Paths to Success: Data and Lessons from Danish game companies

Findings & Recommendations for the Danish Games Industry

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Report: Paths to Success: Data and Lessons from Danish game companies Findings & Recommendations for the Danish Games Industry

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About this report

This report presents the findings, insights, and recommendations about the economy and trajectory of the Danish games industry.

This report is based on interviews and data collection during 2021-2022 as part of a Interreg *follow-up* research project on the Danish games industry for Game Hub Scandinavia. Through anonymous interviews with 40 informants from Danish game companies (of a total of 390 registered Danish game companies as per 2022) and 2 Danish game industry experts, and 144 detailed analyses of their released game products, we arrived at four overarching topics on the Danish games industry: the overall state of the companies we interviewed; the composition of the games we analyzed; what's ailing the Danish games industry and how it could be improved; and recommendations for policy-making and structural adjustments to the Danish games industry.

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Executive summary

The impetus behind this project was to understand the structure of the Danish game industry at large, and to understand the details of how game companies are organized and have structured their game development and business practices to be successful or not. This data is combined with interviews with Danish game developers, where we document the challenges, opportunities, and especially structural changes that the game companies would like to see to strengthen the Danish game industry. The recommendations we arrived at were the following:

- **Establish a distinct institution or governmental body or task force** that cultivates a healthy and sustainable ecosystem across educations, companies, talent, and businesses. This institution focuses on the cultural significance and commercial growth of the Danish games industry and binds the different strands of the Danish games industry together in terms of knowledge, networks, and funding.
- **Increase public funding levels** to an adequate amount on par with other cultural sectors and creative industries (TV, film, theatre, literature) with its own funding program separate from other creative cultural industries.
- A variety of **specialized funding programs** (seed investing, matchfunding, cultural funding) that also helps startups, incubators, and medium-tier studios to ensure that they are sustainable and can execute on their ambitions.
- **Draw on and involve the many years of experience and insight** by games industry veterans on what is needed for the Danish games industry to thrive.
- **Inform policymakers, business angels, and investors** about the distinct production characteristics of the Danish games industry as both a creative and tech-oriented industry.
- **Increase and ensure strong policies of diversity, equity, and inclusion** with specific attention to gender across industry, funding policies, and educational institutions.
- **Ensure professionalization of work conditions** by involving tech-oriented labor unions and establish mutually beneficial collective bargaining agreements that leads to more sustainable work environments that will both attract and retain senior talent as they grow older.

These points are qualified and elaborated on in section 5.

1.1 General quantitative picture

We studied 40 companies, and their combined 144 games released, under development, or cancelled. Broadly considered,

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- over half of the 40 companies, we interviewed were founded by 1 or 2 people, who also held a university-level degree.
- Almost half of the companies we analyzed had survived for more than 5 years. At the same time, over half of the game companies only had a few or none releases with 59% of the companies having either 0, 1, or 2 total releases at the time of the research.
- The mobile platform is currently the most common platform to make games for, as half of the games we analyzed were mobile-only. In comparison, the PC and console platforms accounted for 38 percent of the 144 games we analyzed.
- Despite the focus being largely on mobile, over half of all the games we analyzed were sold as premium titles, and under a third used IAP and ads as revenue streams.
- Half of the games were classified as 'solo' games, meaning games that you can only play as one person and by yourself. The 'casual' category was second highest with almost a quarter of the entries we analyzed.
- A third of the games had zero cultural funding for their production versus almost another third having most of their budgets from cultural funding sources.
- Only 8 percent of companies had an average salary above 40.000 DKK per month. Most companies (43%) had an average between 30-40.000 DKK per month.
- A bit under half of the companies approached the question of crunch with the occasional crunch, while a smaller minority had "much crunch". However, 31 percent of the companies we talked to had little to no crunch.
- Many Danish game companies we interviewed use a mix of freelance, part-time, and full-time labor in their productions.
- The gender composition of the Danish games industry reflects similar gender demographics in other Western male-dominated game industries. The total male demographic accounted for 79% of the total workforce in the interviewed game companies. In terms of internal distribution, almost 3 quarters of the interviewed game companies had above 75% of men within their game company.
- In terms of family support, the companies we interviewed were more likely to have almost half of their workers have children. Age-wise, the interviewed game companies primarily employ workers between the age of 30-39 (55%) and 20-29 (30%), with fewer workers above the age of 40. This follows similar trends in the games industry in other countries who are unable to retain older talent and experience usually attributed to less sustainable working conditions and relatively lower pay compared to other tech industries.

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Overall, the interviewed game companies and their products reveal a healthy and very economically successful environment for incumbents, while at the same time, there are structural areas to improve upon to further cultivate younger companies and achieve better growth and more sustainable work conditions and diversity. The recommendations for achieving such objectives by the informants are listed below.

1.2 General sentiments about the state of Danish games industry

The interviews yielded three central points of contention. It should also be noted that since the interviews were conducted, the Danish game companies Ghostship Games and Trophy Games have 're-invested' into the Danish games industry by purchasing or injecting funding directly into smaller companies. This also means that some of the interviews were at the time not aware of the economic initiatives that companies such as Ghostship Games and Trophy Games had taken on.

Lack of government support: The major and most common proposal from all informants was that the Danish government and its cultural institutions are doing very little and need to step in with making actual policies that explicitly cultivate the Danish industry into reaching a critical mass of companies and workers, resulting in a synergistic ecosystem that leads to many new healthy companies that then produce talented and experienced workers, who then go and establish their own companies. This results in a continuous synergistic cycle that continues anew, as more money and more people come into the industry, as we have previously seen in Sweden and Finland with their very successful game industries and cultural and economic policies. The recurring observations is that the Danish industry is doing what it is supposed to do, but the broader societal and institutional policies and structures are not. This was the recurring major problem for all informants.

The loss of CAPNOVA and the lack of investment: The second point mentioned throughout was the loss of CAPNOVA. Their departure in 2018 from funding new game companies had a negative impact on younger, unproven companies to make new future projects possible, simply because CAPNOVA functioned as the only Danish non-private investor that could inject funding into new companies and lower a young game company's risk, which in turn attracted private investors. Since CAPNOVA's closure by the government and the diversion of its funds to 'Vækstfonden' (The Danish Growth Fund), whose formal requirements are not geared to investing into the games industry, many of the informants are afraid that the Danish games industry is losing out on untapped potential and future 'unicorn' companies that previously CAPNOVA would have funded and made possible to catapult into success.

Tied to this lack of investment opportunities within Denmark, many participants thought that DFI's Spilordningen unfortunately has an implicit negative impact on smaller companies in the industry, because it is 'the only game in town'. This means that many smaller companies, especially startups, tailor their productions towards getting culturally oriented funding from DFI on a non-commercial basis that then results in the small companies not achieving economic self-sustainability. This inclination to focus on non-commercial products is not the fault of Spilordningen, but rather of the broader economic conditions for newer game companies within Denmark, where funding opportunities for even experienced developers can be challenging. At the same time, the small amount of funding money within Spilordningen was another factor, where the 15 million DKK was regarded as 'breadcrumbs' and many recommended increasing the amount with "at least hundreds of millions if not billions of kroner" to achieve great success for the Danish games industry.

The role of education: The third major trend throughout the interviews was the role of game educations for improving and making the games industry wish for game educations to offer and people running game companies to get education and training in business and management in order to achieve a more sustainable company with better work conditions and more eyes on having a healthy existence. This type of training can be implemented in game educational institutions, perhaps as elective courses, offered to both students and to owners and managers at game companies. In line with this potential collaboration between game educational institutions and the industry, many of the informants recommended a higher degree of cooperation between the institutions and the industry in the form of invited lectures, panels, and internship programs. This also ties to another point which was that some of the informants expressed their appreciation of the workers who come out from the Swedish education Game Assembly in terms of their specialized skill sets and experience from working with their craft at professional game companies during their education.

Recommendations for individual companies: The informants also provided their own recommendations on how to run a successful game company. These were:

- Keep an eye on the burn rate.
- Business/management knowledge is essential.
- Don't be a rookie and instead get some experience.
- Be ready to work long hours and work for very little.
- It's difficult to figure out if what worked before will work again.
- Investors are difficult/impossible if you're green.
- Look outside of Denmark.
- Take marketing and distribution seriously.
- Lower risks through other jobs or working work-for-hire.

1.3 Background for the research

There has been little academic research published on the state of the Danish game industry in terms of its economy, its sustainability, its demographics, its work conditions, and many other significant factors in determining the characteristics of making digital games professionally in Denmark. Most available research can be found in Master theses on the topic, primarily from the Copenhagen Business School.[1] While these are significant contributions and well worth as indicators of the make-up of the Danish games industry, these are not widely disseminated or accessible, especially through established academic game journals. At the same time, game studies concerned with the Nordic game industries have only focused on the Finnish, Swedish, and Norwegian contexts, with Iceland and Denmark being under-researched or overlooked.

Outside of formally academic research, several reports from Producentforeningen have been produced to ascertain the nature of the Danish game industry as a creative cultural industry.[2] These have helped identify important factors such as the generated revenue, the size of companies, and the trajectory of the industry, at making crucial and significant Danish cultural products aimed at both national and international markets. Simultaneously, many Danish game companies and their professionals take time and energy to help with gaining insight into their own experiences and recommendations for the making games in Denmark.

Analyzing the Danish production context of making digital games is important to understand the inner workings of the companies that generate billion(s) of DKK every year and that employs over a thousand people on a regular and sustainable basis. Research into the games industry helps locate its economic and cultural strengths and potential weaknesses that could be remedied with regard to making the industry an even healthier and more profitable creative industry through better cultural policymaking and a more holistic funding environment that would cultivate the industry to further profitability and a more diverse range of Danish cultural expressions.

The above observations of academic research into the Danish games industry and production studies overall provide the motivation for our intent to map and investigate the Danish games industry at policymaking, cultural, economic, and academic levels.

1.4 Methods

The interviews were conducted between February 2021 to April 2022. Vision Denmark sent a call to registered Danish companies where a person from the company could sign up for the interview. These interviews were conducted and recorded over Microsoft Teams. Each interview was approximately between 30-60 minutes long and were recorded and stored on project investigator Emil Hammar's encrypted hard drive. The interviews were then transcribed and then analyzed via a grounded theory approach and inserted into a larger database

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[1] See Sokol (2021 for a comprehensive overview

[2] See the section on Further Contemporary Readings

structure that allowed for both quantitative and qualitative input. This also meant that the research used the interviews as sources for how to analyze the composition of each game company. These self-reported results were also corroborated through additional sources, such as Virk.dk to verify data related to employment and revenue. The data was anonymized and used for an assessment tool called MENTAT on how successful a game idea could be based on the input related to the data categories that emerged from the interviews. The MENTAT assessment tool can be presented and shown by contacting with project lead Alessandro Canossa.

