

“Game” and “Development”: The Two Theories of Dysfunction

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Abstract

This Master's thesis in Business & Management delves into the intriguing question of why video games fail. Our aim is to uncover potential answers and shed light on this complex issue.

To achieve this, we adopted a Grounded Theory approach as our methodology. We conducted 18 semi-structured interviews with 15 unique participants from the Swedish Video Games industry, gathering valuable insights.

Based on our research findings, we identified categories that characterise the problems prevalent in video game development. From these categories, we formulated two theories: “Value Misattribution” and “Absence of Control in the Creative Process”. These theories provide a deeper understanding of the dysfunctions observed in the industry.

To further enrich our analysis, we examined these theories through the lens of relevant academic literature on management. By incorporating existing scholarly insights, we aim to contribute to the existing knowledge base and provide practical implications for addressing the challenges faced by the video game industry.

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1. Introduction

1.1 Background and Motivation

“Studying the business of video games is a fool’s errand,”

This quote by Joost van Dreunen, highlights the intricate and perplexing nature of the business (van Dreunen, 2020). Despite the rapid growth the industry has experienced, it is indeed full of repeated high profile failures and their inner workings are still obscured. However, as Dreunen did so himself, we chose to venture into this complex, multidisciplinary landscape, seeking to understand the underlying challenges it faces.

The video game industry, now a behemoth in terms of economic impact and cultural significance (Newzoo, 2023), still faces numerous challenges that demand attention and understanding. The multidisciplinary nature of game development, which encompasses art, design, software development, and business, only serves to add layers of complexity (Cohendet & Simon, 2007). Adding on to this, the high involvement nature of the industry places an unusual amount of objective and subjective scrutiny on the final product. This increase in sensitivity and attention might be fueled by a wide variety of factors including but not limited to; high anticipation for releases, players dedicating considerable amounts of time and money on video games or ongoing emotional attachments (since early childhood for some). Considering this level of complexity at first glance, one might agree with Dreunen in thinking this quest for understanding is truly foolish.

Looking back over the years, there have been many high profile video game releases that present interesting cases for why this field of study is of interest for us. *Ōkami* (2006), *Dungeon Keeper* (2014) and *Cyberpunk 2077* (2020) are wildly different games that are unbound by time, platform or genre. However, they share an important commonality: failing to deliver on the expectations of consumers and/or their creators.

Ōkami, an action-adventure game that was initially launched for PlayStation 2 in 2006, received positive reviews from critics for its unique brush controls and captivating gameplay. The game's overall reception was impressive, as evidenced by its Metacritic scores of 93% and 90% for PlayStation 2 and Wii, respectively. IGN even awarded it as Game of the Year in 2006 (Roper, 2007). However, despite the game's critical acclaim, it failed commercially, selling fewer than 600,000 units by March 2009 (Guinness World Records Gamer's Edition 2010). In fact, *Ōkami* was labelled as the "least commercially successful winner of a game of the year award" in the 2010 Guinness World Records Gamer's Edition. Capcom, the

publisher for the game, disbanded its developer, Clover Studio shortly after the game's release (Boyes, 2006).

It's worth noting that *Ōkami* has since gained a cult following and is widely regarded as a classic in the gaming community. The game has been re-released on several platforms, including PlayStation 3, PlayStation 4, Xbox One, and Nintendo Switch, and has sold over 2 million copies as of 2021. Of course, it is unfortunately far too late to save Clover Studios from its unfair demise.

Quite a few years following the release of *Ōkami*, Electronic Arts, a giant in the video game industry, announced a reboot for the classic franchise, *Dungeon Keeper*. The product of the legendary game designer Peter Molyneux, the original *Dungeon Keeper* was revolutionary when it was released in 1997. The game subverted player expectations in a positive way and played on the idea of putting the player in the role of a stereotypical fantasy villain, instead of a knight in shining armour. The players were expected to construct and manage “dungeons” which then would be invaded by “hero” characters. The concept was novel, the art, humour, and the execution of it was high quality.

