One of the particularities of this population is the high expenditures level of men older than 40 years old which is 2.2 times higher than the average reaching more than 60€ for a new game purchase. In the same idea, these players are ready to spend

an average of 12€ into a monthly subscription, which represents a budget much higher than the average. However, men between 30 and 34 years old are the ones possessing the higher expenditure potential in terms of subscription with an average of 13.70€ a month.

According to the fact that this regular consumption mod often encourages players to make their investment profitable by a high involvement, men over than 40 years old are indirectly incited to invest more time in this subscription games. Thus, their involvement rate is much higher than the rest of the population with an average of two hours a day playing.

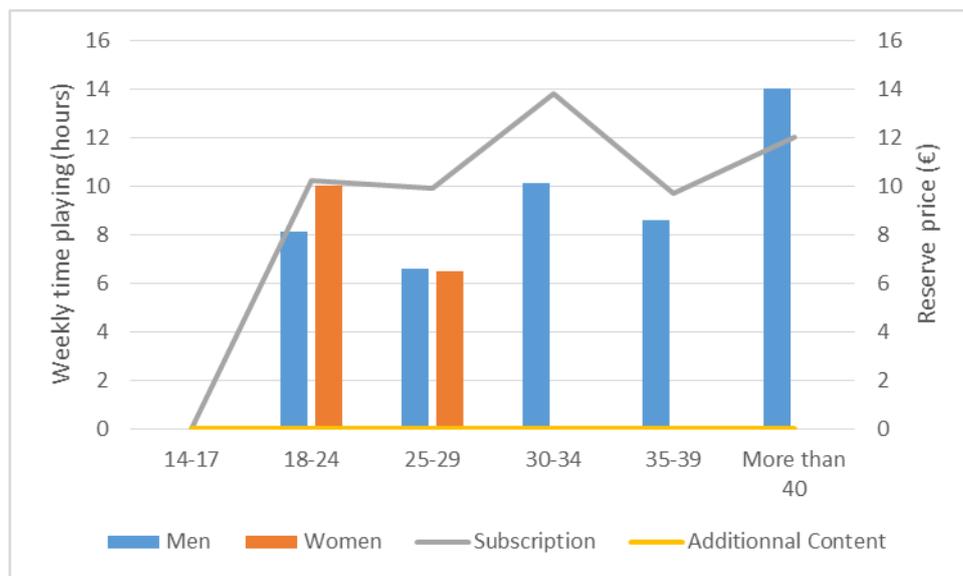


TABLE 32: Involvement and reserve price for no additional content P2P players

Even if these players spend less time than the observed average, they stay regular and experienced players. Thus, while 67% of them say playing daily, 37% confirm spending more than two hours a day playing.

The equipment rate of this population is high in terms of specialized devices. Thus, 77% of them play on a console, 73% on computer and 63% play on both a smartphone (or tablet) and a traditional device (computer or console).

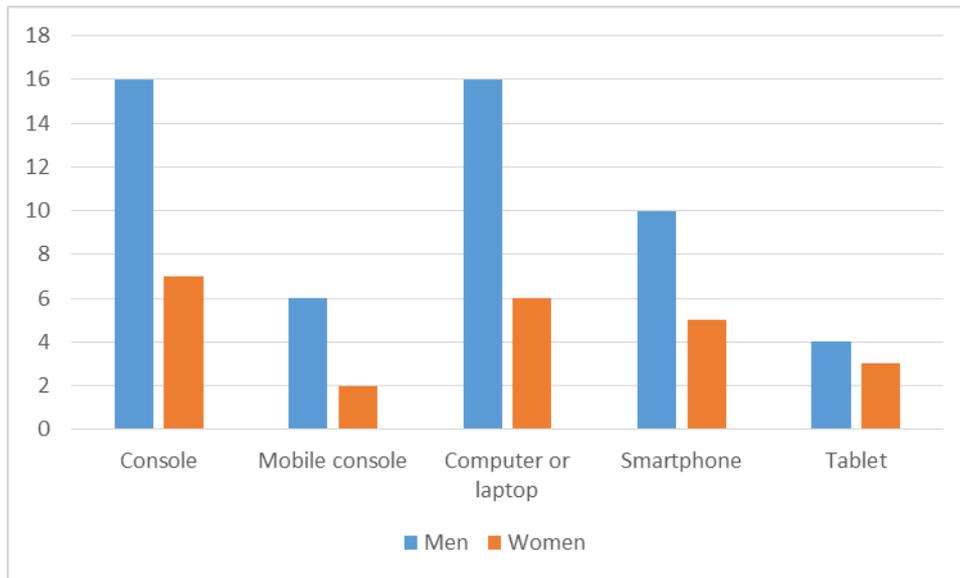


TABLE 33: Equipment rate by gender of no additional content P2P players

Finally, these players consider for 100% of them playability as an essential factor. Their capacity of charged subscription is the cause of it as it enables to improve gaming conditions and playability.

Even if a tier of these players do not play on free online games, their profiles stay very oriented towards the online mod. Indeed, durability, community and competitiveness are more important elements to these players than the observed average. These three characteristics are key factor of success for both free or charged online games such as MMORPG (Massively Multiplayer Online Role-Playing Game; the most famous one is World of Warcraft) for example.

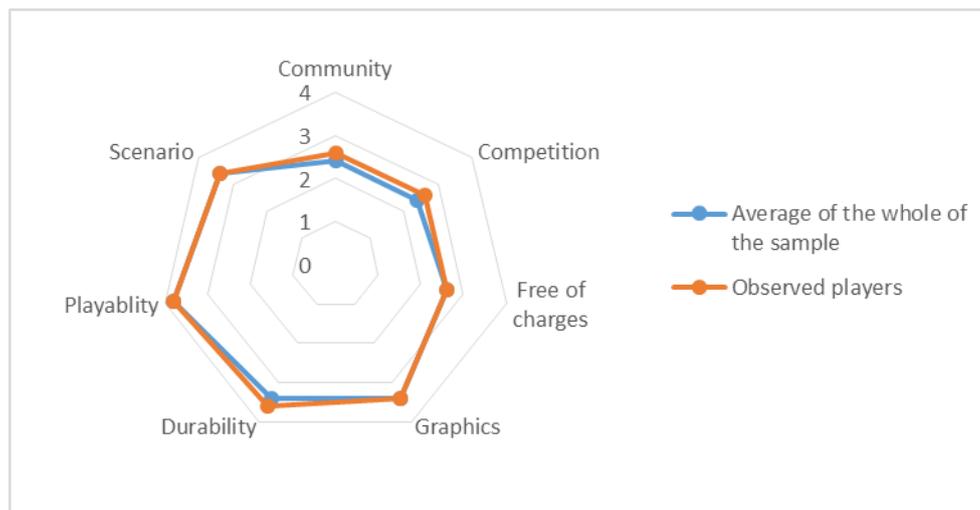


TABLE 34: Subjective importance given to different game element according to no additional content P2P players

## RESULTS

With an expenditure potential globally inferior than the observed average, this population, which is from the middle class and student community, is not used to spend extras.

Out of the more than 40 years old people who are exceptions, involvement and equipment rates indicate that they mainly are experienced but not spending much money. They really like to play on online games if there are charged ones (MMORPG for example) in order to have high quality playability and durability. Thus, more than 30 years old players tend to spend more money on subscription than other age brackets.

The exception of more than 40 years old people is interesting because it is the one that spends the biggest amount of money (about 2.2 times more than the average) and the most involved one.

#### 4.2.1.5. Advertised Pay-to-Play model

26% of questioned people are favourable to buy video games but do not like micropayment systems and subscription. 68% of them are still okay with in-game advertisement.

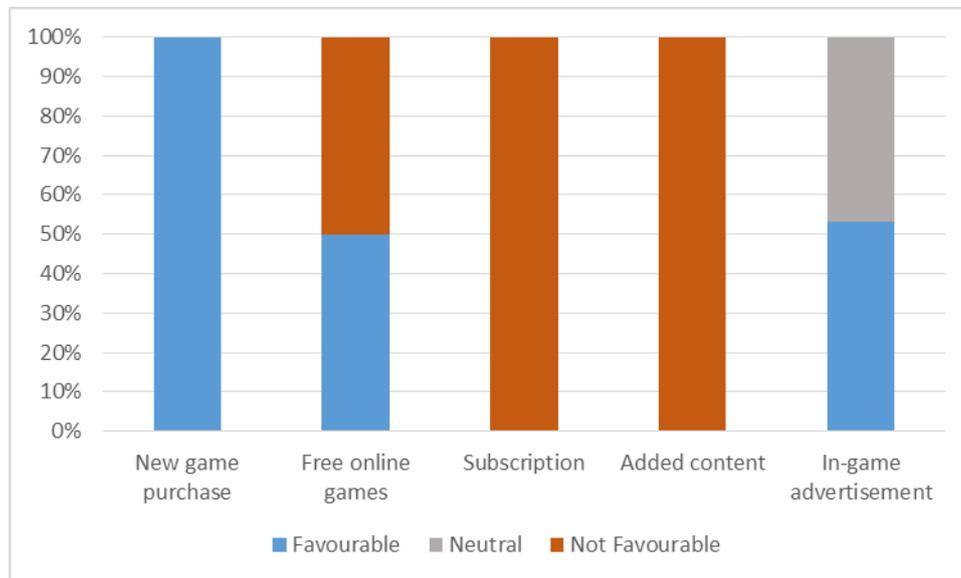


TABLE 35: Opinion of people in favour of advertised P2P model

Among this player population, composed by 60% of men, 54% see positively the presence of in-game advertisement. While 46% think the use of advertisement inside the game improves its realism, 8% think it entertaining. The impact of advertisement is therefore important on these people and it can lead to an animation around brands inside the games and then deliver an advertisement message on players' reserved communication networks.

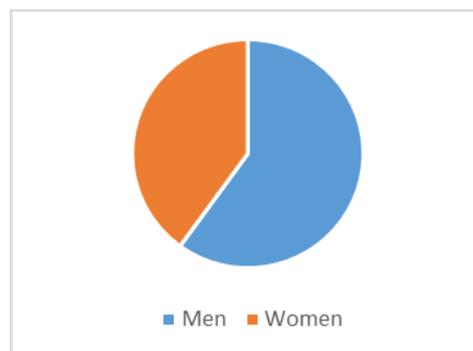


TABLE 36: Repartition by gender of people in favour for advertised P2P model

Nonetheless, 46% of players do not really care about advertisement. This neutrality cannot lead to involvement around a brand but it enables us to think about a business model based on advertisement, but not too much of it to not disturb gamer

community. This population of players has the singularity to be young and have a modest purchase power. 52% of players have less than 30 years old which explains the large part of students, representing 30%. The rest is constituted of 24% employees, 10% workers, 9% intermediate professions and 8% inactive. Executive profession represents 17%.

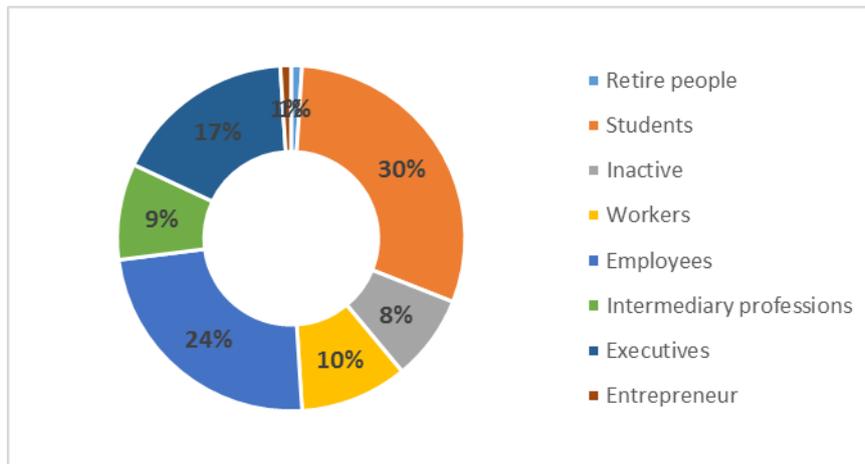


TABLE 37: Socio-professional categories of advertised P2P players

On a general point of view, expenditures for the purchase of a new game are less important than the average for the less than 34 age bracket. On the contrary, budgets are higher for people between 30 and 39 (+25%).

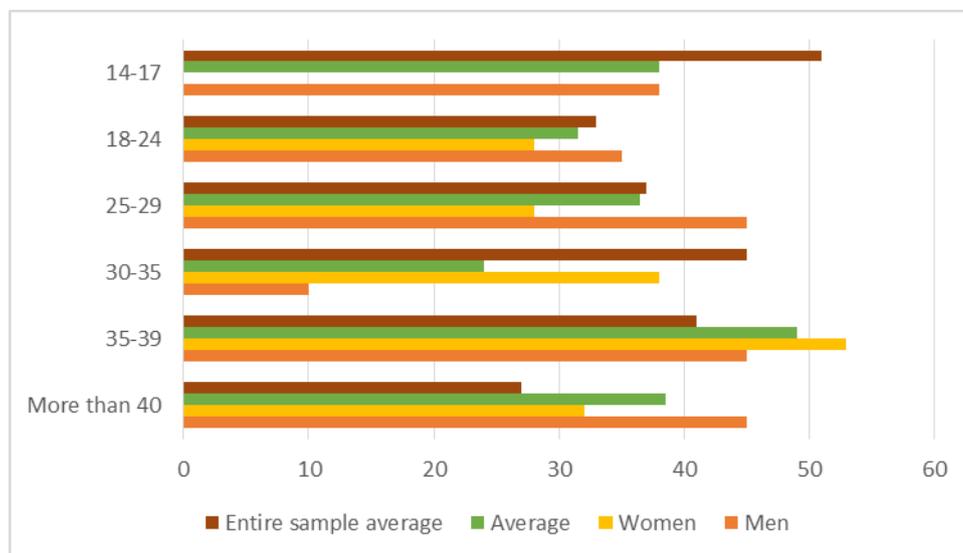
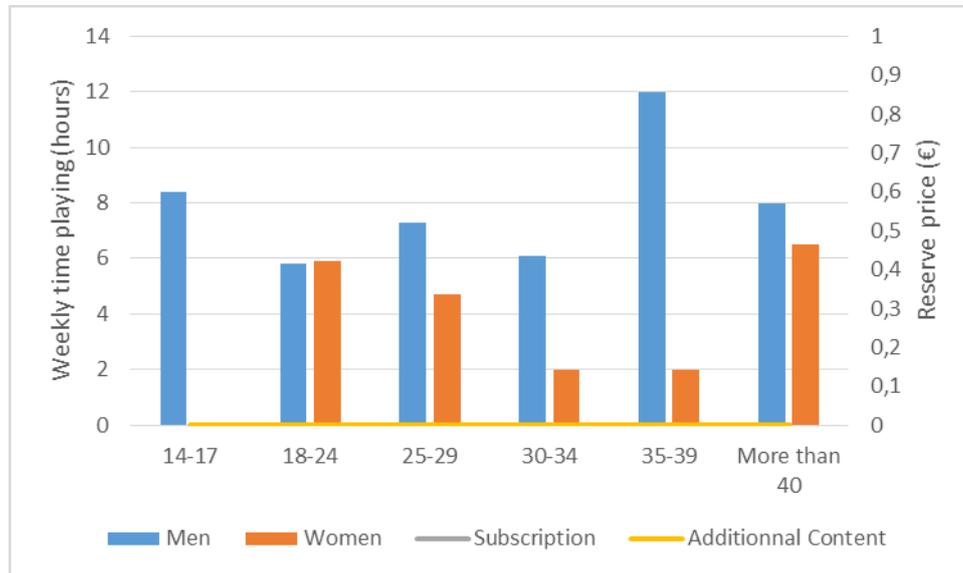


TABLE 38: Average reserve price for new game purchase by age bracket and gender of advertised P2P players

The majority of users are regular players gaming more than one hour a day. They are therefore not passionate players possessing an irregular involvement average. 66% of

them consider video games as a simple more or less regular entertainment moment. 33% say being casual players.

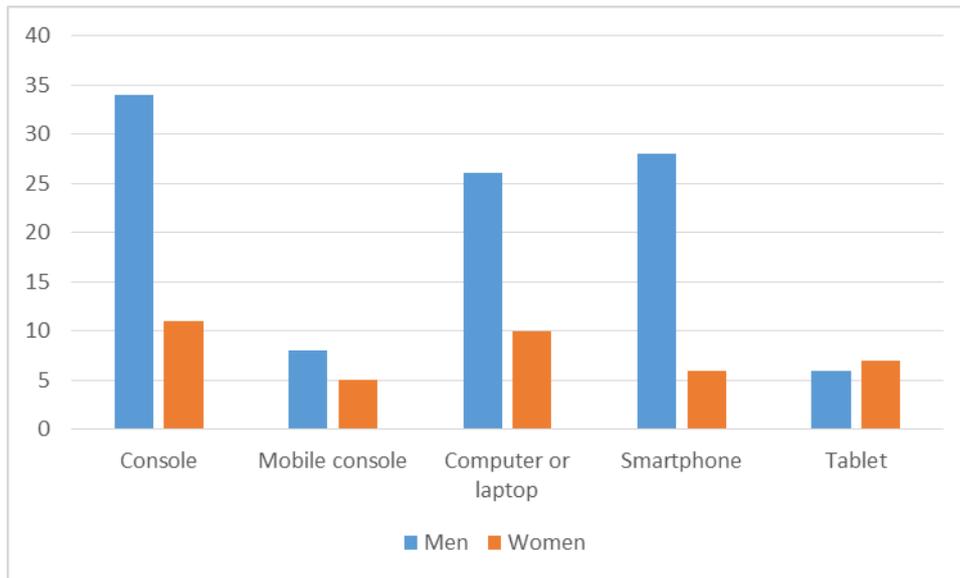


**TABLE 39: Involvement and reserve price for advertised P2P players**

Men between 35 and 39 years old have a much more important involvement rate than other age brackets with an average of 12 hours per week. Despite a very low involvement rate, women between 35 and 39 years old are ready to spend about 52.50€ for the purchase of a new game which represents the most important expenditure source from this population.

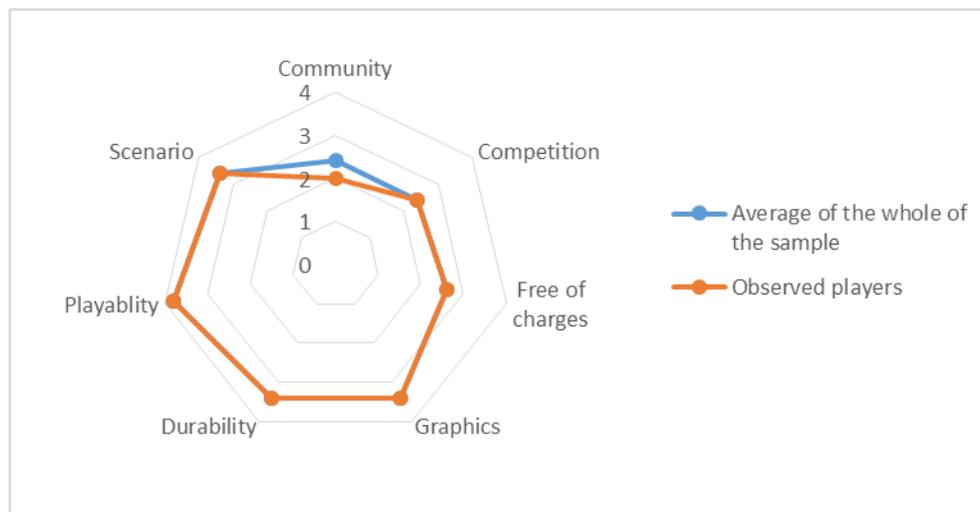
The equipment rate is very diverse. 60% of them possess a console or a laptop. The difference of equipment between men and women is very strong especially concerning smartphone that men seem to use much more than women. Thus, women from this population are not willing to play on a smartphone but on a computer or a console. On the contrary, men prefer console, then smartphone and computer.

A big proportion of players (47%) do not play online free games. Among them 48% play on offline mobile apps to low added value games.



**TABLE 40: Equipment rate by gender of advertised P2P players**

The analysis of player's feeling concerning the different key factors of success of a game enables to underline the fact that these players are not deeply in fond of game community and prefer to play alone.



**TABLE 41: Subjective importance given to different game element according to advertised P2P players**

## RESULTS

These players are globally casual players from the middle class. Despite an important equipment rate, especially for men, their expenditure level for the purchase of a new video game and their involvement rate stay lower than the average. However, more than 35 years old people have an interesting expenditure level in spite of a low involvement rate.

Advertisement is also welcome for a majority of these players, considering it as a realism added aspect for a game.

As editors cannot expect much revenue from the low expenditure level of these players, they must concentrate on an interactive use of advertisement which and become a real bond for brands inside the game.

#### 4.2.1.6. Customizable Pay-to-Play model.

Among the 283 questioned people, 4% are interested by a classical Pay-to-Play business model without advertisement but reinforced by additional content offers enabling to change playability according to the player wishes.