2. Quantitative findings

The data was quantitatively analyzed and inserted into 201 different 'frames' that described the company. These 201 frames were more broadly on one hand divided into *company information* (e.g. founders, years of operation, titles released, amount of employees, educational backgrounds, salary, parenthood, gender, age), *business metrics* (e.g. business model, revenue over the years, funding sources, revenue streams, game and company branding, target audience), *success assessment* (e.g. numbers of copies sold or active users, net revenue, use of retention/engagement/acquisition metrics), *production evaluation & creative processes* (e.g. concept generation hierarchy, technological dependencies, division between concept/preproduction/full production/postproduction, weekly hours average, attitude toward crunch, management systems, and use of postmortem). On the other, the analysis of each company's released game products was design analysis (e.g., play setting, protagonist, art style, genre, emergence vs progression, camera, player relation, controls) and product analysis (e.g., platform, price point, review score, user rating, age rating, awards). Out of these broader categories and their 201 frames in our collected data, we have selected the following parameters for this article: Amount of founding partners, years of operation, survival index, titles released to market, business models, exclusivity deals, education level of founders, working hours for founders, top-down approaches to crunch, postmortem, salary levels, employees with children, male percentage of workers, age division of workers, cultural funding percentage, concept generation, play setting, player relation, platforms, and monetization. We now go through each of the quantitative findings below.

2.1 Amount of founding partners in the game company

In our survey, we asked about the number of founding partners of the game company when the company first was established. As evidenced in figure below, most game companies had between 1 to 4 founding partners.

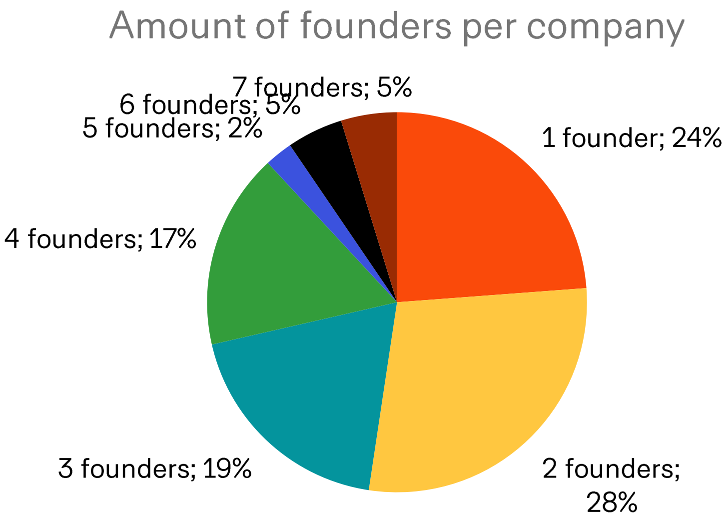

Figure 1 Founders per company

2.2 Years of operation

During our interviews we also asked about years of operation. This parameter refers to how long the company in question has operated since being established. In the graph below, we see that the overall picture is incredibly varied with many companies being between everything from 1 to more than 15 years old. However, there seems to be a larger number of companies between 2-5 years old, perhaps illustrating on one hand the change in the Danish games industry over the last ten years with increasing revenue numbers that allows for more game companies, and on the other hand, the fact that sustaining a company beyond 2-5 years is relatively challenging.

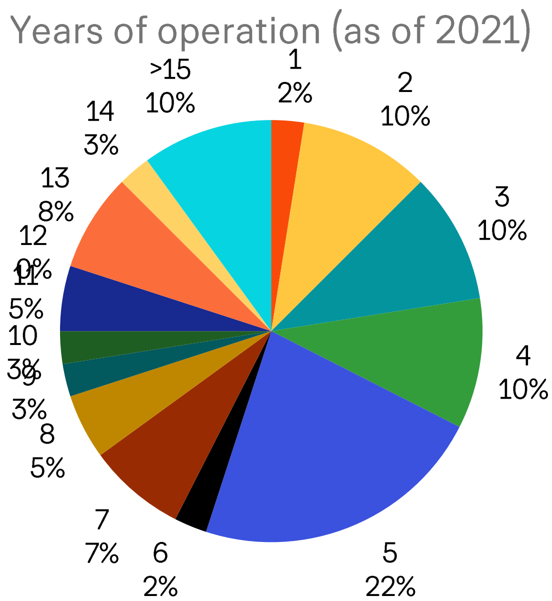

Figure 2 Years of Operation

2.3 Survival index (longevity of the company)

We used the above parameter on years of operation to then categorize what we called the 'survival index' in terms of which of the companies were either "dead and lived less than 5 years"; "alive between 1-5 years", and "lived longer than 5 years". Here we notice that our sample does not interview a lot of game companies that were dead and lived less than 5 years, thereby indicating a form of survivorship bias in our sample.

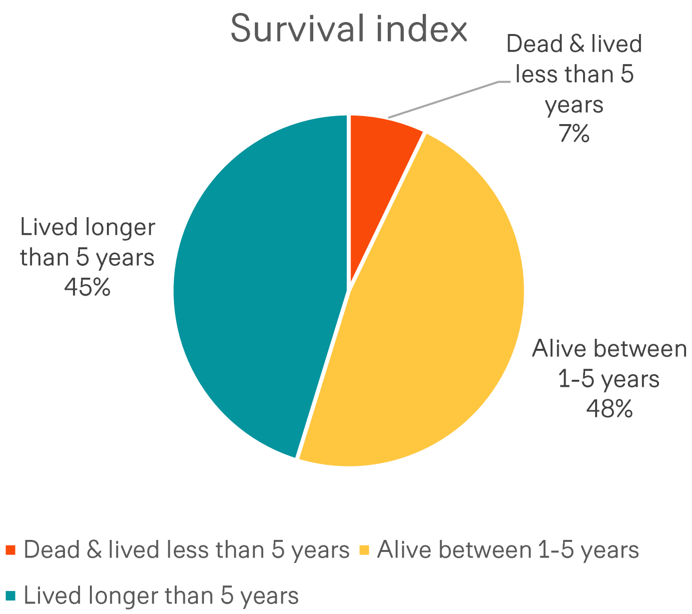

Figure 3 Survival Index

2.4 Titles released to market

This parameter refers to the number of products that have been released to the market and not canceled. Here we see almost half of the companies at 45 percent not having released or only having released one game at the time of interview.

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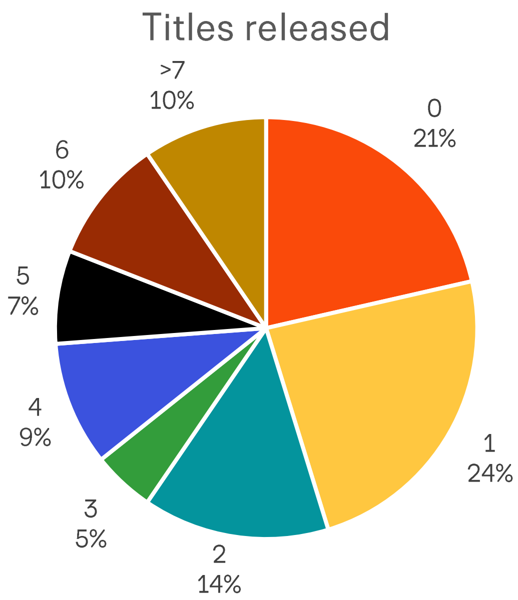

Figure 4 Titles released

2.5 Business models

We also inquired about the business models that the companies used. This referred to the division of their products' business models used about generate revenue. Here, there was a division between premium, IAP plus advertising revenue, and finally entirely free products such as museum games.

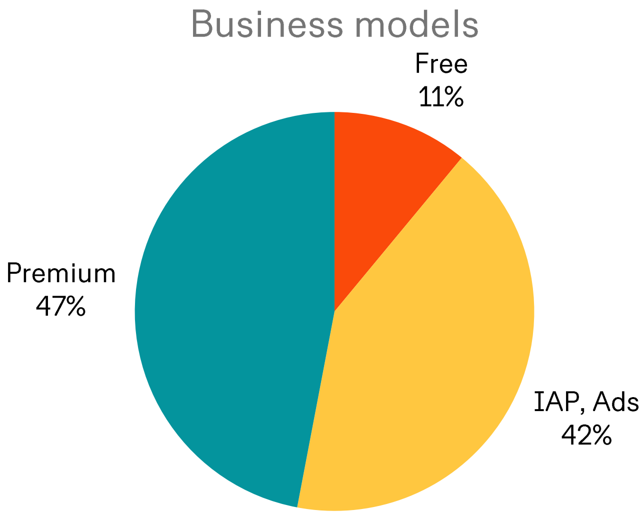

Figure 5 Business models

2.6 Exclusivity deals

Given how major software companies have paid game companies to exclusively develop games for their distribution platform such as Epic Game Store, Apple

Arcade, PlayStation, Xbox, or Switch, we also asked the companies if they had any exclusivity deals for platforms. The majority did not (81 percent).

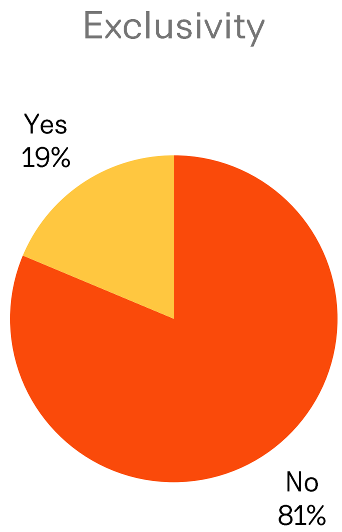

Figure 6 Exclusivity

2.7 Education level of founders

We were also interested in the education level of the people who founded the company. Here we divided between Self-taught, Undergraduate (e.g., bachelor's and professional degrees); Graduate (e.g., Master's degrees), and finally those with PhDs. Here we see that over half of the founders had a graduate education level. This likely reflects the labor and educational market in Denmark where many people obtain master's degrees.

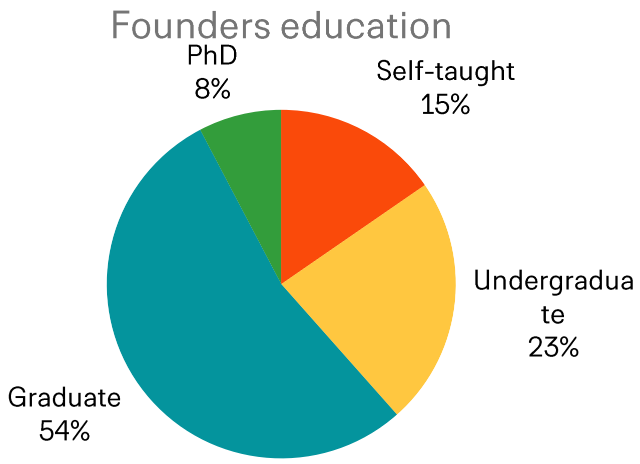

Figure 7 Founders education

2.8 Working hours for founders

In our interviews we also inquired about how many hours per week that founders of the game companies were working. As evident from the graph, most of the respondents worked more than the usual 37,5-hour work week allotted in Denmark with the majority working between 51 to 60 hours per week. Please note that these numbers are self-reported.

