Bachelor's Thesis

Swiss Video Game Firms

An Analysis of Existing and Required Support Measures for the

Video Game Industry in Switzerland

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« Video games are the last utopia of society.

In a game, everyone can be someone,

regardless of their societal status. »

- René Bauer, Zurich University of the Arts

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BAME	Black, Asian, and Minority Ethnics
CAGR	Compound Annual Growth Rate
EA	Electronic Arts
EPFL	École Polytechnique Fédérale de Lausanne
ETH	Eidgenössische Technische Hochschule
GDP	Gross Domestic Product
IGDA	International Game Developers Association
PC	Personal Computer
PESTEL	Political, Economic, Social, Technological, Environmental, Legal
R&D	Research & Development
SGDA	Swiss Game Developers Association
SME	Small and Medium-Sized Enterprises
SSR/SRG	**S**ociété Suisse de Radiodiffusion et Télévision/ Schweizerische Radio- und Fernsehgesellschaft
SVP	Schweizerische Volkspartei
UK	United Kingdom
ZHdK	Zürcher Hochschule der Künste

1. Introduction

1.1 Current Status of the Video Game Industry

A significant development of the video game market could be observed over the last few decades. Back in the day, playing video games was generally considered to be a leisure activity predominantly practiced by young men. However, this activity has expanded to include other target groups, most notably women as well as parents and seniors (González-Piñero, 2017, p. 6). Not only the user base of video games has changed significantly, but also the importance of the industry itself. According to a report by PwC analyzing the future of global entertainment and media, between 2017 and 2022, consumers will allocate a significant portion of their free time dedicated to entertainment and media activities to playing video games (27.8 percent CAGR). More specifically, consuming video games comes only second to communications with 28.5 percent (Van Eeden & Chow, 2018, p. 26). Moreover, the video game industry currently generates higher revenues than other entertainment industries, such as motion pictures and music (Nath, 2016).

An end of this development is not in sight. Based on a forecast in the Global Games Market Report developed by Newzoo (2018), 2.3 billion gamers from all around the world purchased video games amounting to a total of $137.9 billion in 2018. Compared to 2017, the revenues increased by 13.3 percent. In addition, the global video game industry was able to sustain a compound annual growth rate of over ten percent for at least a decade, rendering it a stand-out across industries. Regarding future prospects, the revenue generated by the video game industry is expected to increase to $180.1 billion by 2021. In the report, Newzoo further shows the popularity of the three major video game platforms mobile, PC and console: mobile devices are currently and forecasted to be the most lucrative platform to develop video games for with 51 percent of the total revenues in 2018, followed by console and PC with 25 and 24 percent respectively. Regarding the geographic areas where video games enjoy the highest popularity, it can be said that Asia-Pacific is the frontrunner with a market revenue of $71.4 billion, with China contributing more than half of the earnings ($37.9 billion). North America constitutes the second-largest video game market ($32.7 billion), followed by Europe, Middle East and Africa ($28.7 billion) and lastly, Latin America ($5.0 billion) (Wijman, 2018). Additionally, the companies profiting the most from the video game industry are first of all Tencent, a Chinese company investing heavily in video game companies, with roughly $15 billion

in revenues. Sony, the Japanese technology and electronics firm, comes second with approximately $10 billion, followed by Apple ($7 billion), Microsoft ($6 billion), NetEase ($4.5 billion), and Google ($4.4 billion) (Newzoo, 2018).

When the focus is narrowed down to Switzerland, it can be seen that video gaming has also enjoyed popularity in the small European nation. According to the statistics portal Statista (2019), the Swiss video game market is expected to generate a revenue of $209 million in 2019, contributed to by a user base of 1.7 million gamers. Unlike the global annual growth rate, Switzerland is forecasted to only have a single-digit growth at 5.2 percent per year from 2019 to 2023. Quite interestingly, while globally mobile gaming is the winner, in Switzerland, consumers prefer video games for console and PC ($121 million) that are directly downloaded, for instance from online video game distribution platforms such as Steam. Mobile gaming is responsible for $49 million of the total revenue, and online gaming, involving popular titles such as World of Warcraft or Fortnite, is expected to generate earnings accumulating to $39 million in 2019 (Statista, 2019).

Despite being a rather small country, Switzerland certainly has shown its potential for developing and publishing successful video games. One of the most notable examples is the Farming Simulator franchise by GIANTS Software, where players can carry out typical tasks of a farmer in a virtual environment. The company's newest title, Farming Simulator 19, has sold over one million copies in the firsts ten days after its launch, clearly showing its significant popularity. In several national video games charts, including the USA as well as Germany, the Swiss video game was able to claim the top spot after its release (Woolsey, 2018).

Most video game developing companies in Switzerland are quite small and self-funded. However, the number of start-ups in the video game industry has increased significantly from 2005 to 2015. More specifically, in 2015, 60 Swiss video game firms were in the market, compared to only a scattered few in 2005 (Swiss Game Developers Association, 2015).

1.2 Industry Challenges

On a global level, there have been several major stepping stones arising for the video game industry in recent times. For instance, several video game developers and publishers had to face substantial backlash from fans, critics, and the media due to perceived

unethical and unjust business decisions. A recent example is the online action role-playing game "Fallout 76" from the well-known developer and publisher Bethesda because there was considerable criticism that the game was not finished at launch due to numerous flaws and glitches that deteriorated the gameplay experience (Tassi, 2018). Other examples of large video game companies receiving significant backlash include Electronic Arts selling expensive "loot boxes" containing random additional game items and powers, which was called "glorified gambling" by critics (Park, 2017) or Blizzard Entertainment's mobile adaptation Diablo Immortal, which even triggered a petition signed by 30'000 infuriated fans of the series. They were hoping for a sequel to the actual video game franchise playable on console and PC, not for a free-to-play video game for mobile devices (Handrahan, 2018).

Moreover, several well-known video game companies have recently sold some of their game studios, further showing the inharmonious current environment a significant part of the industry finds itself in (Sandqvist, 2015, p. 5).

Another challenge the global video game industry is currently facing is a lack of diversity. For instance, only 14 percent of employees in the UK video game industry are women. 40 percent of these female staff members were asked, whether they thought that they were discriminated against, which almost half of them confirmed. A third of the respondents even stated that they were harassed or bullied solely based on their gender. Moreover, a mere four percent of the industry's staff members belonged to the BAME (black, Asian, minority ethnic) group in 2015 (Ramanan, 2017).

Other challenges predominant in the video game industry are the deterioration of the console market (Gore, 2011), the enormous degree of competitiveness found in the industry (Gore, 2011), as well as endangered cybersecurity (Whittemore & Lechner, 2017).

In Switzerland, video game developers are mainly affected by the challenge of high competitiveness. As mentioned before, GIANTS Software's Farming Simulator appears to be the sole Swiss video game title that has enjoyed tremendous success across the globe. Most Swiss video game companies are rather small with an average of five employees and do not have access to substantial funding (Swiss Game Developers Association, 2015), rendering their chances of developing and publishing a globally successful title quite minimal.

Additionally, according to Matthias Sala from the Swiss Game Developers Association, one of the significant issues in the video game industry in Switzerland is that a majority of educated and talented developers find a position abroad or work on commissioned software instead of focusing on developing their individual projects (Müller, 2014).

Moreover, according to Sala, it proves a challenge for Swiss video game companies to find investment. He claims that this is due to the unestablished entertainment industry in Switzerland, leading to a lack of well-known investors enjoying success by investing in this particular industry. Sala further states that the industry requires funds primarily for marketing activities due to the abundant number of new video games being released daily (Benz, 2016).

Another major hindrance for Swiss video game developing companies is the rather unattractive political framework mainly created by the government. This framework – according to Sala – needs to be improved significantly to support the growth of the Swiss video game industry (Benz, 2016).

1.3 Research Question

The information presented in the previous sections emphasizes the economic potential of the global as well as the Swiss video game industry. Nevertheless, the high industry competitiveness as well as limited resources and support available to the primarily small Swiss firms hinder the development and publishing of globally successful Swiss video game titles. According to Matthias Sala, no significant government support dedicated to the video game industry in Switzerland existed in 2016. He draws a comparison to the similarly sized Canadian province Quebec, where the government offers support to local video game developers through tax reductions and staff recruitment bonuses. Sala further adds that the Swiss government needs to adapt the industry framework quickly in order to be able to achieve a strong foothold in the international video game scene (Benz, 2016).

Seemingly, the political arena of Switzerland has realized the potential of the video game industry to some extent. In 2015, Jacqueline Fehr – a Swiss councilor and head of the department of justice of Zurich – submitted a parliamentary initiative regarding the promotion of the video game industry in Switzerland. In response, the Swiss Federal Council published a report examining multiple aspects of the Swiss video game industry as well as how to foster its growth (Schweizerische Eidgenossenschaft, 2018). However, the report having been published at the beginning of 2018, thus a year before the

establishment of this thesis, the question arises whether and to what extent the examination by the Swiss government has had a significant impact on the industry. Thus, the research question addressed in this thesis is stated below.

> **Research Question**
>
> *To what extent does the Swiss government support the video game industry in Switzerland and what further measures have to be taken to foster its growth?*
>
> **Sub-question**
>
> *What are the benefits and downsides of the Swiss video game industry?*

The specific aim of this thesis is to investigate the viewpoints of video game firms, industry experts and politicians on the promoting measures undertaken by the Swiss government to nurture the local video game industry as well as to evaluate further measures that shall be taken by various stakeholders. More specifically, the objectives to answer the research question are threefold:

Objective 1

First of all, it is examined, if and to what extent the goals stated in the aforementioned report by the Swiss Federal Council (Schweizerische Eidgenossenschaft, 2018) were achieved. This is conducted by gathering viewpoints of several video game firms as well as industry and cultural promotion experts.

Objective 2

Secondly, irrespective of the results of the first objective, this thesis examines, how state institutions, video game firms, as well as educational institutions in Switzerland can further promote the promising video game industry. Again, the data for this objective will predominantly be collected with the aid of video game firms, industry experts and public cultural promotion organizations. Inputs from representatives of political parties are considered as well.

Objective 3

The third objective this thesis addresses is about the socio-cultural as well as economic advantages and disadvantages that the video game industry and its medium have to offer to society. Along with the results of the first two objectives, this aspect will hopefully

provoke further discussion among Swiss political figures, the public as well as industry actors regarding the support of the domestic video game industry. By consulting video game firms, industry and cultural promotion experts, as well as political figures, valuable opinions shall be gathered and summarized.

1.4 Limitations

Several limitations require to be stated due to the scope of this thesis being rather narrow. First of all, the sample size of this thesis does not have a high representativeness due to the limited scope. Thus, not all Swiss video game firms could be taken into account. Moreover, Nieborg and de Kloet state: "Ask citizens of one of the 28 member states of the EU about their national game industry and you will get 28 different answers" (Nieborg & de Kloet, 2016, p. 201). Despite Switzerland currently not being a part of the European Union, this statement certainly has implications for Swiss video game developers and this thesis. While the findings and recommendations presented might be applicable to several Swiss video game companies, they are likely invalid and inappropriate for other countries. In addition, even though a significant number of academic literature was considered for the establishment of this work, the narrow scope and time constraints of the thesis restricted the amount of research conducted. Lastly, the main focus of this thesis will be predominantly on video game firms producing video games for entertainment purposes as opposed to serious games used in, for instance, professional or promotional contexts.

1.5 Structure of Thesis

This thesis follows a clear and coherent structure. First of all, the specific method used to collect relevant data as well as arrive at insightful findings is presented, explained and justified. In the theoretical framework, a concise history and explanation of the video game industry is illustrated. This is then followed by several examples emphasizing the importance of a favorable political framework for an industry, especially for one that mostly consists of relatively new and small companies. In the next section of the literature review, a picture is painted of the video game industry in Switzerland, including its political aspects. The final part of the theoretical framework highlights socio-cultural as well as economic benefits and downsides of the video game industry and its medium according to relevant literature. In the results section of this thesis, it is illustrated how the literature differs to reality and the specific findings regarding the existing as well as required support measures are presented. Moreover, the advantages and disadvantages of the video game industry and its medium according to firms, experts as well as political

figures are stated. Subsequently, six specific recommendations based on the findings are presented, followed by a conclusion containing a summary of the main results, a critical evaluation on whether the research question was answered, and suggestions for future research.

2. Methodology

2.1 Research Strategy

"Scientific knowledge is only as sound as the research methods used to obtain it" (Wu & Little, 2011, p. 287). This quote from an article examining quantitative research emphasizes the importance of selecting an appropriate research method.

According to Johnson and Christensen (2017), there are three distinct research paradigms one can apply, namely quantitative research, qualitative research, as well as a mix of both methods. The first two methods are further explained in the following sections.

2.1.1 Quantitative Research

This research paradigm is conducted using numerical information. A quantitative researcher strives to test a hypothesis with the aid of empirical data while assuming the predictability of human behavior. Thus, this research type relies on a "top-down" approach, meaning that existing hypotheses are tested, whereas qualitative research mainly focuses on developing new hypotheses. In addition, the main characteristics of quantitative research are its objectivity, narrow focus, as well as a high degree of structure (Johnson & Christensen, 2017).

According to Yilmaz (2013), to conduct quantitative research, a researcher requires previously constructed standardized instruments or response categories to ensure a high degree of generalization. He further states that the main benefits of adopting a quantitative research method are said generalization as well as the ability to present findings concisely. However, the major downfall of this approach is its inability to consider and reveal the individual thoughts, feelings, and experiences of the research participants. In regards to specific methods of how the data is obtained, quantitative research differs significantly to qualitative research. The main tools used are questionnaires, surveys, as well as numeric measurements. The data is then further analyzed with the aid of statistical techniques (Yilmaz, 2013).

2.1.2 Qualitative Research

As stated by Chu and Ke (2017) in their journal article on research methods, qualitative research has become increasingly popular among academics over time. Moreover, according to Fidel (1993), quantitative and qualitative research are not only fundamentally different, but in some aspects even complete opposites. He further claims that qualitative research allows the researcher to gain insights into human behavior and is

most suitably used to examine highly complex and relatively unknown phenomena. Johnson and Christensen (2017) add to these characteristics by claiming that qualitative research is of an unpredictable, situational, and informal nature. Moreover, as mentioned in the previous section, they argue that contrary to the quantitative approach, qualitative research involves a "bottom-up" process where hypotheses are created.

Furthermore, there are four features a qualitative researcher typically pays attention to. Namely, they are the beliefs and values of the study participants ("meaning"), the circumstances surrounding the studied individual or event ("contexts"), the way the features of the studied subjects work in their lives ("process"), and the ability of the researcher to consider his or her own history as well as experience in order to enable a more critical analysis of the findings ("subjectivity") (Maxwell & Reybold, 2015).

According to Maxwell and Reybold (2015), a significant downside of qualitative research is the difficulty of generalization. Due to the sample size of qualitative studies typically being quite small, it might be challenging for a researcher to arrive at a widely applicable result.

The main methods to conduct qualitative research are in-depth interviews, document analysis, as well as focus groups. To obtain a high degree of credibility in the research, it is crucial to describe the collected data in a highly detailed manner (Yilmaz, 2013).