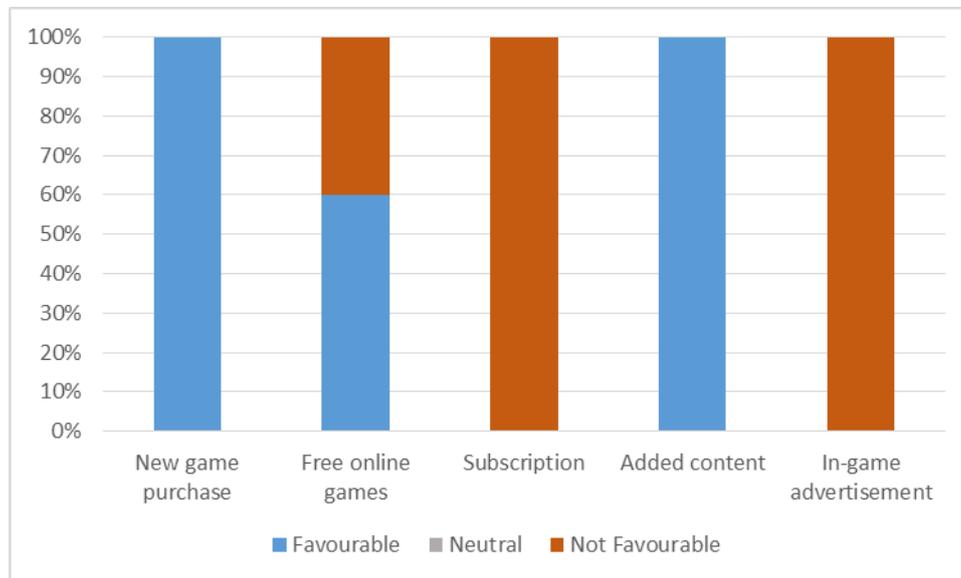


TABLE 42: Opinion of people in favour of customizable P2P model

These players are ready to use different micropayment systems settled by editors in order to acquire specific added content such as virtual money of unique tools reserved to premium players only. They don't wish to see advertisement in their game because they find it intrusive and bothering.

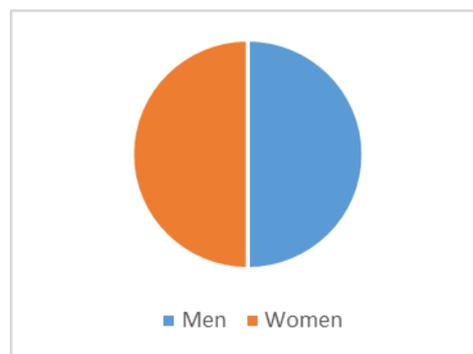
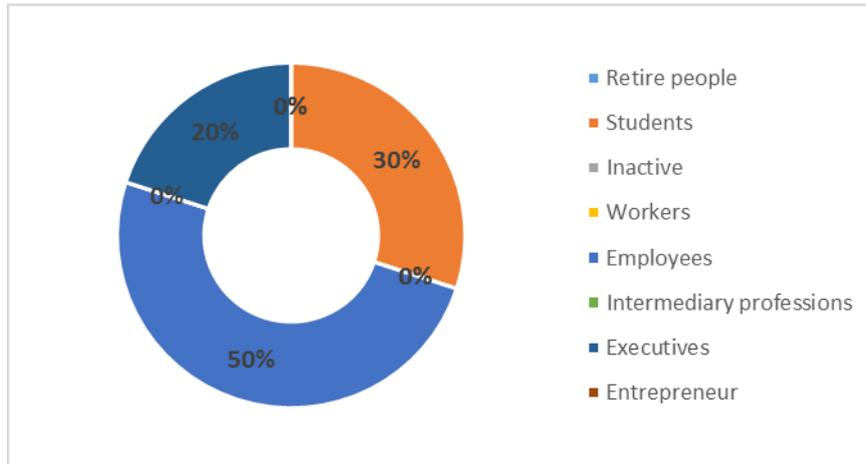


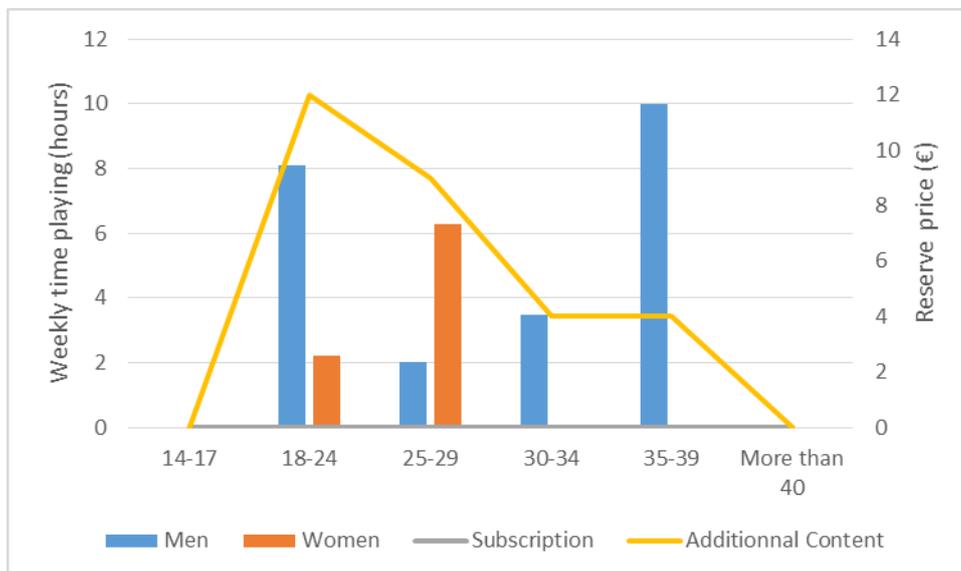
TABLE 43: Repartition by gender of people in favour for customizable P2P model

One player over two is an active women between 25 and 29 working as an employee or executive. Men have very different profiles without any sociological denominator. They are between 18 and 39 and they have very different levels of revenue. Despite the presence of 30% of students; this population possess a purchase power a bit higher than the average.



**TABLE 44: Socio-professional categories of customizable P2P players**

The whole of these players refrains from advertisement and say being ready to punctually spend between 5€ and 20€ into charged offers of micropayment in order to improve playability, factor they all judge very important. 18-24 age bracket has the highest expenditure volume in terms of added content purchase with an average of 10€. On the contrary, men between 35 and 39 years old do not use their high involvement (10 hours a week) to form high expenditures, they have a low budget dedicated to micropayment.



**TABLE 45: Involvement and reserve price for customizable P2P players**

70% of these players have a game purchase budget higher than 30€. 18-24 years old and 25-29 represent a higher expenditure potential than the average.

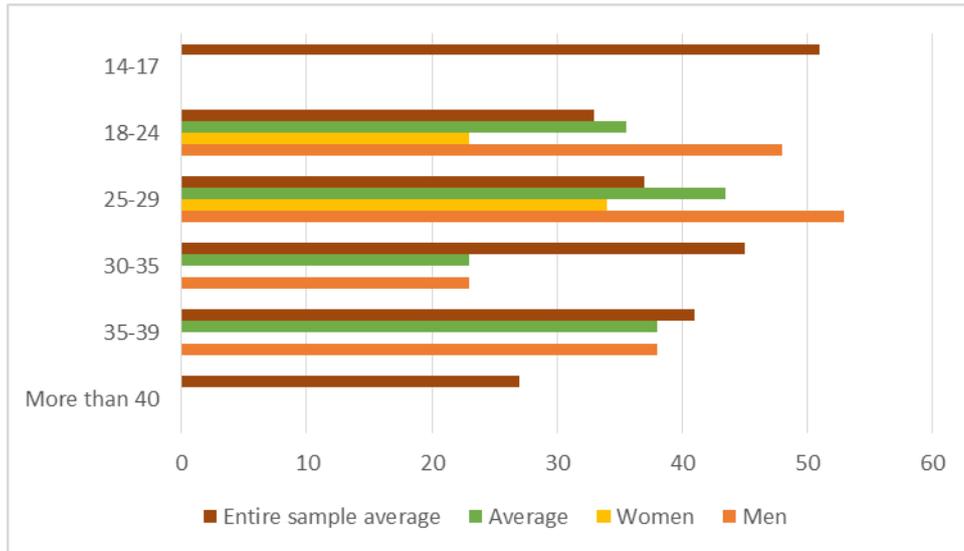


TABLE 46: Average reserve price for new game purchase by age bracket and gender of customizable P2P players

Paradoxically, durability cannot be underlined as determining factor for players who think it important only for 60% of them. ON the contrary, 80% think graphics is a major asset, more important than gratuity (50%).

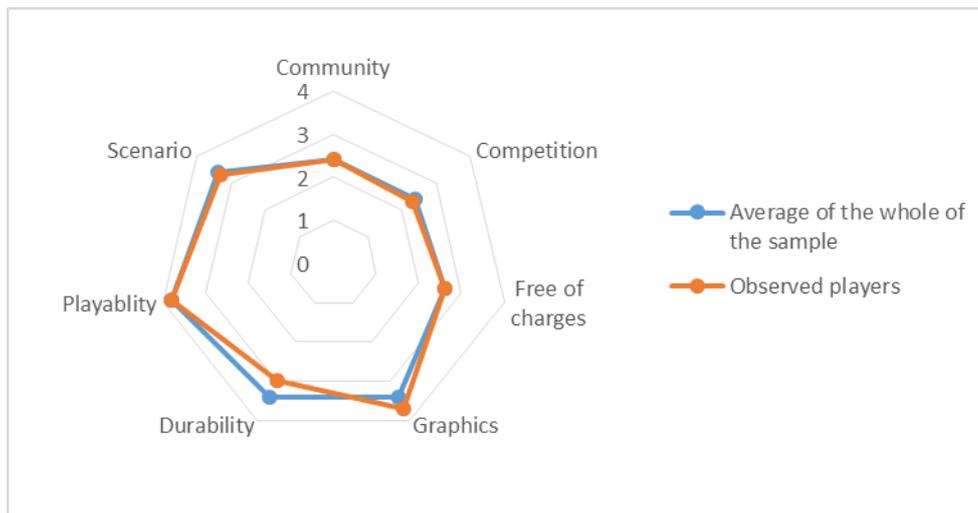
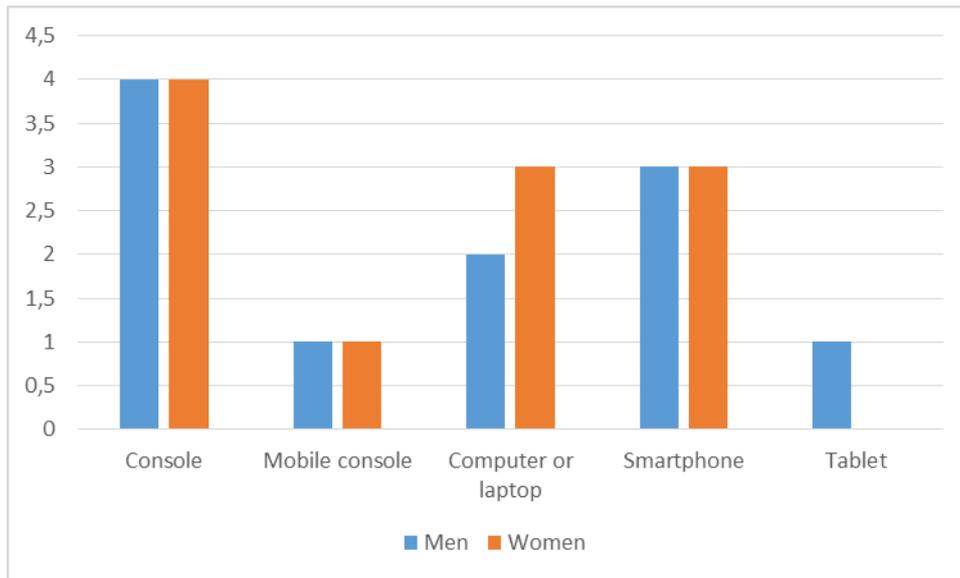


TABLE 47: Subjective importance given to different game element according to customizable P2P players

It can be explained by the important weight of console players in this population who want quality video games and finished graphics.

These players are very well equipped in terms of console (80%) and 60% of them use their smartphone to play video games.



**TABLE 48: Equipment rate by gender of customizable P2P players**

Even if 60% of them claim playing online free games these players are essentially Pay-to-Play players who are used to play from home for 90% of them.

## RESULTS

These players are mainly casual gamers qui like to enjoy high quality and added value games, especially on console. Half of them consider video games as a casual hobby and 30% think it as a regular entertaining moment.

Even if women are well represented in this population, men who are between 18 and 29 years old are to be underlined as they combine important expenditure sources for new game purchase and added content. They are mostly console players and find graphics and playability very important. Added content purchase reinforces the quality of their games with more added value.

#### 4.2.1.7. Subscription Pay-to-Play model

Among the whole of the players, only 3% are incline to combine the purchase of a game without advertisement with a charged monthly subscription.

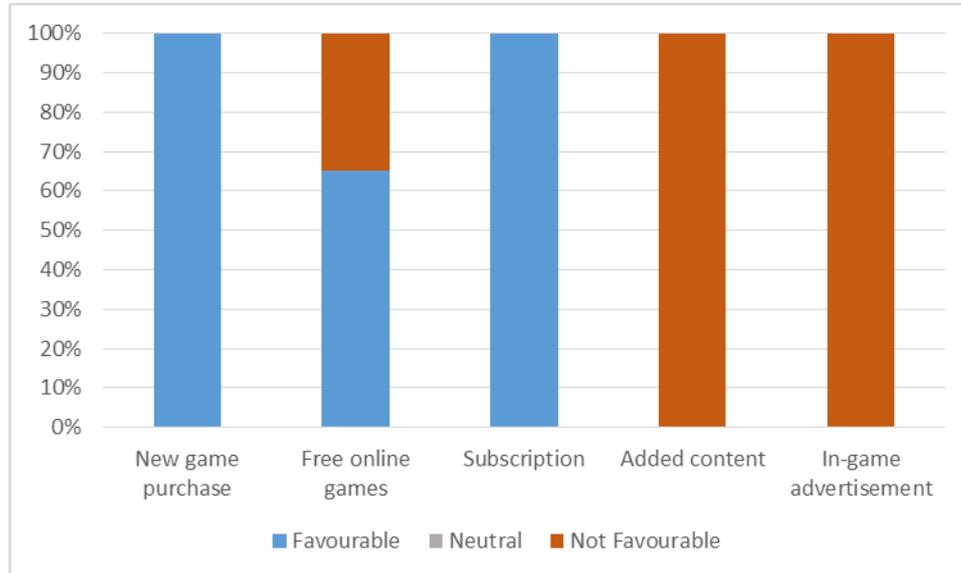


TABLE 49: Opinion of people in favour of subscription P2P model

These players are in majority men and consider advertisement as an intrusive constraint invading game environment and affecting playability. They do not wish to buy additional content.

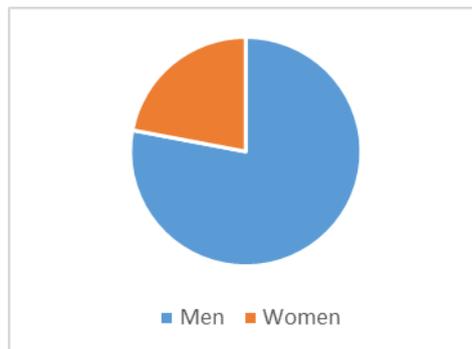
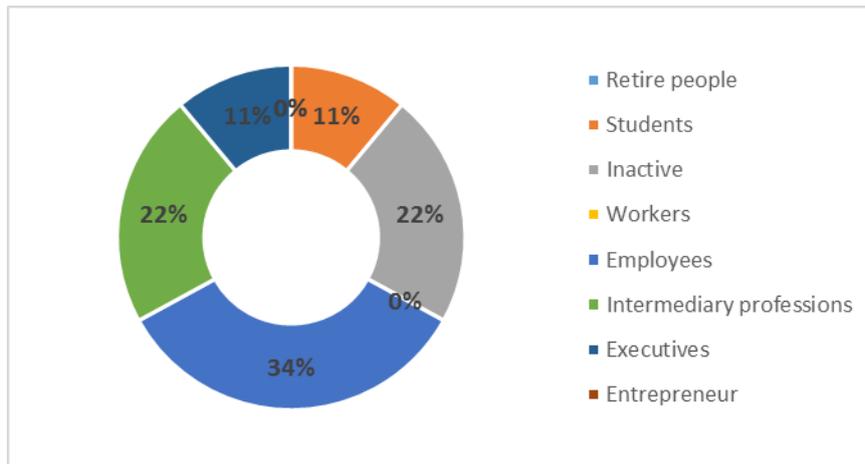


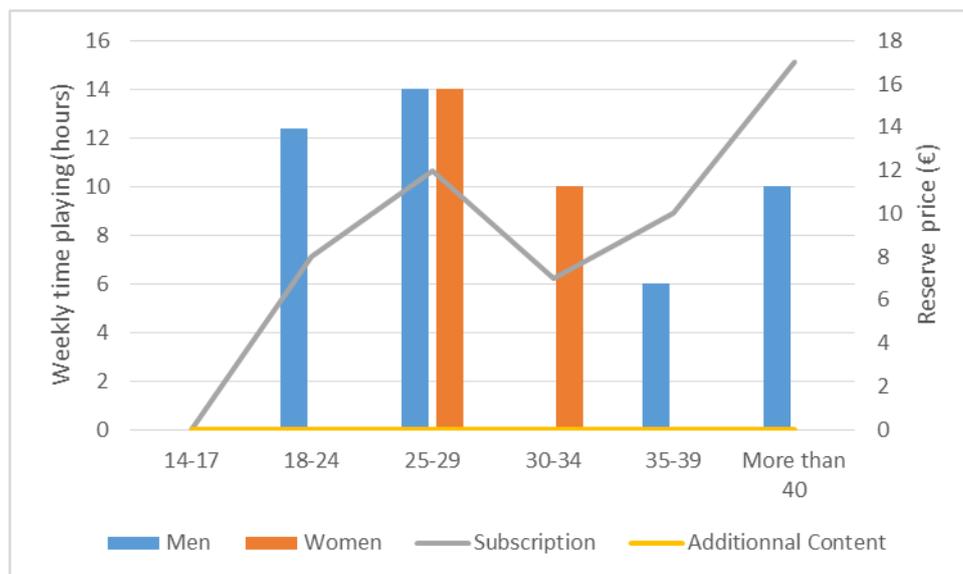
TABLE 50: Repartition by gender of people in favour for subscription P2P model

Most of these players are from the middle class. Indeed, one over three people are employees. Intermediate professions and inactive represent 22% each of the population. Executive and students both represent 11% of the population each.



**TABLE 51: Socio-professional categories of subscription P2P players**

Thus, 89% of these players are active and passionate gamers, playing at least one hour a day. 25-29 years old people are the most regular with a daily average of 2 hours a day. This involvement is paired with a charged subscription costing about 12€.



**TABLE 52: Involvement and reserve price for subscription P2P players**

The more than 40 years old age bracket which is exclusively masculine, represent a very important expenditure source in subscription with a monthly average of 17€. The time consecrated to play is less important than other age bracket, signifying that the more than 40 years old people don't need to be incited to spend.

This important time investment can be a consequence of the charged subscription. The lever phenomenon between subscription and involvement rate is regular in this study and can be verified once more in this precise analysis.

Because of that important daily time investment, user are experienced gamers playing mainly from home with optimal conditions on console (89%) or computer (67%). Men prefer high added value material rather than mobile devices. On the contrary, women prefer playing with mobile devices such as mobile consoles or smartphones.

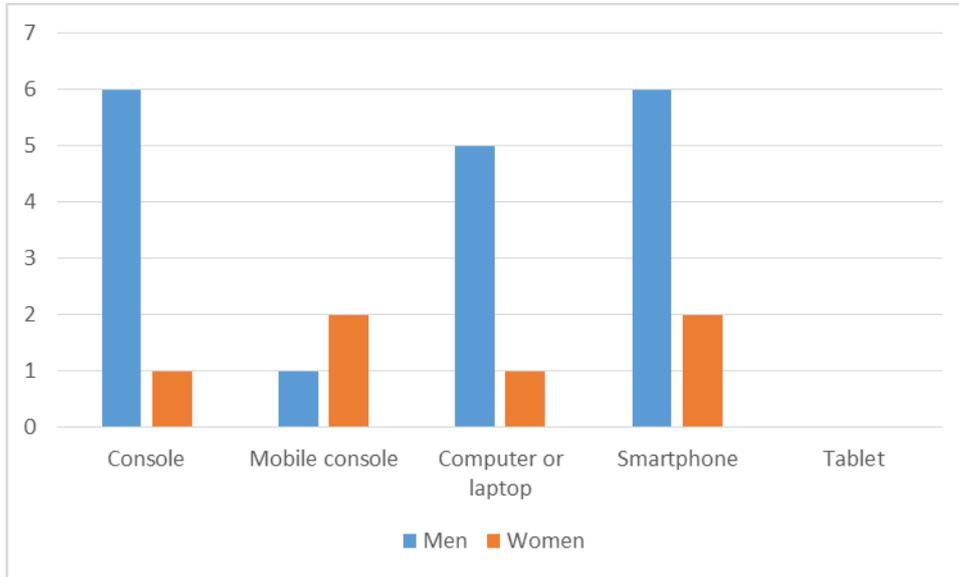


TABLE 53: Equipment rate by gender of subscription P2P players

Despite a true involvement of the majority of players, the average dedicated budget to the purchase of a new video game stay below the average of the total population. Thus, 67% of them have a budget superior to 30€. However, this amount can be relativized by the presence of a charged subscription reducing the original purchase budget.