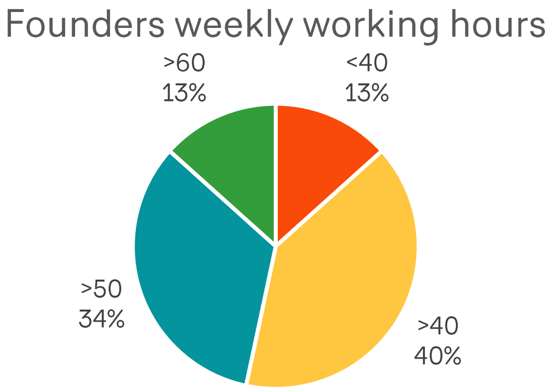

Figure 8 Founders working hours

2.9 Top-down approaches to crunch

We also inquired about how the company in question approaches questions of crunch. The responses differed too vastly to be immediately compared, so we analyzed and clustered them together along three major categories: 'Little to no crunch', meaning very little self-reported crunch; 'Some crunch', meaning the occasional periods of crunch; and 'Much crunch' with uncontrolled approaches of crunch. The picture we get from this analysis show that the over half of the companies do have 'some crunch' and almost a third has little to no crunch. The minority of respondents were categorized as having 'much crunch'. This perhaps show that the Danish game companies attempt to avoid having too much crunch but still do suffer from the occasional periods of crunch, but which are nevertheless not very often.

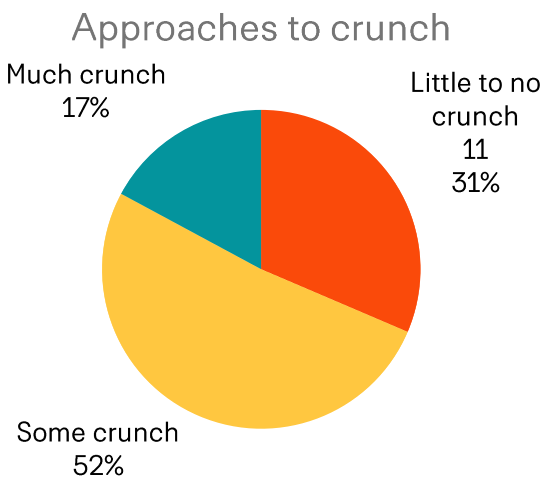

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Figure 9 Approaches to crunch

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2.10 Postmortem

The respondents also answered about their approach to conducting 'postmortems' after the launch or release of a game product. Most companies held 'informal' postmortems that did not necessarily follow strict and formalized processes of evaluations on what they have learnt and experienced throughout the production and release of the game product in question.

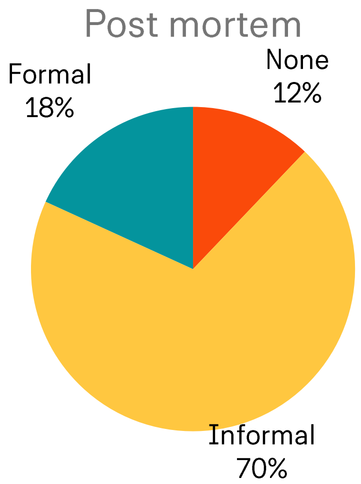

Figure 10 Postmortem

2.11 Approximate salary levels

We inquired about the average salary levels of each company and then grouped them together into middle numbers between the lowest and highest. The respondents usually gave this average themselves. This means that this is not a total average, but an estimate average. As the diagram shows, few game companies have a salary higher than 40.000 DKK per month before taxation, whereas half of the interviewed companies pay less than 30.000 DKK per month. We did not inquire whether these figures include pension or not. The relatively low salary levels compared to the ICT industry is a common trend and challenge for the Danish and more global games industry.

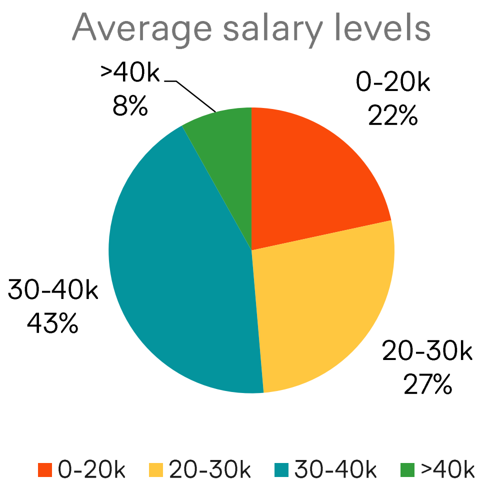

Figure 11 Average salary levels

2.12 Employees with children
This parameter refers to the percentage of employees who have children. This parameter is also important to ascertain the sustainability and longevity of working with Danish games and having the support and flexibility that allows for workers to have children. Most of the game companies had more than 50 percent of their workforce who are parents.

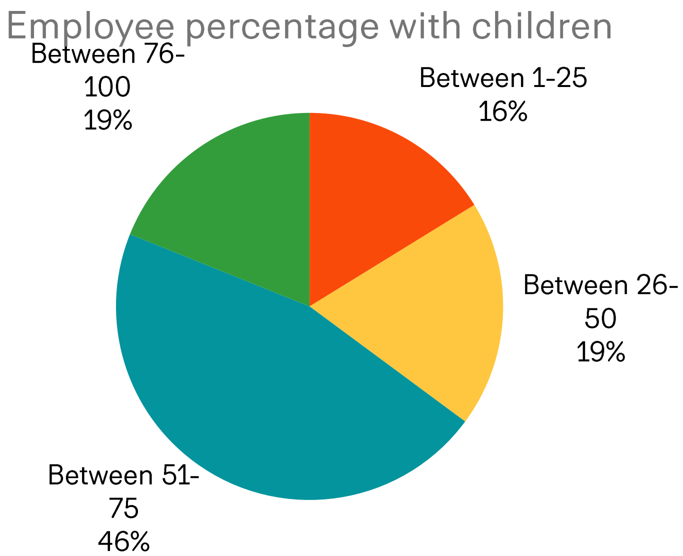

Figure 12 Employee percentage with children

2.13 Male percentage of workers
This question refers to the percentage of male composition in the companies we interviewed. We categorized the replies within three categories: 0-50 percent; 51-75 percent, and 76-100 percent male composition. Many respondents stated that the percentage of male-identifying employees above 76 percent, thereby

making almost three quarters of the sample be skewed. This composition reflects the broader global games industry with its over-representation of male employees. Based on each company's reported percentages, we also calculated the overall male percentage across all companies. This was 79 percent in total, which almost mirrors the reported binary gender balance for the Danish game industry's branch code 582100 that has 550 men and 187 women employed as per 2021, thereby being almost 75 percent reported male composition

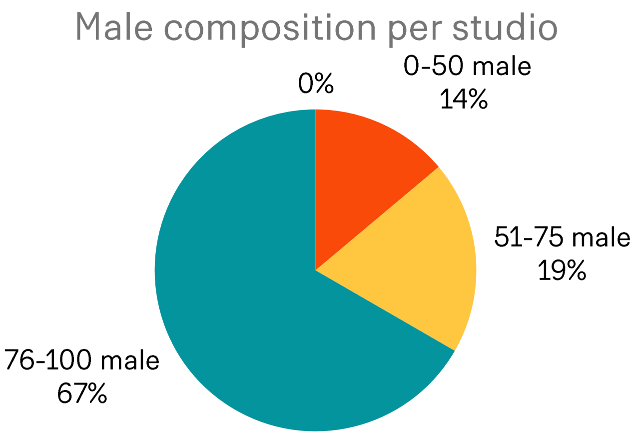

Figure 13 Male composition per company

2.14 Age division of workers

Questions of social composition in game companies benefit from including age groups, as this aspect motivates the importance of sustainability, longevity, and retention of talent at game companies. Here we see that the interviewed companies are primarily 20-39 years of age with most companies having fewer employees at the age of 40 and above. This corresponds to established research in game studies on labor conditions that in general, game industries are less attractive to older employees due to several factors, such as relatively lower pay, inflexible working hours for those with families, and work conditions.

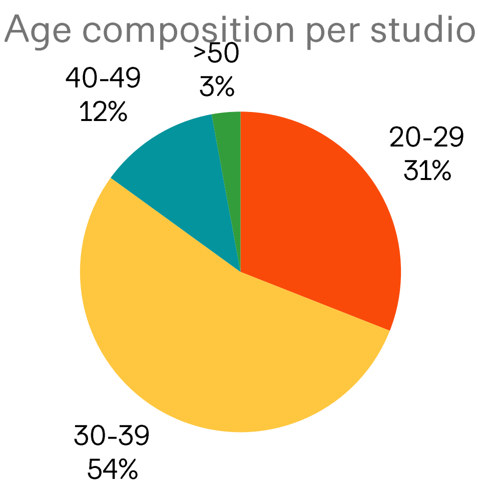

Figure 14 Age composition

2.15 Cultural funding percentage

Due to how parts of the Danish game industry draw on the governmental funding schemes for cultural support such as 'Spilordningen' or public institutions such as museums and broadcast networks who contract game companies for work-for-hire game projects, we also divided our results into four categories for each game product's cultural funding percentage of its overall budget. Our results reveal that almost a third of the game products relied on cultural funding as more than 75 percent of their budget, while an almost similar amount relied on zero cultural funding for their budget. This reveals the discrepancy between either being heavily reliant on cultural funding versus being entirely not, perhaps indicating that there is little in between space of relying on cultural funding. That said, the remaining third of the game products alternated with its funding sources for their budgets between 1 percent to 75 percent, but this wide range were therefore less common.