2.2 Research Design

The aim of this thesis is to gain insights into the specific viewpoints of several parties involved to varying degrees in the Swiss video game industry on the political support offered by the government as well as to identify further measures to be taken. Furthermore, this thesis strives to gather opinions on the benefits and downsides of the video game industry to offer a basis for evaluation of whether fostering the industry is a worthwhile investment. Since the focus of this thesis is on collecting and analyzing various viewpoints, which are likely based on thoughts, experiences, and emotions of individual participants, the research method applied was qualitative in nature. The specific method chosen is described in more detail in the following section.

2.2.1 Characteristics of a Semi-Structured Interview

To answer the research question, semi-structured interviews were conducted. According to Wilson (2014), in order to perform a semi-structured interview, a researcher asks previously defined questions as commonly applied in structured interviews. In addition,

open-ended questions that can typically be seen in unstructured interviews are asked as well. Wilson further states that this research method is appropriate to collect opinions, therefore emphasizing the suitability of this approach for this thesis.

Another definition of a semi-structured interview is given by Longhurst (2009), who claims that even though the interviewer does prepare a list of questions, "semi-structured interviews tend to unfold in a conversational manner" (p. 580). He further elaborates on the characteristics of a semi-structured interview. First of all, it is essential for the interviewer to allow the interviewee to explore and converse about the topic at hand in whatever way they prefer. While in unstructured interviews, deviations from the questions are not only allowed, but even encouraged, interviewees taking part in semi-structured interviews experience guidance and direction to some extent by the interviewer (Longhurst, 2009).

While semi-structured interviews allow for a more lively and comprehensive discussion as well as increased flexibility, they bear the risk that the interview partner digresses and valuable time is lost. However, with efficient time management and polite conversational interruptions, this risk can be mitigated.

Regarding the specific structure of a semi-structured interview, it is suggested to prepare and adhere to an interview guide. In this document, four crucial aspects of a semi-structured interview are listed. Namely, these are a general introduction about the goals and topics that will be covered during the interview, a list of questions and subjects the interviewer aims to converse about, and remarks to close the interview. As the fourth aspect, it is further suggested to include a list of useful and neutral phrases to guide the interview (Wilson, 2014). The general introduction, list of questions, and closing remarks were considered in the interview guide established for this thesis, which can be found in Appendix A. However, it was deemed unnecessary to include a list of useful phrases, since the majority of interviews were of a casual nature due to the age and profession of most of the interview partners.

Further considerations to be made when preparing and leading a semi-structured interview are mentioned in the literature. For instance, Hopf (2004) states that it is of importance to conduct a briefing with the interviewee to inform them about the interview topic and process. She further adds that creating a relaxed atmosphere and attempting to comprehend the message behind what the interviewee says is suggested. Hopf's third

direction for the interviewer is to maintain a neutral position while letting the participant display emotions and personality traits during the interview.

Another vital aspect to be taken into account when conducting a semi-structured interview is to establish ethical guidelines and to decide on the method of recording the interview, of which there are four: writing notes during the interview, writing notes after, and using audio or video recording (Rabionet, 2011). For this thesis, notes were taken during the interview, as this was sufficient because the interview partners' statements were not transcribed in detail.

2.2.2 Interview Procedure

As mentioned before, to gain various insights and viewpoints from the interview partners, the semi-structured interview method was chosen for this thesis. More specifically, the considerations mentioned in the previous section were taken into account, and thus an interview guide was prepared, which can be found in Appendix A. To ensure a valid presentation of the opinions of various video game firms as well as political and industry experts on the topic at hand, 13 interviews were conducted. The interview partners chosen can be categorized into three perspectives: the viewpoint of video game companies, industry experts, and political figures. It is vital to consider three different perspectives in order to gain a realistic and representative overall conclusion to base the subsequent analysis on. Table 1 lists the firms or organizations the interview partners are associated with.

Table 1: Interview Partners

	Organization	Size	Foundation	Canton
Video Game Company Perspective	Stelex	2 employees	2004	Ticino
	Team KwaKwa	2 employees	2015	Vaud
	Sunnyside Games	10 employees	2013	Vaud
	Okomotive	6 employees	2017	Zurich
	Stray Fawn Studio	10 employees	2016	Zurich
	Anonymous	Anonymous	Anonymous	Anonymous
Industry Expert Perspective	Zurich University of the Arts (ZHdK)	2'100 students 650 lecturers	2007	Zurich
	Zurich University of the Arts (ZHdK)			

	Swiss Game Developers Association (SGDA)	320 members	2012	Zurich
	International Game Developers Association (IGDA) – Switzerland Chapter	30 members	2008	Zurich
Political Perspective	Pro Helvetia	94 employees	1939	Zurich
	Young Liberals	3'500 members (Total)	1928	Zurich
	Young SVP	6'000 members (Total)	1977	St. Gallen

When selecting the interview partners, several factors were taken into account. First of all, even though most video game firms in Switzerland seem to be located in the city and canton of Zurich, the opinions of industry participants from other regions of the country were considered important as well. Therefore, video game companies from various geographical areas of Switzerland were chosen to conduct interviews with. Moreover, the firm size and product type differ as well among the interviewed firms to ensure a representative and comprehensive analysis. One video game company wished not to be named in this thesis. Therefore, this firm is mentioned as an anonymous interview partner in this thesis to respect the representative's wishes.

To gather viewpoints of industry experts, two members of the game design department at the Zurich University of the Arts were selected as interview partners, since this university appears to be the most advanced and elaborate in teaching video game development. Furthermore, representatives of two video game developers associations in Switzerland were interviewed as well since these interview partners were assumed to possess significant knowledge about the Swiss video game industry and its participants.

Lastly, since the Swiss public foundation Pro Helvetia is active in the promotion of culture, of which video games are a part of, it was deemed vital to gain insights inside this organization's view on the Swiss video game industry and its politics. In addition,

since politics are highly influential on the economy and its industries, the opinions of two political parties were taken into account. The parties chosen were the Young Liberals of Switzerland as well as the Young SVP. The reasons for this choice were the apparent high interest of the middle-right-wing Young Liberals in the economy as well as start-ups, and the general conservativism of the right-wing Young SVP. It was thus assumed likely that these two parties might have differing viewpoints on the political support the video game industry should receive.

The interview partners were contacted by e-mail and an interview date and location was agreed upon according to their preferences. Twelve of the 13 interviews were conducted face-to-face to allow for a lively discussion and improved comprehension. One of the interviews was executed using Skype due to a considerable geographical distance. It was decided not to conduct interviews via telephone due to the impersonal nature of this interview type and the risk of insufficient audio. The interviews lasted between 40 and 90 minutes.

Since not all interview partners can be sorted into the same category, it was not sufficient to merely create one set of questions. Subsequently, four different sets were established to be able to gain in-depth insights into each individual perspective. However, the core questions stemming from the most important literature were the same for most interview partners. In Figure 1, the structure of the questions including the similarities and differences among interview partners are visualized.

Figure 1: Structure of Interviews

The questions in bold letters are essential and heavily based on important concepts found in the literature that are introduced in the following section. In addition, the questions in

italics are not crucial to answer the research question and were only asked if there were no time constraints. Unfortunately, it was not possible to learn about Pro Helvetia's view on the advantages and disadvantages of the video game industry and video games in general due to time constraints.

In order to visualize the questions and theories mentioned during the interviews, a handout was prepared in both English and German and provided to the interview partners to enable improved comprehension. The English version of the interview handout can be found in Appendix B.

The method and procedure applied to achieve the objectives of this thesis were described in detail in this section. In the following section, the focus is laid on the theoretical framework the subsequent analysis is based on.

3. Theoretical Framework

3.1 A Short History and Explanation of the Video Game Industry

The video game industry saw its birth in 1971 with the commercial launch of the video game Computer Space by the company Syzygy (Goumagias, et al., 2016). Some argue that video games have existed for significantly longer, namely since 1940. In that year, Dr. Edward Uhler Condon presented a computer at the New York World's Fair, on which a simple, mathematical game could be played (Chikhani, 2015). The year of 1972 saw two significant events in the history of the video game industry. The first home console (Magnavox's Odyssey) was launched and one of the most industry-defining video game companies (Atari) was founded. Five years later, in 1977, Nintendo launched its first home console and commenced to become increasingly successful. The Japanese company released Super Mario Bros. in 1985, which would then go on to become a highly profitable title with more than 40 million units sold globally (Dillon, 2011).

1994 marked the start of the so-called "modern age", where Sony launched the first PlayStation console. In 2001, Microsoft followed suit with the Xbox, which was the first console to heavily support online gaming (Dillon, 2011). Since then, an abundance of new hard- and software has been launched in the industry. However, the global key players did not change significantly, with for instance Sony, Microsoft and Nintendo still enjoying major positions in the international video game industry with their respective video game platforms and titles (Ernkvist, 2012).

The video game industry not only consists of companies developing new titles and hardware, but also of other essential participants, as is shown in Figure 2.
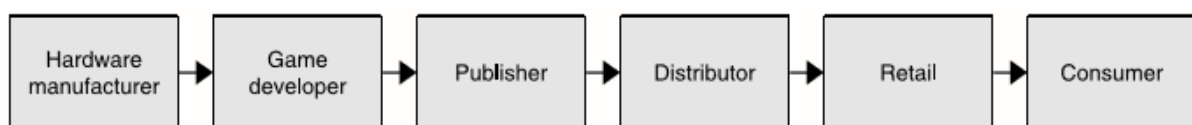
Figure 2: The Video Game Industry Participants (Egenfeldt-Nielsen, Heide Smith, & Pajares Tosca, 2008)

First of all, the hardware manufacturer is responsible for developing and producing the platform on which the video game is then played on. This could be a console producer, such as Sony with the PlayStation series, a PC component producer such as Hewlett Packard, or even a mobile device developer like Apple or Samsung (Egenfeldt-Nielsen, Heide Smith, & Pajares Tosca, 2008).

Game developers are companies that design the video game, being responsible for aspects such as the story-writing, character design and programming (Egenfeldt-Nielsen, Heide Smith, & Pajares Tosca, 2008). A prime example for a popular video game developing company is the Japanese firm Nintendo with successful video game series such as Mario and The Legend of Zelda. In fact, the company's character design was outstanding. In 1990, a survey showed that Super Mario was more popular among children in the United States than Disney's Mickey Mouse (Sheff, 1994).

The role of the publisher is quite crucial to the video game industry. These companies – often having their in-house game development as well as distribution departments – acquire video game projects from other developing companies, which are then published under the publisher's name (Egenfeldt-Nielsen, Heide Smith, & Pajares Tosca, 2008). The majority of the most successful publishers operate internationally and own headquarters in either North America or Japan (Zackariasson & Wilson, 2012).

Following the publisher in the industry value chain is the distributor with the responsibility to store the physical copies of the finished video game in a warehouse and subsequently sell them to the retailers, where the video game is purchased by the end consumer (Egenfeldt-Nielsen, Heide Smith, & Pajares Tosca, 2008). However, according to Vervoort (2019), purchasing physical copies of video games is no longer popular. Instead, consumers prefer to acquire digital copies of their desired title on online distributing platforms such as Steam for PC. The console manufacturers Sony and Microsoft have also recognized this trend and therefore allow consumers to buy digital video games for consoles through online stores (Zackariasson & Wilson, 2012).

The depiction of the video game industry value chain in Figure 2 serves as a suitable, yet oversimplified basis. In reality, as mentioned before, several value chain parts are actually under the same company. Furthermore, the distribution and retail of video games is changing significantly with a trend towards digital distribution platforms, which is not considered enough in the theory by Egenfeldt-Nielsen, Heide Smith, and Pajares Tosca (2008), presumably because it is rather dated.

Marchand and Hennig-Thurau (2013) offer a different industry value chain in their journal article on value creation in the video game industry, as depicted in Figure 3.
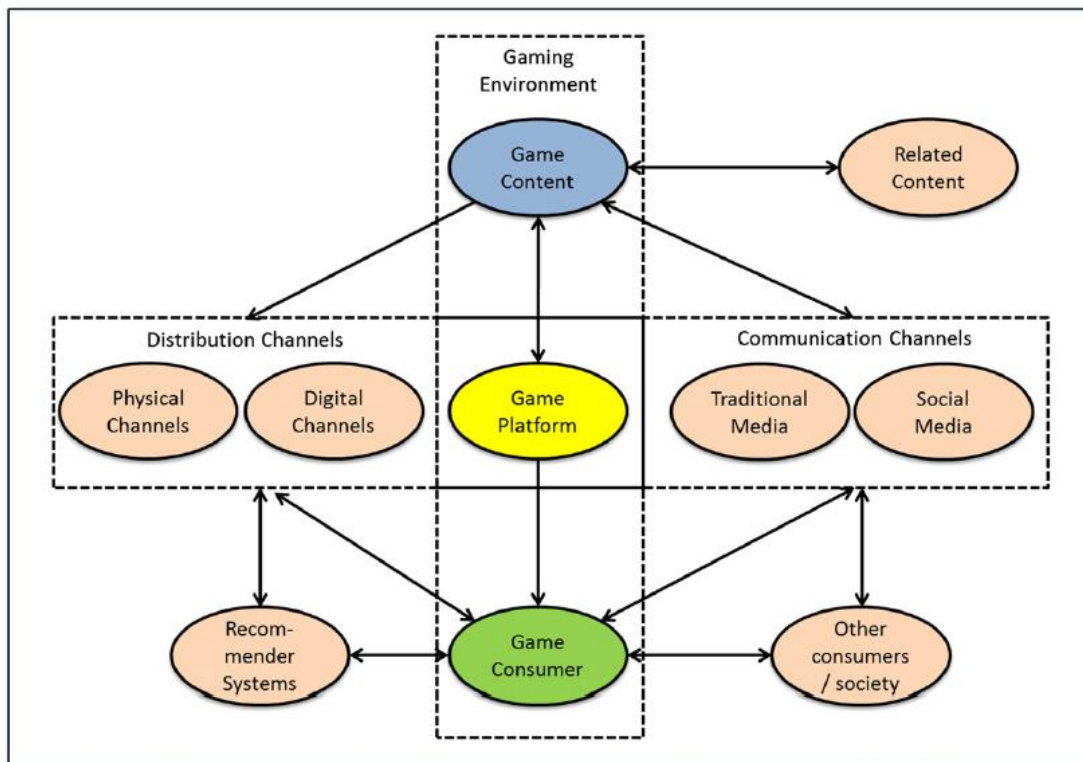
Figure 3: Industry Value Chain (Marchand & Hennig-Thurau, 2013)

The boxed vertical path represents the key players in the industry, namely firms providing video game content (developers), the platforms on which these games can be played (hardware manufacturers) and the end consumer. The horizontal path represents how the video game is distributed and marketed. Lastly, three other aspects that do not fit inside the boxes are presented in this depiction of the video game industry value chain. First of all, related content such as films can offer inspiration for game developers and vice versa. A prime example for this relationship is the Lara Croft series, which was first a video game and later made into a movie. Recommender systems refer to the increasing number of professional and amateur video game critics that review video games on various channels. Lastly, the decisions and thoughts of a video game consumer depend to some extent on the viewpoints of other consumers and society. An example of this network effect is word of mouth marketing (Marchand & Hennig-Thurau, 2013).