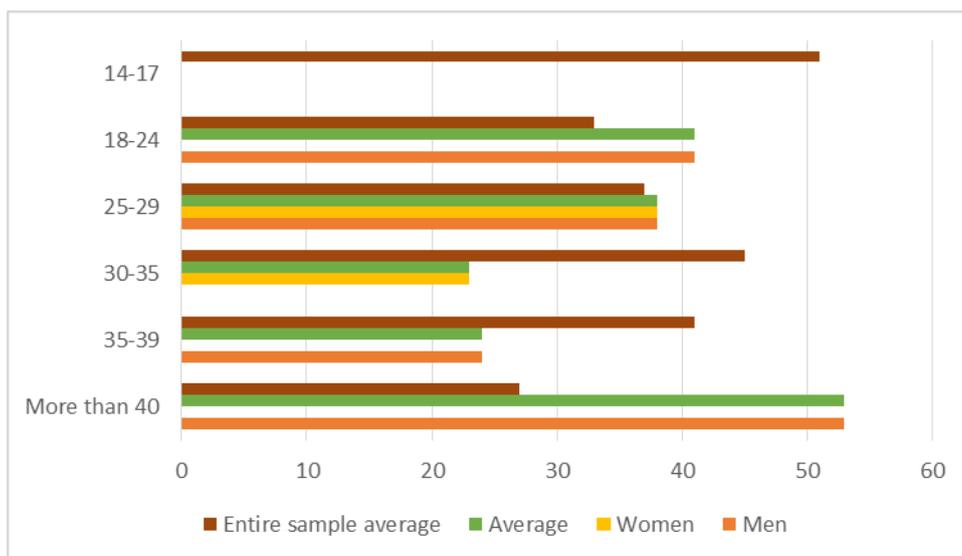


TABLE 54: Average reserve price for new game purchase by age bracket and gender of subscription P2P players

More than 40 years old men possess the most important budget of all age bracket in the matter of new game purchase. These players play on their smartphones (89%) where they play online free games for 67% of them and they also play on their console (78%). Even if playability stays an essential factor, they consider scenario as the most important element of a game.

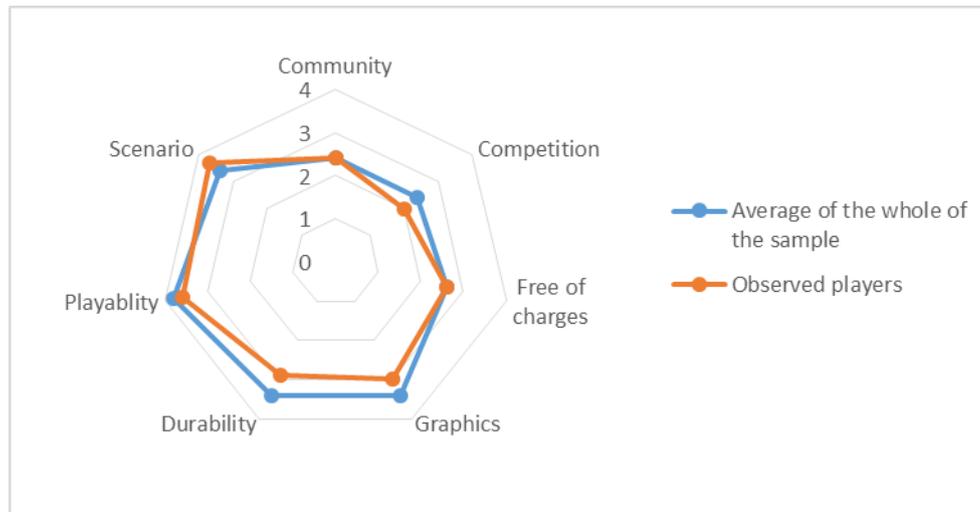


TABLE 55: Subjective importance given to different game element according to subscription P2P players

Paradoxically, these players are less demanding than the average of questioned people. Durability, graphics and competitiveness are less important factors than the whole of the observed population.

They subscribe for more than 10€ a month for 55% of them in order to guarantee an optimal playability for a greater pleasure of gaming. They do not want to be bothered by advertisement and see in subscription a way to renew frequently the scenario. In the same idea, charged added content are being seen by players as overrated as their budgets don't allow to combine a game purchase, the charged subscription and the added content.

## RESULTS

These players consecrate in average a lot of time gaming. Two tier of them consider video games as an entire hobby. They are therefore ready to invest in charged subscriptions in order to guarantee an optimized playability without being disturbed by advertisement. They prefer video games with interesting scenario and see into subscription a source of scenario renewal. Two player profiles can be underlined.

The first one is men and women between 25 and 29 years old. They dedicate a budget lower to 40€ for a new game purchase and their involvement level is high.

The second profile correspond to more than 40 years old men possessing the highest expenditure volume for both new game purchase and charged subscription.

#### 4.2.1.8. Traditional Pay-to-Play model

Among the whole of questioned people, 11% care about the traditional Pay-to-Play model which is only corresponds to the purchase of a charged game. Thus, players are ready to buy video games without willing to pay anything else afterwards.

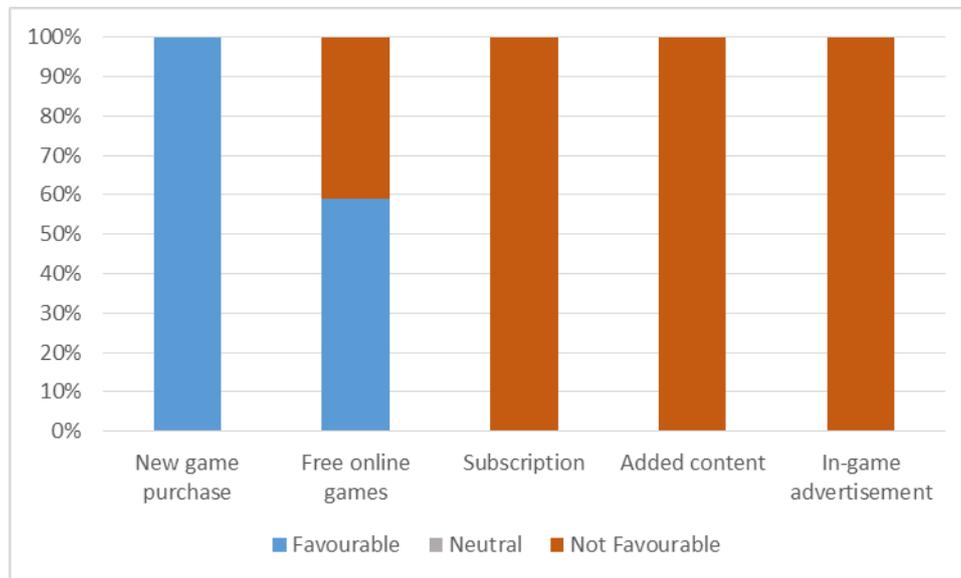


TABLE 56: Opinion of people in favour of traditional P2P model

They are against advertisement they judge intrusive (64%) or boring (36%), they are also against any subscription or micropayment model.

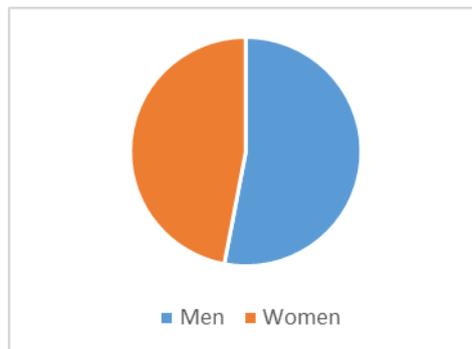


TABLE 57: Repartition by gender of people in favour for traditional P2P model

These players who are for 51% men are mainly young people under 30 years old (77%) from the upper middle class. Indeed, executive and entrepreneurs represent 39% of this population followed by students (26%), employees (16%) and intermediary professions (13%).

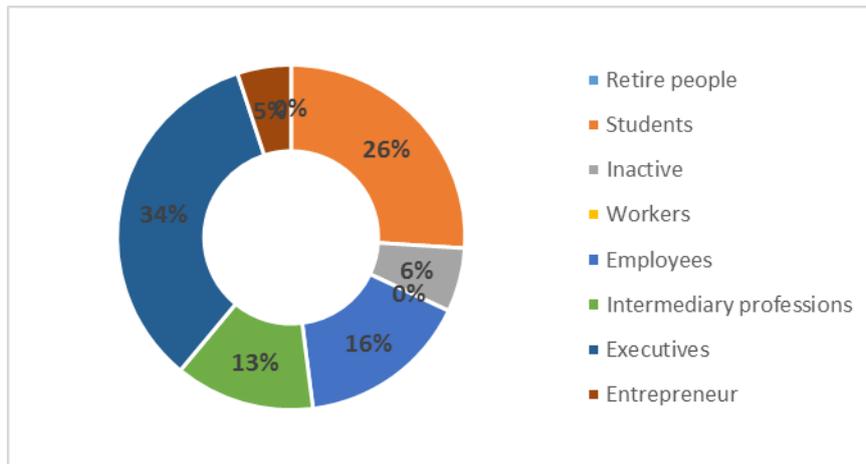


TABLE 58: Socio-professional categories of traditional P2P players

This population is fragmented in two player profiles. The first one corresponds to casual players. Thus, 48% of players say having casual video game consumption, and 36% say not playing daily. On the contrary, the second profile corresponds to experienced players dedicating between one and two hours (32%) or more than two hours (10%) playing.

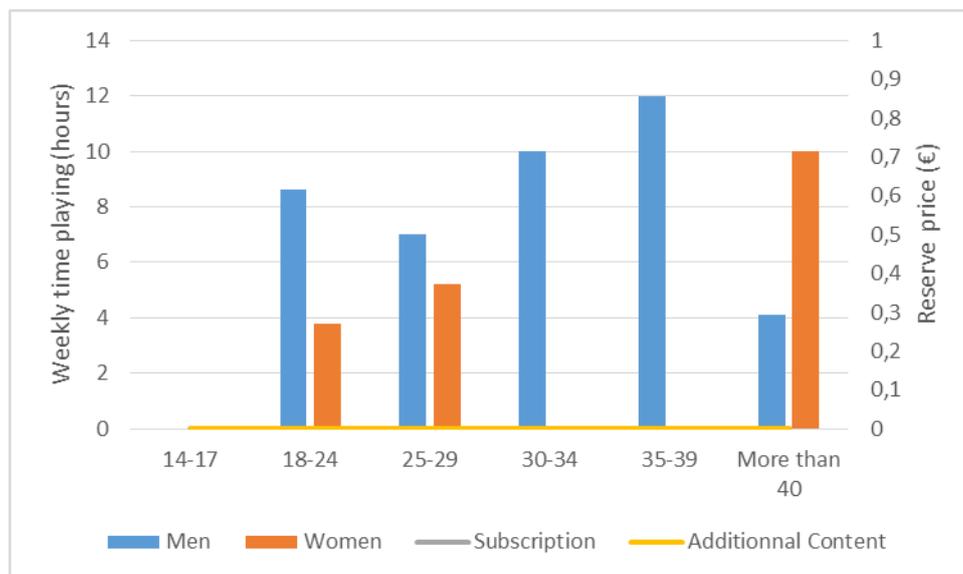
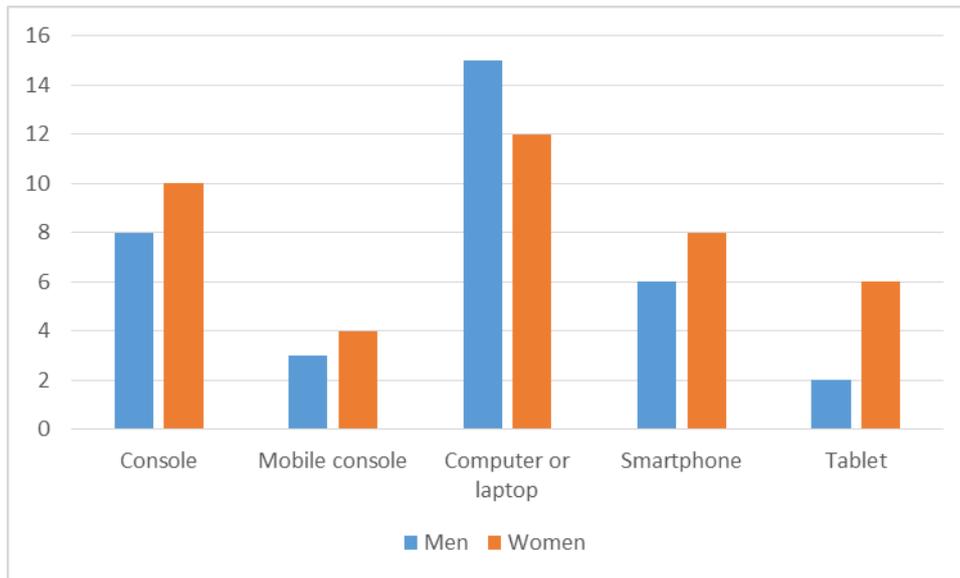


TABLE 59: Involvement and reserve price for traditional P2P players

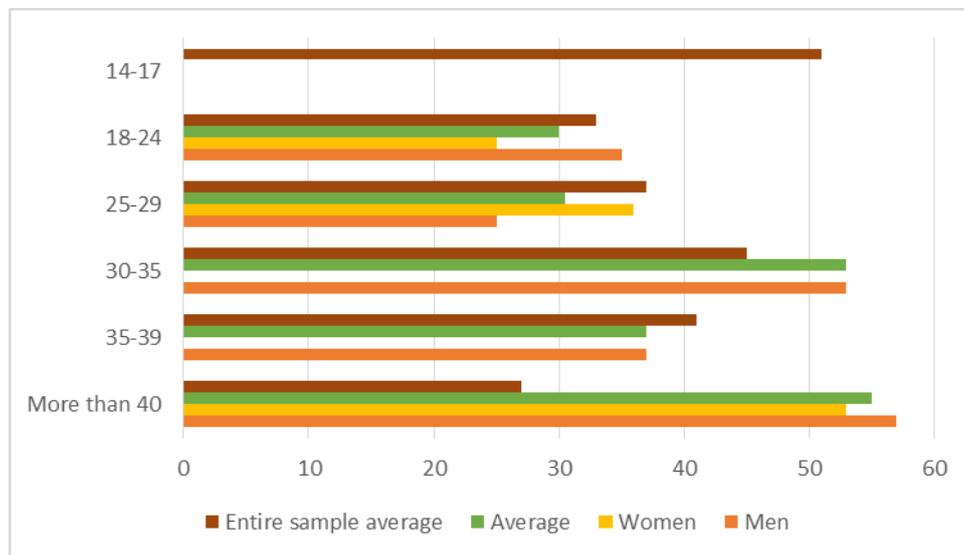
Men between 35 and 39 years old are the most regular with an average of 12 hours a week dedicated to video games.

Players are well equipped and prefer non specialized devices. Thus, they are 87% of them to use a computer for playing and 58% play on a console. Except for laptop, women are better equipped than men which changes from usual.



**TABLE 60: Equipment rate by gender of traditional P2P players**

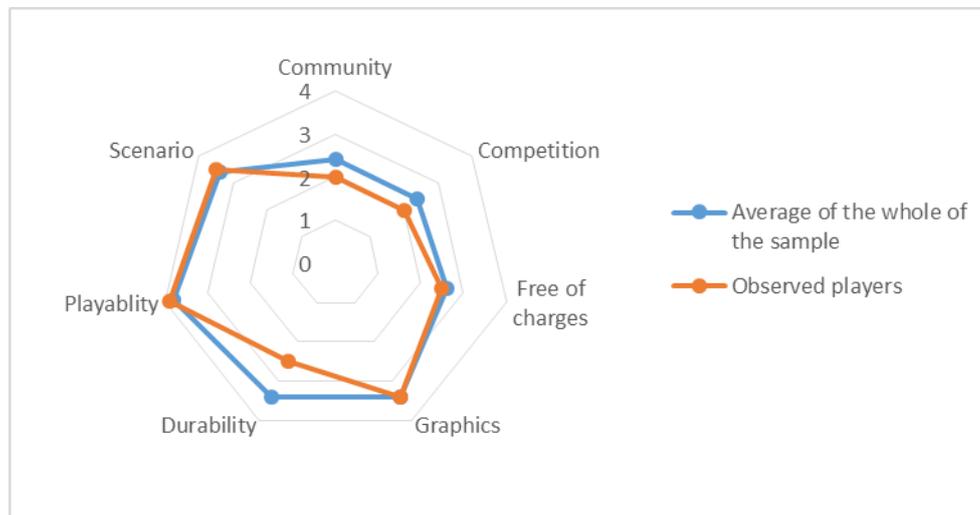
This dichotomy between casual players and experienced ones can be confirmed with the detail of average expenditures. Indeed, players' budgets are quite diverse as they are 42% to have a budget lower to 30€, and 58% to have a budget superior to 30€ (6% superior to 60€).



**TABLE 61: Average reserve price for new game purchase by age bracket and gender of traditional P2P players**

The more than 40 age bracket still constitutes the greatest revenue source for editors with an average budget for game purchase at 54.40€.

The whole of this players consider scenario and playability as fundamental elements of a video game. 90% think durability is also an important factor and they don't think gratuity (35%) or gamer community (26%) is very important.



**TABLE 62: Subjective importance given to different game element according to traditional P2P players**

These players are in favour of a classical Pay-to-Play model in which they already have strong consumption habits. Thus, they purchase charged video games they play on their console or computer. They search for an offline game experience based on a relevant scenario and a good quality of playability. They are not willing to spend money in other way than the original purchase. This act is significant for them as it means a complete freedom in using it.

## RESULTS

Two profiles can be underline thanks to this analysis. The first one is more than 30 years old men who have strong consumption habits. These experienced players are long date gamers and have become attached to the classical Pay-to-Play model. They have a high expenditure potential but don't wish to diversify it with charged subscription or added content. For the 30-39 years old people, the involvement rate is also important.

The second profile is a feminine audience of more than 40 years old people from upper middle class. These players are regular and experienced, they don't hesitate to dedicate an important budget to video games as they think it is a real hobby for them.

#### 4.2.2 Free of charges online Free-to-Play model: diverse premium offers

Free-to-Play is a business model created from the emergence of the universalization of the Internet and from the significant uprising of households' equipment rate. It consists in proposing to players a free version but often limited of an online game, and in creating charged versions with more or less advantages compared to the initial free version. The objective for editors is to incite players to turn from the free to the charged version in order to generate a revenue from the exploitation of this game.

In this study, about 57% of interrogated people say playing online free games. Among them, 54% say being favourable to purchase additional content through micropayment systems, 39% are favourable to charged subscription and 73% agree on the presence of in-game advertisement. In the same way than the Pay-to-Play model, data analysis will enable to underline online Free-to-Play combinatorial business models. These models are: complete Free-to-Play, no advertisement Free-to-Play, no subscription Free-to-Play, no added content Free-to-Play, advertised Free-to-Play, flexible Free-to-Play, community Free-to-Play and open-source Free-to-Play.

