

# The Canvas Approach as a Digital Game Analysis Tool

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## ABSTRACT

The Digital Games industry is dynamic and the business concepts and elements of the game must be shared with team members so that they can promote greater engagement. The paper presented the analysis of a digital game using the Canvas Approach. The research has a qualitative nature and the methodology used was that of a single case study. The objectives are to identify the information that can be used in the Business Model Canvas and the Games Model Canvas and to present improvements based on the Canvas Approach. The result was the representation of business concepts using the Business Model Canvas and the elements of the game with the Game Model Canvas. The contribution to the academy lies in the lack of studies of the use of the Canvas Approach for the digital games industry. The contribution to practice is the possibility of using the results presented in future projects.

**Keywords:** Canvas Approach, Digital Games, Business Analysis.

## 1 INTRODUCTION

The Digital Games industry is dynamic[1] and the business concepts and elements of the game must be shared with team members so that they can promote greater engagement.

There is no chance for mistakes in the design of digital games [12] and new tools can help with this task. Among the tools available is the Canvas approach.

The Canvas Approach is a graphic form of presenting one or more theories on a sheet of paper, with team members with different specialties[11, 10] Creating a Mental Business Model[4]. The application of this type of tool can contribute to the success of a new business[11].

Although there is a considerable number of Canvas, its application is still very small with project managers, developers and innovators, the use as a basis for application of design methods has grown systematically, with several examples in the market and in the academy[9, 4].

This paper intends to analyze a digital game from the perspective of the Canvas approach. The objectives are: (i) to identify the information that can be used in the Business Model Canvas and the Games Model Canvas; and (ii) to present improvements based on the Canvas Approach.

## 2 THEORY

### 2.1 Canvas Approach

The nomenclature of this model can be found as "Canvas Approach", "Canvas Model", "Canvas" or "tool" that, without questioning the origin of the word and per simplification, will be used of the term "Canvas".

The Canvas approach is still little used in the market due to some factors such as the lack of knowledge of the models and the determination of the company in previously established procedures that

inhibit the use of the approach[3]. Among the advantages identified with the use of Canvas are: the fast filling[11, 10] and improvement in business focus[3].

There are several types of canvas available[4] this paper will use the Business Model Canvas and the Game Model Canvas. There are several ways to use the Canvas models as a tool for analyzing innovations[8], and different modes to use in sequence[4].

#### 2.1.1 Business Model Canvas

The first Canvas was the Business Model Canvas (BMC) in 2004 by Osterwalder and Pigneur and was created with the aim of designing a new business based on product or service[11].

The novelty was in the form of presenting the information by post-its notes and the use of boxes[11] or containers[4], which have a clear indication of what information is needed.

The containers that are part of the Canvas, shown in Figure 1, are[11]:

- **Key Partners.** They are the companies or people that can help in the new business;
- **Key Activities.** Correspond to the activities (actions) that are the essence of the new business;
- **Key Resources.** They are the main resources, such as money, location, knowledge and other;
- **Value Propositions.** Indicates the value that is being assigned to the product or service. It is what will attract consumers;
- **Customer Relationships.** It must be defined what form of relationship with the customers you want;
- **Channels.** The means to be created to communicate with customers;
- **Customer Segments.** Which customer profiles you want to reach;
- **Cost Structure.** What should be spent to create the new business; and
- **Revenue Streams.** They indicate the ways in which revenues can be obtained.

#### 2.1.2 Game Model Canvas

In a digital game the conception of the elements that make up the scenarios, the characters that should exist, the rules of the characters, the expected phases, the actions allowed to the characters, the levels of artificial intelligence and other aspects are essential to be defined at the beginning of the project[12, 2].