When this revival was announced by Electronic Arts, it generated a considerable amount of excitement. However, the game faced severe criticism for its monetization practices and missing features. *Dungeon Keeper* received an overall Metacritic score of 42/100 for its iOS version (Metacritic, n.d.). Major gaming websites such as IGN, Eurogamer, and Metro rewarded the game 3/10, 1/10, and 0/10, respectively (Johnson, 2014; Whitehead, 2014; Jenkins, 2014).

Last but not least, the story of CDProjektRed's *Cyberpunk 2077* (2020). With high expectations fueled by CDProjektRed's previous success with *Witcher 3*, an impressive marketing featuring Keanu Reeves, and a reported budget of over \$300 million, *Cyberpunk 2077* became the most anticipated game of 2020. This anticipation was accompanied by trepidation and anger in the gaming community, due to the four delays that were announced in the years leading up to the game's release (Clayton, 2020), with the studio even receiving death threats for the postponements.

Following the setbacks, *Cyberpunk 2077* released on December 10th, 2020 for PS4, Xbox One, PC and on the streaming platform Google Stadia. Upon release, the game received dismal reviews mainly due to performance issues on the current generation consoles ie; PlayStation 4 and Xbox One (Zamora, 2020). This catastrophic release was considered as one of the greatest failures in gaming history, which led to a significant loss of goodwill from fans who once considered CDProjektRed to be strictly player-oriented (Morics, 2020). The game's technical problems prompted SONY to offer refunds and temporarily remove

it from the PlayStation Store (Savic, 2020). CDProjektRed also faced accusations and lawsuits over the lack of distribution of review copies for PlayStation 4 and Xbox One, adding to their reputation damage (Morics, 2020).

We chose to present the diverse examples above, to demonstrate that failure in this industry cannot be explained away by market conditions, trends, platforms, certain genres, poor quality, customer reception, or any single factor alone. When related to product attributes, the reasons behind failures like these are undeniably connected to the creation process of said product. “How?” and “Why?” a game is made are of huge importance in fully understanding these expensive and painful (for developers and fans alike) failures. Hence, in our pursuit of this seemingly foolish endeavour, we turn to understanding the challenges within game development as the first step.

As we embark on this challenge, it is essential to recognize that the video game industry is a unique beast. With a potent blend of creativity, technology, and commercial demands, it stands apart from many others. According to Kowert et al. (2015), the industry is defined by its *"rapid technological advancements, creative and narrative ingenuity, and the ever-changing dynamics of the market and consumer demands."* We must, therefore, delve deeper into the intricacies of its ecosystem to understand the underlying forces that drive the challenges faced by studios.

To achieve this, we must not only consider technical and managerial aspects, but also investigate the cultural, economic, and psychological factors that shape organisational behaviour within the industry. Just as failures in video games cannot be explained away by a single macro-attribute, failure of a given video game cannot be blamed on a single type of dysfunction. Even a comprehensive understanding of specific dysfunctions are insufficient in preventing it. For instance, the impact of crunch time and the influence of gamer culture on the development process have been widely studied (Edholm, 2017; Cote & Harris, 2021), yet crunch unfortunately still exists. This demonstrates the need to explore the industry from a broader perspective and to connect these various aspects of dysfunction. This is needed in order for us to go beyond understanding distinct phenomena like crunch or delays, and begin to uncover more of the interconnected system of challenges that the industry is up against. Without understanding how distinct issues are interconnected, any initiative to solve one dysfunction remains incomplete, if not impossible due to other restrictions.

However, even arguing for this broader look, so far we touched upon only one half of game development, the “development”. How about the “game”- how can we understand what the problems are in making games, if we do not understand what is being made?

As students of business, for us this comes with an added complication. To understand video games as products, we not only need to understand the many different aspects that make up a game, but also the many different ways that players relate to games. Only in doing so, we might be able to appreciate the complexities involved in creating successful and engaging games that appeal to a diverse and ever-evolving audience.