While this depiction of the industry value chain is more comprehensive than the previously mentioned one by Egenfeldt-Nielsen, Heide Smith, and Pajares Tosca (2008), it is not without flaws. First of all, this depiction of the industry value chain implies that all parts have the same importance since all ovals have the same size. However, physical distribution channels certainly do not have the same significance anymore as digital

channels. In addition, some crucial industry participants such as the publishers are not clearly depicted.

3.2 The Importance of Political Support for Small-Sized Industries

A substantial number of experts agree that political support is crucial for an emerging and highly promising industry or firm. For instance, Specht (1993) identified five environmental factors influencing the formation of an organization, the political factor being one of them. In addition, the PESTEL-framework also incorporates the political aspect as one of the major factors of the general environment of a company or industry (Boddy, 2017). Furthermore, the importance of the role of political institutions especially for young, small-sized companies is stated in a journal article by Wennekers et al. (2002).

> On the demand side, institutions and specific government policies dealing with the (de-)regulation of entry and privatization or collectivization of many services and utilities influence opportunities to start a business. Moreover, fiscal incentives, subsidies, labor market regulation and bankruptcy legislation co-determine the net rewards and the risks of the various occupational opportunities (p. 42).

In a study conducted among 220 South Pacific entrepreneurs, it was determined that out of nine critical success factors for a small company, governmental support is among the top four most important. The major components of governmental support according to this study are the availability of basic infrastructure as well as training facilities, attractive taxation policies, and support if a threat coming from a large competitor firm arises (Attahir, 1995). However, both the geographical region as well as the year the study was conducted in limit its relevance, since its results might not be applicable to Western countries in the late 2010s.

Small and medium-sized enterprises have enjoyed political support for a substantial number of years. The United States, Taiwan, Canada as well as the Netherlands were the first countries to offer noteworthy political support to small and medium-sized businesses. Elaborating on the example of the United States, in 1953, the government decided to establish the Small Business Act and founded the Small Business Administration to lower financial barriers for small- and medium-sized companies. A more recent example is the decision of the United Kingdom, the Netherlands as well as Ireland to allow a more attractive taxation policy for start-up companies to decrease financial pressures in the initial company development phase (Stevenson & Lundström, 2001). The European Commission has also decided to support small and medium-sized enterprises and hence

developed the Small Business Act in 2008. This Act includes ten principles to offer guidance for European Union member states in promoting smaller businesses. The European Commission further evaluated, which EU countries offer the most attractive SME policies, with Baltic and Scandinavian countries topping the list (Röhl, 2017).

The case of the Canadian video game industry offers interesting insights into how a government can support a relatively new and small-sized industry. In 2005, when the journal article describing this case was published, around 170 video game companies were located in Canada, encompassing mainly video game developing firms, but also publishers and distributors. Most of these firms were small and financially unstable. However, a substantial number of these video game companies were supported by the government. The measures taken included tax incentives and loans for innovative ventures. In addition, the most attractive province for video game companies in Canada was Quebec, where tremendous financial incentives were provided (Dyer-Witheford & Sharman, 2005). For instance, the Canadian province subsidizes between 26.25 and 37.5 percent of wages for employees working on various multimedia products, including video games, which has attracted large studios such as Ubisoft to open offices in the province (Serebrin, 2017).

Furthermore, on a more federal level, aid is provided to Canadian video game firms as well through the Canada Media Fund which provides $353 million of funds each year to television and digital media companies in Canada. These supportive measures have helped create a large video game industry in Canada with 20'400 employees, 470 studios, and a contribution of $3 billion to the national GDP (McConnell, 2017). Certainly, Canada is significantly larger than Switzerland and may not be the most suitable example to use as a comparative value. Nevertheless, it serves as an interesting case to show how governmental support can tremendously support the video game industry.

According to Wagner and Sternberg (2004), governments should foster the creation of a culture that encourages entrepreneurial activities by undertaking various measures to for instance improve the ease of financing or education with a focus on entrepreneurial capabilities. This certainly also applies to the video game industry due to its entrepreneurial nature, since most firms in the industry are small-sized and founded by individuals with high degrees of passion and motivation. In addition, Stevenson and Lundström (2001) have identified nine areas governments should consider in order to

support young, entrepreneurial firms and industries, including possible measures. A condensed version of the nine areas is depicted in Table 2.

Table 2: Critical Areas of E-policy Questioning (Stevenson & Lundström, 2001)

Policy Issue	Examples of Policy Measures
Negative social attitudes towards entrepreneurship	Proactive promotion of the economic role of entrepreneurship with the aid of media, events, awards and others
Difficulty of business entry	Decrease administrative and regulatory burdens connected with the entrance of a new business
Lack of entrepreneurial skills and know-how	Improve entrepreneurship education at all educational levels and fields
Lack of financing	Offer loans suitable for entrepreneurs and act as informer about different types of financing
Limited access to business information	Establish business service centers or information websites, conduct fairs and forums
Inequality of entrepreneurial opportunities for some societal groups	Conduct programs targeted directly at underrepresented segments, e.g. counselling services or financial aid
Lack of office space and business services	Develop programs to support small businesses with a full-service approach, e.g. coaching, networking, or marketing
Inability of start-ups to experience growth	Support start-ups in achieving growth strategies, e.g. by offering attractive taxation policies
No connection between entrepreneurship and national innovation goals	Establish entrepreneurship programs for future innovators (e.g. engineering and technology students), encourage innovative ideas by offering support for R&D activities of new entrepreneurs

While this theory was not established in recent years, the areas mentioned were assumed to be still relevant for and applicable to video game firms in Switzerland. However, there was uncertainty about the importance of the area "No connection between entrepreneurship and national innovation goals" due to its similarity to aforementioned areas. For instance, the establishment of entrepreneurial programs would also be a suitable policy measure for the area "Lack of entrepreneurial skills and know-how".

3.3 Video Game Industry in Switzerland and its Politics

This section of the theoretical framework serves as a condensed presentation of a report about the video game industry in Switzerland commissioned by the Swiss Federal Council in response to a postulate made by the councilor Jacqueline Fehr in early 2015 (Schweizerische Eidgenossenschaft, 2018). Valuable insights stemming from further political and academic sources are stated as well.

Switzerland does not have a fully integrated value chain in the video game market (see Figures 1 and 2) yet. Nevertheless, multiple firms and institutions take an interest in and influence the industry. The Swiss Federal Council distinguishes five stakeholder groups, which are further described and explained in the following sections. This is then followed by a description of measures and goals by the Swiss government to foster the industry (Schweizerische Eidgenossenschaft, 2018).

3.3.1 Game Developing Firms

According to the Swiss Game Developers Association and Pro Helvetia, approximately 100 to 120 firms in Switzerland focus on producing video games. In addition, rapid growth in the number of video game developing companies could be observed: In 2010, merely twelve enterprises operated in this field. Video game developing firms in Switzerland contribute to the economy in two significant ways. First of all, this part of the industry generated revenues of 50 million Swiss Francs in 2016. Secondly, 500 jobs could be created through these enterprises (Schweizerische Eidgenossenschaft, 2018).

In the report, it is stated that it is challenging for independent video game developing firms in Switzerland to be profitable. Consequently, the production of video games is often treated as a leisure activity instead of a serious business venture. The report further outlines three major challenges for video game developers in Switzerland. First of all, it is difficult to launch a globally successful title in a highly competitive international market. Moreover, a lack of financing provides further obstacles. According to the report,

the third key challenge for the video game developing industry in Switzerland is of educational nature. Specifically, educational programs in the video game developing field often do not impart knowledge regarding how to establish and lead a successful business venture (Schweizerische Eidgenossenschaft, 2018).

3.3.2 Publishers and Retailers

According to the report, another major challenge for the Swiss video game industry is the lack of local publishers. Consequently, video game firms in Switzerland have to publish their titles themselves, for instance by offering them in online video game stores such as Steam. Alternatively, it is possible to attempt to enter a publishing and distribution agreement with an international publisher. Both of these methods require the video game company to submit a part of the revenues generated by the video game sales to the publishing platform or firm (Schweizerische Eidgenossenschaft, 2018).

3.3.3 Event Organizers

In Switzerland, events solely dedicated to video games have not existed for a substantial amount of time. According to the report, back in the day, video games were usually integrated into events for motion pictures. However, this has changed significantly. Currently, there are several events each year that are dedicated to one or several aspects of video games (Schweizerische Eidgenossenschaft, 2018). For instance, the Ludicious festival taking place annually in Zurich connects various experts of the video game industry as well as consumers (Ludicious Zürich Game Festival, 2019). Another example of a video game event in Switzerland is the Zurich Game Show, where video game players can experience the newest titles and technologies in gaming (Zurich Game Show, 2019).

3.3.4 Educational Institutions

Knowledge and skills required to operate in the video game industry successfully are mainly taught in study programs in arts and information technology. In the report, the importance of educational institutions for the industry is highlighted. Namely, students often work closely with their educational institutions when establishing a video game project or firm, even after graduation. Moreover, educational institutions allow for and foster collaborations with larger international video game firms (Schweizerische Eidgenossenschaft, 2018).

Regarding the educational institutions in the area of video games in Switzerland, the report commissioned by the Swiss Federal Council identifies three separate categories.

First of all, at the Swiss Federal Institute of Technology (ETH) in Zurich as well as the École Polytechnique Fédérale in Lausanne, students are able to gain knowledge about the actual programming of a video game. Secondly, the Zurich University of the Arts has offered study programs in game design since 2008. Students enrolled in these programs learn about both the conceptual as well as the technical development of video games. According to the report, in 2010, approximately ten applicants were interested in studying game design. However, this number has increased significantly, with currently around 100 applications each year. The third category of important educational institutions for the video game industry contains several institutions with less significance than the aforementioned universities. An example of this category is the University of Geneva, where a laboratory was established to conduct examinations on gaming (Schweizerische Eidgenossenschaft, 2018).

3.3.5   Associations

Lastly, the report presents several associations dedicated to the video game industry. The key player in this category is the Swiss Game Developers Association, which represents the interests of game developers in Switzerland. This association further attempts to promote industry innovation, for instance by conducting an award ceremony. Other significant associations with a major focus on the video game industry include the Swiss Interactive Entertainment Association, the Swiss Digital Alliance and the Swiss Gamer Network (Schweizerische Eidgenossenschaft, 2018).

3.3.6   Governmental Support of the Video Game Industry in Switzerland

According to the report, video games are typically not considered cultural artifacts (unlike for instance film or dance). However, a significant number of experts advocate the notion of video games being consecrated into cultural artifacts (Styhre, Szczepanska, & Remneland-Wikhamn, 2018). Due to video games not yet being categorized similarly to other art forms such as film or dance, the promotion of the video game industry is typically conducted by institutions with a broad focus. In Switzerland, Pro Helvetia is the only public service actively promoting the video game industry (Schweizerische Eidgenossenschaft, 2018).

According to the report, the Federal Office of Culture in Switzerland is responsible for establishing more general, overarching framework conditions for the Swiss creative industries. For instance, this agency develops cultural statistics and events. However,

these activities are not specifically tailored to the video game industry. On a cantonal and municipal level, the majority of activities conducted by the public service in favor of the video game industry are related to events. An example of this is the aforementioned Ludicious Game Festival in Zurich, which receives support from the Office for Economic Development of the canton of Zurich. A further public agency fostering the video game industry in Switzerland is the Swiss public broadcasting association (SSR/SRG). According to the report, this agency has offered financial support to three projects related to video games in recent years (Schweizerische Eidgenossenschaft, 2018).

Despite several public agencies contributing to the promotion of the Swiss video game industry to some extent, the aforementioned public foundation Pro Helvetia is the most active. For instance, in 2010, the foundation launched a program aiming at increasing the public awareness and knowledge of the domestic video game industry. In order to achieve this goal, extensive research was conducted to establish a view of the video game industry landscape in Switzerland. In addition, with the aid of events as well as project contests for local video game developers, the foundation was able to further nurture the industry and the awareness of the general public. In 2013, Pro Helvetia launched yet another program, this time encompassing not only video games but also other new technologies and media such as virtual reality. With a budget of two million Swiss Francs over a period of four years, Pro Helvetia decided to conduct project contests again and support several project teams, offering substantial aid especially for networking activities (Schweizerische Eidgenossenschaft, 2018). In total, Pro Helvetia has invested more than 1.3 million Swiss Francs to foster domestic video game projects (Mathis, 2018).

In 2015, the parliament approved an official report by the Swiss Federal Office of Culture addressing the promotion of culture for the period of 2016 to 2020. In this report, several interesting insights can be gained. First of all, there is a strong emphasis on the importance of enabling local talent to successfully develop and launch a creative product (Bundesamt für Kultur, 2014). However, in an empirical study conducted by the Swiss Federal Statistical Office, it was shown that nine percent of design graduates as well as 30 percent of information technologies graduates relocate to foreign countries to work (Bundesamt für Statistik, 2007). Despite the study having been conducted over a decade ago, this issue is still quite contemporary, as stated by Matthias Sala from the Swiss Game Developers Association: "We have well-educated and talented video game developers that look for jobs abroad or stay here and get distracted" (as quoted in Müller, 2014). According to the

report by the Federal Office of Culture (2014), the Swiss government further has to support domestic video game companies in developing innovative business models to facilitate the entry into international markets. Additionally, the report further stresses the importance of establishing and strengthening industry-specific political frameworks by first conducting extensive research to gain an in-depth understanding of the industry mechanics and requirements.

It is apparent that the two public agencies most concerned with the promotion of the domestic video game industry are Pro Helvetia as well as the Federal Office of Culture. While the latter addresses more general challenges for cultural industries such as conducting industry research as well as developing a favorable political framework, Pro Helvetia actively promotes promising cultural projects (Schweizerische Eidgenossenschaft, 2018).

The report commissioned by the Swiss Federal Council (2018) concludes by presenting four main goals to be achieved by the Swiss video game industry to strengthen its competitive position. The goals including their explanation as well as specific measures to be taken are depicted in Table 3.

Table 3: Goals for the Swiss Video Game Industry (Schweizerische Eidgenossenschaft, 2018)

Goal	Explanation	Measures
Quantitative and qualitative improvement of video games	Production of video games is often a mere leisure activity because not enough resources and incentives are available	Improvement of promotional system, offering support in obtaining funds, knowledge, and promotion
		Exchange of knowledge of Pro Helvetia with third parties to establish "best practice" approaches and increase specialized know-how
Integration into industry and market access for video game companies	Swiss video game developers need to acquire business and industry knowledge and improve their network to obtain resources and knowledge (e.g. to find investors)	Improved coordination of resources by cultural and economic promotional agencies. Increased number of business partners in Pro Helvetia's network
		Improved international promotion and networking by enabling developers to attend international video game conferences

Improvement of industry structure	Industry parties are often insufficiently connected and crucial industry agents or competences are lacking (e.g. video game publishers)	Support of professional associations representing video game firms
		Development of knowledge on production conditions in creative industries by the Federal Office of Culture and Pro Helvetia
		Development and improvement of statistical analysis of creative industries by the Federal Office of Culture and the Federal Statistical Office
Increased interdisciplinarity	The video game industry is closely linked to other cultural industries (e.g. film or music) and often serves as an inspiration and source of knowledge to them	Connection of all industries in the creative industry cluster with the aid of presentations, workshops and think-tanks

While the four goals that are presented in the report are quite comprehensive and include several important aspects, it nevertheless would have been beneficial to add a suggested time frame to show the time required to implement the respective measures to achieve a specific goal. Furthermore, the report does not present detailed profiles of individual video game firms in Switzerland, yet it would have been interesting to gain valuable knowledge about key industry players such as GIANTS Software to for instance be able to draw a comparison to large video game firms in other countries.