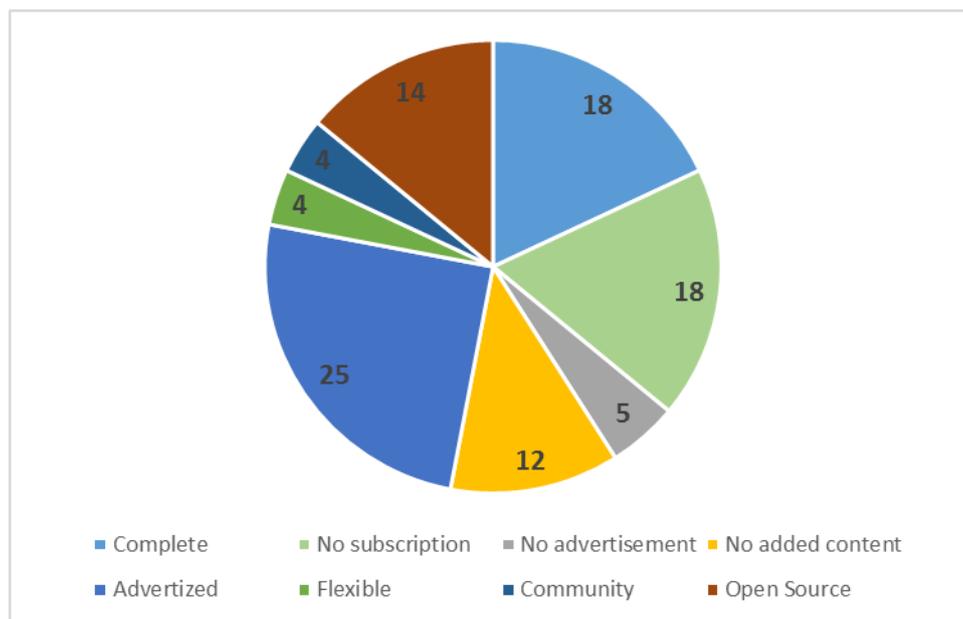
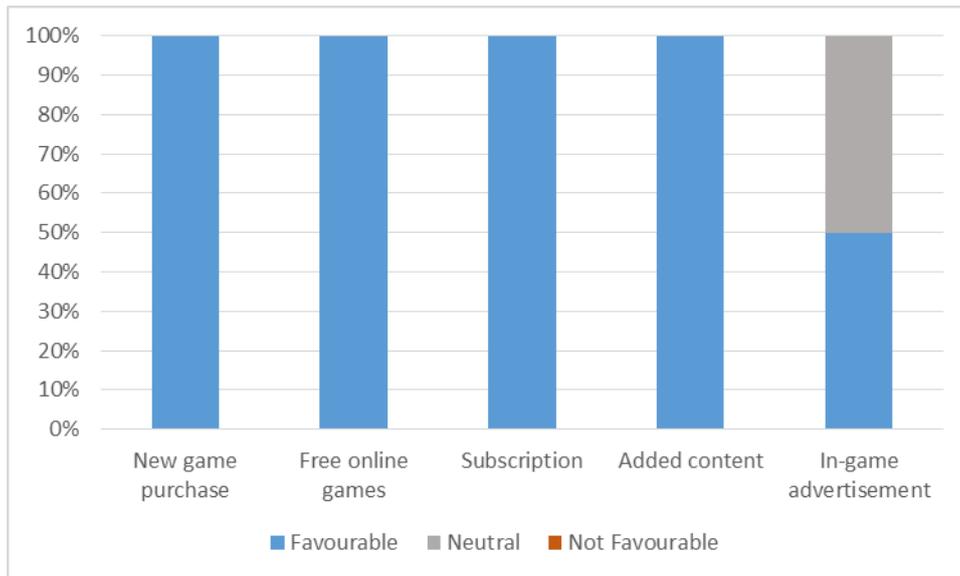


TABLE 63: Repartition of combinatory business models among F2P players

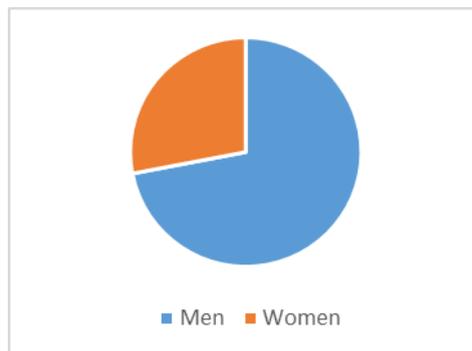
##### 4.2.2.1. Complete Free-to-Play model

About 18% of online free game players are in favour to a complete business model, including micropayment systems for added content purchase, monthly subscription and in-game advertisement.



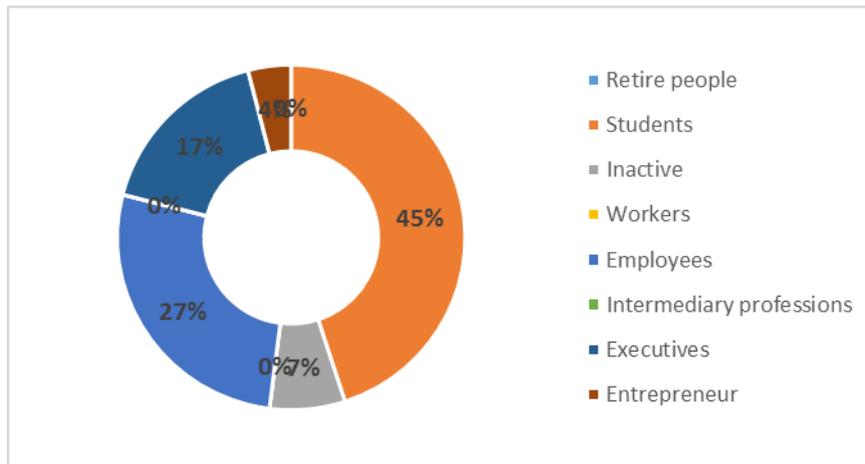
**TABLE 64: Opinion of people in favour of complete F2P model**

Among the whole of favourable players to this complete F2P model of which 72% are men, 52% think advertisement is an advantage. Among these positive opinions, 60% think real brand integration in a virtual environment improves realism and creates value. 40% think it funny.



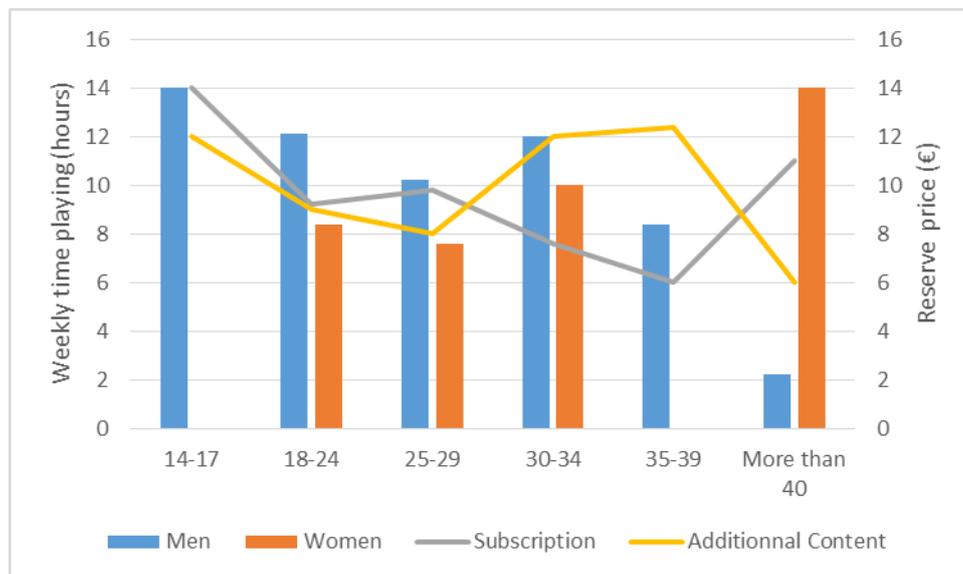
**TABLE 65: Repartition by gender of people in favour for complete F2P model**

Students are well represented in this population as they are 45% of favourable players to a complete Free-to-Play model. They are followed by employees (27%) and executives (17%).



**TABLE 66: Socio-professional categories of complete F2P players**

Favourable people to this model are mainly experienced and regular players who want to acquire an exceptional game experience. Thus, 79% of them dedicate more than one hour a day playing. Men dedicate more time playing video games than women. Especially, 14-17 age bracket concentrate a high expenditure potential either for additional content purchase with an average of 12€, and for charged subscription (16.20€ per month).



**TABLE 67: Involvement and reserve price for complete F2P players**

35-39 year old people have the highest expenditure volume for added content purchase with an average of 12.50€. More than 40 years old women have a high involvement rate dedicating an average of two hours a day playing.

In general, expenditure potential is high. 83% of them can spend at least 10€ in punctual or regular added content purchase. Subscription expenditures are quite similar, regrouping 79% of players between 5€ and 15€.

In order to balance their budget, players will have a tendency to share their budget according to the different expenditure sources. They will reduce their game purchase budget in order to increase their added content budget for example.

However, this expenditures are not always proportionally shared as some high expenditure potential players prefer one of the expenditure source rather than the second. Added content purchase represents a more flexible expenditure source than monthly subscription but stay more difficult to manage it accountably speaking.

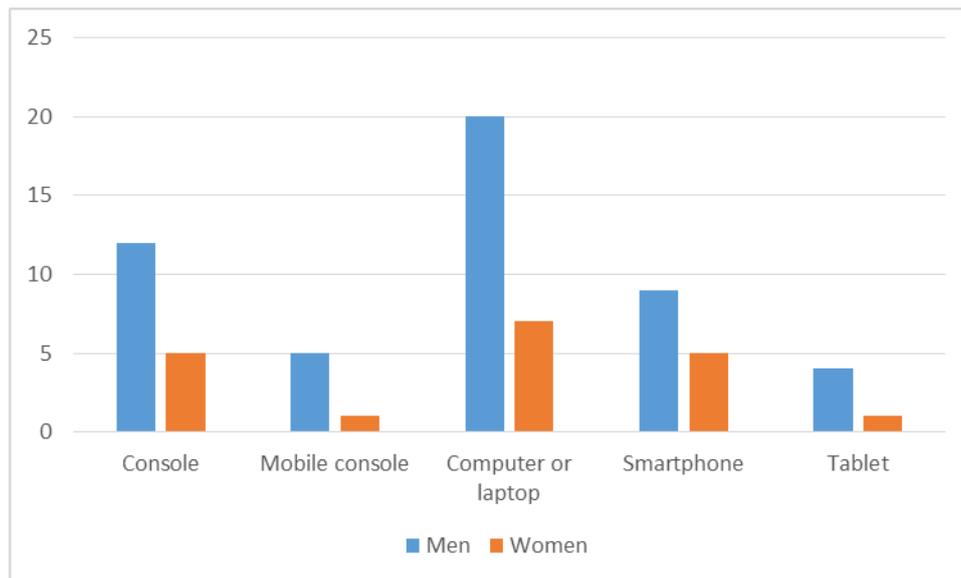


TABLE 68: Equipment rate by gender of complete F2P players

The majority of gamers play on their computer (93%) and on their console (58%). It can be explained by the fact that computer is the privileged device for Free-to-Play games. It is less flexible than a mobile device but more performing.

The enthusiasm of free online games can be confirmed by the fact that they consider durability, which is one of the singularity of F2P games, is the main key factor of success of game for them. They also think important community and competitiveness which can be translated in a real desire of these online games in which social pressure encourage players to do always better.

According to their expenditure potential, it is no surprise that gratuity is a secondary factor for 55% of them.

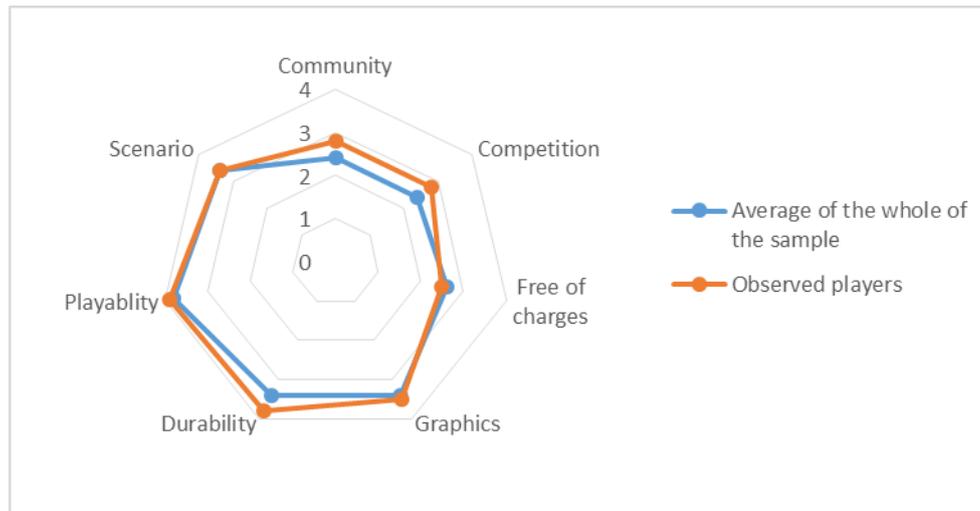


TABLE 69: Subjective importance given to different game element according to complete F2P players

## RESULTS

These players are experienced and regular. They combine Pay-to-Play games on console with Free-to-Play games in premium charged version on mobile device or computer. Thus, these players do not hesitate to spend money in order to improve the durability of their favourite games and in fine improve the playability. Even if they have a high and quite similar expenditure level, we can underline two kinds of players presenting a higher expenditure potential.

The first one corresponds to a student and masculine audience, between 14 and 24 years old who don't hesitate to spend quite much in added content or subscription in order to improve playability and durability of F2P games.

The second profile is more than 40 years old women from middle class who balance their budget according to their expectations in terms of playability and durability.

#### 4.2.2.2. No subscription Free-to-Play model

About 18% of players are favourable to the Free-to-Play business model linking advertisement and micropayment systems. In other words, when these gamers play on a free of charges game, they don't want to subscribe to anything but they are favourable to a punctual purchase of added content and to the presence of in-game advertisement.

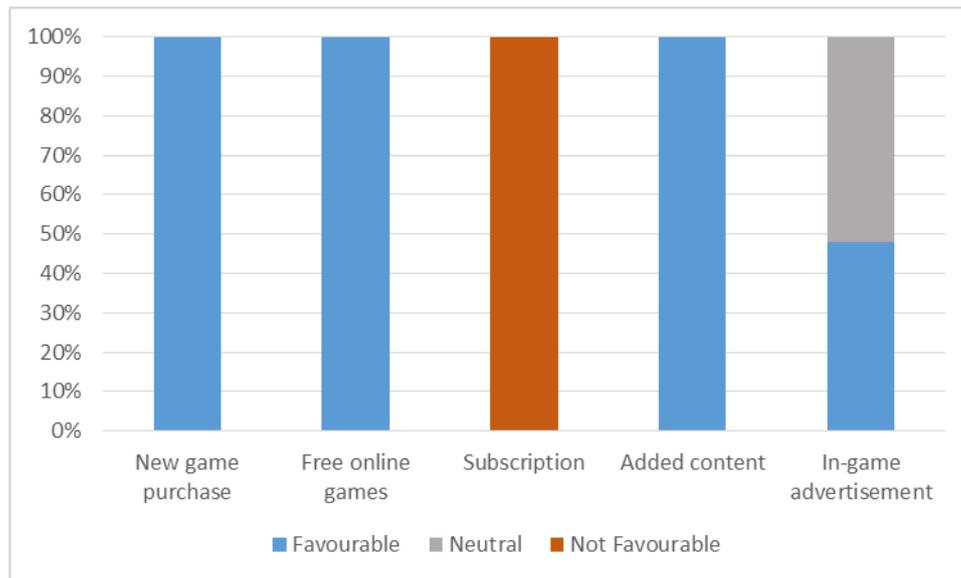


TABLE 70: Opinion of people in favour of no subscription F2P model

48% of these players think that the presence of real brands integrated coherently into the virtual environment has a positive aspect on playability. 21% think it funny and 27% consider that it improves the realism.

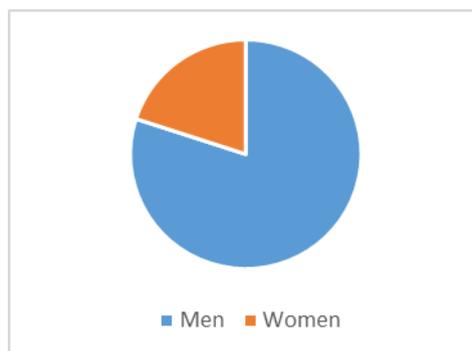
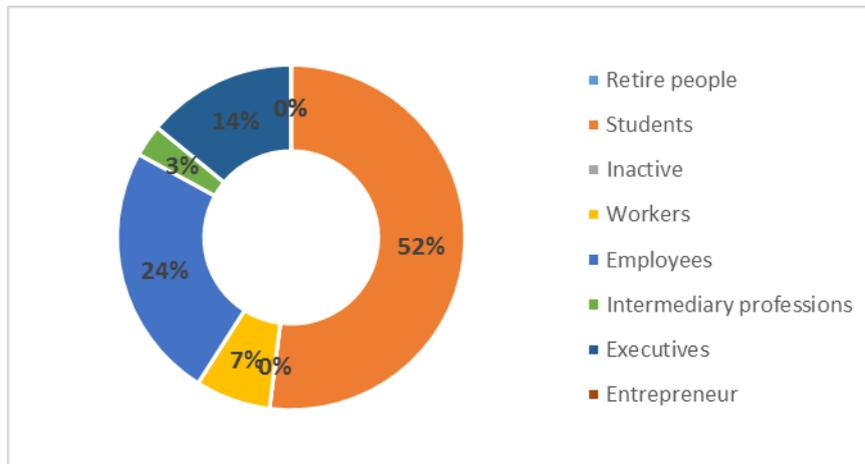


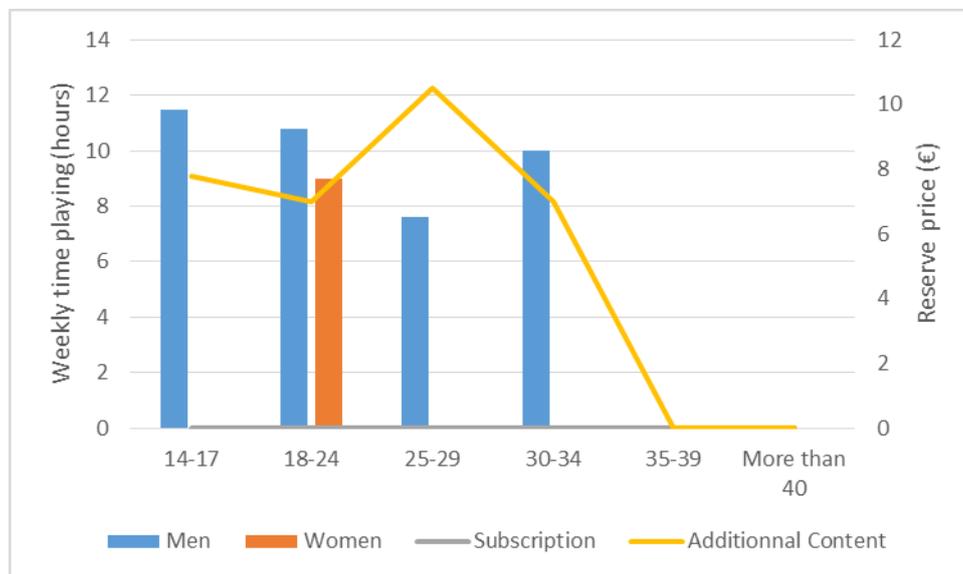
TABLE 71: Repartition by gender of people in favour for no subscription F2P model

79% of these players are men and an important part are students representing 52% of the people interested by this business model. Employees represent 24%, executives 14%.



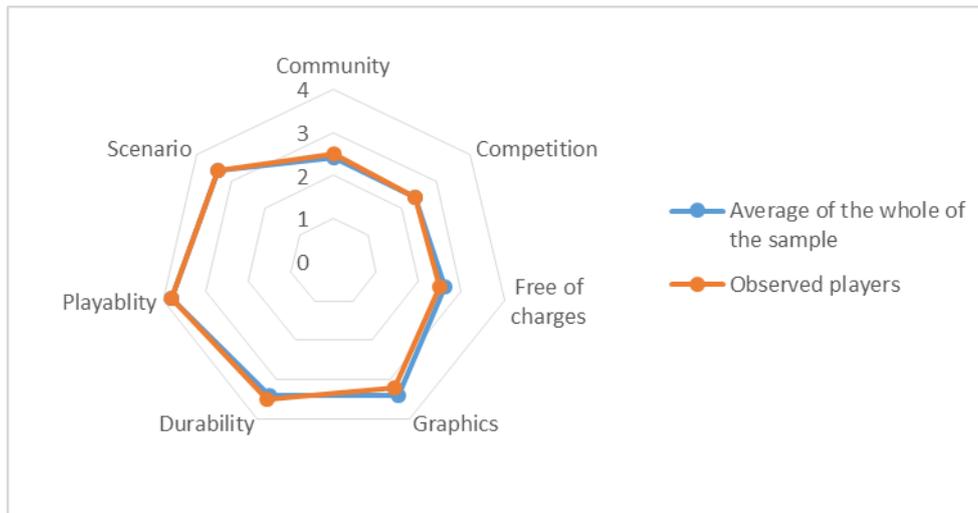
**TABLE 72: Socio-professional categories of no subscription F2P players**

These players essentially are big video game consumers. About 72% of them consider gaming as a passion. They dedicate at least one hour a day for 79% of them.