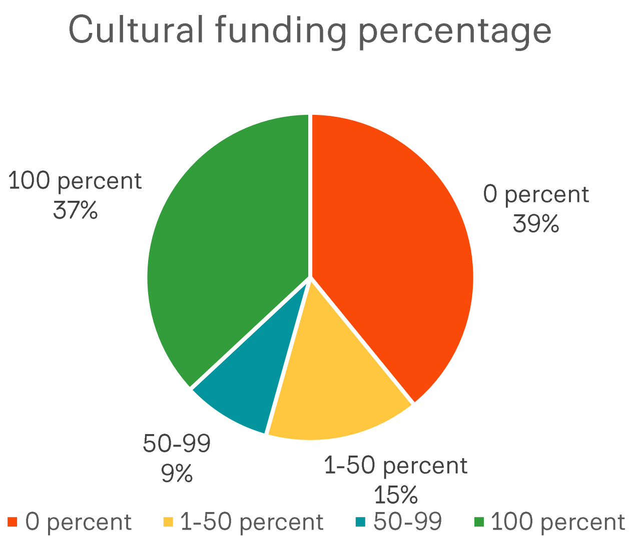

Figure 15 Cultural funding

2.16 Concept generation

We inquired about how the game companies approached the generation of new concepts around future new game products and we divided the responses into horizontal and vertical forms of concept generation. Horizontal refers to including everyone in the game company when it comes to generating new concepts, while vertical refers to primarily a top-down approach to concept generation. It was mostly common for smaller companies to implement horizontal forms, while larger ones were more prone to vertical forms of concept generation.

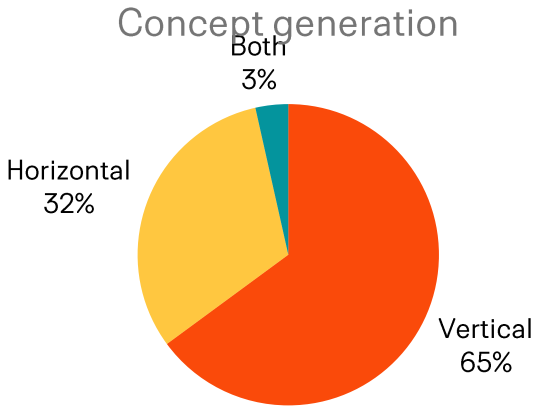

Figure 16 Concept generation

2.17 Play setting
In our analysis of the 144 games by the interviewed game companies, one of the parameters we applied was 'play setting'. This refers to the context in which a game is played, and we constructed the categories 'local multiplayer', 'online multiplayer', casual, MMO, and solo. Our results reveal that solo play settings are the most common with over half of the analyzed games, and the casual setting as constituting a quarter of the analyzed products.

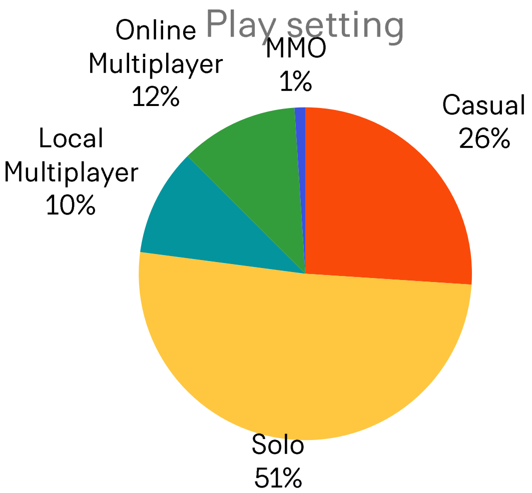

Figure 17 Play setting

2.18 Player relation
This play setting also translation to how players were related to each other in the game. Whether it is primarily single player, against other people, working together as coop, free-for-all, or a mix of relations. Here we again see that the games we analyzed were largely played as single player with two-thirds of the total.

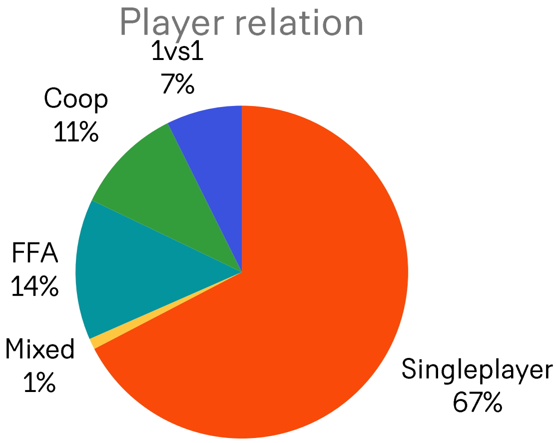

Figure 18 Player relation

2.19 Platforms (simplified)

In terms of distribution, we also looked at which platforms the game products were released on, where we distinguished between mobile, PC & console, and both. Here we see that half of the products were only released on mobile and 38 percent on PC & console. Because mobile games are usually 'easier' to produce and require smaller scale productions, this platform is more heavily represented. Given the scale of conventional mobile production, the lucrative mobile market, and the size of the Danish game industry, this distribution emphasizing mobile games makes sense.

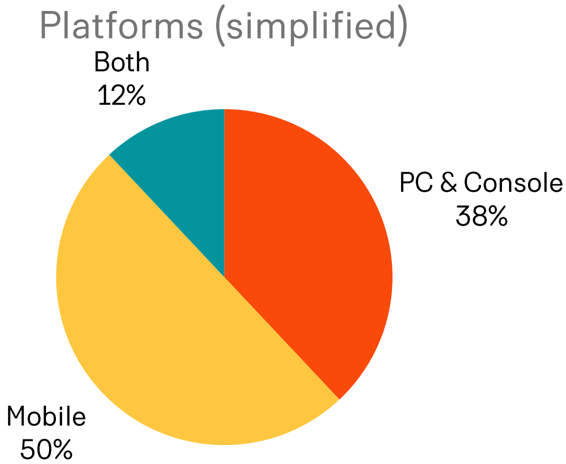

Figure 19 Platforms

2.20 Monetization

We also investigated the types of monetization or revenue-streams that the products we analyzed were utilizing. Over half of the products were premium, meaning one-time purchase, while almost a third used in-app-purchases (IAP) and ads. The 'free' category, meaning entirely free without any monetization in them, consisted of 19 percent of the analyzed games.

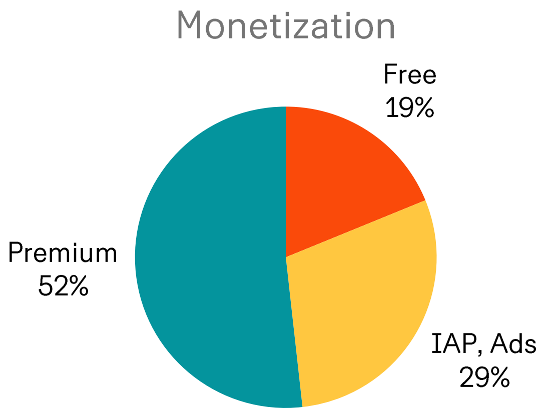

Figure 20 Monetization

If we combine platforms and monetization to see which type of business strategies is being used, we get the following picture that should come to little surprise, where mobile is mostly free and/or IAP and ad-driven versus PC and console games that are primarily premium products.

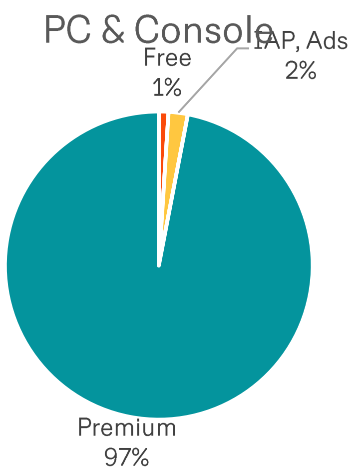

Figure 21 Monetization strategies for PC & Console-only games

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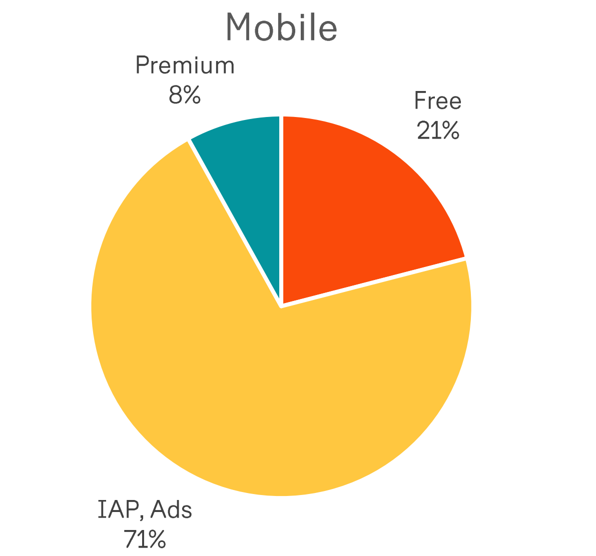

Figure 22 Monetization strategies for mobile-only games

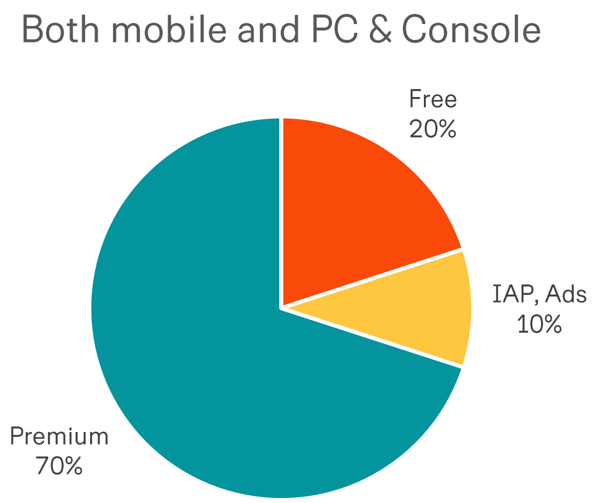

Figure 23 Monetization strategies for games that are both on mobile and PC and consoles

2.23 Protagonist type

We identified the characteristics of the type of player-character with specific attention to a binary gender division. However, as we analyzed the different games, we discovered that there was a larger set of types that were optional gender identities (several), not necessarily human (animals, abstract beings, robots, and aliens) or did not exist at all (God games and management simulators that do not feature an avatar or a player-character). From the results, we see that the 'none' category was the biggest in our data set with 43 percent games that did not feature any type of player-character at all. We gather that this option The representation of only a male or a female player-character amounted to almost a fifth of the analyzed games, from which male representation took up two thirds,

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while female took up the final third. But the option to play as different genders had a higher overall percentage with 23 percent of all the analyzed games.