3.4 Advantages and Disadvantages of the Video Game Industry

Video games have always triggered certain images in people's minds. The typical gamer was and still is often imagined as being male, asocial, and having a tendency to violence. This is also confirmed in the literature. For instance, Dymek (2012) states that video games and their users were often associated with adjectives such as violent, childish, techy, macho, and lowbrow (intellectually inferior) (p. 48).

While this stereotypical image still exists, it certainly has been weakened by the development of video games becoming significantly more popular. However, there is still a debate on whether video games offer enough benefits to the individual, society and the

economy to balance out the disadvantages. This debate might be detrimental to small video game firms seeking governmental support and investors. Therefore, in the following two sections, several positive and negative aspects regarding video games and the industry mentioned in the literature are stated. These serve as a basis for a discussion conducted during the interviews.

3.4.1 Advantages

According to Nieborg and De Kloet (2016), "over the past decades, the increasing economic viability of game development signaled a shift from a small cottage industry of hobbyists, hackers, and digital tinkerers towards a billion-dollar commercial enterprise" (p. 204). Indeed, the video game industry displays impressive growth rates and is likely to become a valuable contributor to a nation's economic wealth. In their 2018 report, the Entertainment Software Association shows the economic impact the video game industry has in the United States. 65'678 jobs were created directly due to this industry, and the value added to the GDP amounted to more than $11.7 billion (Entertainment Software Association, 2018). While this value does not appear to be substantial compared to the total GDP of $19.39 Trillion (Statisa, 2019), considering the expected industry growth rate of 10.3 percent (Wijman, 2018), the high future economic impact becomes evident.

The United States is a significantly larger market for video games than Switzerland. This fact, as well as the domestic industry being relatively young, suggest that the Swiss video game industry is not yet a substantial contributor to the economy. However, a more representative comparison can be drawn to the video game industry of the United Kingdom, where the industry contribution to the economy amounts to £1.52 billion in gross value added and 20'430 jobs created directly by the video game industry (British Film Institute, 2018). While the industry in the United Kingdom is still substantially larger and more elaborate than in Switzerland, this comparison shows that it is certainly possible for a comparatively small nation to have a video game industry that is contributing to the economy.

A further major advantage video games offer can be found in the areas of training and learning. For instance, a study conducted among medical professionals showed that participants with video game experience display a higher skill in performing laparoscopic surgery, due to both activities having similar requirements such as coordination and depth perception (Sammut, Sammut, & Andrejevic, 2017). In addition, already in the early

2000s, video games were used as a training tool. A video game called "CyberCIEGE" was developed by the United States government in 2005, aiming at teaching employees of governmental and non-governmental organizations in cybersecurity (Cone, Irvine, Thompson, & Nguyen, 2007).

Furthermore, several studies have shown a positive change in cognitive abilities in video game users. For instance, a study involving university students investigated, whether playing action video games increases attentional capabilities needed for academic purposes. Subsequently, participants with action video game experience displayed an improved working memory, resulting in benefits such as a higher level of problem-solving and comprehension skills (Novak & Tassell, 2015).

Not only young students but also the older population can improve their cognitive abilities using video games. A recent study with adults aged 65 or above suggests that playing training video games can have a substantial positive effect. Of the participants, some played a video game called "Brain Age" for 15 hours over five weeks. In the end, these participants performed significantly better in cognitive tasks than participants that did not train with the video game (Sosa & Lagana, 2019).

Video games can also offer positive effects for children and adolescents. For instance, Harrington and O'Connell (2016) conducted a study with Irish students aged nine to 15 in order to examine, whether video games encouraging social behavior improve prosocial attitudes in children. As a result, the study showed a positive increase in various social behaviors such as cooperation and empathy caused by the usage of non-violent and prosocial video games. Other advantages video games can entail for children include the prevention of gender-based violence (Boduszek, et al., 2019) or a treatment method for amblyopia (vision defect) (Gambacorta, et al., 2018).

3.4.2 Disadvantages

A major alleged drawback of video games that is often fiercely discussed is the addictive potential. Proof of the vast spectrum of opinions on this topic can be found in the literature. In a study among young Norwegian adults, it was shown that only a negligible number of video game users displayed signs of addiction (0.6 percent) (Mentzoni, et al., 2011).

Another similar study from the United States showed a significantly more negative result. Among the study participants, seven percent were classified as addicted to playing video

games. Moreover, the addictive behavior of the participants led to several negative effects. For instance, the study showed that video game addiction can lead to poor emotional health including anxiety, depression, and aggressive tendencies (Stockdale & M. Coyne, 2018).

According to several academics, the debate over video games being addictive or not cannot be solved yet due to a lack of a sound research base and the need for a universal definition of a video game addiction and its symptoms (Aarseth, et al., 2017).

In addition to addiction, the topic of video games causing real-life violence is frequently a source of discussion. A term that is often heard during these debates is "desensitization", meaning that a person is generally more aggressive and less emotionally affected by violent acts in real life (Carnagey, Anderson, & Bushman, 2007). One example of a crime that was blamed on video game consumption occurred in the United Kingdom in 2004, when a 17-year old killed his younger friend. The victim's parents stated that the violent act was inspired by Manhunt, a notoriously violent video game that both the perpetrator and the victim played (Millward, 2004).

Several studies have been conducted examining the effect of violent video games, and again, a consensus has not been reached yet. For instance, a recent study examining the impact violent video games have on the level of aggression showed only slight correlation (Engelhardt, Mazurek, Hilgard, Rouder, & Batholow, 2015). However, other research has shown a clear link between violence in video games and desensitization (Anderson, et al., 2010).

While there is multiple research pointing to a correlation between video games and real-life violence, a final conclusion cannot yet be stated. Studies investigating this topic regularly show bias and are not conducted with a neutral mindset (Ferguson, 2018). However, overall, it appears that there have not been any severe cases of violent crimes that can be linked to the video game consumption of the perpetrator in recent years.

Other disadvantages of playing video games include a possible negative effect on the academic performance of adolescents (Hartanto, Toh, & Yang, 2018) or the link between loot boxes (virtual items to improve the video game character's abilities, such as better weapons) and gambling problems (Drummond & Sauer, 2018).

While there are various drawbacks of video games mentioned in the literature, there is rarely a consensus about them, and further research needs to be conducted in order to arrive at a definite and representative conclusion.

The most common benefits of video games that can be found in the existing literature are of economic, educational, and medical nature. To serve as an overview of the various advantages and disadvantages of the video game industry found in the literature, a summarizing table was constructed below.

Table 4: Advantages and Disadvantages of the Video Game Industry

Advantages	Disadvantages
Positive economic contribution with promising future outlook	Possibility of developing a video game addiction
Video games as a powerful tool for training	Possibility to become desensitized to violence through violent video games
Video games as a powerful tool to enhance cognitive abilities	Video games deteriorating academic performance of adolescents
Teaching children important social values	Link between loot boxes in video games and gambling problems
Treatment of medical conditions	

While Table 4 constitutes a basis of benefits and downsides video games and the video game industry have, it is certainly not all-encompassing due to the limited scope of this thesis. Furthermore, since the video game industry changes at a rather fast pace, the relevance of academic studies about its advantages and disadvantages quickly diminishes with time.

Having introduced both the video game industry in general and specifically in Switzerland, the importance of political support, as well as the advantages and disadvantages of video games and the respective industry, the foundation was laid to conduct the intended examination. The results of the analysis are presented in the following section.

4. Results

4.1 Analysis of Existing Political Support Measures

The first part of the analysis was largely based on a report commissioned by the Federal Council, in which four goals for the video game industry including political measures are stated (Schweizerische Eidgenossenschaft, 2018). An introduction to this report including the four goals can be found in section 3.3 and Table 3. In the following sections, the collected results for the goals in the report are shown. More specifically, interview partners were asked to state, whether the goals were achieved (A), partly achieved (PA), or not achieved at all (NA), and to explain the reasons for their decision. The vast majority of interview partners that were asked these questions were already familiar with the report, especially the industry participants and experts.

4.1.1 Quantitative and Qualitative Improvement of Video Games

First of all, interview partners were asked, whether they thought that the amount and the quality of Swiss video games are satisfactory. Furthermore, they were questioned whether the political support for this area – for instance with financial support measures to help produce high-quality video games – is sufficient.

Table 5: Quantitative and Qualitative Improvement of Video Games

A = Achieved		PA = Partly Achieved			NA = Not Achieved
Stelex	Team KwaKwa	Sunnyside Games	Okomotive	Stray Fawn Studio	Anonymous
NA	A	PA	NA	NA	NA
ZHdK	ZHdK	SGDA	IGDA	Pro Helvetia	
PA	PA	PA	PA	PA	

As can be seen in Table 5, interview partners had various opinions on the achievement of this goal, with most of them believing that it was partly achieved. However, there seems to be a tendency towards the negative with four respondents stating that the goal has not been achieved and solely one claiming full achievement.

Respondents thinking that the goal is partly achieved often emphasized their appreciation for the support which is offered mainly by Pro Helvetia to improve both the quantity and quality of video games in Switzerland. However, several major criticisms that ultimately led to the mixed responses included that there is not enough financial support to produce

the entirety of the video game and also market it after its completion. Furthermore, additional aspects preventing the full achievement of this goal are a lack of focus on the business-side and unfair distribution of financial support among cultural industries.

Four Swiss video game studios considered this goal as not achieved. More specifically, most of them agreed that insufficient funding is the main issue preventing Swiss video games from attaining a higher degree of international competitiveness. Stray Fawn Studio stated that Pro Helvetia has 250'000 Swiss Francs available each year to fund video game projects. In order to receive part of this funding, a three-year-process must be followed. However, the roughly 90'000 Swiss Francs a video game firm can receive through this channel are not enough to produce a marketable video game. At Stray Fawn Studio, the development of a video game requires close to one million Swiss Francs. Other studios have this financial issue as well. For instance, the award-winning video game FAR: Lone Sails developed by the studio Okomotive cost approximately 500'000 Swiss Francs to produce, far exceeding the maximum amount of funds Pro Helvetia is able to support the Swiss video game industry with. In order to be able to complete their video game despite the lack of funding, the Okomotive team decided to pay themselves very low salaries, requiring them to work in other jobs part-time. The representative from the anonymous firm stated that the Swiss video game industry is nearly inexistent. He further claimed that this is due to numerous video game firms lacking a clear business focus.

Solely one interview partner believed that there is sufficient support to ensure a significant number of high-quality Swiss video games.

4.1.2 Integration into Industry and Market Access

The second goal in the report addresses the apparent lack of both business knowledge as well as industry networks among Swiss video game firms. Interview partners answered, whether an improvement of know-how and networks was achieved with the governmental support provided, for instance by sending delegations of video game firms to international events to enable networking.

Table 6: Integration into Industry and Market Access

A = Achieved		PA = Partly Achieved			NA = Not Achieved
Stelex	Team KwaKwa	Sunnyside Games	Okomotive	Stray Fawn Studio	Anonymous
PA	PA	PA	A	PA	NA
ZHdK	ZHdK	SGDA	IGDA	Pro Helvetia	
PA	A	A	PA	PA	

As shown in Table 6, there is a more positive general opinion on the achievement of this goal, with three respondents being rather optimistic about the industry integration and market access. Nevertheless, most interview partners still had mixed feelings, and one stated that this goal has not been achieved.

Most interview partners agreed that in terms of international promotion and networking, Pro Helvetia offers extremely valuable support. For instance, the IGDA representative stated that Swiss video game firms receive the opportunity to attend international video game events and that Pro Helvetia organizes pitch courses in advance to teach delegations how to market their products to potential business partners. The Ticino studio Stelex emphasized the importance of these events because they enable Swiss video game firms to connect with international journalists, which then review the video game companies' products, significantly increasing their visibility in a highly saturated global market. Moreover, according to the IGDA interview partner, Pro Helvetia tries to connect video game firms internationally, for instance with the Finnish or Indian scene, allowing for cross-border and cross-cultural exchange.

Nevertheless, there are aspects preventing this goal from being fully achieved according to the majority of interview partners. The most commonly named negative point concerns the business and industry knowledge required to compete in the national and international market. For instance, Sunnyside Games from the Western part of Switzerland claimed that while Pro Helvetia does offer coaching for Swiss video game firms, it is often not tailored to the individual company or project. In addition, an industry expert from the ZHdK agreed that there is insufficient business and industry knowledge in the Swiss video game industry and argued that a reason for this is the lack of an elaborate entertainment industry in Switzerland. Even the representative from Pro Helvetia – while stating that

there are some business courses offered by for instance the Swiss innovation agency InnoSuisse and that the attendance at events is extremely valuable - voiced a slightly pessimistic outlook on the achievement of this goal.

The interview partner from the anonymous firm stated that while Pro Helvetia does send delegations to international video game events, no important benefits are gained because the needs and individual characteristics of the participating video game firms are not considered. He suggested that these events would be significantly more useful if video game firms were able to organize them themselves. Furthermore, he claimed that while Pro Helvetia did introduce him and his firm to potential partners, it was unsuccessful because the firm's individual needs and characteristics were again not taken into account.

4.1.3   Improvement of Industry Structure

According to the report, additional issues for the Swiss video game industry are the insufficient connection among industry participants as well as the lack of important competences or industry agents, such as a large publishing firm. Interview partners were asked for their opinion on whether an improvement of these issues was achieved.

Table 7: Improvement of Industry Structure

A = Achieved		PA = Partly Achieved			NA = Not Achieved
Stelex	Team KwaKwa	Sunnyside Games	Okomotive	Stray Fawn Studio	Anonymous
NA	PA	PA	PA	PA	PA
ZHdK	ZHdK	SGDA	IGDA	Pro Helvetia	
NA	NA	PA	PA	NA	

Table 7 shows that the results were mixed, but with a more negative tendency. While most interview partners had a middle-ground opinion on the achievement of this goal, a notable number considered it as not achieved.

The aspects that were commonly criticized in connection to this goal were the lack of important industry agents as well as insufficient statistical analysis. For instance, according to Stray Fawn Studio, both large video game studios and publishers are lacking in Switzerland. If global key players such as Ubisoft or EA had a studio in Switzerland, Swiss talents would have the opportunity to obtain experience and knowledge that they could later implement in their own ventures. In addition, according to a ZHdK expert, a

publisher would provide valuable knowledge about areas such as marketing or finance, and also motivate video game firms to complete projects and achieve deadlines and milestones. Furthermore, the SGDA representative claimed that producers (project managers for video games) are another major industry agent lacking in Switzerland.