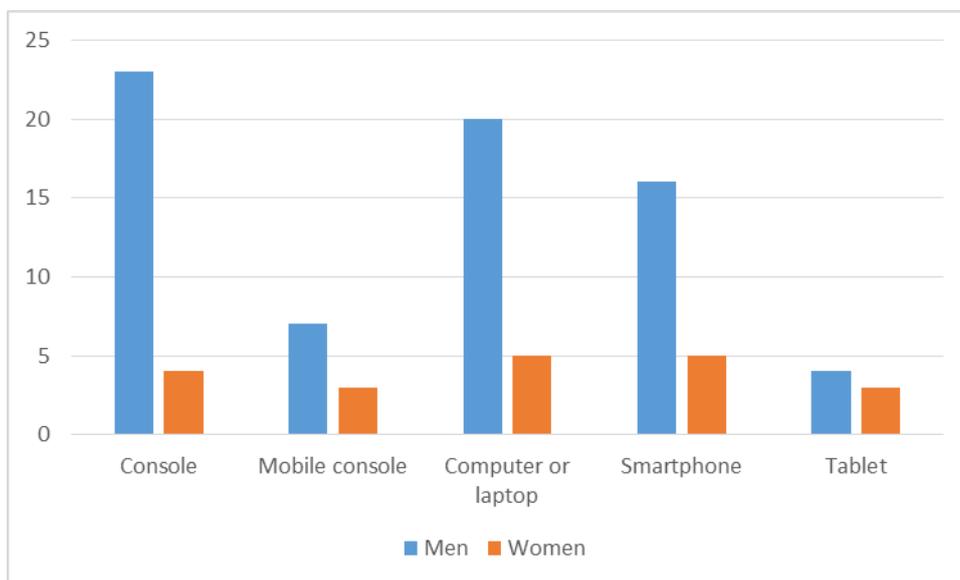
**TABLE 73: Involvement and reserve price for no subscription F2P players**

Their budget is according to this enthusiasm for video games. 69% of these players have a budget higher to 45€ for the purchase of a new video game and 55% are ready to spend at least 10€ in a punctual purchase of added content. Despite a less important involvement than the other age brackets, men between 25 and 29 years old are the ones spending the most in added content purchases. The important expenditure capacity can be explained by the fact that they consider gratuity as a secondary factor for 52% of them. On the contrary, the playability is unanimously seen as an essential element, followed by scenario (93%) and durability (83%).



**TABLE 74: Subjective importance given to different game element according to no subscription F2P players**

As there is a big proportion of men, they have an equipment rate superior than women's. In general, 79% of these players have a console, 69% have a computer. About 76% of these players combine at least three devices (computer, mobile device and console). Women prefer mobile devices as mobile console, smartphone and tablet.



**TABLE 75: Equipment rate by gender of no subscription F2P players**

These players have an important expenditure capacity towards online free games. However, they don't have an important purchase power for most of them as they are quite young. Thus, micropayment systems can represent an interesting alternative as it enables to increase game durability while conserving a flexibility in expenditures.

## RESULTS

These users represent an audience of men under 30 years old possessing a limited purchase power. Their equipment rate and involvement level are high, implying therefore an important video game consumption. Coming from Y generation, they are mainly experienced players wanting to freely spend their money according to their expectations. Thus, these young players are ready to irregularly buy added content in order to increase game durability. Men between 25 and 29 years old have an expenditure potential superior to the average for added content purchases with an average of 10,50€ per month.

#### 4.2.2.3. No advertisement Free-to-Play model

About 5% of online free game players are favourable to a no advertisement business model linking monthly subscription and punctual expenditures in added content.

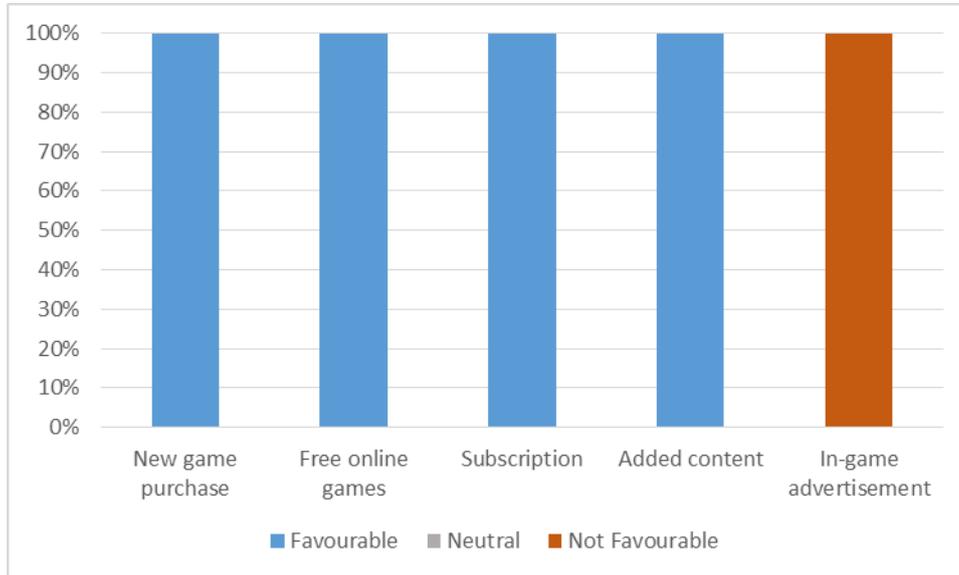


TABLE 76: Opinion of people in favour of no advertisement F2P model

These players are composed by 62% of men and are opposed to in-game advertisement they judge in invading and decreasing the playability. They don't wish to be bothered by brand presence and they want to play in optimal conditions. They are demanding and experienced players who combine both Free-to-Play and Pay-to-Play games.

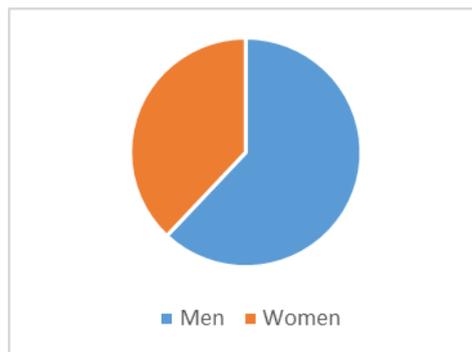
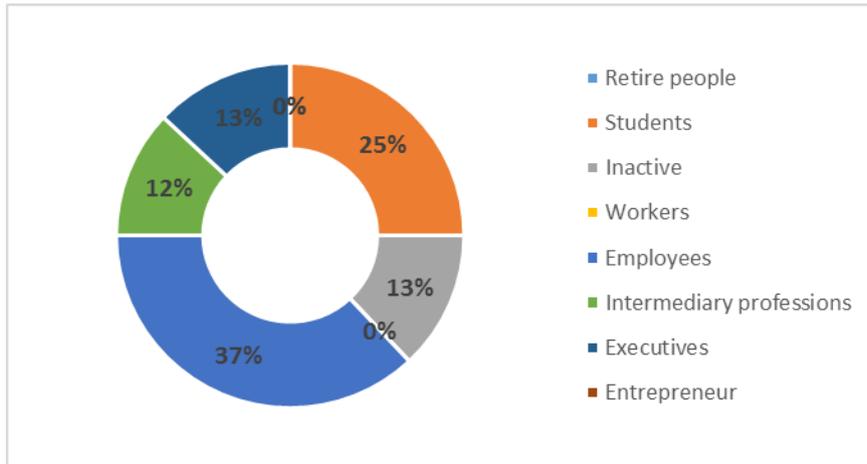


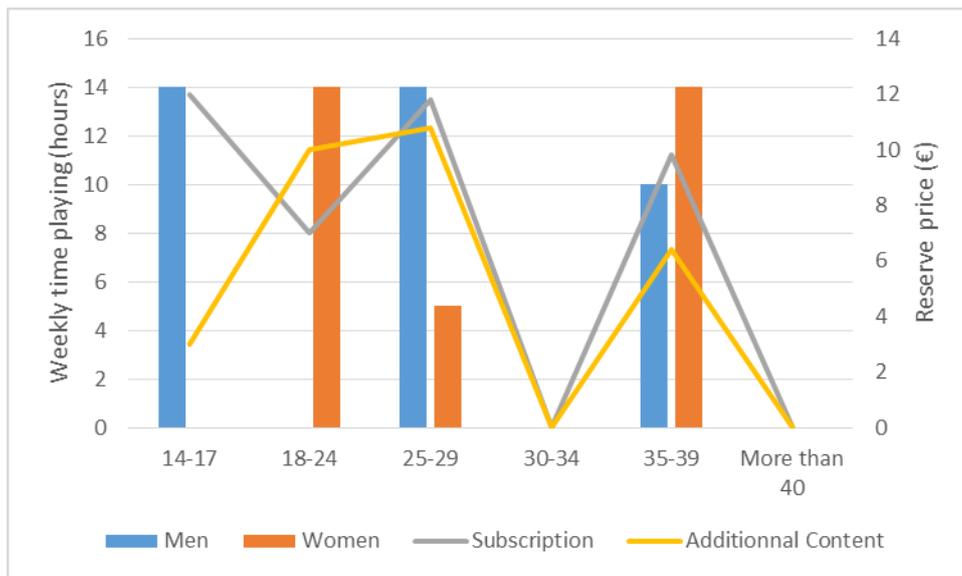
TABLE 77: Repartition by gender of people in favour for no advertisement F2P model

The biggest proportion of these people in favour to this no advertisement business model are employees (37%). Students are also many (25%) and intermediary professions, inactive and executive represent each 12% of questioned people. This population is mainly from the middle class but with a decent proportion of people with no stable revenue (inactive and student people).



**TABLE 78: Socio-professional categories of no advertisement F2P players**

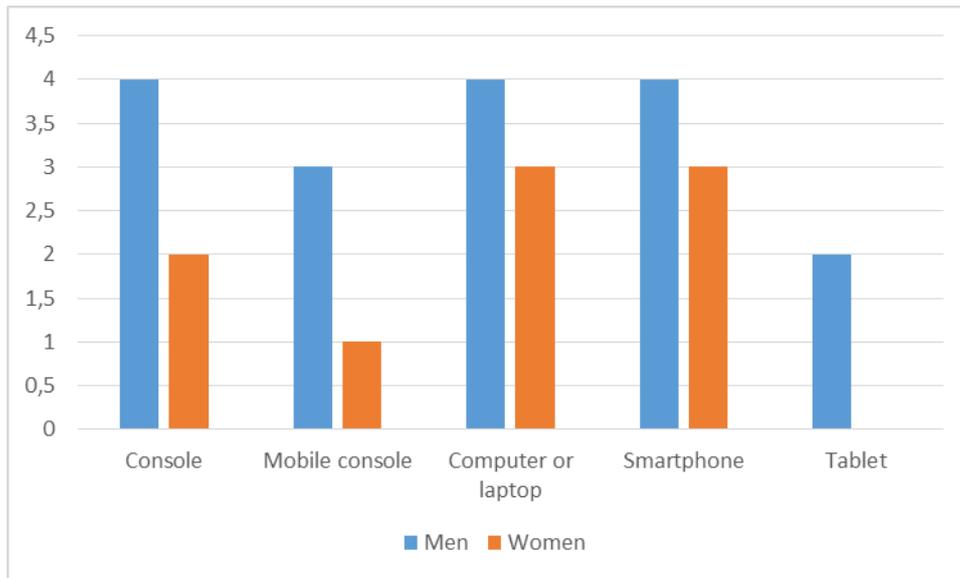
Video games are for them a real daily hobby and they dedicate more than two hours a day playing for 75% of them. These players are passionate gamers who like playing on both charged games from home (87%) and free games in the public transportations (75%).



**TABLE 79: Involvement and reserve price for no advertisement F2P players**

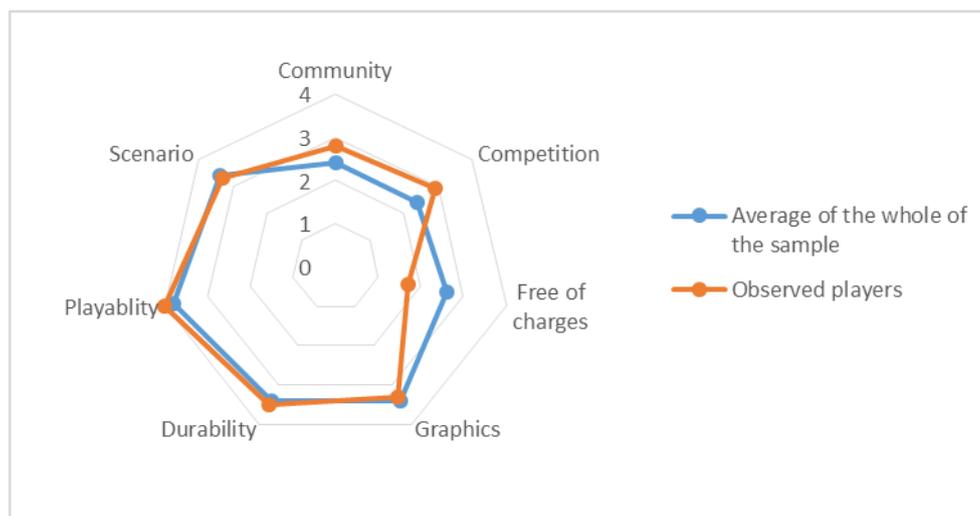
These players have a similar expenditure volume among them. The 25-29 age bracket is the one possessing the highest and most balanced expenditure rate with an average of 11,50€ for subscription and 10.80€ for micropayment. People aged between 14 and 17 have a low level of expenditure in added content purchases but it is quite high for monthly subscriptions.

The equipment rate is very high as they are 55% combining at least 3 gaming devices.



**TABLE 80: Equipment rate by gender of no advertisement F2P players**

As for many experienced players, they all consider playability and durability as the two main elements of a video game. They are demanding players who search for a quality game experience before all. They don't hesitate to purchase premium offers in order to improve F2P game playability.



**TABLE 81: Subjective importance given to different game element according to no advertisement F2P players**

It is no surprise that 87% of them think gratuity is not an essential criteria. They know playability can be heavily decreased in free versions of Free-to-Play games which are intentionally limited by editors. That is why players dedicate their budget to go beyond this limit and improve playability.

## RESULTS

These users are demanding and experienced players with strong consumption habits. They think important competitiveness and community in a game which can explain their involvement into online games. They combine Pay-to-Play games in which they dedicated at least 45€ for 55% of them, with an important use of Free-to-Play games they are playing on in public transportation for 75% of them. They know about the problematic of gratuity in Free-to-Play games and they are ready to buy premium offers in order to increase playability and durability and to not be bothered by advertisement anymore, as they think it is intrusive.

#### 4.2.2.4. No added content Free-to-Play model

About 12% of gamers who play to free of charges online games are favourable to a business model combining charged subscription and integrated advertisement.

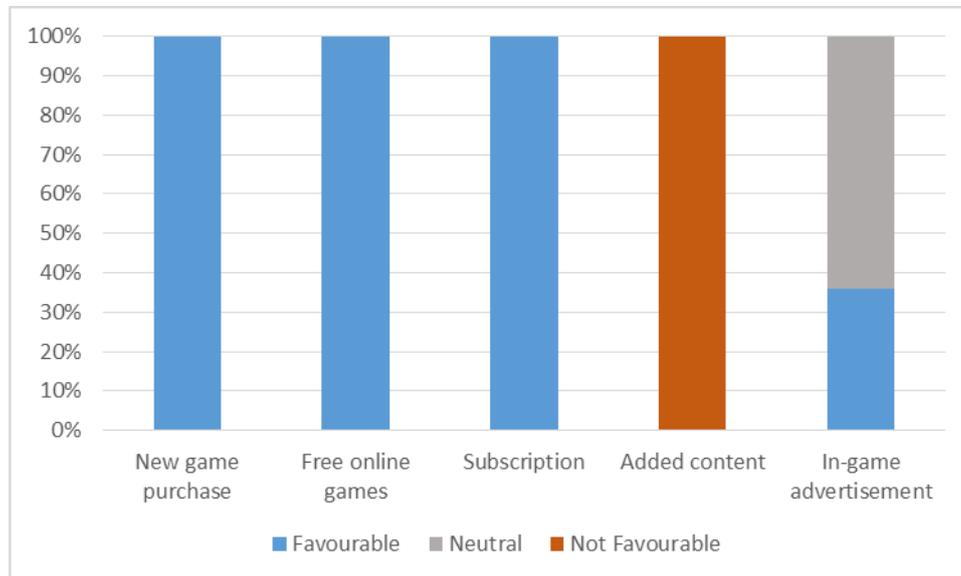


TABLE 82: Opinion of people in favour of no additional content F2P model

These players who are composed by 65% of men are not interested by added content purchases through micropayment systems. They consider this consumption mod as accessory expenditures and prefer a stable monthly subscription.

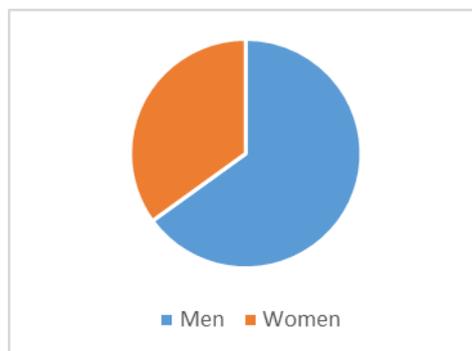
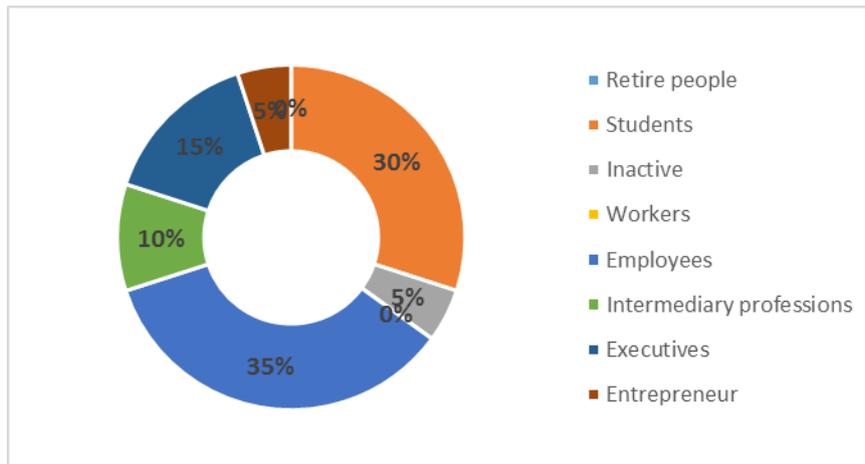


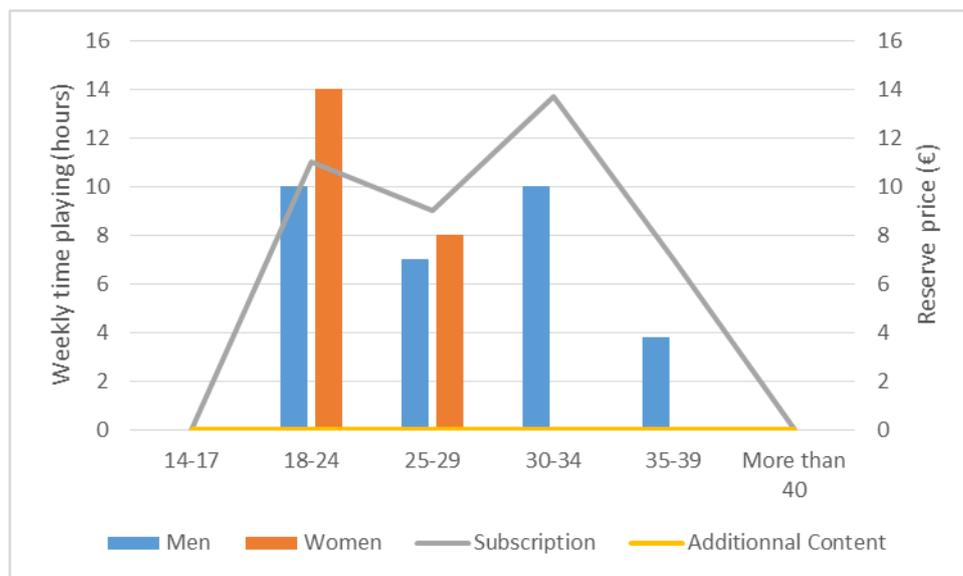
TABLE 83: Repartition by gender of people in favour for no additional content F2P model

30% of them consider in-game advertisement as a realism factor if the different brands are correctly integrated in the virtual environment and if they don't bother the game experience. In that case, in-game advertisement can indirectly create an added value favourable to editors. In a sociological point of view, the majority of questioned people are from the middle class. 35% of them are employees, 30% are students, 15% are executives and 10% are intermediary professions.



**TABLE 84: Socio-professional categories of no additional content F2P players**

The involvement rate of women between 18 and 25 years old is really high as they play an average of two hours a day. They dedicate 9.25€ per month in subscription which is a bit above the average of all questioned people. Men between 30-34 years old are the one subscribing to the most costly subscriptions (13.70€ per month).



**TABLE 85: Involvement and reserve price for no additional content F2P players**

Despite these particularities, it is hard to identify other common sociological denominators. Still, out of these sociological attributes, two profiles can be underlined according to the study of their expense volume.