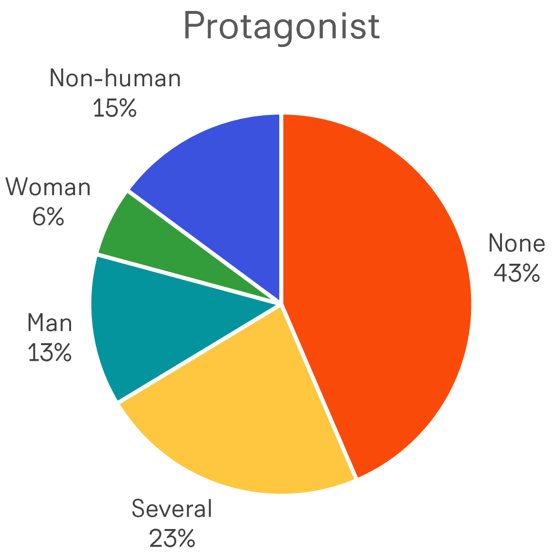

Figure 24 Protagonist type

3. Themes

This section details the qualitative statements by the informants through a thematic analysis method, where all the interviews were transcribed, analyzed, and clustered into general themes that emerged from the dataset. The thematic clusters are the importance of business and management, incubators, the inequal division of the industry, the loss of CAPNOVA as a funding body, the unfortunate detrimental effects of 'Spilordningen', the existence of foreign investments, the role of the government and public institutions, the challenges as a new company, working for hire, being indie, education and job opportunities, game companies collaborating with each other, and finally work conditions and questions of salary.

3.1 CAPNOVA where art thou?

A common trend was the lack of funding opportunities at all for the Danish games industry, especially following the loss of CAPNOVA. Many of the informants mentioned that there is no longer an investor like CAPNOVA (2009-2018) who had an incredibly positive track record for its initial investment of several now successful Danish game companies. An investor like CAPNOVA was very helpful for startups fresh out of school when starting up their own company, and others mentioned that CAPNOVA were super talented with finding success for almost all the projects they were involved in funding. As one informant put it, if CAPNOVA had been a private investor, they would have had an incredible return of investment given the amount of successful companies they have been part of supporting in the beginning. However, some of the informants mentioned that CAPNOVA was not the best instrument for this, as their clauses and conditions occasionally made the developer in question less attractive to other investors, but it was nevertheless a net-positive company that unfortunately no longer exists due to political and bureaucratic decisions.

One expert informant said that very few are able to reach a sellable concept for the small amount of money available from Danish public funding opportunities. One expert informant mentioned that a decent and reasonable game would require at least 8 to 10 million DKK, so the sums of money available should be significantly higher than its current state.

Some informants mentioned re-investment from other more successful game companies who may be able to pick up the slack that CAPNOVA was handling, but those are still big shoes to fill and not something other game developers should be responsible for. Note that since these interviews took place, companies like Ghostship Games, Invisible Walls, and Trophy Games have invested money into other Danish game companies. Some of the informants mentioned Vækstfonden that was supposed to be the alternative to CAPNOVA after it ended, but according to many, they were frustrated with Vækstfonden and felt that they do not know how to invest in games. As one pointed out, Vækstfonden unfortunately has some conditions and structural requirements that makes it difficult for them to invest into games. For example, Vækstfonden's requirements mean that they cannot work with a publisher because the latter takes a revenue cut and not an equity cut. An ideal situation that one of the informants proposed was Vækstfonden matching foreign investors to minimize risks and attract more foreign investment.

Other informants stated that when compared to other cultural sectors in Denmark, there are fewer funding pools - both commercially and culturally. For example, more funding opportunities exist in the music industry that have higher sums of money coupled with more requirements and self-investment to elevate the quality and seriousness of the company and its production(s). Another informant said that people in the Danish games industry have been completely abandoned and are on their own with no access to funding whatsoever.

Many informants stated that the lack of CAPNOVA has far-reaching consequences for upcoming companies that simply will not have the opportunity for funding the way that the current companies that exist today thanks to CAPNOVA did. One informant was worried that the Danish games industry stagnates from the lack of opportunities for newer and unproven companies and that we will see the negative impact and consequences of CAPNOVA's departure in the coming years.

One expert informant suggested a tight collaboration between politicians, Vækstfonden, and a game-focused institute, comparable to what Finland has achieved by working very efficiently together across 3 different institutions, would be a scenario that could help make the industry become sustainable.

3.2 Spilordningen as the only game in town

Many of the informants thought that the nature of the funding environment in Denmark is so poor that the only one that really exists for startups is DFI's

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Spilordningen with its meagre 15 million DKK every year. In a quarter of the total amount of interviews, the informants claimed that because there are no funding alternatives for commercial ventures, then DFI is the only option for newcomers. This means that because DFI is the only funding pool available to startups, they try to apply and make games that fit within the non-commercial framework of DFI's Spilordningen, as there is simply no other alternative for funding for startups. An informant pointed out that this means that people become good at writing funding applications for DFI, but not necessarily good at how to run a company. This does not mean that DFI is a culprit in this, but rather that there is also a large demand for business support aimed at commercial growth.

This should also be understood in the context that DFI's Spilordning works as a project-based funding pool that only grants up to 50 percent of the production costs of a project, as per the EU directives. This means that the initiative is in no way structurally set up to be a business support system for commercial growth. Instead, it is a support system that contributes to existing productions and developments of ideas that have cultural significance.

Another informant stated that it's nice and good that there is room for artistic games, but there also needs to be a solid economic and sustainable foundation otherwise it will mostly be young, passionate people who will leave the profession once they have higher living costs, get family, or simply become older and no longer be fit for that type of life. The way to fix some of this is to raise the foundation between education, organizations, and policymaking. Another informant mentioned that they had seen students and startups try to angle their student project into a DFI-funded production, but because the money is small and only 50% of the project is funded, then they severely underpay themselves and in turn, their small production ends up not selling a lot and they become bitter from this failure.

This means that startups and smaller companies are motivated to try to tailor their product and company profile to the criteria of Spilordningen. As long as there is no alternative to DFI, the games industry's smaller companies will funnel themselves into applying for DFI money and make certain types of products that are not necessarily geared towards the market.

One informant was very happy with their individual experience with DFI where they provided consultancy and recommendations for what would later turn out to be a successful game, and that they also helped with paying for going to major industry events such as GDC and PAX.

Another recommendation for DFI was to have them collaborate or form partnerships with actual game publishers, so that the games funded under DFI would also get an easier pathway to be pitched for and/or distributed by game industry publishers.

Finally, DFI themselves suggested that they could contribute to the Danish game industry through other avenues beyond support of production and concept development. For example, additional funding pools that could lead to fostering new talent and diversity, equity, and inclusion measures, such as

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improving conditions for women and other marginalized groups in the Danish games industry.

3.3 Investments exist outside of Denmark

Many of the informants mentioned that finding funding is outside of Denmark and neither are there any Danish game publishers. It is possible to find capital and investors, but it is much less likely in Denmark. As one informant puts it, “there is almost nothing in Denmark, so the key objective for a startup or any game company is to look internationally and start abroad with both your company and your product”. Another informant repeated the same that Denmark is simply doing poorly when it comes to investments. The amount of money invested into games and technology are laughably low, as the informant put it. Another informant stated that they had simply given up on Denmark and is pessimistic about it in terms of funding and support. However, another informant did state that knowing who to talk to and specific investor contacts are very much dependent on the individual and not something that is generally known (although Vision Denmark’s events help mitigate this).

An informant suggested that one way to create a ‘growth layer’ in Denmark is from simply having a good sustainable ecosystem where angel investors with a lot of experience in the games industry itself helps reinvest their money into the industry. One informant pointed out how angel investors have worked in Sweden, where they have themselves worked in the industry and therefore knows how games work, and as a result, can help bring along more investors and show how to do investments into games. But at the same time, angel investors usually only provide small amounts of funding, and the nature of game development means that you have to be in it for the long haul with long-term investments and higher funding amounts than simply 100.000 DKK. Another informant suggested start-seed investments for an initial project and more collaboration between startups and angel investors might help.

Some of the foreign investors do scoff at the high costs of producing games in Denmark, due to higher Danish salary levels, but as one informant stated, in turn it means that the investors won’t have to pay for healthcare and education and childcare, and so on, whereas they would likely have to incur such costs elsewhere. The nature of attracting investors and publishers outside of Denmark also means that the IP rights and technological innovation end up being owned by an actor outside of Denmark.

While the money is outside of Denmark, this also means that cuts of the generated revenue leaves Denmark. In addition to foreign investors and publishers, there is also the challenge of platforms like Apple and Google and Valve and Sony and Microsoft and Nintendo taking a 15-30% revenue cut by virtue of their market position as platform distributors.

Others mentioned that successful game companies in Denmark could re-invest into the Danish games industry, given how there really are not any funding opportunities within Denmark, as we have seen with Ghostship Games, Trophy Games, and others since the interviews were conducted.

3.4 The government and state institutions need to be part of funding

This is an old and often repeated statement by Danish game developers and organizations and institutions throughout the last decade, but most of the informants mentioned that the state and its cultural institutions and funding bodies need to step in and help elevate the economic foundation of the games industry to alleviate the risks that are part of making games. There is a severe neglect of one of the most popular and economically successful media by the Danish government and its institutions. Almost all of the informants mentioned that if the government made concrete policy for the industry, it would help catapult the industry into generating more successful companies, which would result in more talent and more experience and attract more money that enters the circulation of the ecosystem of the Danish games industry. As a result, this will propel the industry to become self-sustainable and garner even more money than it is already doing in its current neglected and ignored status.

As one informant put it, they felt it is almost provocative that there is so little if any cultural policy around games. Games are the medium that children and teenagers spend the most time on, which is why “it is the cultural domain that would make the most sense to have a cultural policy for”. Another informant pointed out that because games are very important to younger audiences, the state leaves the culture to primarily cynical investors who turn the funded games into predatory gambling and surveillance machines. The informant warned that this manipulation and exploitation of children could also result in a major blowback against games as a cultural domain, if they become perceived by politicians and the public as a shady, manipulative medium that needs strong legislation akin to gambling and pornography. The informant mentioned, for instance, imagine if the language of film had been subjected to the Free-2-Play business model with its encouragement of gambling mechanics and ad-driven data surveillance model. Once consumers realize what is going on beneath the surface of games regarding privacy breaches and manipulation, then the negative consequences might be big for the Danish game industry.

The mobile industry and more broadly the platform world was also mentioned with how it is a race to the bottom where consumers expect many things for free and very low value. This makes it very hard for game developers to compete, as their products are ‘devalued’ and instead companies must turn to the Games as A Service (GaaS) business model. This applies now to both mobile and console.