Regarding the statistical analysis, interview partners often stated that there are not enough clear and reliable industry numbers. According to the representative from Team KwaKwa, while the SGDA provides some information on the industry, it is not sufficient. He further stated that to be able to access industry data, having a strong network is crucial. However, according to several interview partners, industry participants such as the SGDA and Stray Fawn Studio have recently started to conduct research and collect data in order to attain a clear overview of the video game industry landscape in Switzerland.

4.1.4   Increased Interdisciplinarity

The last goal mentioned in the report addresses the interdisciplinarity in creative industries. More specifically, due to the video game industry being closely linked to other creative industries such as film or music, interdisciplinary events should promote creativity and culture. Interview partners were asked, whether there is enough political support in Switzerland to encourage interdisciplinary events and projects.

Table 8: Increased Interdisciplinarity

A = Achieved		PA = Partly Achieved			NA = Not Achieved
Stelex	Team KwaKwa	Sunnyside Games	Okomotive	Stray Fawn Studio	Anonymous
PA	NA	PA	PA	PA	PA
ZHdK	ZHdK	SGDA	IGDA	Pro Helvetia	
PA	NA	NA	NA	PA	

The goal of obtaining a high level of interdisciplinarity among cultural industries has not been fully achieved yet according to the interview partners, as can be seen in Table 8. While the majority of respondents voiced mixed opinions on this goal, four claimed that the Swiss video game industry is still far away from reaching it.

Most of the interview partners stressed that while there are some interdisciplinary events, a lot more effort could be given. For instance, the representative from the IGDA stated that although there are a few conferences where participants in various cultural industries

could mix, attendants often solely converse with their industry peers. Furthermore, Sunnyside Games stated that most interdisciplinary events are self-organized and informal since there is merely a small number of official events.

Several interview partners considered the lack of interdisciplinarity in the Swiss video game industry a fundamental issue. According to a ZHdK expert, increased interdisciplinarity would be important for both cultural and economic reasons because new, high-potential areas could be found. He further stated that the video game industry itself is to blame for the lack of interdisciplinarity due to the participants not actively seeking it, presumably because they think that combining video games with other cultural creations would result in something that is not a real video game anymore. The SGDA representative offered a further explanation for the lack of interdisciplinarity. He stated that cultural industries such as the film industry are not incentivized to conduct interdisciplinary projects due to the fact that a combination between film and video games would result in less promotional support since the video game industry receives less funding from Pro Helvetia than the film industry. According to him, the solution to this problem would be a multi-discipline culture or media foundation that actively promotes interdisciplinarity.

4.2 Analysis of Required Support Measures

In order to analyze the required support measures, a theory by Stevenson and Lundström (2001) was used as a base, where nine areas were identified that are frequently difficult for entrepreneurial firms to overcome. These nine areas can be found in Table 2 in section 3.2. The interview partners were asked to rate the significance of the particular area to Swiss video game firms. Their statements were then analyzed and it was deemed, whether the respective area was of high importance (High), medium importance (Medium) or low importance (Low) to the Swiss video game industry. The following sections show the results for each of the nine areas mentioned by Stevenson and Lundström (2001). Moreover, interview partners were asked, whether they had any areas to add.

4.2.1 Negative Attitudes towards Entrepreneurship

The first area that the interview partners voiced their opinion on addresses the image both the video game industry as well as start-ups in general have in Switzerland. Interview partners were asked to rate, whether the issue of a generally negative attitude towards

video games and the respective industry is of high, medium, or low significance in Switzerland.

Table 9: Negative Attitudes towards Entrepreneurship

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
High	Low	Medium	Medium	Medium	Low	Medium
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Medium	Low	High	Medium	High	Low	

As depicted in Table 9, four interview partners felt that this topic is not a significant issue for the Swiss video game industry. According to the representative of Team KwaKwa, in the French-speaking part of Switzerland, there is a generally supportive environment for the video game industry. In addition, the interview partner from the SGDA stated that ten years ago, politicians often had a hostile attitude towards the video game industry, but this has improved significantly. Currently, digitalization, start-ups and video games constitute trends and have a favorable reputation. The representative from the anonymous firm stated that while video games still possess a negative image in society, for instance with television shows criticizing video games involving firearms, he would not rate this issue as important for the Swiss video game industry.

A large part of the respondents felt that the issue of negative societal attitudes is of medium importance for the Swiss video game industry. The interview partner from Pro Helvetia stated that while there certainly has been an improvement in the reputation of video games over the years, decision-making authorities such as politicians often still have a negative image. A reason for this negativity might be the discussion about violence in video games causing violent acts in real life. Interestingly, the representative from Okomotive argued that the video game industry has a reputation in society that is too positive. He elaborated on this statement by claiming that people often think that the video game industry is economically and financially stable and offers high rewards because this is the way politicians and associations sometimes present it. However, in reality, there are only few people that can earn a sufficient living wage by making video games. In consequence, if the general assumption is that the video game industry in Switzerland is

flourishing, people might start to question the promotional support measures the firms receive.

Some interview partners considered this topic as a major issue that requires large-scale attention. For instance, the representative from the Young Liberals believed that start-ups in general do not enjoy a high reputation in Switzerland. He argued that while in the United States, taking risks and failing is not only accepted, but encouraged, Swiss people are often unwilling to take a chance and found a start-up firm that entails high risks and low rewards initially. Furthermore, the IGDA interview partner claimed that politicians often use video games as a scapegoat, meaning that they are blamed for problems that have little correlation with video game consumption. This is quite damaging for the video game industry in Switzerland because obtaining funds is rendered more difficult due to the negative image.

4.2.2   Difficulty of Business Entry

Interview partners were asked to share their viewpoint on the significance of the difficulty of both founding a video game firm as well as entering the market in Switzerland. The main focus was put on initial costs as well as regulatory and administrative burdens.

Table 10: Difficulty of Business Entry

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
High	Low	Medium	Medium	Low	High	Medium
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Medium	Low	Medium	Low	High	Medium	

As can be seen in Table 10, of the respondents, four believed that entering the video game business is not a significant issue. The representative from Stray Fawn Studio argued that while developing a video game is difficult, publishing it and also founding a firm is a rather simple task. This is also due to the digital video game distribution platform Steam, where developers can easily publish their software. Furthermore, the interview partner from Pro Helvetia stated that while the process of founding a company could be made slightly easier in Switzerland, it does not constitute an obstacle for video game developers

to enter the market. Moreover, according to the SGDA representative, there are software tools available specifically to help small, independent video game developers to make their video game, further simplifying business entry.

In contrast to some of the answers provided by respondents considering business entry as simple, Sunnyside Games claimed that founding their company was slightly difficult, since they did not have any knowledge or experience about the founding process. The IGDA representative also showed mixed feelings. He claimed that developing and publishing a video game is not very difficult due to free software and Steam, but the cost of founding a business is quite expensive in Switzerland compared to for instance Finland ($20'000 and $5'000 USD respectively). Moreover, according to a study he conducted with Swiss video game developers, only a small percentage of them have easy access to the funds required to found a video game firm, and approximately a third would not be able to fund the foundation of their own firm at all. The member of the Young SVP claimed that while the process of founding a business could be easier, it is more important to accelerate it. He believed that digitalization has a high potential to render this process significantly faster.

Three interview partners felt that the difficulty of business entry is high in the video game industry. First of all, the Stelex representative claimed that in the canton of Ticino, founding a business is a difficult and not straight-forward process. Furthermore, the member of the Young Liberals criticized the generally high level of bureaucracy in Switzerland in regards to founding a company.

4.2.3   *Lack of Entrepreneurial Skills and Know-How*

Another topic that was discussed addresses the issue of entrepreneurs – in this case video game designers – often not possessing a great array of business skills and know-how. Interview partners were asked to rate the significance of the lack of entrepreneurial knowledge for the Swiss video game industry.

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
High	Medium	High	Low	High	High	Medium
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Medium	Low	Medium	High	Medium	Medium	

Table 11 shows that this area was considered an issue of low significance by two respondents. First of all, the Okomotive representative claimed that there is sufficient knowledge present, and it is easily accessible as well. According to him, the ZHdK offers incubation programs, there are start-up hubs in Zurich, and information can be found online and in the community. The interview partner from the SGDA added to this list of knowledge and skill sources by stating that InnoSuisse also offers entrepreneurial courses.

Several interview partners regarded the lack of skills and know-how as an area of medium importance. For instance, the two experts from the ZHdK agreed that there is insufficient knowledge in the industry, which could be solved if there were more producers and publishers. In addition, the party member of the Young Liberals stated that while tax money should not be used to establish business courses specifically at ZHdK, entrepreneurial skills and knowledge should already be instilled in the lower levels of the educational system.

Lastly, five interview partners believed that an improvement of this area is of large significance. For instance, the Pro Helvetia representative stated that there is no game design study program in Switzerland that teaches aspects such as leading a team or negotiations. These are crucial skills needed to for instance secure a business deal at an international video game event. Moreover, the interview partner from Stray Fawn Studio stated that while business incubators exist, they usually possess insufficient knowledge about video games. She further explained that it would be crucial for these incubators to comprehend specific topics such as the marketing algorithm used on Steam. In addition, she claimed that the solution to this problem could be a so-called Game Garden, where multiple video game firms work together and exchange knowledge.

4.2.4 Lack of Financing

An issue that typically is of importance to entrepreneurial firms is the difficulty of obtaining funds to maintain and grow the business. Therefore, interview partners were asked to rate the importance of this issue for video game firms in Switzerland.

Table 12: Lack of Financing

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
High	Medium	Medium	High	High	High	High
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Medium	High	Medium	High	Medium	Low	

The issue of acquiring funds displayed a rather clear tendency among the opinions of the interview partners, as can be seen in Table 12. Namely, only one of them considered this area as being of low importance. The member of the Young SVP stated that while increased financial support for start-ups would be helpful, it is not necessary in his opinion. He further claimed that creating favorable framework conditions is of significantly higher importance than providing funds. For instance, expert coaching or affordable office space could be offered to start-ups.

Five respondents regarded the lack of financing as a topic with medium significance. One ZHdK expert stated that while more financial support would be beneficial, he is not certain whether it would be justified when compared with other cultural industries or countries. Furthermore, the representative from Team KwaKwa argued that while it is quite challenging to find investors for video games, financing is not the most critical area to address considering the state and size of the video game industry in Switzerland.

The majority of respondents agreed that the lack of funds is a crucial issue in the Swiss video game industry. The representative from Stray Fawn Studio stated that there are several different ways of how this issue can be tackled. First of all, Switzerland could implement a similar concept as Canada, where the government finances a large percentage of salaries of employees at video game firms. Additionally, Switzerland needs to create incentives for local investors to provide funds to the video game industry. Lastly,

if the government offered low-cost office space to video game firms, cost pressures would be reduced significantly. The Pro Helvetia representative further added to this statement by claiming that most investors do not want to invest in video game firms. According to the SGDA interview partner, this is because a video game start-up constitutes a high-risk investment which many investors try to avoid.

4.2.5 Limited Access to Business Information

Being able to obtain valuable information about an industry or business can be crucial for an entrepreneurial firm. The degree of importance this issue has in the Swiss video game industry was determined with the collection of opinions of the various interview partners.

Table 13: Limited Access to Business Information

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
Medium	Low	Medium	Low	Medium	High	Low
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Medium	Low	Medium	High	Low	Medium	

Generally, this area of issue appeared to be of a low or medium significance to the interview partners according to Table 13. For five of them, limited access to business and industry information does not constitute a fundamental problem whatsoever. The representative from Team KwaKwa argued that while not all information about the industry is easily available, there are two main sources to receive data from, namely the SGDA and the video game developer community. He stated that these two sources are sufficient to obtain the required data for him and his firm. The SGDA representative also claimed that the lack of business information is not a major issue to be concerned about because the global nature of the video game market provides a large number of international sources to extract information from.

Nevertheless, some interview partners considered this area as a medium-importance topic. For instance, the representative from Stray Fawn Studio claimed that while information is easily accessible, also due to the active video game developer community in Switzerland, she would appreciate to have access to more information about legal

processes such as publisher contracts, as well as to specific, video game related topics such as the aforementioned Steam marketing algorithm. In addition, the member of the Young SVP claimed that while there are enough sources available to obtain information from, they need to be more visible.

Two interview partners felt that the lack of information constitutes a fundamental issue that requires solving. The representative from Pro Helvetia argued that industry numbers are the first topic that people who are interested in the video game industry inquire about. Therefore, the inability to give a clear and accurate overview of these numbers is detrimental.

4.2.6 Inequal Entrepreneurial Opportunities

Another area that might prove troublesome for entrepreneurial firms is discrimination against certain societal groups. This inequality could be based on aspects such as gender, race, religion, or sexual orientation. Interview partners were asked about their opinion on the significance the issue of discrimination has in the Swiss video game industry.

Table 14: Inequal Entrepreneurial Opportunities

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
Low	Medium	Medium	Low	Low	Low	Low
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
Low	Low	Medium	Low	Low	Low	

Table 14 shows that most of the interview partners felt that there is little to no discrimination and inequality in the Swiss video game industry. According to the representative from Okomotive, there are two reasons why discrimination – especially based on gender – is not a problem in Switzerland. First of all, the Swiss video game industry is generally diverse and welcoming, primarily since it mainly consists of small, independent firms. Secondly, he claimed that the video game industry in Switzerland is too young for gender-discriminating structures to have been established. Moreover, according to a ZHdK expert, there is an equal distribution of genders in the game design study program. He further stated that in 2019, there are more female game design students

at the ZHdK than male students. If there is discrimination and inequality in any industry in Switzerland, it is a problem that will solve itself, according to the interview partner from the Young Liberals, since older generations and thus mindsets will gradually disappear. The member of the Young SVP believed that discrimination is not a major problem as well. He argued that the start-up scene is diverse and that "it does not matter what you are, but what you do".

Three interview partners claimed that there is discrimination and inequality against certain societal groups to some degree in the Swiss video game industry. The representative from Team KwaKwa stated that it is a significant problem that only few women pursue degrees in computer science and engineering. Furthermore, he claimed that while 50 percent of game design graduate students are female, merely ten percent of hired game designers are women. His explanation was that the entrepreneurial culture in the Swiss video game industry is male-dominated. For instance, a lot of founders of video game firms are male, who then hire their friends, often also men. The interview partner from the IGDA took a stance on inequality as well. He stated that while there is no significant discrimination based on gender, skin color, or sexual orientation, some geographical regions appear to be focused on more regarding the political support. Namely, because a lot of video game firms, the SGDA, and Pro Helvetia are located in Zurich, there seems to be a disproportionately large promotional focus on this region. However, Pro Helvetia is trying to address this geographical inequality according to him.

4.2.7 Lack of Office Space and Business Services

It seems that an industry cluster has formed in the Zurich area, which is known to be rather expensive to live and work in. Therefore, the question arises about the significance of the lack of suitable and affordable office space for Swiss video game firms.