The Game Model Canvas (GMC), showed in Figure 2, promotes the reflection of the game in relation to the aspects centered on the development of the game[1] and has the following containers:

- **Project Name** Identifies the project, in this case a digital game, which will be defined;

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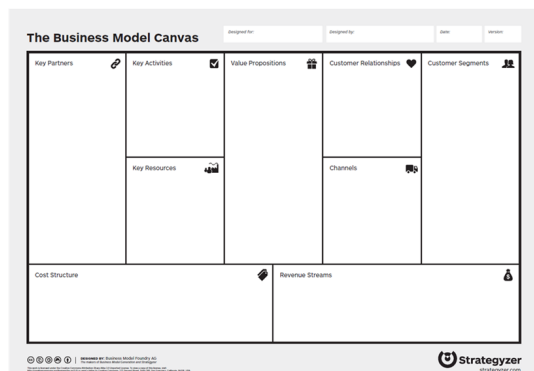


Figure 1: Business Model Canvas

- **Genre** Specifies the genre that has the game;
- **Version.** Indicates the version of the document;
- **(A1) Target Audience.** It is necessary to specify the public (consumer) that will be directed to the game;
- **(A2) Inspirations.** Indicates what were the inspirations in music, books, movies, games and other items that served as inspiration;
- **(A3) Objective/Story.** Eh the story summary of the game;
- **(A4) Accessibility/Technology.** Specifies the type of platform or platforms the game will be directed to. Possible are: Mobile, console or PC;
- **(A5) Number of Players.** It is necessary to specify the number of players. The possible types are: stand-alone, multiplayer and Globalplayers;
- **(B1) Player Characters.** In this container must be specified the characters that the players could use;
- **(B2) Player Actions.** Indicate which player actions are allowed, such as "Build";
- **(B3) Player Resources.** If the game requires that the player has to obtain some type of resource, it must be specified in this container, such as "Metal";
- **(C1) Scenarios/Windows.** Specify the type of scenarios or windows that should be used;
- **(C2) Defiance.** Indicates what challenges the player faces during the game;
- **(C3) Rewards.** There must be rewards that the player can obtain during the course of the game;
- **(C4) Elements of the Game.** Specify which enemies, obstacles, points and other relevant elements of the game;
- **(C5) Out of Game.** Indicates which elements will exist in addition to the game, such as: "menu", "end of game" and others.

The genres can be according to the mechanics of the game[15]: RPG, Action, Strategy, Simulation, Emulation or Puzzles. There is the classification of the genres by style related to the goal as[12]: Action, Shooter, Adventure, Construction/Management, Life Simulation, Music/Rhythm, Party, Puzzles, Sports, Strategy and Simulation (other).

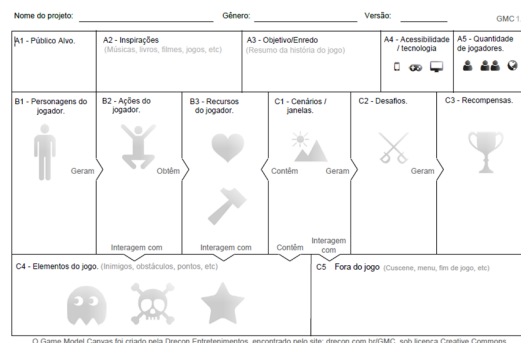


Figure 2: Game Model Canvas

### 3 METHODOLOGY

Presenting the understanding of the phenomenon helps in understanding the study[14]. Thus, the Ontology was objective, where reality exists independent of the researcher's knowledge[13] and the epistemology is interpretativist when it assumes that the data collected by the researcher can be used to test hypothesis or theories earlier. It has qualitative approach[16]. The method is the unique case study[17] and unit analysis of the game **TribalWars2**[7].

#### 3.1 Research Procedure

The flow of processes performed in this study follows the following order:

- (i) **Data collection.** The data were obtained through websites and the game;
- (ii) **Identification of Contents of the Business Model Canvas.** Based on information collected, We look for information to fill the containers;
- (iii) **Identification of the Game Model Canvas Contents.** The requirements of the Digital Games Canvas containers;
- (iv) **Present improvements or gaps.** Based on BMC and GMC, existing enhancements or GAPs were presented.

There is a fill sequence suggested by the authors[11], but other professionals use it in different ways[4]. In this research will be disregarded the form of filling, since it is irrelevant to the final result.