It becomes painfully clear then, the amount of different competences needed to analyse the dysfunctions in video game development is beyond diverse. However, while attempting to understand the “How?” and “Why?” video games are made, we chose to interact with people who are meant to answer these questions. We hope to uncover potentially hidden connections and synergies that have eluded previous research thus far.

The current state of research on management of video game development leaves much to be desired in terms of theoretical grounding. As Martin (2018) points out, “...*(While game) authors may occasionally discuss the game industries, no other authors have this as their main research topic. Furthermore, none of the non-game authors cited are experts on business or industry.*” We believe we are uniquely positioned to attempt at filling this gap, all the while addressing the above mentioned requirements.

This involves exploring the potential interplays between; business, technical, aesthetic, cultural, organisational, psychological and social aspects of game design and development. By doing so, we can begin to pose a more nuanced understanding of the industry's challenges and contribute to the development of more effective strategies for overcoming them. All in service of trying to make the fool's errand just a little bit less foolish.

1.2 Purpose, Aim & Expected Contribution

This master's thesis delves into a number of key problems, points of friction, and issues that can be broadly described as “*dysfunctions in video game development*”. The focus is on achieving a comprehensive understanding of these selected dysfunctions by investigating their manifestations, potential root causes, and possible interrelations between them. Employing a Grounded Theory approach, the thesis generates “*theories of dysfunction*” in service of building a holistic framework that accounts for the interconnected nature of the challenges faced by projects and studios within the industry. Lastly, by establishing a discipline-friendly nomenclature, the thesis invites business researchers that are drawn to this fascinating industry to engage in interdisciplinary dialogue, fostering knowledge accumulation in this area of study.

Purpose: Uncover potential development related causes of failure of video games. Provide a broader understanding of their complexities by substantiating it with existing business & management literature.

Aim: Develop a holistic theoretical framework that captures the manifestations, interrelations, and underlying mechanisms of key problems in video game development.

Contribution: Enhance the existing body of knowledge on video game development challenges by offering a theoretical framework that provides a more nuanced understanding of the challenges faced by decision-makers.

1.2.1 Research Questions

RQ1: How do problems emerge in video game development, and what are their underlying causes?

RQ2: How might these problems interrelate and impact one another in the context of video game development?

RQ3: How might these problem interrelations enrich the current understanding of the managerial challenges in video game development?

1.3 Delimitations

This study is delimited to the findings and data made available to us through purposive, theoretical and selective sampling methods. Thus the primary data source is concentrated around participants who are living in Sweden and working in the video games industry. Furthermore, the research approach is a qualitative analysis, through the employment of Grounded Theory, which has its own natural limitations due to its subjective and interpretative nature.

We purposefully avoided potential causes of failure that might not be related to the development process itself, such as failures due to macroeconomic, socio-cultural or technological factors. This was done to effectively scope our research to focus on game development.

2. Theory

The following section contains an overview of the existing research that has been done on the challenges of video game development, as well as illustrating the research gap that we aim to study.

2.1 Literature Review

Despite the fact that the research surrounding video game development and its challenges is novel, a handful of studies have taxonomized the challenges faced in video game development from a software development perspective. These studies, namely by Petrillo et al. (2009), Washburn et al. (2016) and Politowski et al. (2021) were included in this literature review, as they help to establish a baseline on the extent of the research that has been done on the subject. These articles were chosen, as they illustrate the evolution of the research on the challenges in video game development.

While there are other studies on the video games from a business and management perspective, they were from an industry, human resource, or occupational standpoint and concerned topics such as labour practices and employee wellbeing. We deemed this to not be in the scope of this study. Databases such as Google Scholar, Scencedirect, ResearchGate and SSE Library were utilised for the collection of secondary data in this research. To be able to establish a high degree of quality in this literature review, we delimited the sources to be peer reviewed articles from academic journals. Some of the keywords that were used in finding the articles were “Video Game Development”, “Challenges”, “Problems”, “Post Mortem Analysis” & “Root cause analysis”.