Table 15: Lack of Office Space and Business Services

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
Low	Low	Low	Low	Medium	Low	High
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
High	Medium	Low	Medium	Low	Medium	

As can be seen in Table 15, while both experts from the ZHdK considered this area to be of high significance, most industry participants and political figures disagreed. The representative from Stelex stated that while office space is expensive, most small studios do not require it. This is because one merely requires a laptop with internet access to work on a video game. The interview partner from the IGDA agreed with this statement and further stated that there is always a way to find a co-working place. The member of the Young Liberals claimed that there are numerous options for start-up firms to find a place to work at, for instance the co-working space EPFL Innovation Park in Lausanne, at which exchange and communal thinking are highly encouraged and promoted. The representative from the anonymous firm stated that once the initial financing is achieved, renting an office is not a major issue anymore. He further claimed that office space is of significantly lower cost for Swiss video game firms than salaries.

Some of the interview partners classified the difficulty of finding an office space and business services as being of medium significance to the Swiss video game industry. The representative from Pro Helvetia claimed that this issue is especially prevalent in the Zurich area, and that many developers would like to have a Swiss version of the Dutch Game Garden, a co-working space offering various business services specifically tailored to video game start-ups. In addition, the interview partner from the SGDA claimed that while ample office space is available, administrative issues with the rental process can prove challenging for Swiss video game firms. For instance, some landlords require large advance payments of the rent, leading to high initial cost pressures on small video game firms. He further added that due to video game firms being project-based, the number of employees required fluctuates significantly over the process of developing a video game, and this high level of flexibility is difficult to achieve. The member of the Young SVP claimed that while renting office space does entail high costs, it is not crucial to have offices in the first place. For instance, Steve Jobs founded the company Apple in his garage.

Both experts from the ZHdK agreed that it is costly to rent suitable office space for most video game firms. While co-working spaces are available in Zurich, small companies in the industry do not possess the necessary funds to use them. Furthermore, one expert emphasized the importance of the creation of biotopes, where multiple video game firms can stay for a long time and co-evolve.

4.2.8   Inability of Start-Ups to Experience Growth

The high cost of living in Switzerland could have an impact on the growth ability of entrepreneurial firms. Interview partners were asked on their opinion on the importance of the issue that young and small video game firms in Switzerland often struggle to increase their size.

Table 16: Inability of Start-Ups to Experience Growth

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
High	Medium	Medium	Medium	High	Medium	Medium
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
High	Medium	High	Medium	Medium	Medium	

As depicted in Table 16, the majority of the interview partners agreed that Swiss video game firms generally find it difficult to grow their businesses to some extent. For instance, the representative from Okomotive stated that it can be difficult for companies to grow, primarily because of high salary costs in Switzerland compared to other countries. He added that Swiss video game developers often only launch one video game and then proceed to focus on commissioned work to increase their income. The interview partner from Sunnyside Games agreed that high costs hinder the growth of Swiss video game firms. He stated that Switzerland has not realized the inherently global nature of the industry, meaning that there is not enough support to help Swiss video game companies compete in a global market where price plays a significant role. He further suggested that the Swiss government should consider the cases of the United States and Canada, where tax incentives are offered based on the firm's efforts in research and development. In addition, the interview partner from the anonymous firm stated that while salary costs are high in Switzerland, staff is also well-educated. He further claimed that developing a video game is a complex process, meaning that a highly skilled development team is required, which justifies the high salaries to some extent.

Four interview partners considered the inability of video game firms to grow as a major issue. The representative from the IGDA emphasized the unattractive environment to grow in for Swiss video game firms by giving an example. The large video game firm

Ubisoft had opened a studio in Zurich a few years ago, but decided to close it after only six months due to high costs. The financial aspect appears to be the main reason why no large, international video game studios and publishers establish operations in Switzerland. He further added that the largest Swiss video game firm GIANTS Software evades these high costs to some extent by outsourcing a significant part of their operations. According to the representative from Stray Fawn Studio, the industry experiences extreme fluctuations, leading to a high degree of uncertainty regarding the revenue stream. In addition, she claimed that founding a video game firm with more than three people is very difficult because it can barely be sustained due to high salary costs.

4.2.9   No Connection to National Innovation Goals

The last area mentioned in the theory by Stevenson and Lundström (2001) addresses the connection between a country's innovation goals and entrepreneurial support. More specifically, interview partners were asked on the significance of Switzerland making the realization that entrepreneurship is crucial to foster innovation.

Table 17: No Connection to National Innovation Goals

Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
Low	Low	Medium	Low	High	Medium	Low
ZHdK	SGDA	IGDA	Pro Helvetia	Young Liberals	Young SVP	
High	High	Medium	Medium	Low	Medium	

Interview partners voiced a variety of opinions on this topic, as shown in Table 17. However, the majority rated this issue as being of low or medium significance. For instance, the representative from Team KwaKwa claimed that Switzerland has made this connection to a large extent. He provided an example by stating that in France, video game firms need to finance their attendance at international video game events themselves, while in Switzerland these costs are covered by Pro Helvetia. One expert from the ZHdK as well as the member of the Young Liberals added to this statement by claiming that there is no lack of innovation in Switzerland.

Several interview partners found themselves in the middle ground with their opinions. For instance, the representative from Pro Helvetia claimed that while Switzerland does have excellent universities, other countries often regard the Swiss innovation process as slow and not disruptive. He further added that it is a significant problem in Switzerland that start-ups sell their products to large, international firms such as Apple, meaning that the Swiss video game ecosystem loses innovative ideas. Furthermore, the representative from the anonymous firm stated that Switzerland is generally enterprise- and investor-friendly, but criticized the lack of Swiss investors that are willing to invest in high-risk ventures.

Three respondents claimed that the lack of connection between national innovation goals and entrepreneurial support constitutes a major issue for the video game industry in Switzerland. One expert from the ZHdK criticized the lack of both the encouragement to take risks and of a future-oriented focus, which are both requirements to create innovation. The representative from the SGDA stated that Swiss innovation politics are insufficient because there are few incentives for large, innovative firms to establish operations in Switzerland. He further criticized the general skepticism of the Federal Department of Economic Affairs towards the video game industry, leading to limited economic support provided.

4.2.10 Additional Areas of Difficulty for the Swiss Video Game Industry

While the theory by Stevenson and Lundström (2001) is quite comprehensive, it was deemed interesting to inquire about further areas that video game industry participants consider challenging.

Both experts from the ZHdK stated that a problematic area for Swiss video game firms is the production. More specifically, the lack of project managers specialized in the video game industry is an issue because it would be beneficial to have experts who lead video game firms to develop a product until a specific deadline.

The representative from Team KwaKwa claimed that the high cost of living in Switzerland represents a major issue for the Swiss video game industry. He called the nation a "rich island in Europe" where high prices are rendering the companies' ability to successfully sell their video game abroad quite small.

The second expert from the ZHdK criticized the general mentality in Switzerland regarding risk-taking. He claimed that because the Swiss economy has always been

stable, people feel comfortable with the status quo and are not encouraged to attempt a high-risk venture.

Stray Fawn Studio's representative added a further area that is challenging for the video game industry. Namely, she questioned whether the state of the existing industry environment is sufficient to support firms in the video game industry to grow. According to her, this does not apply due to the lack of major industry agents such as publishers and large studios. Furthermore, she stated that it is detrimental for the industry growth that large studios such as GIANTS Software outsource a significant part of their activities.

Table 18 below provides a comprehensive overview of the additional areas that are challenging for the Swiss video game industry according to interview partners.

Table 18: Additional Areas of Difficulty for Swiss Video Game Firms

Lack of producers	A producer (project manager for video game firms) would motivate Swiss video game firms to reach milestones and deadlines in the development of their product.
High cost of living	Switzerland being a rather expensive country to live in renders it difficult for video game firms to compete successfully in an international market.
Negative attitude towards risk	Swiss people are too comfortable to challenge the status quo and attempt a high-risk venture such as a video game firm.
Unattractive industry environment	The Swiss video game industry is incomplete with publishers and large studios lacking and key players outsourcing major business activities.

4.3 Advantages and Disadvantages of the Swiss Video Game Industry

The sub-research question and third objective of this thesis addresses the various benefits and downsides the video game industry and its products entail for society and the economy in Switzerland. These advantages and disadvantages can be found in Table 4 in section 3.4.2. Interview partners were asked, whether they agreed (A), partly agreed (PA), or disagreed (D) with positive and negative aspects found in the literature. Furthermore, they were given the opportunity to add further advantages and disadvantages that were not yet stated. The results for each benefit and downside as well as the added aspects are stated in the following sections.

4.3.1   Positive Economic Contribution

The video game industry has made valuable contributions to the economy in nations such as Canada or the United Kingdom. Hence, the question arose whether the interview partners felt that the Swiss video game industry has or will have a considerable impact on the economy in Switzerland.

Table 19: Positive Economic Contribution

A = Agree		PA = Partly Agree				D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	PA	D	D	A	PA	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
D	A	A	A	PA		

As can be seen in Table 19, three interview partners did not feel that the Swiss video game industry is adding value to the economy. The representatives from both Sunnyside Games and Okomotive claimed that while Switzerland does have excellent educational institutions, there is not enough funding to support companies in their growth aspirations. Thus, if the financial situation of video game firms is not improved, the industry will not contribute significantly to the economy in the future.

Three interview partners agreed to some extent. The representative from Team KwaKwa stated that while jobs are created through the video game industry, they typically require considerable work efforts and do not yield sufficient earnings. In addition, the member of the Young SVP claimed that while the video game industry will contribute to the economy in the future, the contribution will not be as sizable as for instance in the United Kingdom. The representative from the anonymous firm stated that the Swiss video game industry possesses the potential to grow and contribute to the economy. However, the current contribution is insignificant with only few jobs having been created through the industry according to him.

Half of the respondents agreed with the statement that Switzerland has already or will have a notable impact on the economy. The representative from Stray Fawn Studio stated

that there has been significant industry growth in the last three years. She estimated that three years ago, there were 40 to 50 video game start-ups, but this number has more than doubled to approximately 100. She further added that despite the high costs in Switzerland, especially serious games and new technologies such as virtual and augmented reality will add significant economic value. In addition, the industry experts from both the SGDA and IGDA believed in the high economic potential of the video game industry. First of all, the SGDA representative claimed that a video game is typically quite long-living, meaning that a firm develops it once and it then yields returns for a long time. Secondly, the IGDA expert stated that innovative software and technologies with significant potential are created in Switzerland.

4.3.2   Video Games as a Tool for Training

In several cases, video games were used as an instrument to let professionals learn and practice their skills. Interview partners were asked, whether they agreed with video games being a powerful tool for training purposes, and why.

Table 20: Video Games as a Tool for Training

A = Agree		PA = Partly Agree				D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	A	A	A	A	A	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
A	A	A	PA	A		

A nearly unanimous agreement with this advantage could be observed, as can be seen in Table 20. The member of the Young Liberals claimed that while video games are certainly a helpful tool to teach skills and instill knowledge, training should not be entirely based on video games. Thus, this aspect should not receive excessive political support.

Nevertheless, the vast majority of interview partners believed that video games are extremely valuable for training purposes. For instance, the IGDA representative claimed that video games allow for a multi-sensory experience in a safe space, which is well-

suited for training purposes. The interview partner from the SGDA stated that multiple industries already use video games for training, for instance the aviation industry.

4.3.3   Video Games to Enhance Cognitive Abilities

Another advantage mentioned in the literature is the usage of video games to enhance brain functions. Interview partners voiced their opinion on this topic and provided examples of video games they knew that purposely trained cognitive abilities.

Table 21: Video Games to Enhance Cognitive Abilities

A = Agree				PA = Partly Agree		D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	A	A	A	A	A	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
A	A	A	PA	A		

As depicted in Table 21, regarding the usage of video games to enhance cognitive abilities, interview partners were in nearly unanimous agreement. The representative from the Young Liberals voiced the same opinion that he had about using video games for professional training by saying that cognitive training should not be conducted entirely by playing video games and that this area should not be overly promoted. This viewpoint extends to all advantages considered in this thesis and is therefore not repeated.

The interview partner from Okomotive stated that video games are well-suited to be used to improve cognitive abilities. He provided an example about a project conducted by the ETH called "brain runners", where the player controls the in-game character via brain waves. Sunnyside Games' representative agreed and stated that he had heard of several studies showing that video game users possess improved decision-making capabilities. The interview partner from Team KwaKwa elaborated on a more personal example. He claimed that by playing video games, he was able to improve his thinking and problem-solving speed.

4.3.4 Teaching Children Important Social Values

One study in the literature mentions the usage of video games to teach adolescents social values such as teamwork and empathy. Interview partners were informed about this study and then stated their position on the topic of teaching children about social values and other subjects using video games.

Table 22: Teaching Children Important Social Values

A = Agree		PA = Partly Agree				D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	A	-	A	PA	PA	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
A	A	A	PA	A		

Table 22 shows that while the majority of interview partners agreed with this benefit of video games, there were a few concerns. For instance, the representative from Stray Fawn Studio stated that while using video games to teach subjects such as biology is highly efficient, she believes that the upbringing of a child by for instance teaching it social values should still mainly be a task conducted by the parents. The interview partner from the anonymous firm argued that the most efficient method of teaching would be to provide one teacher for each child. However, since this is not possible, educational video games constitute a sufficient substitute.

One expert from the ZHdK stated that this area of application of video games is of high potential and will become increasingly more important. The interview partner from Okomotive elaborated further and stated that video games can be used in multiple ways in education. For instance, in the action-adventure video game Assassin's Creed, there is an education mode allowing students to virtually explore historical sites such as the Egyptian pyramids. However, he criticized the current state of educational video games because they are neither well-made nor lucrative for video game firms. The representative from the SGDA added that his company has developed educational video games, for instance to teach children in middle school about risks and insurances.

The representative from Sunnyside Games did not wish to comment on the usage of video games to teach children social values due to unfamiliarity with the topic.

4.3.5   Treatment of Medical Conditions

It has become apparent that video games can be used for purposes other than entertainment, and medical professionals have come to this realization as well. The question of the suitability of using video games to treat medical conditions was thus posed.

Table 23: Treatment of Medical Conditions

A = Agree				PA = Partly Agree		D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	A	A	A	PA	A	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
A	A	A	PA	A		

Interview partners showed significant positivity towards this advantage as depicted in Table 23. However, the representative from Stray Fawn Studio mentioned one concern. Namely, while using video games to for instance increase a patient's physical fitness is valuable, she was uncertain whether the current knowledge about video games is sufficient to treat psychological conditions.

Several interview partners mentioned a project conducted by the ETH called "Lokomat", which is a rehabilitation robot teaching patients to walk again using motivating virtual reality software. The representative from Sunnyside Games further added that Portal, a puzzle-platform video game, can help reduce the risk of Alzheimer's disease. The interview partner from Team KwaKwa elaborated on another example. According to him, there is an association in the United States that provides consoles and video games to young cancer patients in order to help them forget about their affliction for a while.

4.3.6 Possibility of Developing a Video Game Addiction

The first disadvantage of video games mentioned in this thesis addresses video game addiction. Interview partners were asked, whether they believed that the risk of becoming addicted constitutes a disadvantage of video games and the associated industry.