#### 3.2 Study Object

The object of study was the InnoGames company ([www.innogames.com](http://www.innogames.com)) established in 2003 based in Germany by Brothers Eike and Hendrik Klindworth start developing the browser game Tribal Wars with Michael Zillmer. The team is motivated by the idea of creating a game they would enjoy playing which would also offer an extensive, fun gaming experience[5].

The Tribal Wars 2 (TW2) was created in 2014, com 350 funcionarios, ampliou as opcoes de acao dos jogadores e permitiu o uso de apps para jogar[5]. A versao utilizada eh a 1.83 de August/2017, conforme a Figura .

The game has a genre of strategy and medieval atmosphere. The interactivity is done through Web windows. When it is accessed, the login and the world to be chosen is requested. Then it will be directed to loading the game environment.

The player is presented to the environment with an initial village as shown in Figure 3. It is possible that players can create units and buildings in his village. It is possible to create other villages, be part of Guilds and practice barter.



Figure 3: Game Environment [6]

### 3.3 Collect

The collection was carried out in the following ways:

**Developer website.** Access to developer website and collecting the information available;

**In the game environment.** An account has been created to access the information;

**Social Media.** Information collected on the social network (www.facebook.com) was considered; And

**Players Groups** The researcher was inserted into an app group instantaneous conversations (Whatsapp).

## 4 ANALYSIS AND INTERPRETATIONS OF RESULTS

### 4.1 Business Model Canvas of TribalWars2

Based on the information collected the BMC was completed and presented in Figure 4.

The **Value Propositions** indicated by the game is with the Medieval theme and that the player would have the experience of commanding elements of this universe, in this way was specified in the container the label "Medieval Experience"

The game does not indicate which age range this target, so in **Customer Segments** was defined "Any Age" for the container.

In **Customer Relationships** The site of the manufacturer suggests that the company will provide fun, so the label was established "Fun Provider".

The **Channels** Used and quoted on the website and in the game are: the game itself with interactivity through messages, facebook and Wiki. Thus, the labels were defined as: "Game", "Facebook" and "Wiki";

Innogames website showed in the history of the company that the team and technology are present in its products, this way in **Key Resources** was defined "Team" and "Technology".

The **Revenue Streams** is made by selling packages of "crowns" that represent the money of the game, so it was specified "Sales Packages".

The containers **Key Partners**, **Key Activities** and **Cost Structure** are not displayed on the site or in the game.

### 4.2 Game Model Canvas of TribalWars2

The information collected could be used to fill out the GMC, as shown in Figure 6.

The **Project Name** will always be the name of the game by definition[1], So the label will be "TribalWars2".

In relation to **Genre** The game site indicates that it is of type "Strategic" and will have that label in the container.

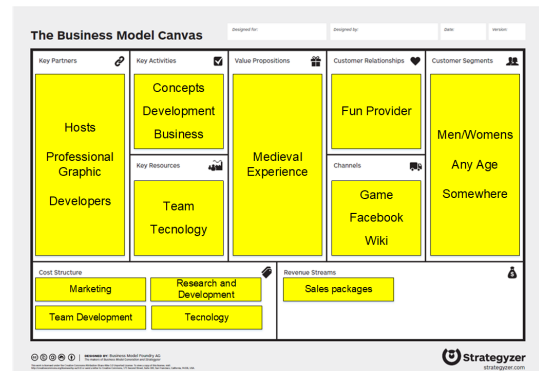


Figure 4: Business Model Canvas filled

The **Version** Of the document will be indicated as "1.0", due to the fact that it is the first analysis of the game. In real situations they could have other versions[1].

In **Inspirations** the site is emphatic to indicate that it came from the predecessor, so the container received the label "TribalWars 1".

The summary of the story can be seen on the game's website. Thus, **Objective/Story** will be specified "Develop the castle and expand the kingdom".

At the same site it is possible to verify that there are two options for **Accessibility/Technology**: mobile and PC. The two icons for these items will be marked.

The **Amount of Players** in this case is related to the type of game as Massive Multiplayer Online (MMO) that is played by multiple players at the same time, thus specifying the icon Of GlobalPlayers.