The problem with the lack of government action was explained by many informants as a generational problem. Some said that it is because we have a lot of politicians and journalists who do not understand or know what games are, so it might be more of a generational problem. Several informants all repeated that games are looked down upon and dismissed as frivolous and this has an effect on how it is funded and approached by politicians, institutions, and media. One informant suggested lobbying to get the politicians to do more, but that would also require more money. Vision Denmark was lauded as a highly positive organization in Denmark, but that they were underfunded and understaffed to help with things such as lobbying. Another informant stated that it is also difficult to explain to the uninvited how games work. They compared it to a bit of a

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"bumblebee" that merges technology, art, and design that make it a complex beast to handle and manage, and that can be difficult to explain to people who are only familiar with film or software only. At the same time, the informant also mentioned how the consumers are involved in improving a product, such as community management and games as a service that are entirely different and perplexing for politicians and organizations that only understand cultural products the way film and TV operate. Another informant stated that it is difficult to pitch games to politicians as an economic argument, i.e., export, because then it is not a cultural type of funding that is needed, but perhaps more along the lines of 'financial tech'. On the other hand, if games are pitched to politicians as culturally valuable, then it requires a different sort of argument akin to film and theater. However, the same informant in question said that none of the politicians in the last 20 years except Brian Mikkelsen have ever shown any interest in games.

Many informants think that it is "almost a bad joke" with how little money that Spilordningen gives out, compared to how much money the Danish games industry generates, especially compared to Danish film and theater. One informant said that "the thing with funding Danish game productions is that you have 'see what sticks' and fund a lot of different projects and not all of them will be successful, but one of them will likely be a big hit, if not a so-called 'unicorn'."

3.5 Game developers should learn more business & management

Many of the informants mentioned the 'joke' that every time there is the annual Danish game awards, the companies who have made very impressive games that are either nominated or even win it, no longer exist. The problem with this high mortality rate of these companies is that you also lose out on institutional and collective knowledge and expertise that those teams built when producing the game that unfortunately resulted in the company going under.

A common refrain from the informants were that the Danish games industry could improve further if those who start up their own companies learn more about running a business. This means training themselves in production and management, and not simply how to develop a game. Many of the informants stated that too many companies run into the problem of thinking that making games and running a business are two separate things, where the 'making games' part is something that most people identify more as rather than as businesspeople first and foremost. One informant from an experienced startup company wished that they had been taught in school that you should not expect to develop games when you start your own company. Instead, they have had to teach themselves on how to run a business. One informant mentioned that "the alpha and omega" is to have leadership/management that consists of multi-disciplinary leaders who are familiar and experienced with a host of different responsibilities, ranging from art to programming to management to network infrastructure to design to HR and so on. Some mentioned that the sustainability of the games industry would improve with more training on how to run a sustainable business.

Some claimed that there were not any courses or training in project management and production in their time in game education programs in Denmark,

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except for DADIU. One informant stated that educating within these areas could improve the sustainability of the Danish games industry. As we have also seen with Dania Academy's 'Spilproducer' education as well as the informal Danish Gamer Producer network started by Helena Sokol, there are some important initiatives underway.

An informant mentioned that the key ingredient for a successful games company in Denmark is to balance the artistic aspect with the business aspect and not fall into the extremes of either side. The artistic aspect fails because it does not focus on efficiency, organization, and economic sustainability, and the business side fails because it does not have a grand narrative and is unable to stand out in the market.

Two of the informants stated that marketing is important for your budgeting and that your marketing budget should be bigger, so when budgeting your game production, you should allocate much more for marketing. Another informant mentioned that they had used their Twitter engagement metrics to convince publishers to fund their game to also attract new investment.

One informant suggested that it is very important for a company to focus on your burn rate. This was the best advice they could think of after being in the business for over a decade. They said that it is very simple advice that many have heard before, but it is the best one.

One informant suggested distinguishing between proven income versus possible income. Focus more on the former than the latter. It is dangerous to budget your project on what it might sell, instead small companies should budget based on what they currently have or are making.

One informant with experience said that it is easy to work with games in Denmark and that it is a privilege to be developing games. It is both fun and incredibly well-paid if things are going well.

Finally, it was brought up by an expert that the difference between project-based and business-based approaches to game companies can be a significant contributing factor to the problems described within this theme. With game educations primarily focusing on projects, such as DADIU, that overlooks that focus on building a business and sustainable strategy beyond the specific project, which according to the consulted expert, can be missing in young early startups.

3.6 Incubators & startups

One of the themes that also arose from the interviews was the use of incubators to cultivate new companies to become more stable and sustainable as its own startup company. One informant thought that incubators for startups should be more than just an office space and more than one or two conversations with an allocated supervisor. Things could be improved by looking at what the incubation spaces in Game Hub Scandinavia are doing with multiple opportunities for seminars and events on management, production, budgeting, and funding to cultivate small companies in surviving and becoming sustainable. One informant said that money for traveling to industry events would also help such incubation initiatives. The same informant also said that an incubation office with a small stipend to cover rent and food would also go a long way for early startups. Another informant mentioned that there is a danger with incubators that they can funnel startups into what is tried-and-true, i.e., simply repeating the same that came before, but such strategies are not always successful.

An informant also mentioned that as a startup, it is difficult to get access to the data that shows how successful your business will be. Making a healthy business as a startup is difficult when you do not necessarily have the tools and data to even access the information you need to build an enticing product to pitch to investors and couch it in solid numbers to support the viability of the project. This is related to the private ownership and dominance of platforms who do not share their data, as they consider them company secrets.

Looking at the data on the branch code 582100 for the Danish games industry on estastistik.dk per January 2023 (Figure 25 below), there seems to be a consolidation happening in 2022, where more companies are closing than starting, and where the number of newly started gaming companies with this industry code is at the level of 2012. It should be remembered that not all Danish game companies are registered with this branch code. What the reason for this consolidation is, is not clear. But according to a consulted expert, part of the reason may be that the big companies have a great lack of talent and are therefore hiring more of the new graduates who in turn do not start their own companies. An additional addendum to this phenomenon is perhaps the closure of CAPNOVA as well, as fewer companies start due to the lack of Danish investment opportunities for newcomers.

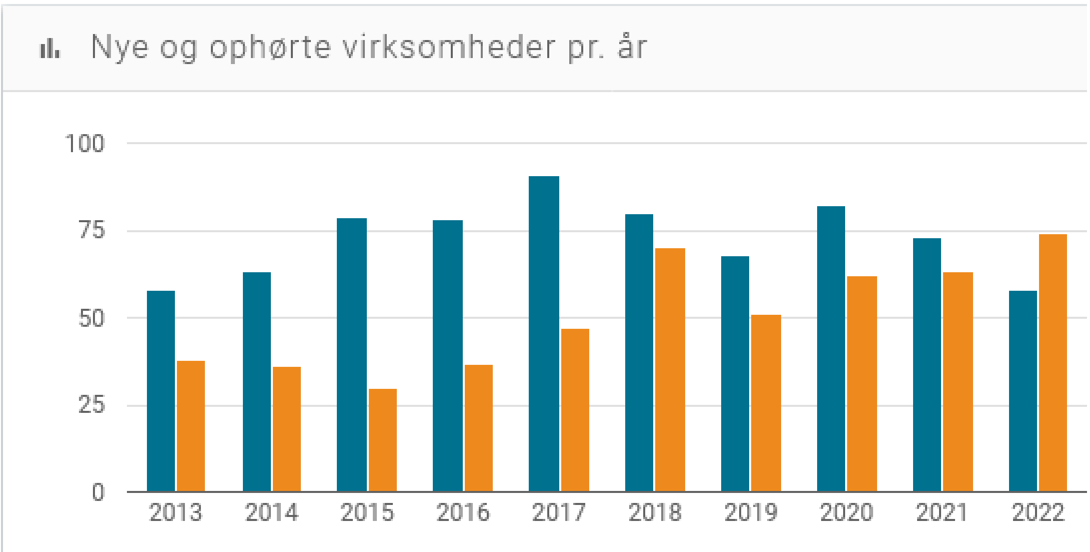

Figure 25 Newly established (blue) and closing companies (orange) in the Danish games industry under branch code 582100 from estastistik.dk per January 2023.

3.7 A few big fish surrounded by lots of small fish

A recurring observation by the informants echo the previous findings on the distribution of companies and revenue in the Danish games industry: That there are a few big companies like IO, Sybo, and Ghostship Games that take up most of the generated revenue, but that they also mostly operate out of one-hit wonders such as Hitman, Subway Surfers, and Deep Rock Galactic. The games industry is very much a hit-driven industry, and this shows in the distribution of revenue-generating companies and their products. One informant had the impression that, there are many smaller and medium-sized companies that, so to speak, fight over the scraps of what remains of the overall revenue in the games industry. However, there are some more successful medium-sized companies such as Funday Factory, Kiloo, Flashbulb, CEGO, and Triband.

3.8 The catch-22 of finding investors as a new company

The problem that informants pointed out regarding finding private investors and publishers is that if you are new and unproved without credentials and experience then you will be unable to find investors, which in turn also means that you will not be able to prove yourselves and make your own product. Some had gotten over the first hump by making a small, cheap game that stood sufficiently out to receive a bunch of awards that in turn made it easier to pitch the next project for a publisher. This was a recurring theme in many of the interviews. Some suggested that maybe the solution is starting in other companies first and then building up experience and credentials for investors. One informant mentioned "they had hit their head on the wall" several times by trying to find investments first, so they highly recommended developing a clear strategy before starting to try to attract money.

The loss of CAPNOVA and the breadcrumbs of Spilordningen means that either you have to be a fresh-faced student out of school, working for free with low living costs, or you have to have major savings, or you have to do work for hire which makes the upstart phase really difficult and hard. Creative Europe has long and complicated application processes that do not make the effort worth it.

One informant had the opinion that investors are not that complicated; they will come when there is money. So as one informant said, "be ready and keep the gunpowder dry" until another success comes, because then there will be more new people coming onboard the industry and new money coming into the industry. One expert informant stated that demands from investors are 1) the experience of the team, 2) the business strategy of the company, and 3) the products. The risk of game investments being long-term investments that result in hit or miss was also a key feature of the challenges of finding investors. It also helps to be able to network and know the right people.

For instance, investors like Nordic Film Games are not going to fund or invest into small companies, only to tried-and-true companies like Flashbulb. One participant mentioned that the Egmont foundation gave 90% of its funding to Sweden, Norway, Finland, but very little to Denmark. There is an imbalance between the investment opportunities and the creative, commercial ideas by Danish game developers. Starting with a small product is good as a startup. Do not make a high-risk project.

It is difficult being a smaller game developer now than 10 years ago, as the market has been saturated with games and 'unique' types of genres that were possible to innovate within.

3.9 Work for hire

Some of the informants stated that they achieved different sources of revenue from doing work-for-hire to maintain their company, but also to offset their costs into their own projects. The downside of doing WFH is that it also relies on your network and who you know, as well as the generated revenue never really be enough to more than the work they are working on anyway, as well as the unpaid time to even attract or hash out work contracts in the first place.

3.10 Being 'indie'

All informants thought indie was in part an economic condition, meaning that being indie is related to where you get your funding from and how creatively and economically independent you are. Much of the sentiment seems to arise from the early 2010s when *Braid* was released and there was talk about being indie by being this small-time developer who did everything by themselves.