The first one representing 50% of the population corresponds to players with high expenditure volume. These players dedicate at least one hour a day playing for 80% of them and they are investing more time and money in daily practices. Their budget is at least 30€ for a new game purchase and can reach 60€ for half of them. They are ready to spend at least 10€ for a monthly subscription.

The second profile corresponds to the other half of the population. It represents casual gamers whose expenditure volume is lower reaching a maximum of 30€ of a new game purchase and 10€ for monthly subscription. These users play regularly but not daily for 60% of them. Their equipment rate is a bit lower as well, especially in mobile devices (smartphone, tablet and mobile console). Only half of them have at least two gaming devices (mobile devices, computer, laptop) while they are 70% for the first profile.

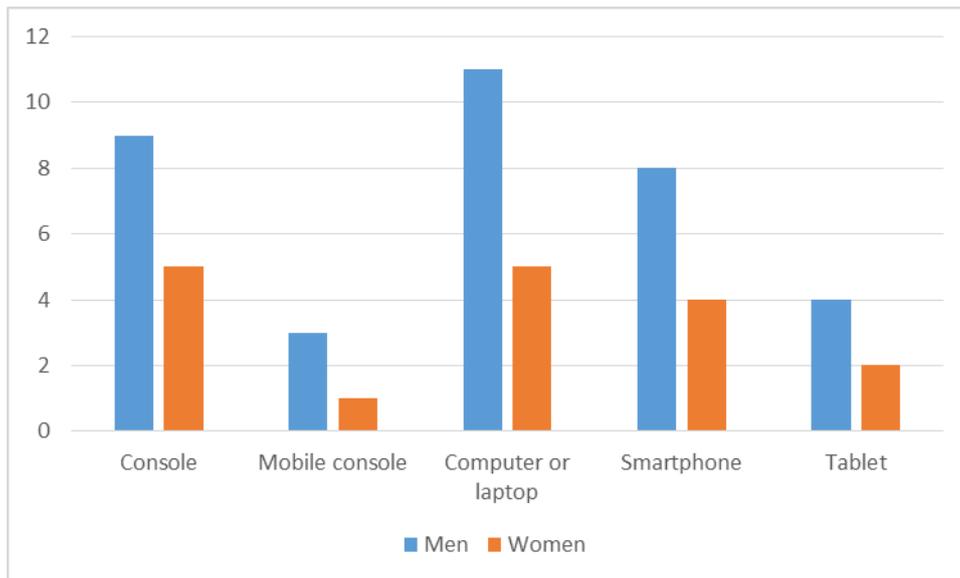


TABLE 86: Equipment rate by gender of no additional content F2P players

However, these two player categories have some common aspects. 80% of the population have a console or a computer. Moreover, all of them think playability and durability are important criteria for a video game. On the contrary, they consider gratuity as a secondary factor for 55% of them which can confirm the fact that they are convinced by the positive impact of a charged subscription on playability and durability of an online game.

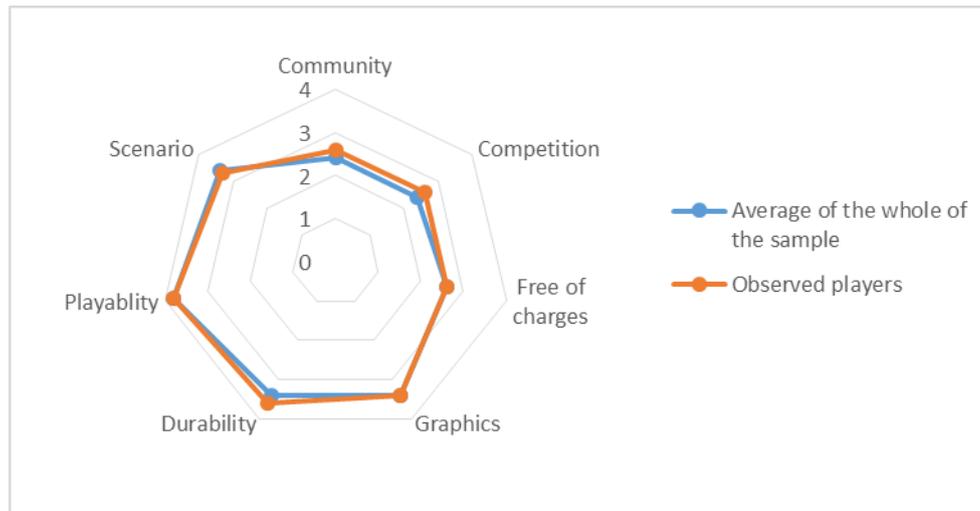


TABLE 87: Subjective importance given to different game element according to no additional content F2P players

## RESULTS

It is hard to identify player categories from their sociological aspects, their profile being too different to have interesting conclusions. However, expenditure and involvement analysis can underline two profiles:

The first one corresponds to casual players who invest in medium cost subscription. Even if they are well equipped they are not ready to spend important amounts of money in Free-to-Play games.

The second profile are regular players who invest more money and more time in online games through high-charged monthly subscriptions. Mainly composed by men, these players can link F2P activity with the purchase of P2P games for their console or computer.

#### 4.2.2.5. Advertised Free-to-Play model

About 25% of gamers playing online free of charges games don't wish to subscribe nor to purchase added content but stay open to advertisement integrated to video games.

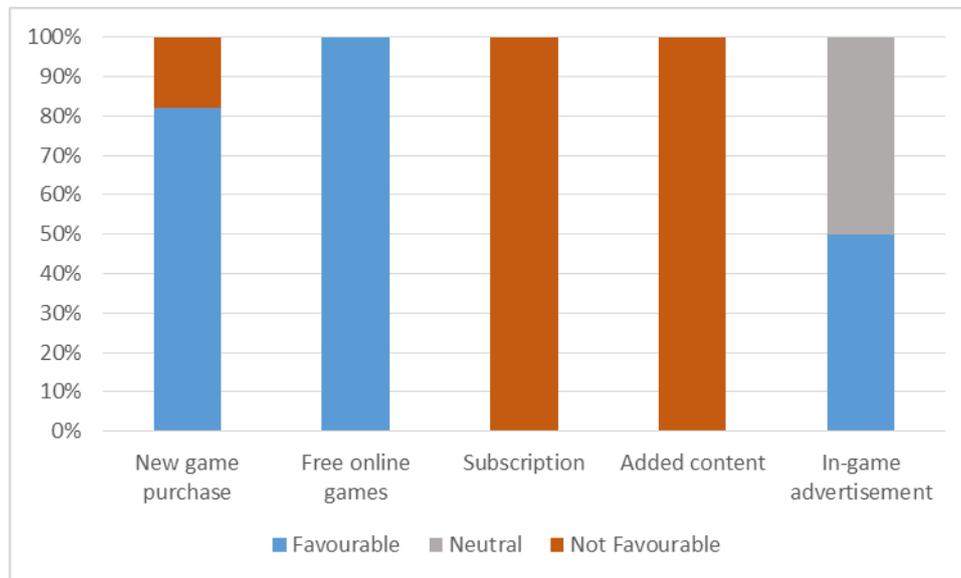


TABLE 88: Opinion of people in favour of advertised F2P model

52% of them think advertisement has a positive impact on the virtual environment of a game and 40% think it is a realism factor.

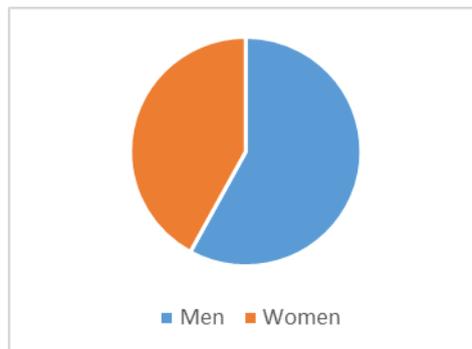


TABLE 89: Repartition by gender of people in favour for advertised F2P model

People in favour of this business model are composed by 57% of men. There are 28% of employees, 27% of students, 15% of intermediary professions.

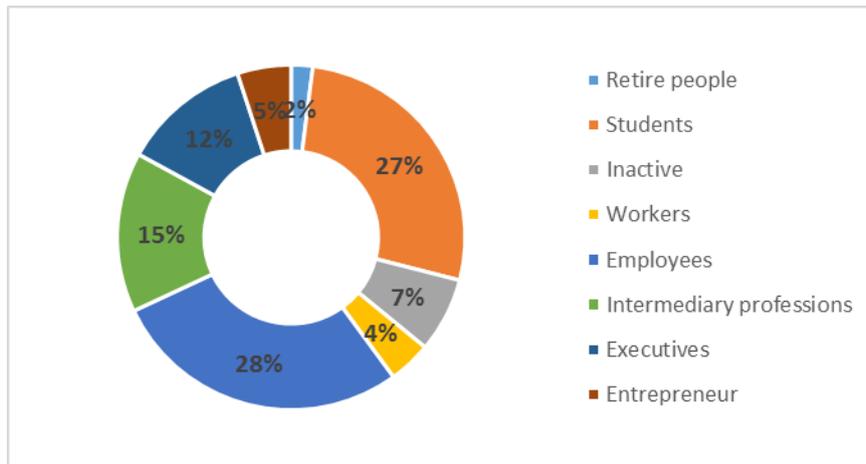


TABLE 90: Socio-professional categories of advertised F2P players

Even if 20% of players do not only play on free games, 55% are still ready to spend at least 30€ for a game purchase. However, their budget is not extensible to free online games they play. In other words, these players are able to spend for charged games on console (57%) or computer (62%) but not for initially free games as it is the case of F2P games.

About 65% of these players play daily and most of these players have an important equipment rate as 54% of them have at least two game devices (console, mobile device, and computer).

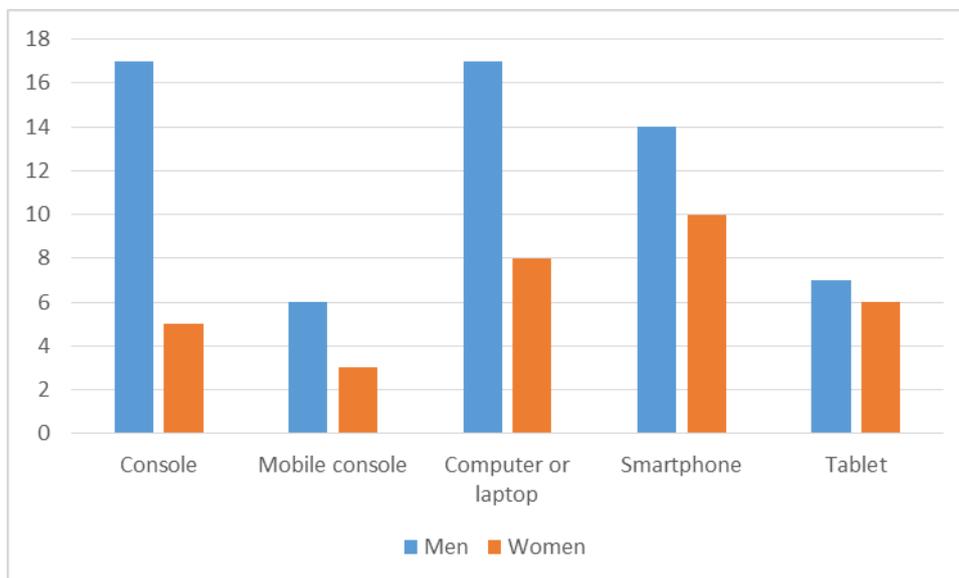
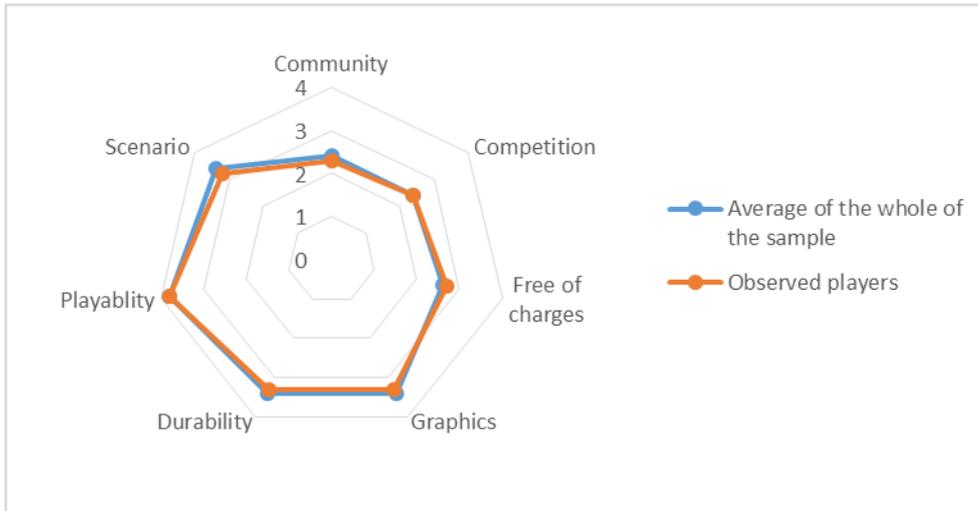


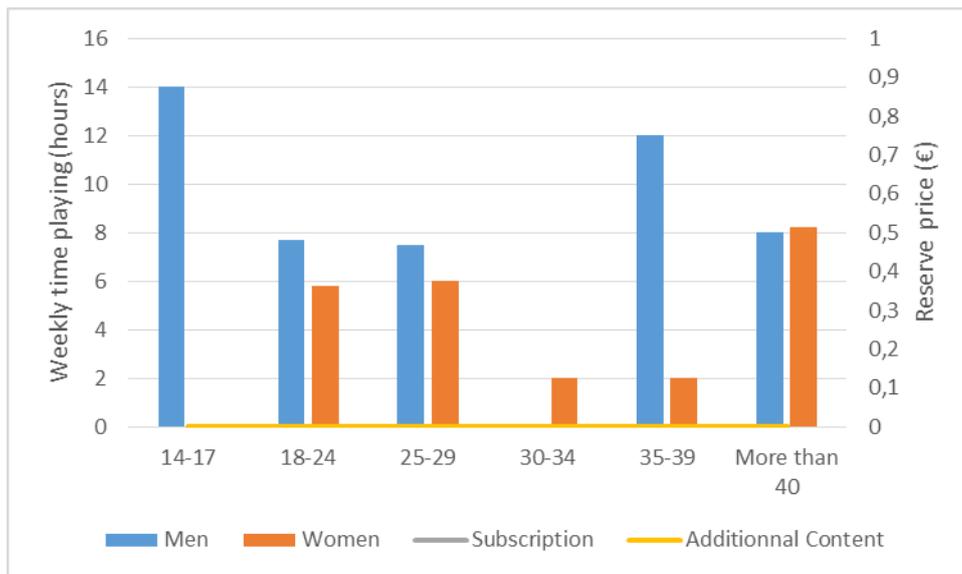
TABLE 91: Equipment rate by gender of advertised F2P players

Two profiles can be identified. The first one composed by 50% of women corresponds to casual players who just don't want to dedicate their budget into video game consumption. They don't wish to spend for this kind of entertainment but stay open to advertisement presence.



**TABLE 92: Subjective importance given to different game element according to advertised F2P players**

These players are ready to choose a video game according to its free of charges status as they consider it as an important data in their choice. Playability must be adapted to an unexperienced audience.



**TABLE 93: Involvement and reserve price for advertised F2P players**

The second profile is composed by 70% of men who are between 14-17 or 35-39 years old. They are players dedicating more time playing video games. They are ready to buy new video games and they have an important budget for P2P games but they don't wish to spend anything in online free games.

## RESULTS

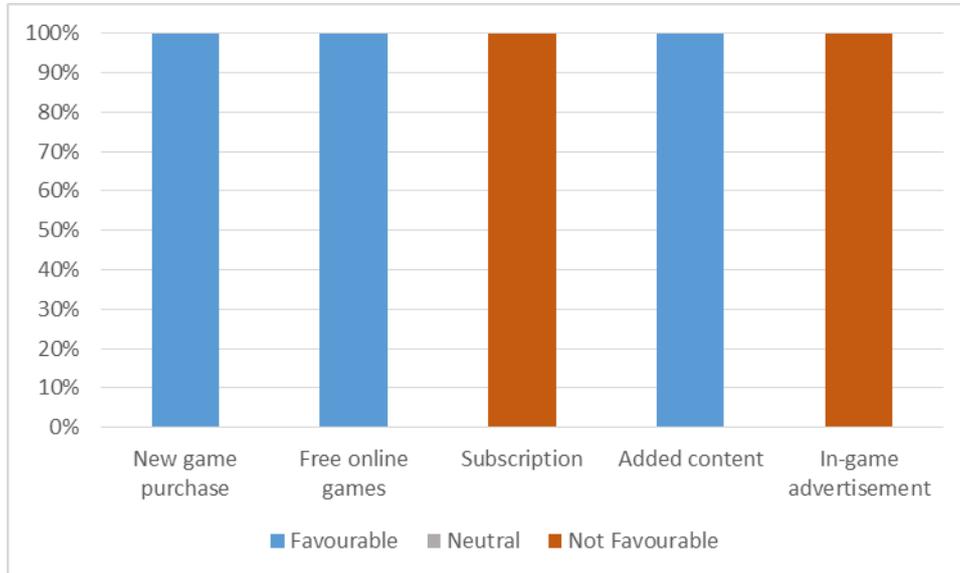
Two very different profiles can be underlined from purchase behaviour and player feeling analysis.

The first one corresponds to casual players who see in video games an entertainment which does not justify any expenditure. Players choose their video games according to their gratuity. They are not an appropriate profitable target for editors.

The second profile is experienced players who are used to play on advanced devices such as console or computer. Despite the fact that they dedicate high budgets to new game purchases they don't want to pay for Free-to-Play games. Many reasons can explain this behaviour. Some players can be not old enough to be independent consumers as it is the case for the 14-17 age bracket. Some others can be considering F2P games do not propose enough quality and added value comparing to console or computer games. According to their involvement for video games, this refusal may not be a final decision over time and can actually change. Editors have to convince this second profile of players to spend money for F2P games.

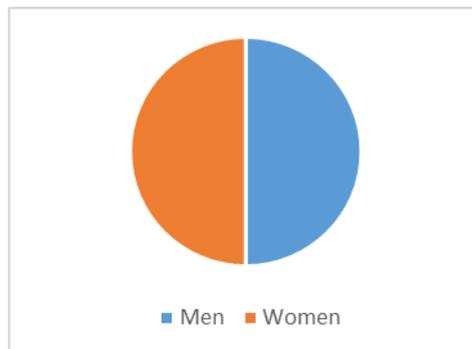
#### 4.2.2.6. Flexible Free-to-Play model

About 4% of gamers playing online games are favourable to a business model only proposing to users the punctual purchase of charged added content.



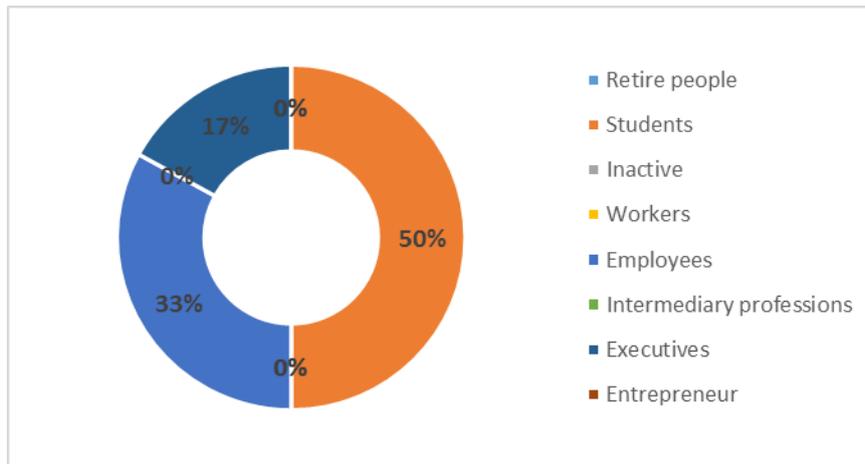
**TABLE 94: Opinion of people in favour of flexible F2P model**

These players are composed by 50% men and 50% women and they refuse any subscription to charged subscription and any in-game advertisement as they find it intrusive for 67% of them.