The **Player Characters** in the game is only one represented by the king. "King" was indicated in the container.

In relation to **Player Actions** can choose between: Villages (attack, support, spy, sell, transfer, label and activate). Among players it is possible to sell and buy goods. These tags were indicated in the container.

The **Player Features** in the game are: Wood, Clay and Metal. There is also a "crown" that can be purchased and used to speed up construction and other facilities.

The **Scenarios/Windows** that are presented to the player is associated with Map with the villages, Approximate view of the village (Figure 5) e Windows of choice of units/constructions.



Figure 5: Approximate view of the village in TW2[6]

The **Defiances** is indicated that the player must dominate the others, in this way the label will be used "To dominate the world".

**Rewards** presented in the game are resources by: (i) assiduity, with the daily visit of the game; (ii) completed tasks, two or three

avatars present tasks to the player, who will build a new item to update its level; And (iii) championships, are seasonal events with bonuses. Were specified in container: "Assiduity", "Tasks" and "Championships".

In container **Elements of the Game** it is possible to identify that the enemies are the other players of other Guilds. Other elements of the game are buildings and units. The labels were created "Other Players", "Constructions" and "Units".

The game presents in the item **Out of Game** a menu with the available worlds for registering and creating villages, has labels are: "Menu" and "Creation of villages".

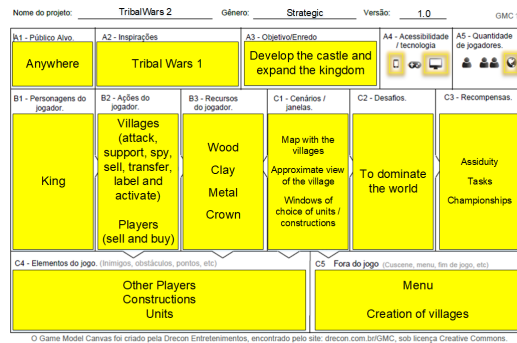


Figure 6: Game Model Canvas Filled

## 5 ANALYSIS AND DISCUSSIONS

### 5.1 In Business Model Canvas

At no time is indicated the age range for which the game is intended. The industry could use the known seals of known range, known as ESRB[12].

It was not possible to determine the **Key Partners** used, but based on other games[12, 2] It is possible to assume that they use Hosts, Professional Graphics and Developers.

The information of **Key Activities** Are not displayed on the site and in the game, but in the literature there are indications in other games[12, 2] the items assigned to the containers are: "Concepts", "Development" and "Business".

The **Cost Structure** Was not provided, but should be spent to create the new business. This information is confidential, but it is possible to determine by other cases[12] the labels: "Marketing", "Research and Development", "Team Development" and "Technology".

The **Revenue Streams** is obtained only after the player has registered.

### 5.2 In Game Model Canvas

It was not indicated **Target Public**, just like it occurred in BMC.

The game suggests that the challenge is to conquer the world, which makes it almost interminable.

When filling in the GMC there was a lack of space when specifying the **Elements of the Game**, so it is possible that the model is indicated for games with few elements. There is also the option of partitioning in several GMCs, ma that was not predicted by the model creator.

### 5.3 Another Points

Although there are discussion forums, it has been reported by players that creating whatsapp groups is common, causing relevant gameplay and feature enhancement information not to be captured by InnoGames as a player who commented on unit unbalance: "... it is enough to form lancers and swordsmen ... to solve most of the problems ...".

## 6 CONCLUSION

The Canva approach is a graphic and interaction form with multidisciplinary teams. Two models were presented: the Business Model Canvas for new businesses and the Game Model Canvas to conceptualize games.

The article resulted in BMC and GMC filled out from the information contained in the site and other sources of information.

As a contribution to the academy is the presentation of an analysis carried out through the canvas abrogation that needs further research. For the practice is intended for the developers and professionals of digital games that can use the Canvas in their future projects. In relation to future works are the analysis of other games and the positioning of the games industries from the Canvas approach.

## ACKNOWLEDGEMENTS

The authors thank CAPES for their support for the development of this research.

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