Table 24: Possibility of Developing a Video Game Addiction

A = Agree				PA = Partly Agree		D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
PA	PA	A	PA	A	PA	PA
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
PA	PA	PA	PA	PA		

It can be seen in Table 24 that most responses from interview partners could not be clearly categorized because they agreed with this disadvantage only to some extent. While the majority of respondents acknowledged that there are cases where users develop an addiction to video games, the risk of becoming addicted is significantly more dependent on the user's predisposition than on the video game. For instance, the representative from Okomotive claimed that everything that triggers the release of endorphins can be addictive and that a user with a healthy and responsible attitude towards video games and time management will not encounter problems with addiction. He concluded by saying that video games are not the cause for addiction, but only an outlet for people that have addictive tendencies due to their predisposition. One expert from the ZHdK stated that the possibility of developing an addiction is not a disadvantage of video games in general, but only of a specific type. According to him, it is detrimental to develop video games that take an excessively long time to complete because these tend to be more addictive. The member of the Young SVP shared a more personal example. He stated that at one point, he was close to becoming addicted to a video game because he used to play until four or five o'clock in the morning. Nevertheless, he claimed that while there is a certain risk to become addicted, it depends on the individual and the extent of their responsibility in video game consumption.

The interview partners from both Sunnyside Games and Stray Fawn Studio agreed that video game addiction constitutes a major downside. For instance, the representative from Stray Fawn Studio stated that addiction is especially an issue for young video game consumers. She argued that children become addicted to for instance the currently popular online video game Fortnite because of peer pressure. According to her, it is the parents' duty to regulate their childrens' video game usage. Moreover, the interview partner from Sunnyside Games stated that countries such as Australia are going in the right direction by establishing regulations addressing video game addiction.

4.3.7 Possibility of Becoming Desensitized to Violence

Another downside of video games often discussed in the media is the risk of violent titles desensitizing the player to real-life violence. The opinion of the interview partners on this controversial topic was taken into consideration.

Table 25: Possibility of Becoming Desensitized to Violence

A = Agree		PA = Partly Agree				D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
D	D	D	PA	D	D	D
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
D	PA	D	PA	PA		

The majority of the interview partners voiced a strong opinion on this topic, as depicted in Table 25. Most of them disagreed completely with the notion that video games cause real-life violence. Nonetheless, four interview partners agreed to some extent. For instance, the representative from the SGDA claimed that there is an on-going debate on this topic but no sound scientific proof for or against it. He further argued that while no Swiss firm produces violent video games, this genre generates high revenues globally, and many titles are imported into Switzerland. Furthermore, the interview partner from Okomotive stated that while video games can encourage users to resort to real-life violence, this is only possible if the user already has a violent predisposition.

The representative from the IGDA entirely disagreed with the statement that video games cause violence. He claimed that video games are often used by politicians as a scapegoat, while in most cases underlying deficiencies in the social system or the individual are the real cause for violence. In contrast, the interview partner from Stray Fawn Studio stated that video games are not anymore held responsible for real-life violence on a frequent basis. She had also heard of several positive studies showing no correlation between the two. In addition, interview partners also provided more personal examples. One expert from the ZHdK as well as the Stelex representative both claimed that they and all video game users they know are very sensitive to real-life violence. The representative from the anonymous firm stated that he had never seen a study that video games can cause real-life violence. He suggested that if there were a correlation, it would have been proven a long time ago since violent video games enjoy a high popularity.

4.3.8 Deterioration of Academic Performance

The possibility exists that the consumption of video games has a negative impact on the academic performance of adolescents. Interview partners were asked to voice their stance on this topic.

Table 26: Deterioration of Academic Performance

A = Agree		PA = Partly Agree				D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
PA	D	PA	PA	PA	PA	PA
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
PA	PA	D	PA	PA		

Table 26 shows that Interview partners had mostly mixed opinions on this topic. The representative from Team KwaKwa disagreed on account of his personal experience. He stated that he received higher grades during the periods where he actively played video games and that most adolescents are responsible in their video game consumption. The IGDA interview partner claimed that video games are again used as a scapegoat. He explained by stating that if adolescents are generally irresponsible with their time

management, stopping them from playing video games would not help with their academic performance because they would spend that time on another activity other than school work.

Most respondents found themselves in the middle ground. According to the representative of Stelex, "not the tool is the problem, but how you use it". He played video games as a child, and his grades were not considerably affected. The interview partner from Stray Fawn Studio stated that it is the parents' responsibility to ensure that their child does not neglect its school work to play video games. She further argued that playing video games for one to two hours a day is not detrimental to an adolescent's academic performance. Okomotive's representative criticized the approach the educational system takes to teach adolescents. In his opinion, to prevent children from shifting their focus from their school work to video games, classes and homework must be made as exciting as a video game. Lastly, one expert from the ZHdK suggested that video games might have a negative effect on the performance at school or university. He stated that increased video game consumption might have been one factor that led to a decrease in the number of men enrolled at universities.

4.3.9 Link between Loot Boxes and Gambling

Lastly, a quite contemporary disadvantage was discussed with the interview partners. Namely, the question was posed on whether microtransactions (the purchase of virtual goods) in video games are linked to gambling and constitute a major disadvantage of the video game industry and its medium.

Table 27: Link between Loot Boxes and Gambling

A = Agree			PA = Partly Agree			D = Disagree
Stelex	Team KwaKwa	Sunnyside Games	Oko-motive	Stray Fawn Studio	Anonymous	ZHdK
A	A	A	PA	A	PA	A
ZHdK	SGDA	IGDA	Young Liberals	Young SVP		
-	PA	A	PA	D		

A quite clear picture can be drawn from the interview partners' answers since most of them shared the same viewpoint, as can be seen in Table 27. Only the member of the Young SVP disagreed with the notion that microtransactions are gambling and should be regulated. He stated that a firm producing video games with microtransactions is a legitimate business, as are other industries with a certain addictive factor such as the cigarette or alcohol industry. He further added that in Switzerland, wine production is even subsidized despite the risk of alcohol addiction.

Some respondents were not certain about microtransactions constituting a clear disadvantage. For instance, the interview partner from Okomotive claimed that the usage of microtransactions is a necessary evil. More specifically, due to high production cost, companies rely on including microtransactions in their video games to be able to retain a secure revenue stream. In addition, the representative from the anonymous firm stated that while microtransactions in video games are similar to gambling, they should not be regulated more. He argued that purchasing virtual apparel in a video game is the same as making the purchase in real life. Moreover, he expressed certainty that young video game users can handle microtransactions responsibly since they grew up with this purchasing method.

The representatives from both the IGDA and Stray Fawn Studio stated that business models with microtransactions rely on manipulation and addiction. The interview partner from the IGDA claimed that the average video game consumer is not aware of the manipulative techniques that are used by video game firms. According to the Stray Fawn Studio representative, the integration of microtransactions into video games has been outlawed in several countries, for instance Belgium. In addition, the interview partner from Stelex also emphasized the danger of microtransactions and stated that Switzerland ought to establish laws to address this topic.

One interview partner from the ZHdK did not comment on the topic of microtransactions because he had no involvement with this issue.

4.3.10 Additional Benefits and Downsides

The last part of this section addresses the advantages and disadvantages of video games and the industry that were added by interview partners to the list established in Table 4 in section 3.4.2.

First of all, the majority of video game firms interviewed as well as the SGDA emphasized the valuable contribution video games can make to social and emotional aspects. For instance, Sunnyside Games' representative argued that video games provide a safe space to interact for people with a fear of social interaction. Moreover, the interview partner from Team KwaKwa stated that video games are a suitable tool for community events such as e-sport tournaments. The representative from the SGDA added that multiplayer video games foster collaboration and teamwork.

The second additional advantage of video games is that they contribute to culture and can be used as a means of expression. One ZHdK expert emphasized the importance of Swiss video game users purchasing local titles in order to co-create pop culture in Switzerland. The representative from Okomotive claimed that video games do not only exist for entertainment purposes, but also as a form of art that can be used to express feelings and opinions.

Additionally, video games can be applied in various areas and have very few limitations. For instance, according to the interview partner from Okomotive, video games can be used as a tool in nearly all professional or emotional fields. One expert from the ZHdK further added that in video games, there are no limits, and the user can become who they desire to be and do as they please, irrespective of their social and financial status in real life.

Another advantage is the accessibility of video game technology. The representative from Okomotive stated that due to easily accessible video game development tools, everyone can create their own video game.

Furthermore, the interview partners from both the SGDA and the Young Liberals highlighted the motivational potential of video games. More specifically, both mentioned the video game "Pokémon Go", which motivates the user to go outside and move around, leading to an improvement of various health aspects.

One expert from the ZHdK mentioned a further benefit. He stated that video games enable the user to obtain an understanding or knowledge about a topic without having to put in a lot of effort, time or funds.

The last advantage mentioned by interview partners addresses the skills and knowledge of video game designers. More specifically, according to the representative from Stray

Fawn Studio, developing a video game requires a large variety of different skills. Hence, someone who knows how to design a video game has increased chances of finding employment despite the relatively small number of video game firms in Switzerland because their skills and knowledge can be used in multiple different professional areas.

Regarding the disadvantages in addition to the literature, not a large number was mentioned. First of all, the representative from Sunnyside Games mentioned one concern. He stated that especially in young children, playing video games that do not require social interaction can result in a negative impact on the child's social behavior. The interview partner from the anonymous firm added that due to video games, people communicate less in real life and increasingly live their life exclusively online.

Additionally, the interview partner from Team KwaKwa addressed the ecological aspect of video games. According to him, servers required to play certain video games consume a significant amount of energy, which is not very environmentally friendly and sustainable.

Lastly, both the representative from the SGDA as well as one expert from the ZHdK feared that video games might one day become omnipresent in people's lives and that everything becomes a video game. However, this is an issue that concerns the far future according to them.

All the advantages and disadvantages mentioned by the interview partners are summarized in Table 28.

Table 28: Additional Advantages and Disadvantages

Advantages	Disadvantages
Social factor	Promoting asocial behavior
Cultural contribution and means of expression	Ecological aspects
Widely applicable and limitless	Development of omnipresence
Accessible tool	
Motivational potential	
Instilling knowledge and comprehension	
Development of versatile abilities	

While the results of the 13 conducted interviews are not representative for the entire video game industry and political arena in Switzerland, they certainly constitute a solid basis for the specific recommendations stated in the following section.

5. Recommendations

The specific recommendations made in this section of the thesis are based on the findings presented in section 4. With the aid of eleven of the 13 conducted interviews it was identified to what extent the goals established in the report commissioned by the Federal Council of Switzerland (Schweizerische Eidgenossenschaft, 2018) were achieved. A summary of the results to this objective, on which the following recommendations are partly based on, can be found in Appendix C. Since none of the goals were considered as achieved by a majority of the interview partners, all four were taken into account when developing the respective recommendations.

Furthermore, based on the theory by Stevenson and Lundström (2001), critical areas requiring further support for the Swiss video game industry were highlighted. Again, the results to this part of the thesis were summarized and can be found in Appendix D. The five areas where the most support is required according to the interview partners are listed in Table 29 below. These five areas as well as the additional areas mentioned by interview partners, which can be found in Table 18 in section 4.2.10, were considered when establishing the recommendations.

Table 29: Most Critical Areas for Swiss Video Game Firms

Area	Priority
Lack of financing	1
Inability of start-ups to experience growth	2
Lack of entrepreneurial skills and know-how	3
Negative social attitudes towards entrepreneurship	4
Difficulty of business entry	4

Lastly, with the aid of various academic sources as well as the inputs from twelve of 13 interview partners, the advantages and disadvantages of the video game industry were determined. A summary of the interview partners' responses about the various aspects can be found in Appendix E. The advantages and disadvantages that were agreed upon the most are listed in Table 30 below. These six aspects as well as the benefits and downsides added by interview partners, which can be found in Table 28 in section 4.3.10, were taken into account for the recommended next steps.

Table 30: Relevant Advantages and Disadvantages of the Video Game Industry

Advantages	Disadvantages
Video games as a powerful tool for training	Link between loot boxes in video games and gambling problems
Video games as a powerful tool to enhance cognitive abilities	Possibility of developing a video game addiction
Treatment of medical conditions	
Teaching children important social values	

It was deemed suitable to provide recommendations to three different stakeholders that are involved in the Swiss video game industry. Each proposition entails an explanation as well as a suggestion regarding the time frame in which it could be implemented. Furthermore, it is stated, which areas and goals from the theoretical concepts are addressed.

5.1 State Institutions

As was mentioned several times in this thesis, Canada, and more specifically the province of Quebec, are quite progressive regarding the political support of multimedia industries, of which video games are a part of. With the Canada Media Fund that specifically supports both the television and digital media industries, as well as salary subsidies amounting up to 37.5 percent, the Canadian video game industry was able to create a valuable impact with more than 20'000 jobs created. The case of Canada shows that a major focus on supporting the domestic video game industry can be beneficial for a country. Thus, the following recommendations are made based on the Canadian example.

Table 31: Creation of Public Organization for Digital Media Industries

Recommendation	Main Areas and Goals Addressed	Time Frame
Creating a public organization that solely addresses digital media industries	- Lack of entrepreneurial skills and know-how - Difficulty of business entry - Negative social attitudes towards entrepreneurship - Unattractive industry environment	4 years

	- Quantitative and qualitative improvement of video games	
	- Improvement of industry structure	

Pro Helvetia is the main public organization providing support to the video game industry. However, it appears that Pro Helvetia addressing all cultural industries leads to a smaller focus on the video game industry. There needs to be a specific organization that provides support that is solely focused on and specifically tailored to digital media industries, such as the video game industry. A suitable example is the Canada Media Fund.

Since this organization would have a clear focus on digital media industries, more specific know-how can be built up and provided to the video game firms, contributing to solving the challenging areas "Lack of entrepreneurial skills and know-how" as well as "Difficulty of business entry" from Stevenson's and Lundström's theory (2001). Furthermore, this recommendation would lead to an increase in the quality of Swiss video games due to improved knowledge-transfer. In addition, an improvement in the industry structure could be achieved with this recommendation as well, since a "Switzerland Media Fund" might be able to gather industry information and attract lacking industry agents such as publishers and investors. Lastly, the recognition of digital media as a valid business deserving substantial support could help spread awareness and acceptance of the video game industry among Swiss citizens and politicians.

Table 32: Offering Increased Financial Support by Subsidizing Salaries

Recommendation	**Main Areas and Goals Addressed**	**Time Frame**
Offering increased financial support by subsidizing salaries	- Lack of Financing - Inability of start-ups to experience growth - High cost of living - Quantitative and qualitative improvement of video games	2 years

The interview partner from Stray Fawn Studio stated that the ten staff members at her studio receive salaries of approximately 5'000 Swiss Francs each per month. If the Swiss government provided a subsidy of for instance ten percent on these wages, which is still

substantially lower than what the Canadian government offers, an additional 5'000 Swiss Francs each month would be available. For instance, these funds could be used for marketing efforts, which are crucial for Swiss video game firms to be able to compete in a highly saturated international market. In return for the subsidy, Swiss video game firms could, for instance, be required to submit a share of their profits to the government once they achieve profitability.

The implementation of this recommendation would tremendously help tackle the challenging areas "Lack of financing" and "Inability of start-ups to experience growth". Swiss video game firms would be partly relieved of the burden of high living costs in Switzerland and be better able to compete internationally with firms from countries with low wages, which ultimately leads to an increase in quantity as well as quality of video games from Switzerland. The Swiss government can profit significantly from this investment because not only would it help build a stronger industry, but it would also encourage the development of video games, which would presumably also lead to an increase in video games that for instance train professionals or treat medical conditions, which are valuable socio-economic advantages.