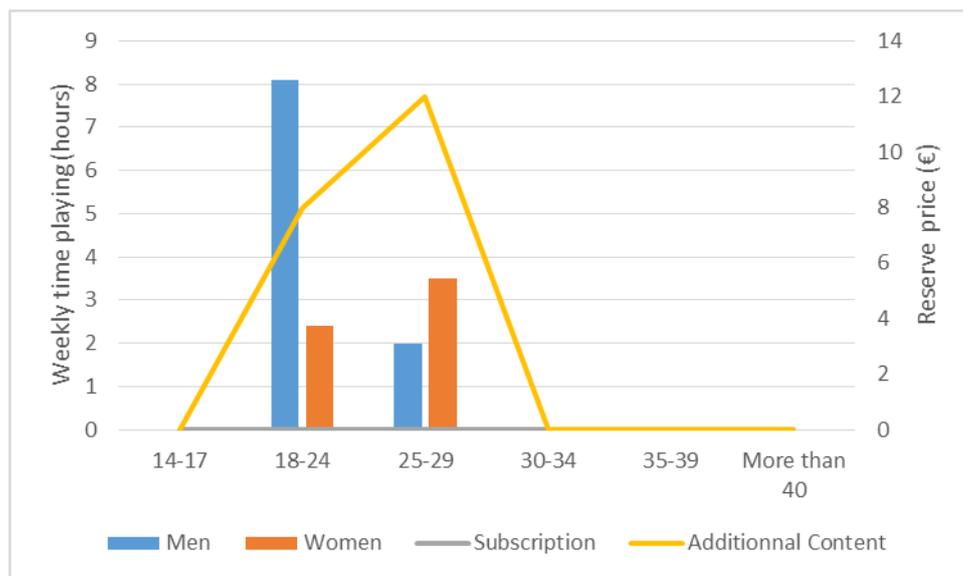
**TABLE 95: Repartition by gender of people in favour for flexible F2P model**

The weight of students among this population is very important. They are 50% while employees and executives respectively represent 33% and 17%.



**TABLE 96: Socio-professional categories of flexible F2P players**

These people are essentially casual players. 83% of them don't play daily to video games. Men between 18 and 24 years old are most active with an average involvement of 71 minutes a day.

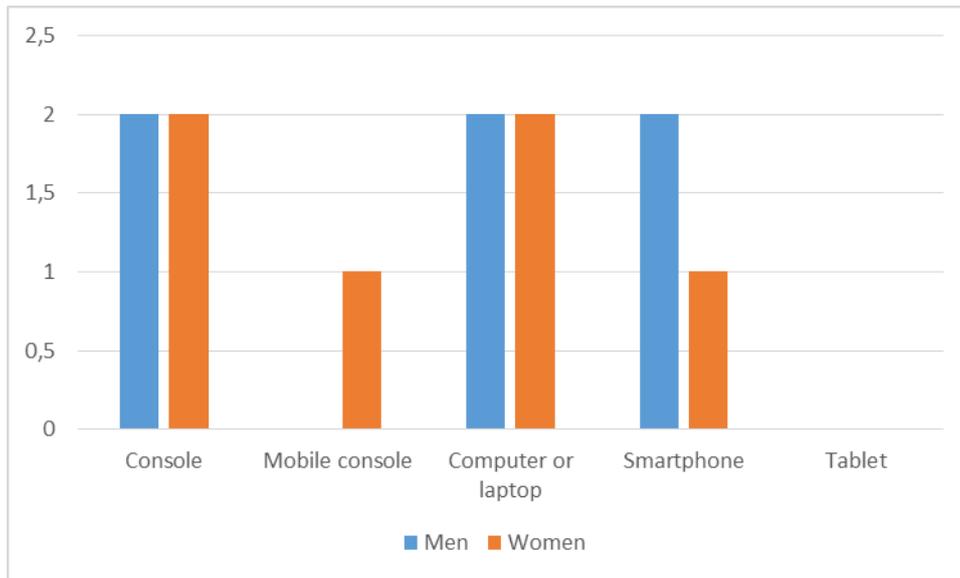


**TABLE 97: Involvement and reserve price for flexible F2P players**

However, the age bracket 25-29 is the one that spend money the most in terms of added content purchases with an average of 11.70€ despite an very low involvement rate.

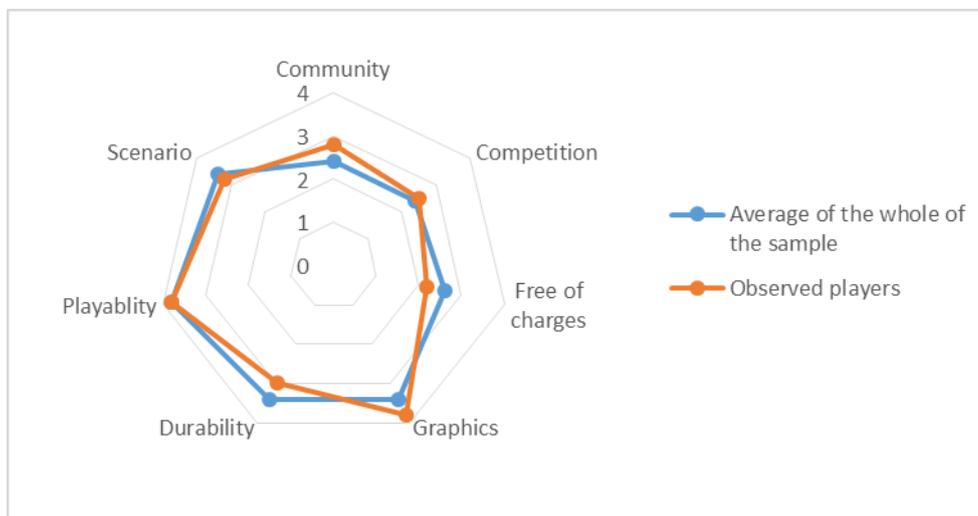
Budget dedicated to video game purchases is quite high according to the time players spend playing. Indeed, 83% of them are ready to spend at least 30€ in a new game purchase and 10€ in punctual added content purchase.

The equipment rate is equivalent between men and women. Women favour mobile console to smartphone.



**TABLE 98: Equipment rate by gender of flexible F2P players**

They don't think important gratuity and they all consider graphics as the most decisive element of a video game. This aesthetics sense implies that players have the tendency to prefer high added value video games available on advanced devices such as console or computer. Moreover, they underline the importance of community in a video game. These elements can confirm the fact that users are more incline to play online to charged quality games rather than free online games in which graphics are less performing.



**TABLE 99: Subjective importance given to different game element according to flexible F2P players**

The monthly subscription does not correspond to this population as it obliges them to make their investment profitable by spending more time. Indeed, even if users play casually, they want to able for time to time to spend good entertaining moment playing a video game, from home for 80% of them and they are therefore ready to

pay for it. Free online games are not the favourite games of these players as they wish to dedicate their entire budget in charged P2P games with a high added value for a better game experience.

## RESULTS

These players are before all casual gamers who prefer to play charged games with good quality graphics on console or computer rather than playing free online games. Despite their medium involvement level, they dedicate important budget in new game purchases. The age bracket 25-29 is more likely to spend money in added content purchases (average of 11.70€) than the other age brackets.

#### 4.2.2.7. Community Free-to-Play model

About 4% of users playing online games want to only rent a charged subscription, economizing on other business models. These players are not interested in added content purchase and find in-game advertisement invasive.

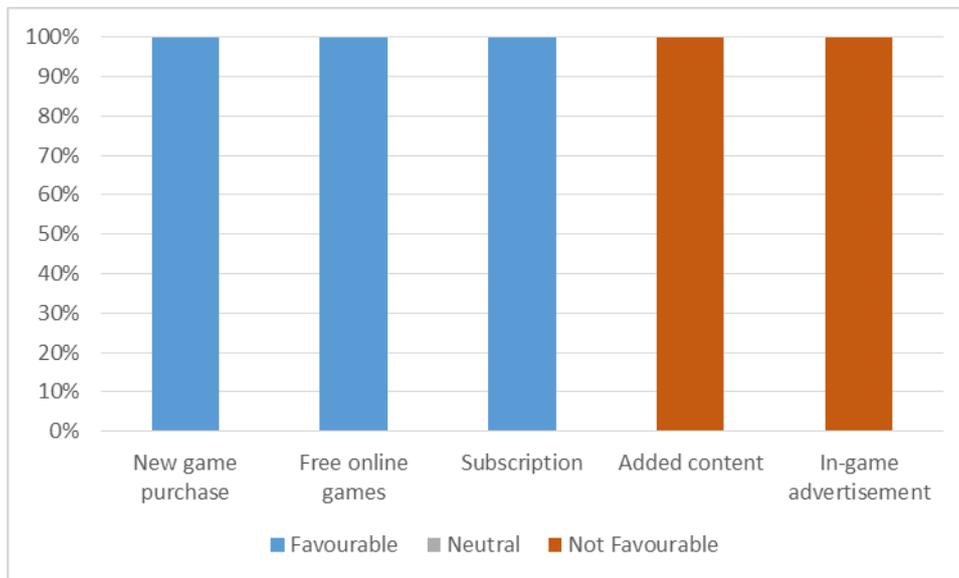


TABLE 100: Opinion of people in favour of community F2P model

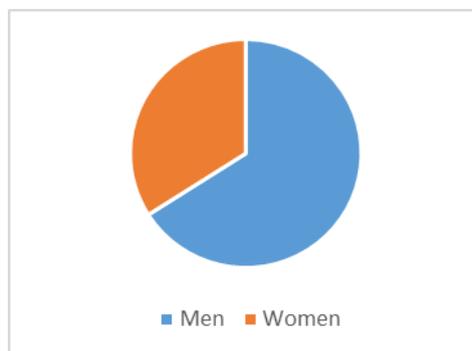
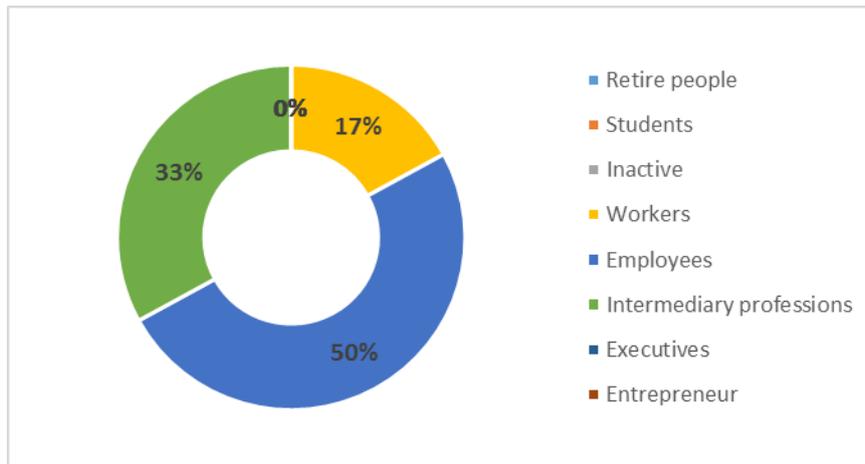


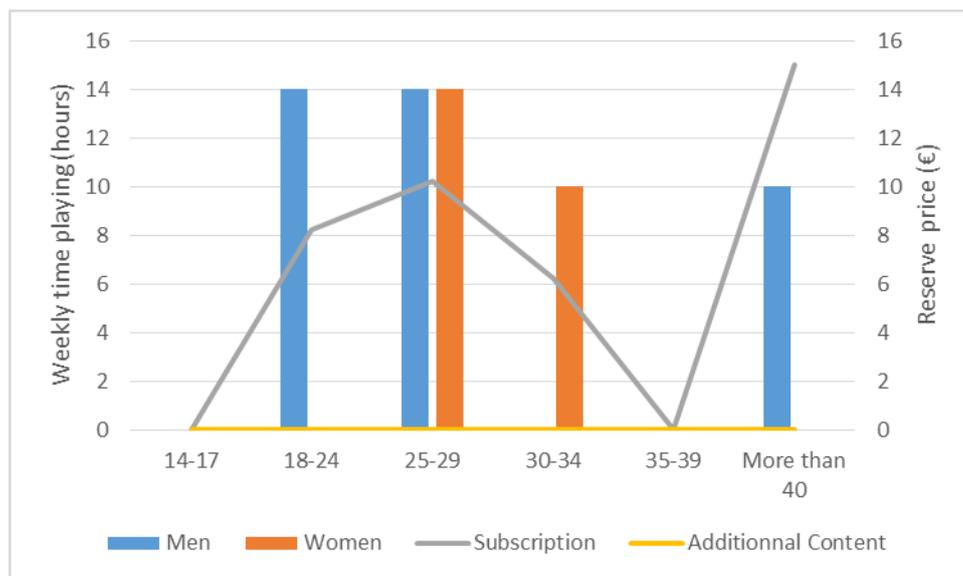
TABLE 101: Repartition by gender of people in favour for community F2P model

Every one of this players, who are in majority active men, plays on both charged P2P and F2P games. They have a purchase power equivalent to the middle class and they are for half of them employees and a tier is intermediary professions.



**TABLE 102: Socio-professional categories of community F2P players**

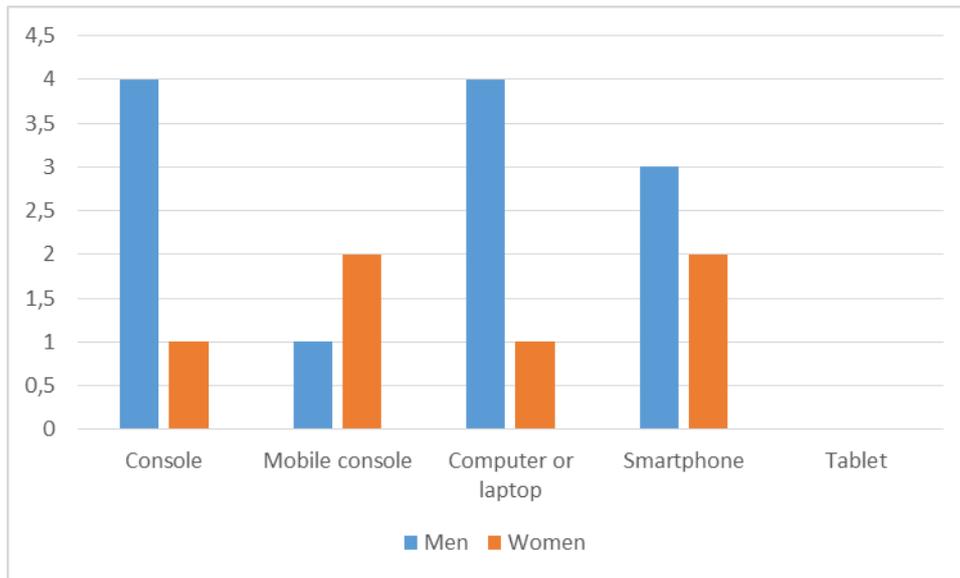
They all play at least one hour a day and 67% say playing more than two hours daily. They mainly play from home on at least two different devices (console, computer, mobile device).



**TABLE 103: Involvement and reserve price for community F2P players**

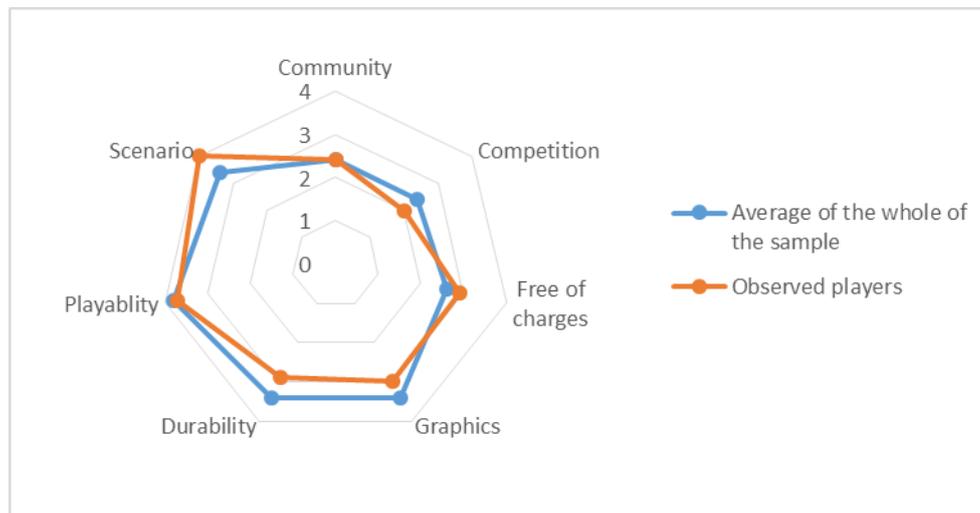
The 25-29 age bracket has a high average involvement rate of more than two hours a day playing and they are ready to invest into monthly subscription an average of 12€ which is a bit above the total population average. Furthermore, men over 40 years old are ready to spend a bit more money than the average (17€) for a monthly charged subscription.

These players in their whole are passionate gamers who have a big video game consumption. Thus, 83% of them are ready to spend at least 30€ for a new game purchase and to invest at least 10€ for a monthly subscription. They are very well equipped as well. 84% of these players have at least one console of computer they play with. Women prefer mobile devices which perfectly fit with Free-to-Play games.



**TABLE 104: Equipment rate by gender of community F2P players**

The whole of these players consider scenario as the central element of a video game. They give importance to gratuity and community. They are searching for online charged or free games with a very good scenario such as MMORPG which offer a total immersion of the user into a coherent virtual environment.



**TABLE 105: Subjective importance given to different game element according to community F2P players**

Charged subscription has to progressively carry more and more added value to the initial game version. It can take the shape of scenario updates or premium services guaranteeing a better playability.

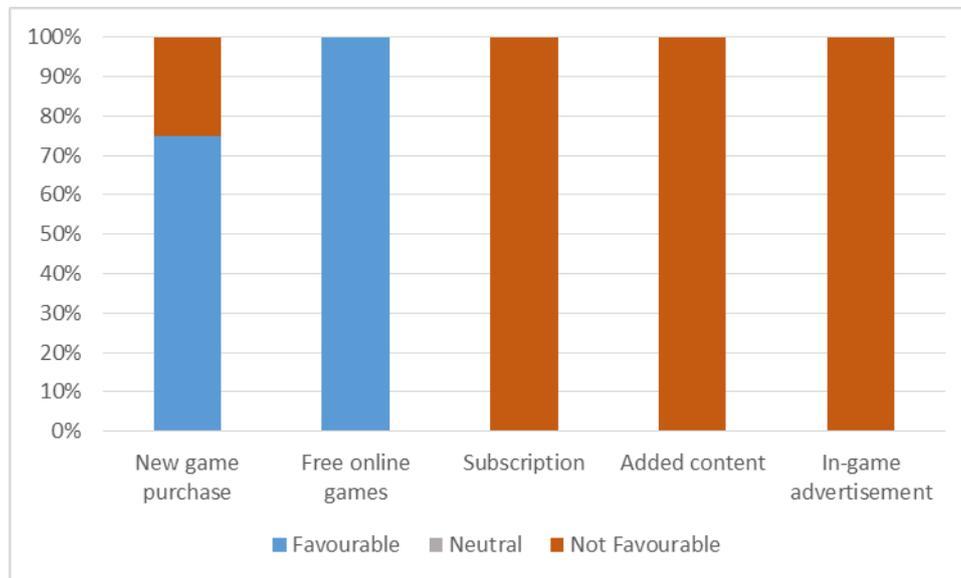
## RESULTS

These people are essentially experienced and regular players who search for an immersive and optimized game experience. They possess an important expenditure potential especially concerning new game purchases and they prefer video games with good quality scenario. They are inclined to play free online video games offering a successful game immersion and they can subscribe in order to guarantee an interesting playability.

Two profiles can be underlined through this study: the first one corresponds to more than 40 years old men which has the highest monthly expenditure potential; the second profile is the 25-29 age bracket who has an important involvement rate for an expenditure potential a bit higher than the average.

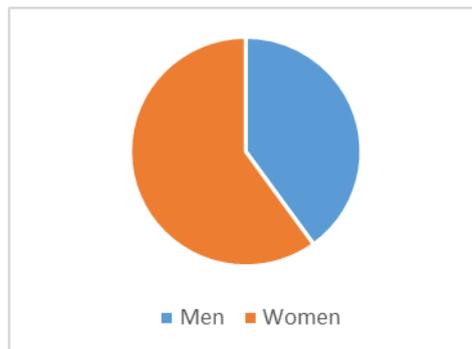
#### 4.2.2.8. Open-Source Free-to-Play model

About 14% of questioned people saying playing regularly to online free video games affirm being not favourable to any kind of payment online. They are not ready to buy added content through micropayments, nor to subscribe.



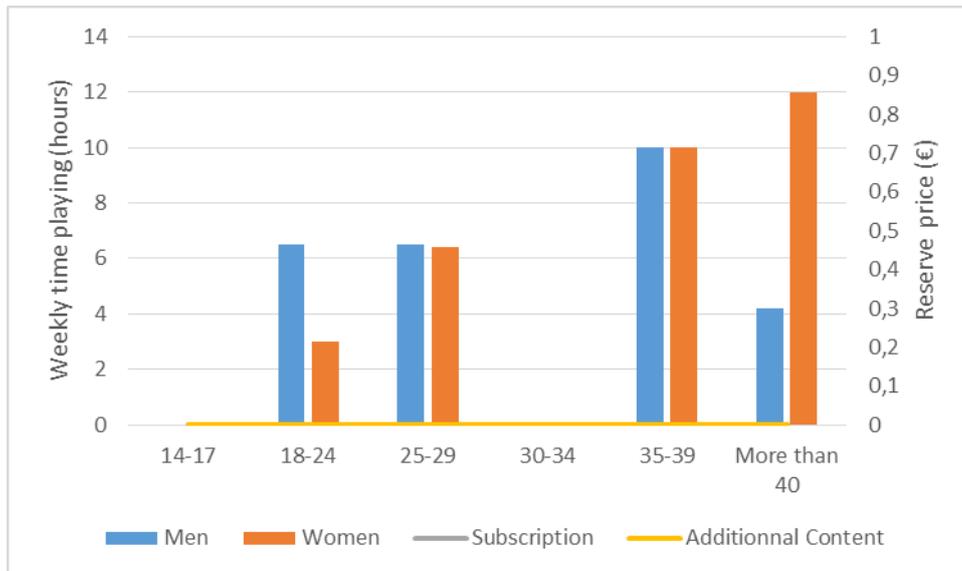
**TABLE 106: Opinion of people in favour of open-source F2P model**

These players who are women in majority think advertisement is bad for the game environment and don't wish to see in-game advertising messages.