One informant pushed back on the indie label and stated that indies does not mean being independent from publishers or investors or thinking commercially. It is a false dichotomy that you cannot be commercial and creative at the same time. One informant thought it was poisonous to think that commercial games do not have any artistic or creative value.

Another point mentioned about being indie was that there is not necessarily a competition between different platforms, such as mobile vs console vs PC, but rather that "the cake becomes bigger". Emerging and now dominant markets like F2P and mobile coexist with PC and console rather than detract from each other. The proliferation of platforms has helped the industry a lot the last 10-15 years. A lot more money and users these days. But at the same time, competition is bigger these days. A lot of games are being released, so it is difficult to stand out in the market. Tens of thousands of games being released constantly means that it is hard to get noticed unless you have a strong publishing partner.

3.11 Education & job opportunities

Many of the informants appreciated the students who come from The Game Assembly in Malmö. Some said that students are very attractive when they come out of Game Assembly and Viborg Animation School. Meanwhile, academic education was seen as less important as a business developer. One informant even said that without the Game Assembly, a lot of talent would be needed in the Danish games industry. They said that the university educations are fine at what they do, but sometimes they are not necessarily the best 'craftsmen'. Many companies also look for non-Danish people to fill the knowledge/skill gap. An informant mentioned that one way to build more companies and attract more talent is to provide tax breaks for new game companies like they've done in

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Canada, which means more foreign investments and with it, foreign talent moving to Denmark, which then results in the synergetic trickle-down effect that leads to a more sustainable ecosystem in the Danish games industry.

One informant recommended that educational institutions and companies could work together so that students are able to become interns or help out a little bit with some low-level production, while also game developers - both those who have made it and those who have not made it - visit educational institutions to give a guest lecture or a brief session at a school or university. This collaboration might also help create networks across the industry where different companies or people connect and work together through this nexus point of an educational collaboration. The important thing, the informant said, is to establish a red thread throughout the education and the industry so that all partners are working in synergy. A similar thing was mentioned by another informant who told the story of Montreal in Canada where the companies invested in education to train students to make them ready for a job at the company in question afterwards. This was cheaper and easier than having to import talent from abroad.

One informant stated that they were generally very satisfied with the students who come out of the various game educations. However, specialization in one skill is preferable to being a little bit good with everything. It is therefore good to prepare students and align their expectations so they do not come out of school with a diploma and thinking they can easily get a job.

One major trend in the recommendations suggested by the informants was that game workers should get training and experience at a bigger company first, as a sort of ‘training course’, before they start up a new company. This not only gives them a nice CV and more convincing reasons for why investors should fund their company, but it also gives them experience in how to run a company and for what to look out. One informant said that you cannot expect to be young and receive funding for something. No business or industry work like that. Best idea is to get a job first, simply because the industry is so small. This was also made evident by one of the informants who were able to pitch a project despite only being two people, simply because they both had senior experience. Then again, another informant mentioned how difficult it is to get an entry-level position at a games company in the industry. One informant stated that what we need the most in the Danish games industry is available positions for people who graduate so they can get more experience. This again relates to how the Danish games industry could benefit from several more companies that then has a synergistic trickle-down effect onto both newcomers and existing companies. Another informant mentioned that Sweden does well because it has a larger ‘growth layer’ that trickles down with money and experienced talent to the smaller ‘indie’ layer. This means that Sweden does better because it simply has more money and talent in circulation of their ecosystem. An informant said that this is what happened to Sweden and Finland where existing successful companies spawned trained and experienced workers who then went on to start their own companies and hire new talent to grow and cultivate, who then afterwards go on to start their own companies. As one person said, they wished that

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Denmark had their own Coffee Stain, while another said that Sweden has many established companies that help other companies out.

3.12 Collaboration between game companies

Many of the informants stated that they appreciated the willingness by people in the Danish games industry to help each other and to some extent share information. All informants who had some relation to the industry meetings such as Solid, Growing Games, CPH Matchup, and Meet2Match were extremely positive about the initiatives and how useful they were in learning how to pitch and how to work with publishers. As one informant put it, CPH Matchup is probably the best thing out there for the industry now. The Discord server where people help each other was one of the things that was mentioned. The help from Interactive Denmark/Vision Denmark was also very appreciated, such as the Solid program that really helped when going into a company and helping them sort out how to become sustainable. An informant with experience outside of Denmark said that the lack of government support is very disappointing, and that the intra-industry collaboration is unfortunately very limited due to lack of resources. One expert informant stated that Danish culture makes the internal collaboration very effective and productive, especially compared to other countries where in their experience there were internal differences.

Some informants wished that game companies should be more open with information, for example with salary levels and how much to invoice for their work. It is more normal in the general IT sector to be open about e.g., invoicing 1100 DKK per hour for an IT developer, but it is less obvious or transparent how much for a Unity developer. It would help a lot of the industry to be more open about their own numbers and not try to be secret about what they do.

Some informants also observed that the hierarchy of what counts as a good game excludes and marginalizes more atypical games that are not necessarily the most-covered typical genres. This is also reflected in the annual Danish Game Awards where certain genres are automatically excluded, despite still being popular and successful. In turn, this also means that newcomers and students think that the dominant genres are the ones they should develop within, and thereby overlook the other opportunities that would also likewise receive cultural and commercial acclaim.

Similar calls for openness and collaboration revolved around regional differences, where for instance Jylland and Sjælland could and should talk with each other more. This is not only in terms of industry, but also educational institutions, such as ITU talking with Viborg Animation school or Dania Academy, Aalborg University, Grenaa Game College, or Copenhagen Business School, just to name a few.

One of the informants said that Danish ‘game clusters’ could help profile the Danish games industry the same way that the music industry has organizations such as ‘Export Denmark’, who also make showcases. This is a bit like what we have recently seen with the Danish games section at Gamescom in August 2022, as well as the booth that Game Hub Scandinavia has done with their GDC and Nordic Game Conference booth.

3.13 Work conditions and salary

All the informants were not employees, but either managers or owners. This also means that the results from the data collection is mostly concentrated around their views on work conditions and the data is limited in what it indicates about working conditions in the surveyed companies. As most people said, the work-hours for employees were 37 hours per week as what the contract states, but this is not the actual reality of how many hours can be put into game development. However, the testimonies do reveal how much owners and managers work.

A more experienced veteran thinks that work conditions have normalized more since they began over 15 years ago. Especially in the console games development, there was a lot of crunch and long work weeks, and it has become better now.

Salary levels were generally poor relative to other job sectors. The general look is that companies provided a relatively lower pay for artists and designers, while programmers were in higher demand and received a higher pay, but still comparatively lower than other tech industries. One informant stressed that putting your employees first goes a long way in creating a sustainable game company, although the question remains to what extent the owner-worker antagonistic relationship might still create problems.

4. Paths to success

For this section, we wanted to measure the relations between how long a company has lived with company characteristics, such as number of founders, educational background, average salary levels, and protagonist. We took the frames and analyzed the longevity of a company within the Survival index frame. This is to show *an association* between how a company is set up and its potential ability to continue existing. This can potentially be interpreted as paths to longer lasting and sustainable companies, but we still advise caution in using these graphs as clear-cut recommendations. Instead, we want to emphasize that they are illustrative if not indicative of associations between different characteristics of the interviewed game companies. As our data sample unfortunately has a low number of dead or very young game companies, our figures have a strong survivor-bias.

4.1 Amount of founders & survival index

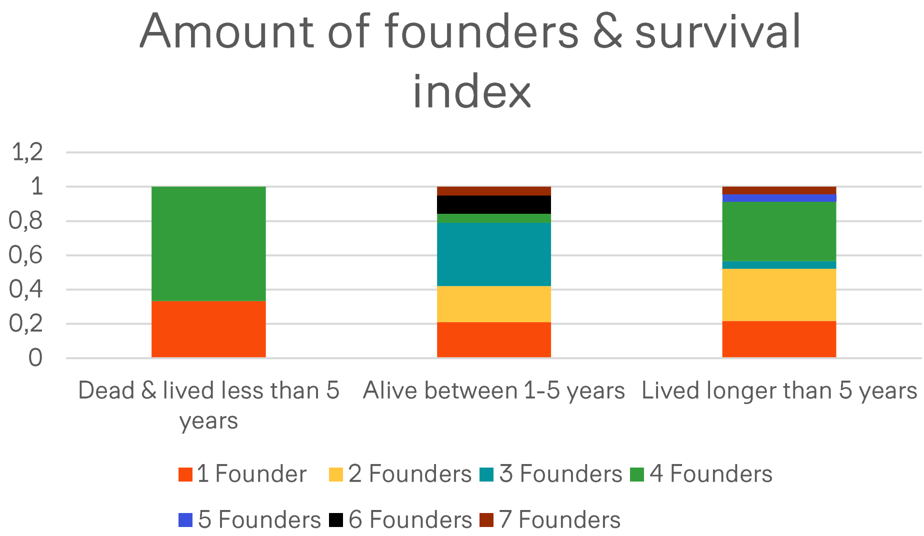

Figure 26 Amount of founders & survival index (normalized)

4.2 Founders educational background & survival index

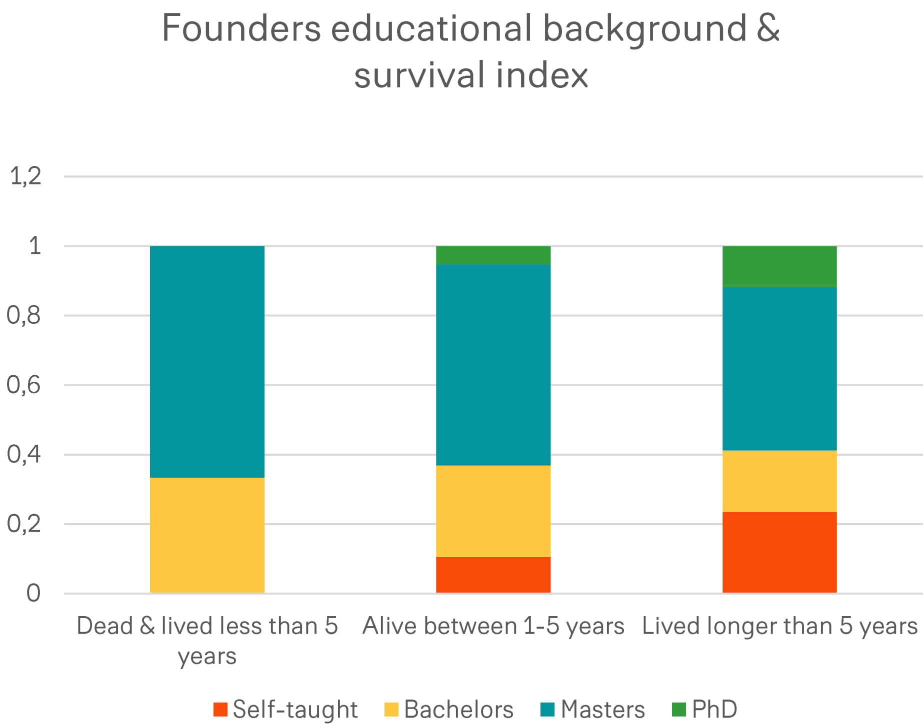

Figure 27 Founders educational background & survival index (normalized)