5.2 Video Game Companies

Not only the government, but also Swiss video game firms must take action in order to move the industry from being promising, yet practically non-existent, to becoming a recognized player in the international business environment. Three recommendations are presented in this section.

Table 33: Development of Business Focus

Recommendation	Main Areas and Goals Addressed	Time Frame
Developing a stronger business focus	- Lack of entrepreneurial skills and know-how - Lack of financing - Inability of start-ups to experience growth - Quantitative and qualitative improvement of video games	2 years

	- Integration into industry and market access for video game companies	

A general impression that was gained through the interviews was that there is a lack of business focus among Swiss video game firms. Several video game developers appear to focus too much on the creative side of the business and neglect the economic viability. The consequence is that firm and industry growth are hindered. Video game companies in Switzerland should not only consider what type of video game they prefer to develop creatively, but also whether it is able to generate a secure revenue stream. Allocating a portion of their time to market and trend research could significantly help video game developers gain a sense of what type of video games could be a financial success. In addition, a stronger focus on the economic side of video game development can significantly help firms attract investors, which are currently often not willing to invest in high-risk ventures such as a video game firm. Actively seeking further education in how to lead a business to success or how to secure funding could equip video game developers with the knowledge they require to compete successfully.

Table 34: Cooperation with Important Political Figures

Recommendation	Main Areas and Goals Addressed	Time Frame
Actively seeking cooperation with important political figures	- Lack of financing - Negative social attitudes towards entrepreneurship - Inability of start-ups to experience growth - Negative attitude towards risk - Quantitative and qualitative improvement of video games - Improvement of industry structure	1 year

Several interview partners stated that politicians are often skeptical towards the video game industry and do not recognize the potential of it. Despite some efforts of cooperation, for instance with the Federal councilor Alain Berset attending the video game festival Ludicious in Zurich in 2019, there appear to be few collaborative

relationships between politicians and video game developers. Having more influential politicians spread awareness about the domestic video game industry among the Swiss population, other politicians, industries, or even countries, would be beneficial. If there were a generally more positive attitude in the political arena of Switzerland towards the video game industry, it would be more likely that political support measures are approved and implemented. A positive political environment for the Swiss video game industry could also help attract large studios and publishers. Video game developers could organize events together with industry associations, Pro Helvetia, and educational institutions, where important political figures are introduced to the industry participants and their products as well as the advantages of promoting the Swiss video game industry. In addition, the negative aspects that are often mentioned in the media such as desensitization to violence because of video games could be discussed and clarified. Moreover, video game developers should value the importance of networking and start building relationships with influential politicians. Both the interview partners from the Young SVP as well as the Young Liberals displayed a positive attitude towards the video game industry. Thus, it appears that there are indeed opportunities for video game firms to start a dialogue.

Table 35: Cooperation with Other Creative Industries

Recommendation	Main Areas and Goals Addressed	Time Frame
Actively seeking cooperation with participants in other creative industries	- Qualitative and quantitative improvement of video games - Increased interdisciplinarity	1 year

Multiple interview partners criticized the lack of interdisciplinarity between creative industries of Switzerland. Increased collaboration between the video game industry and for instance the film or dance industry could contribute to the development of innovative products with unique selling points. If an interdisciplinary event is organized by for instance Pro Helvetia, game developers tend to not actively seek contact with other creative industry participants according to interview partners. Therefore, it is recommended that video game developers in Switzerland start to recognize the value of conducting an interdisciplinary collaboration by for instance organizing events, where several creative industries present their firms and products. Existing interdisciplinary

events should be attended, and the opportunity should be used to build a network extending beyond the video game industry to enable interesting and lucrative collaborative projects.

5.3 Educational Institutions

With the aid of the interviews, it became apparent that a large part of Swiss video game firms and projects are rooted in educational institutions, especially in the Zurich University of the Arts (ZHdK). Hence, these institutions have a major impact on the Swiss video game industry and can contribute significantly to its further development.

Table 36: Integration of Business-Focused Modules

Recommendation	Main Areas and Goals Addressed	Time Frame
Integrating more business-focused modules into the curriculum	- Lack of entrepreneurial skills and know-how - Difficulty of business entry - Lack of producers - Integration into industry and market access for video game companies	3 years

As mentioned before, one of the most challenging areas for Swiss video game firms is that video game developers often do not possess sufficient business knowledge and focus. Moreover, a significant number of founders of video game firms studied at educational institutions such as the Zurich University of the Arts. Therefore, it would be crucial for these educational institutions to increasingly focus on teaching subjects related to the foundation and successful management of a video game firm in Switzerland. Interestingly, both ZHdK representatives that were interviewed criticized the lack of producers in the video game industry in Switzerland. By integrating more business-focused modules into the curriculum, this lack could partly be eliminated, since the knowledge a producer typically would possess (mainly project management) is taught to video game designers. Furthermore, according to several interview partners, the game design study program at the ZHdK is holistic, meaning that there is not a clear focus on only one area of video game design. Since there is such a broad focus, it appears to be possible to integrate more business-focused modules.

Six recommendations were presented for three different industry participants. In the next section, a concise summary, a critical evaluation of whether the research question was answered, and suggestions for future research can be found.

6. Conclusion

6.1 Summary

This thesis aimed to evaluate the existing political support measures the Swiss video game industry is provided with, as well as the further required measures. Furthermore, the advantages and disadvantages the video game industry and its medium entail were identified.

With the aid of interviews conducted with eleven industry participants, it was evaluated that the four goals mentioned in the report about the Swiss video game industry (Schweizerische Eidgenossenschaft, 2018) were merely achieved to a rather small extent. As can be seen in Appendix C, all four goals received the most responses in the "Partly Achieved" category (61.4 percent of responses). 29.5 percent of responses were that the goals were not achieved, and a mere nine percent claimed achievement.

Objective 2 of this thesis addresses the challenging areas for video game firms in Switzerland. 13 interview partners were asked to rate the importance of nine areas that often prove troublesome for entrepreneurial firms (Stevenson & Lundström, 2001). It was evaluated that the areas that are of the highest significance for the Swiss video game industry are a lack of financing, the inability to grow, a lack of entrepreneurial skills and know-how, the difficulty of business entry, as well as negative social attitudes towards entrepreneurship in general and the video game industry.

The last objective of this thesis addresses the benefits and downsides of video games and the respective industry. Interview partners were asked, whether they agreed, partly agreed, or disagreed with the particular aspect at hand. They highlighted the value of using video games to train professionals, enhance cognitive abilities, treat medical conditions, and teach children. In turn, loot boxes and microtransactions in video games, as well as video game addiction were seen as the two most significant downsides of the video game industry.

In section 5, six specific recommendations based on the aforementioned analysis were presented to three different stakeholders. Namely, the government was suggested to create a public organization solely focused on digital media industries, similar to the Canada Media Fund. Moreover, subsidizing salaries of video game firms would tremendously support industry growth. Three recommendations were made to video game firms. More specifically, developing a stronger focus on business versus creativity can

help firms become more successful in a highly saturated international market. In addition, seeking cooperation with both influential political figures and participants in other creative industries can significantly increase general awareness of the video game industry as well as innovation. Lastly, educational institutions were recommended to offer an increased number of business modules to game design students to prepare them to manage their own video game firm successfully.

6.2 Critical Evaluation

The research question that this thesis aimed to answer is re-stated below.

Research Question

To what extent does the Swiss government support the video game industry in Switzerland and what further measures have to be taken to foster its growth?

Sub-question

What are the benefits and downsides of the Swiss video game industry?

It can be said that the questions were answered to a large extent.

First of all, it was evaluated that the Swiss government merely supports the Swiss video game industry to a rather small extent, since all four goals in the aforementioned report by the Swiss Federal Council (Schweizerische Eidgenossenschaft, 2018) were mostly considered to be only partly achieved, with "not achieved" having the second-most responses.

Secondly, further measures to foster industry growth were provided in the form of six specific recommendations to three different stakeholders in section 5. Nevertheless, more extensive research with a larger sample size might have yielded a higher and more representative number of recommendations.

Lastly, the sub-question was answered to a high degree as well. Namely, the advantages and disadvantages of the Swiss video game industry both found in the literature and added by interview partners were stated. Nonetheless, due to the limited scope of this thesis, certainly not all benefits and downsides of the industry and its medium are mentioned.

6.3 Future Research

Despite the limited scope of this thesis as the sample size was solely 13, it nevertheless constitutes a suitable basis for further research. In order to support the growth of the video game industry, acquiring more knowledge specifically about the Swiss video game landscape would be beneficial. More specifically, an in-depth analysis of the Swiss video game firms and their products and subsequent comparisons to the international landscape and trends could serve as a basis for further growth strategies. Moreover, it appears that a significant number of influential decision-makers such as politicians or investors, as well as the general public, still have a negative view of the video game industry. Therefore, further research is suggested to demonstrate in more detail the benefits of the industry and its medium. In addition, the disadvantages mentioned in this thesis were often not based on sound scientific data. Hence, it is suggested to conduct extensive studies with a large sample size for high representativeness, for instance about video games causing real-life violence. Lastly, a large-scale study on the topic of existing and required support measures for the Swiss video game industry involving a large number of Swiss video game firms would be valuable due to increased representativeness.

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Appendix

Appendix A: Interview Guide

General Introduction

- Interview partner is thanked for the willingness to participate

- Interview partner is asked, how much time they have for the interview

- Interview partner is informed that the interview is anonymous

- Interview partner is informed about the option to end the interview anytime

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Research Question

To what extent does the Swiss government support the video game industry in Switzerland and what further measures have to be taken to foster its growth?

Sub-question

What are the benefits and downsides of the Swiss video game industry?

Objective 1:	*Objective 2:*	*Objective 3:*
It is analyzed, if and to what extent the goals in the report "Games. Ein aufstrebender Bereich des Kulturschaffens" by the Federal Council were achieved.	It is examined, how the Swiss video game industry can be further promoted using a guideline by Stevenson and Lundström (2001).	The advantages and disadvantages of video games and the respective industry are identified to serve as a basis for discussion for decision-makers and the public.

List of Questions

- Personal Information: Educational and professional background

- Organizational Information: Foundation, size, mission, platforms, products

- Are you aware of the report "Games. Ein aufstrebender Bereich des Kulturschaffens" commissioned by the Swiss Federal Council?

- To what extent were the four goals mentioned in the report achieved (Achieved, Partly Achieved, Not Achieved)? Please explain your choice.

- How would you rate the importance of each of the issues in the theory by Stevenson and Lundström for video game firms in Switzerland (Low Importance, Medium Importance, High Importance)? Please explain your choice.

- Can you think of any further areas that are challenging for Swiss video game firms in addition to the nine that are mentioned in the theory by Stevenson and Lundström?

- To what extent do you agree with the advantages and disadvantages of the video game industry and its medium that were found in the academic literature (Agree, Partly Agree, Disagree)? Please explain your choice.

- Can you think of any further advantages or disadvantages of the video game industry and its medium in addition to the points found in the literature?

- *Which political parties are the most and least active in promoting the Swiss video game industry? Please explain your choice.*

- *Should the Swiss government actively promote the video game industry? Please explain your response.*

Closing Remarks

- Interview partner is asked, whether they would like to receive a copy of the finished thesis by e-mail

- Interview partner is thanked again and given a small gift as a token of appreciation

Appendix B: Interview Handout

Goals for the Swiss Video Game Industry (Schweizerische Eidgenossenschaft, 2018)

Goal	Explanation	Measures
Quantitative and qualitative improvement of video games	Production of video games is often a mere leisure activity because not enough resources and incentives are available	Improvement of promotional system, offering support in obtaining funds, knowledge, and promotion
		Exchange of knowledge of Pro Helvetia with third parties to establish "best practice" approaches and increase specialized know-how
Integration into industry and market access for video game companies	Swiss video game developers need to acquire business and industry knowledge and improve their network to obtain resources and knowledge (e.g. to find investors)	Improved coordination of resources by cultural and economic promotional agencies. Increased number of business partners in Pro Helvetia's network
		Improved international promotion and networking by enabling developers to attend international video game conferences
Improvement of industry structure	Industry parties are often insufficiently connected and crucial industry agents or competences are lacking (e.g. video game publishers)	Support of professional associations representing video game firms
		Development of knowledge on production conditions in creative industries by the Federal Office of Culture and Pro Helvetia
		Development and improvement of statistical analysis of creative industries by the Federal Office of Culture and the Federal Statistical Office
Increased interdisciplinarity	The video game industry is closely linked to other cultural industries and often serves as an inspiration and source of knowledge to them	Connection of all industries in the creative industry cluster with the aid of presentations, workshops and think-tanks

Issues for Entrepreneurs *(Stevenson & Lundström, 2001)*

Negative social attitudes towards entrepreneurship
Difficulty of business entry
Lack of entrepreneurial skills and know-how
Lack of financing
Limited access to business information
Inequality of entrepreneurial opportunities for some societal groups
Lack of office space and business services
Inability of start-ups to experience growth
No connection between entrepreneurship and national innovation goals

Advantages and Disadvantages of the Video Game Industry (various sources)

Advantages	Disadvantages
Positive economic contribution with promising future outlook	Possibility of developing a video game addiction
Video games as a powerful tool for training	Possibility to become desensitized to violence through violent video games
Video games as a powerful tool to enhance cognitive abilities	Video games deteriorating academic performance of adolescents
Teaching children important social values	Link between loot boxes in video games and gambling problems
Treatment of medical conditions	

Appendix C: Responses to the Four Goals

Goal	Number of Interview Partners			
	Achieved	Partly Achieved	Not Achieved	Total
Quantitative and qualitative improvement of video games	1	6	4	11
Integration into industry and market access for video game companies	3	7	1	11
Improvement of industry structure	0	7	4	11
Increased interdisciplinarity	0	7	4	11

Appendix D: Responses to the Nine Areas of E-Policy Questioning

Area	Number of Interview Partners			
	High Importance	Medium Importance	Low Importance	Total
Negative social attitudes towards entrepreneurship	3	6	4	13
Difficulty of business entry	3	6	4	13
Lack of entrepreneurial skills and know-how	5	6	2	13
Lack of financing	7	5	1	13
Limited access to business information	2	6	5	13
Inequality of entrepreneurial opportunities for some societal groups	0	3	10	13
Lack of office space and business services	2	4	7	13
Inability of start-ups to experience growth	4	9	0	13
No connection between entrepreneurship and national innovation goals	3	5	5	13

Appendix E: Responses to the Advantages and Disadvantages

Area	Number of Interview Partners			
	Agree	Partly Agree	Disagree	Total
Positive economic contribution	6	3	3	12
Video games for training	11	1	0	12
Video games to enhance cognitive abilities	11	1	0	12
Teaching children important social values	8	3	0	11
Treatment of medical conditions	10	2	0	12
Possibility of developing a video game addiction	2	10	0	12
Possibility to become desensitized to violence	0	4	8	12
Video games deteriorating academic performance of adolescents	0	10	2	12
Link between loot boxes and gambling problems	6	4	1	11