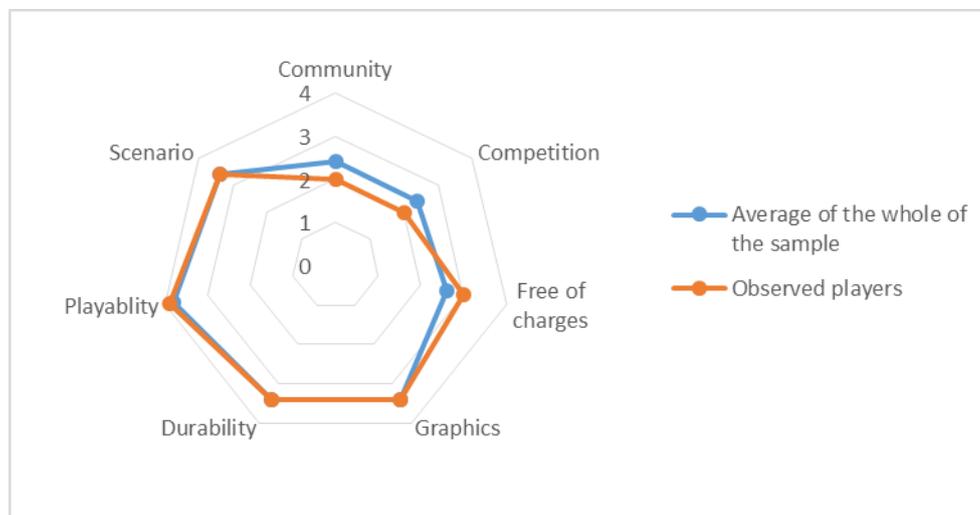
**TABLE 107: Repartition by gender of people in favour for open-source F2P model**

Among this population, 39% dedicate at least one hour a day playing while 38% say not playing daily. 17% play less than two hours per week to video games.



**TABLE 108: Involvement and reserve price for open-source F2P players**

Even if these players have some budget for video game consumption, it is very irregular. Only 48% are ready to spend more than 30€ in a new game purchase while 26% play to free games only. Gratuity is an important factor for a majority of these players. They are ready to buy a game they could like but they are hostile to any kind of further expenditures. This implies a total absence of expenditures from these players concerning online free game (Free-to-Play).



**TABLE 109: Subjective importance given to different game element according to open-source F2P players**

## RESULTS

Even if some of these players are regular gamers possessing a modest budget dedicated to new video game purchases, most of them consider online gaming as a casual hobby which does not deserve specific investments. The use of basic free versions of Free-to-Play games, even if they are limited and frustrating, is enough for their expectations. The majority of these players do not constitute a coherent and appropriate target for Free-to-Play games but can still be ambassadors toward other players.

## 5. The impacts of combinatorial business models for editors

In this part, we will sum up the results of the previous data analysis part and conclude on the consequences, limits, strengths and weaknesses for the editor. As one of the aims of this study is to provide video game editors with concrete data and analysis for their business model decision making process, this part will be divided by combinatorial business models and it will show the specific results obtained by each.

### 5.1 General results

#### 5.1.1 Pay-to-Play

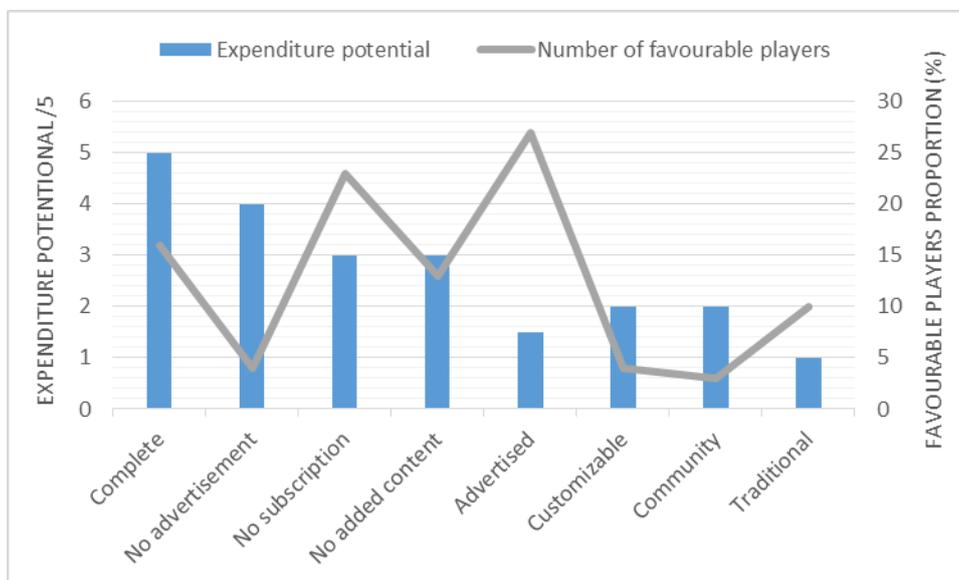
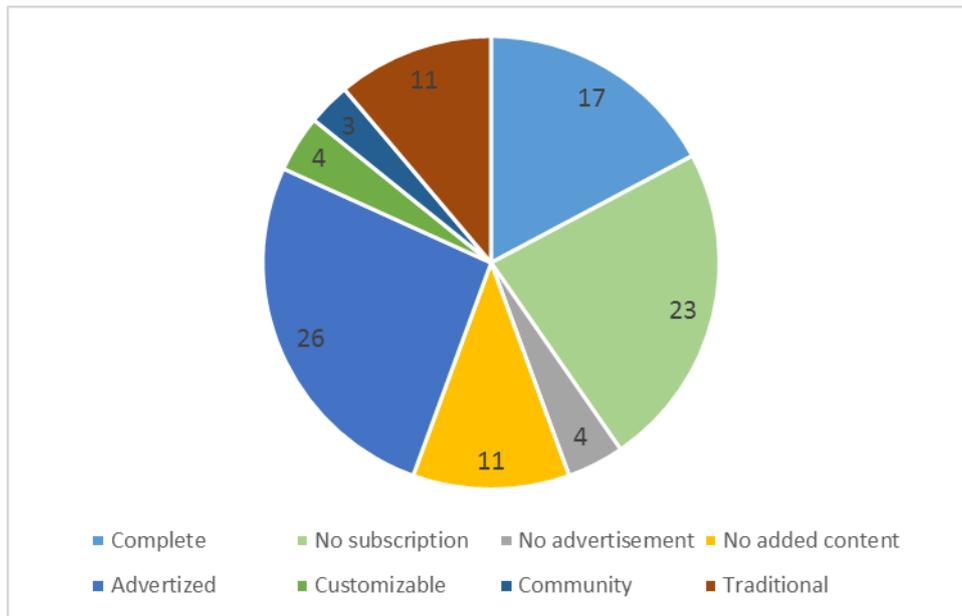


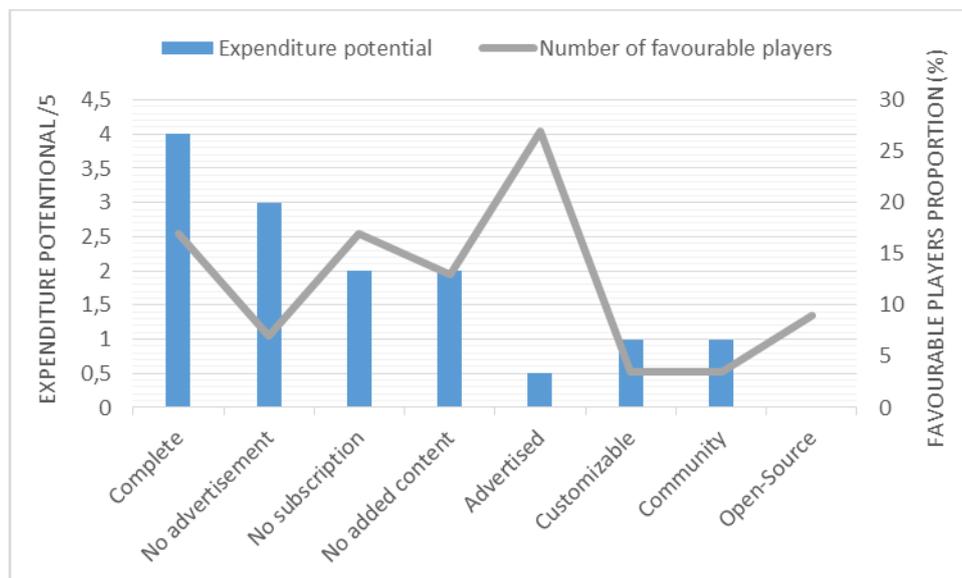
TABLE 110: Impact of Pay-to-Play business models

The combinatorial advertising and no subscription models are the ones that gather the most amount of people that are in favour. However, this the advertising model is less profitable as the incomes are limited only to the advertisements. Therefore, editors should rather prefer complete and no subscription models that reunites both an important proportion of players and a decent remuneration average level.



**TABLE 111: Distribution of Pay-to-Play business models**

### 5.1.2 Free-to-Play



**TABLE 112: Impact of Free-to-Play business models**

Even if the advertising Free-to-Play model is the one that gathers the biggest amount of players, it stays the less profitable one. Editors will rather prefer the complete model that shows 18% of favourable opinions and a very important expenditures potential from players. No subscription and no added content models are also good

alternatives, with respectively 18% and 12% of favourable opinions and a correct expense potential.

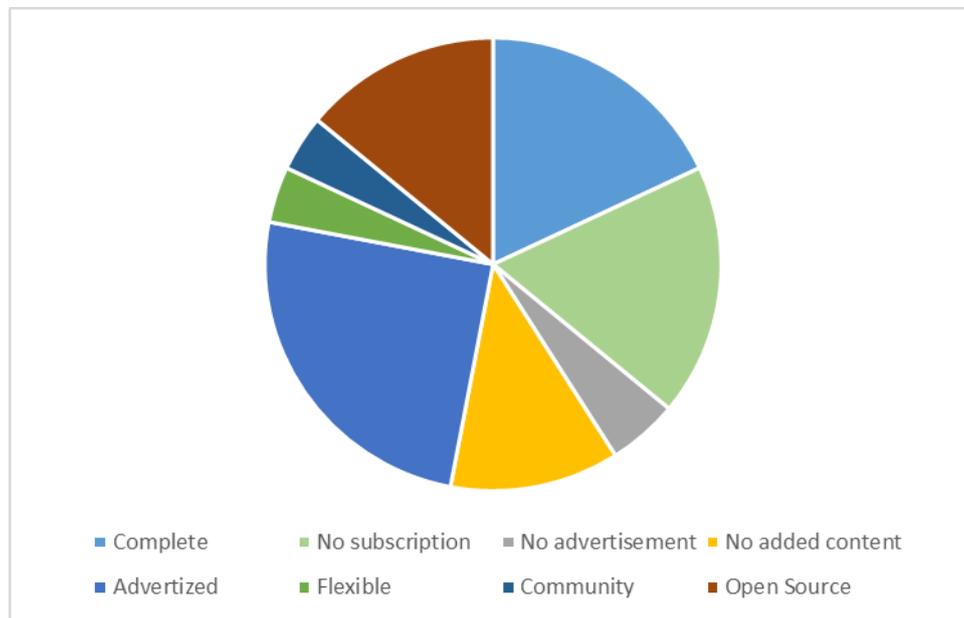


TABLE 113: Distribution of Free-to-Play business models

## 5.2 Specific results

### 5.2.1 Pay-to-Play

#### 5.2.1.1 P2P: The complete model

Representing 17% of the questioned people, the complete Pay-to-Play is one of the most profitable combinatorial model because it provides the editors with every business model that can generate a revenue. It attracts for its majority experienced players with a huge expense potential that primary search for a quality game.

Two profiles are being underlined for their high expenditures level: the first one are young masculine players from 17 to 24 years old, most of them being students but able to spend a lot despite a modest purchase power; the second one is a more mature audience of women that are more than 30 years old and from middle or high socio-professional category.

#### 5.2.1.2 P2P: No advertisement model

Representing only 4% of questioned people, this business model is a subsequent of the complete model after removing the ads. Two profiles of players can be highlighted: a masculine audience aged from 24 to 29 who punctually buys added content in order to avoid advertisement; a feminine audience aged between 35 and 39 who can expense quite much and who favours non specialised game systems in order to easily go from work to entertainment.

#### 5.2.1.3 P2P: No subscription model

Representing 23% of the questioned people, the no subscription model allows players to have a more flexible management of their expenditures. These users are experienced players with a huge expenditures potential who mainly play charged offline games. Two profiles can be underlined: the first one is about the 25-29 years old people category, mainly constituted of males whose expenditures potential and involvement level are homogenic and very high despite a modest purchasing power; the second one is the 35-39 years old category who allocates a very high budget to new video games and added content and whose purchasing power is globally higher than the average.

#### 5.2.1.4 P2P: No added content model

Favourable people to this business model represent 11% of the questioned people and are experienced players but don't spend much. They globally have a higher expenditures potential and a regular and moderate consumption. However, this model is a true success to the more than 40 years old category who spend more than

two times the average budget of the same age bracket compared to the entire population.

#### 5.2.1.5 P2P: Advertisement model

Concerned players represent 26% of questioned people. They globally are casual players, predominantly well-equipped but have a general expenditures potential lower than the average.

For lack of being able to generate an interesting revenue from this low expenditures level, editors have to concentrate their efforts on interactive use of advertisement that can become a real springboard of brands inside the game.

#### 5.2.1.6 P2P: Customizable model

Those players represent only 4% of questioned people and essentially are casual console players who search for an achieved game experience and put the emphasis on graphic quality and playability.

The analysis underlines the importance of 18-29 years old males with a high expenditures potential and who see into the possibility of purchasing added content a flexible way to improve game quality.

#### 5.2.1.7 P2P: Community model

Representing only 3% of questioned people, this community model relies on the purchase to charged subscriptions by players. These players allocate in average a lot of time in playing and are ready to invest into charged subscriptions in order to have an optimized playability without being bothered by advertisements. They favour video games with rich scenario and they see in their subscription a source of continual scenario renewal.

Two profiles of players can be underlined: the first one is men and women between 25 and 29 years old whose involvement level is high; the second one is men who are more than 40 years old and have a high expenditures volume, either for purchasing a new game or an expensive subscription.

#### 5.2.1.8 P2P: Traditional model

Two types of profile show up for this business model which represent 11% of questioned people. The first one is males that are more than 30 years old and whose expense potential is very high, but they don't want to diversify with charged subscriptions or added content purchases. These players play for quite long and are really like classical model of Pay-to-Play. The second one is active women that are more than 40 years old and who are regular and passionate players. They don't hesitate to allocate an important budget to video games consumption.

### **5.2.2 Free-to-Play**

#### 5.2.2.1 F2P: Complete model

People in favour to this complete Free-to-Play model are experienced and regular players. Two kinds of players have a higher expenditures potential than the average: the first is a masculine and student audience aged between 14 and 24 years old and who doesn't hesitate to purchase added content or subscriptions despite a modest purchase power in order to improve the playability or durability of Free-to-Play games; the second one is a feminine middle class audience who is more than 40 years old and balances its budget according to its expectations in terms of playability and durability.

#### 5.2.2.2 F2P: No advertisement model

People favourable to this kind of model are demanding and experienced players who firstly search for an optimised game experience and who have an important taste to online games.

In order to overcome the frustration feeling, consumers are ready to purchase premium Free-to-Play formulas so the playability and durability of the games improve. This way, players won't be disturb by intrusive advertisements anymore.

#### 5.2.2.3 F2P: No subscription model

Young men under 30 years old are the age bracket that can mainly be underlined from the study of no subscription model. Even if they have a limited purchase power, these players are very well equipped and consume a lot of video games. Though, this no subscription model allow this generation Y young people to have a more flexible management of their consumption.

#### 5.2.2.4 F2P: No added content model

The analysis of players' expenditures and involvement allow us to show two different player profiles through two different investment levels.

The first one matches with casual players investing mid cost subscriptions. Even if they are very well equipped, they are not ready to spend huge sums in Free-to-Play games.

The second one is regular players investing more money and time in free online games through charged subscription means that are more expensive. Predominantly masculine, these players can pair this Free-to-Play activity with charged games on console or computer.

#### 5.2.2.5 F2P: Advertisement model

Two fundamentally different player profiles can be brought out from the analysis of the purchasing behaviour and players' feeling. The first one correspond to a casual player audience who does not see in video games huge expenditures as it is only an entertainment tool in their mind. The second one is seasoned players who don't want to pay to play on Free-to-Play games despite high expenditures for new games.

#### 5.2.2.6 F2P: Flexible model

These players are casual gamers who prefer to play charged and completed graphically speaking games on console or computers rather than online free games. They search for a complete game experience and they are inclined towards playing Free-to-Play games. Despite their average involvement level, they spend important budget in buying new games.

#### 5.2.2.7 F2P: Community model

These people are essentially seasoned and loyal players who search for an immersive and optimized game experience. They have an important expenditure potential, especially for buying new games and they privilege games with a good storyline. They play online games with charged subscription that offer a good in-game immersion in order to guarantee a quality playability.

Two profiles can be distinguished in the study: the first one corresponds to men aged more than 40 who represent the age bracket possessing the biggest monthly expenditures potential; the second one is 25-29 years old people whose involvement level is important for a more than average expenditures potential.

#### 5.2.2.8 F2P: Open-source model

Even if they are regular players who have a modest budget to spend on purchasing new games, most of the people in favour for an open-source model consider online gaming as a casual hobby which is not worth specific investment.

The use of basic free versions of Free-To-Play games even if they are restrained are frustrating still answer to a big part of their expectations. Thus, the majority of these players does not create a consistent and appropriate target for Free-to-Play games editors but can still act as ambassadors towards other players.

## CONCLUSION

Inspired by the uprising phenomenon of Free-to-Play, combinatorial business models give an overview of the impact of the universalization of video games over the development strategies made by editors. The link between business models can create synergies adapted to a more diverse audience. The range of premium offers, either for initially charged games or for free of charges games, enables to optimally catch up player expenditures and to improve game playability.

Editors have to be able to measure a good spread of these offers so they can be adapted to the different kinds of audience. In order to do so, each offer has to fulfil a demanding bill of specifications which objective is to create in fine more added value to the initial game. A wrong balance of these offers implies to transform the game in a Pay-to-Win game which is both inefficient and rude for the consumer. It would lead to a decrease of average involvement and conversion rate of players.

This strategy of multiple offers implies an increase in production, conception and service activities of editors. Indeed, these activities have to guarantee a regular innovation in terms of offers in order to differentiate from competitors. This renewals can take the shape of unique scenario added content, charged updates or unlimited version offers.

Each solution has its own market share and this study tried to identify some specifications of each profile of consumer according to the combinatorial business model. We could identify some specific key factors of success for every business model. We also found out sociological profiles and their application in terms of involvement rate and expenditure potential.

This study has succeeded in proposing a realistic and detailed roadmap of the challenges in the business model decision making process. Therefore editors can

select their future games' business model according to these pieces of advice and characteristics.

### **Practical implications**

Thanks to this study, lecturers can have a better general view of the issues in terms of business model and monetization editors have to face. Also, this study can help editors in their creation of their own business model for every single game they design, by getting to know what are the advantages and drawbacks of each combinatorial business model. Thanks to that work, they can make evolution on their games' business model by adding some kind of charged offers in order to conquer new consumers, but they are also aware of the possible bad consequences of that kind of shift. In the same idea, editors can design the monetization system according to one of this combinatorial business model of their future new games.

In a more personal perspective, this work will help me a lot as I want to work as the one in charge of the production of a video game, and therefore I will have to deal with business model problematics and game monetization.

### **Limitations**

Understanding and identifying economical and sociological singularities among a community of players very different one from the other is one of the main issues of editors. The identification of "whales" constitute a priority as they have an important economic impact. However, this could not be possible through this study. Indeed, administration methods and mods used for this study could not enable a precise enough detail level.

### **Suggestions for future research**

More studies with wider and more precise mods of administration have to be done so we can acquire more specific answers concerning this rare profile of players. These studies will have to be with a more marketing point of view and linking it with the

combinatorial business model I described. In other words, these new studies should take the reverse logic I took here: departing from a marketing approach to get to business model results.

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