4.3 Average salary levels & survival index

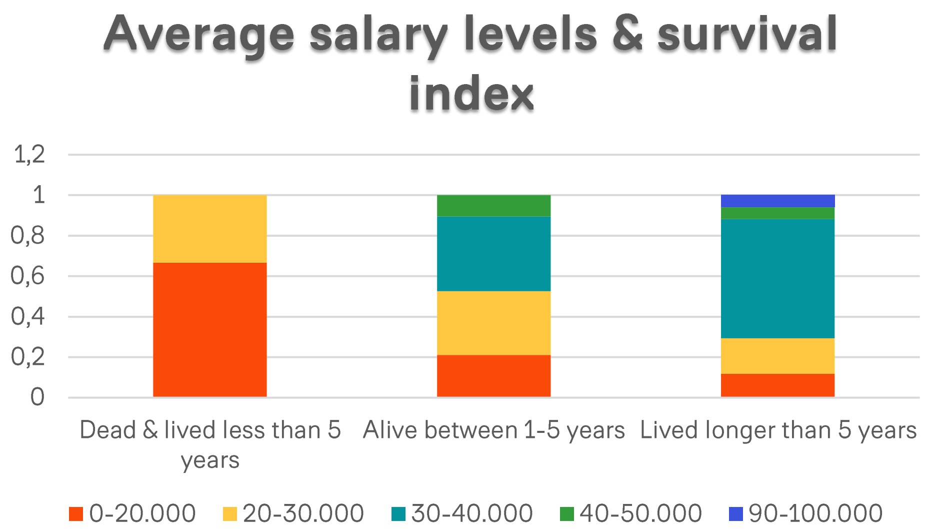

Figure 28 Average salary levels & survival index (normalized)

4.4 Employees with children & survival index

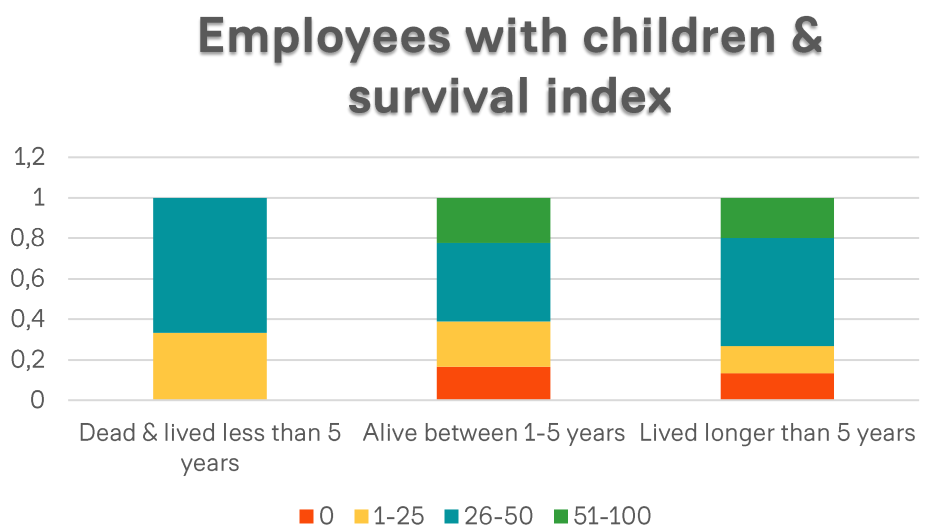

Figure 29 Employees with children & survival index (normalized)

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4.5 Male percentage & survival index

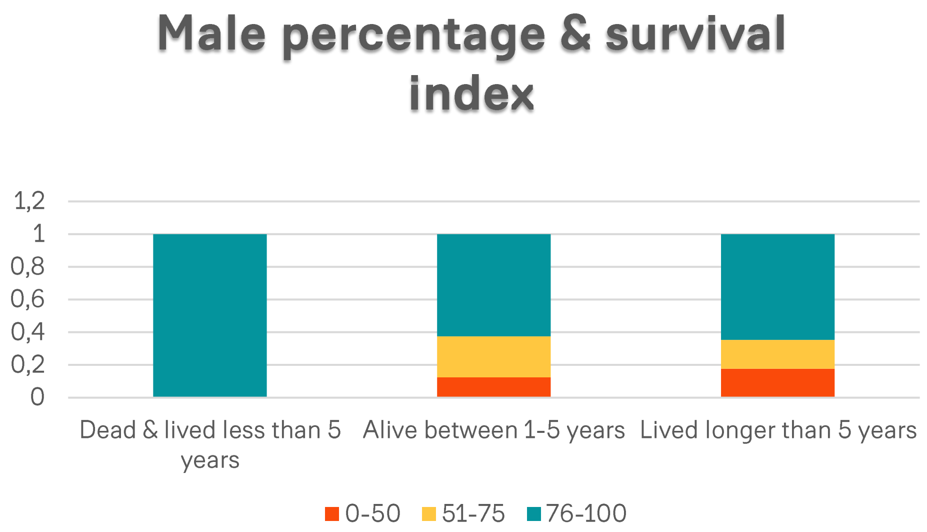

Figure 30 Male percentage of game company & survival index (normalized)

4.6 Protagonist type & survival index

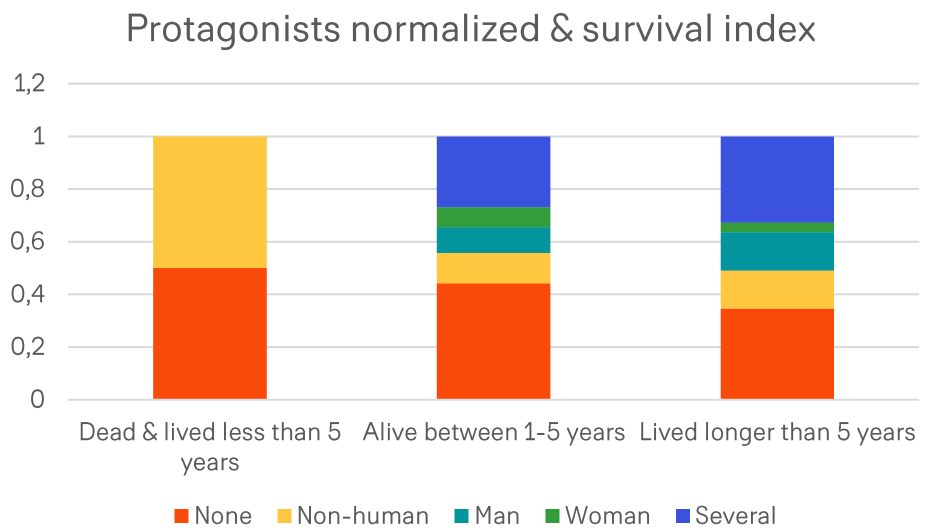

Figure 31 Protagonists & survival index (normalized)

5. Summary & recommendations

Based on our interviews and the existing research, the primary recommendation to attain a coherent and sustainable ecosystem in the Danish games industry is to provide more non-risk funds for especially startups that are administered through a distinct institution focused on games. First, the Danish games industry would benefit tremendously from a unique, separate institution focused on the business as well as the culture of the Danish games industry. Despite the games industry doubling its annual revenue in 2020 and surpassing both the Danish television and film industries, the Danish games sector does not have its own cultural and business policy. As noted by existing research and testimonies from our data, the Spilordningen is subsumed under the Danish Film Institute and does not have a business and cultural policy. Producentforeningen has suggested an initiative for precisely this establishment of a Game Institution as well as more funding that fits with the nature of investment into game productions. Denmark have educational programs and some very successful game companies, but the entry and middle-level for both newcomers and companies themselves are neglected in terms of the institutional measures (funding, startup support, growth opportunities) that are required. Despite being an extremely lucrative and popular cultural activity that most Danish people across all ages participate in, game companies are nevertheless highly deprioritized if not ignored in terms of institutional understanding and funding at a public, cultural level and at a commercial growth-layer level. The suggestion is therefore to simply increase the amount of funding and make a distinct games-oriented institution be responsible for the allocation of such funds targeted at providing the proper framework for a sustainable ecosystem between educations, startups, newcomers, established game companies, unions, industry organizations, and public institutions. Summarized, based on our interviews and desk research, we arrive at the following recommendations:

- **Establish a distinct institution or governmental body or task force** that cultivates a healthy and sustainable ecosystem across educations, companies, talent, and businesses. This institution focuses on the cultural significance and commercial growth of the Danish games industry and binds the different strands of the Danish games industry together in terms of knowledge, networks, and funding.
- **Increase public funding levels** to an adequate amount on par with other cultural sectors and creative industries (TV, film, theatre, literature) with its own funding program separate from other creative cultural industries.
- A variety of **specialized funding programs** (seed investing, matchfunding, cultural funding) that also helps startups, incubators, and medium-tier studios to ensure that they are sustainable and can execute on their ambitions.
- **Draw on and involve the many years of experience and insight** by games industry veterans on what is needed for the Danish games industry to thrive.
- **Inform policymakers, business angels, and investors** about the distinct production characteristics of the Danish games industry as both a creative and tech-oriented industry.

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- **Increase and ensure strong policies of diversity, equity, and inclusion** with specific attention to gender across industry, funding policies, and educational institutions.
- **Ensure professionalization of work conditions** by involving tech-oriented labor unions and establish mutually beneficial collective bargaining agreements that leads to more sustainable work environments that will both attract and retain senior talent as they grow older.

The above proposals will address large parts of recommendations for improvement from the interviews. The research conducted by Helena Sokol (2021) further emphasize this need for initiatives on a governmental policy level that we highly recommend reading for in-depth details on the best course of action for a thriving and sustainable Danish games industry.

Ensuring a healthier and more sustainable Danish games industry is also important because half of all Danish people across all genders play video games every day and 92 percent of children between 1-15 years of age have played a digital game. This means that Danish citizens are heavily exposed to games as cultural activity, which in turn also means it should be in the interest of everyone to ensure that the games that are produced generate money for the Danish national economy as well as ensuring healthy quality cultural products that children and adults can enjoy.

6. Further contemporary readings

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