2.1.1 Background

The videogames industry has received academic attention for its infamously troubled production processes and labour practices. Previous studies have shown that two-thirds of Video Game development projects fail to finish either on time or within budget, and consequently fail to meet business objectives (Ahimbisibwe et al, 2014; Petrillo et al., 2008, as cited in Westerdahl, 2019). One aspect that makes video games unique from a development perspective is that there are extra layers of complexity added due to the perceived hygiene need of the product to be “fun”. Tools and software are often made from scratch and face extremely tight deadlines (Washburn et al., 2016). These issues and other industry specific dynamics can be observed in AAA game projects (*produced/distributed by major studios*) with budgets exceeding \$100 Million, fueled by rapid industry growth and mainstream acceptance (Engelsätter & Ward, 2022). As such, there is currently a major demand for both the diagnosis for the specific issues in video game

development as well as effective management methods (Hodgson & Briand, 2013; Godoy & Barbosa, 2010, as cited in Westerdahl, 2019).

The existing literature has explored various approaches to unravel the enigmatic question of why video game development faces dysfunction. Some researchers attribute it to the paradoxical use of conventional project management methods. Video game development follows a linear project structure, yet involves substantial alteration that may drastically alter the end goal of the game, leading to scheduling and budgetary tensions (Kerr, 2017, as cited in Dubois & Weststar, 2022). This contradiction between project planning and the creative nature of video games, combined with the competitive funding landscape, often compels game studios to underestimate costs and timelines, which further intensifies the resource challenges in game development (Thompson et al., 2016).

Considerable attention has been given to the human toll resulting from the aforementioned dynamics, with research highlighting the prevalence of "crunch culture." This culture imposes unsustainable work conditions on developers, with individuals often facing 80-100 hour work weeks (Peticca-Harris et al., 2015; Weststar & Legault, 2017, as cited in Westerdahl, 2019). Additionally, a frequently studied phenomenon in production is "feature creep" which involves the addition of new features at a late stage of a project. This practice is commonly identified as a cause of stress and project delays (Peticca-Harris et al., 2015; Kanode & Haddad, 2009; Godoy & Barbosa, 2010).

Despite these efforts to uncover the challenges in game development, academic research on the business of video games is limited due to the secretive and closed nature of the industry. In this regard, researchers have turned to post mortems, regarded as "war" stories (Politowski et al., 2021) within the developer community, to gain insights into the failures of video game projects. Analysing these publicly available sources have allowed researchers to categorise challenges and offer managerial recommendations for addressing common issues encountered in video game production.

2.1.2 “Video Game Development Issues” (2009)

Due to the financial and technological boom of the video game industry in the 2000's, Petrillo et al. (2009) set out to collect and organise publicly available information in order to quantify the frequency of the affliction that video game developer's faced. This was done through 20 post mortem analysis that extracted 15 frequently mentioned problems through a thematic analysis as seen in figure 1.

Table I. Postmortems Analyzed

Project	Team	Development Time (Months)
Beam Runner Hyper Cross	5	4
Dark Age of Camelot	25	18
Black & White	25	37
Rangers Lead the Way	13	20
Wild 9	18	NI
Trade Empires	9	15
Rainbow Six	22	24
The X-Files	36	48
Draconus	19	10
Cel Damage	16	24
Comand and Conquer: Tiberian Sun	35	36
Asheron's Call Massive Multiplayer	60	48
Age of Empires II: The Age of Kings	40	24
Diablo II	40	36
Operation Flashpoint	10	48
Hidden Evil	22	12
Resident Evil 2	9	12
Vampire: The Masquerade	12	24
Unreal Tournament	16	18
Tropico	10	12

Figure 1. Postmortems analysed in Petrillo et al. (2009)

Their analysis found that *unrealistic/ ambitious scope* and *feature creep* were present in 75% of postmortems, with *cutting features during development process*, *problems in the design phase* and *delay or optimistic schedule* having a frequency of 70% and 65% respectively as seen in figure 2.

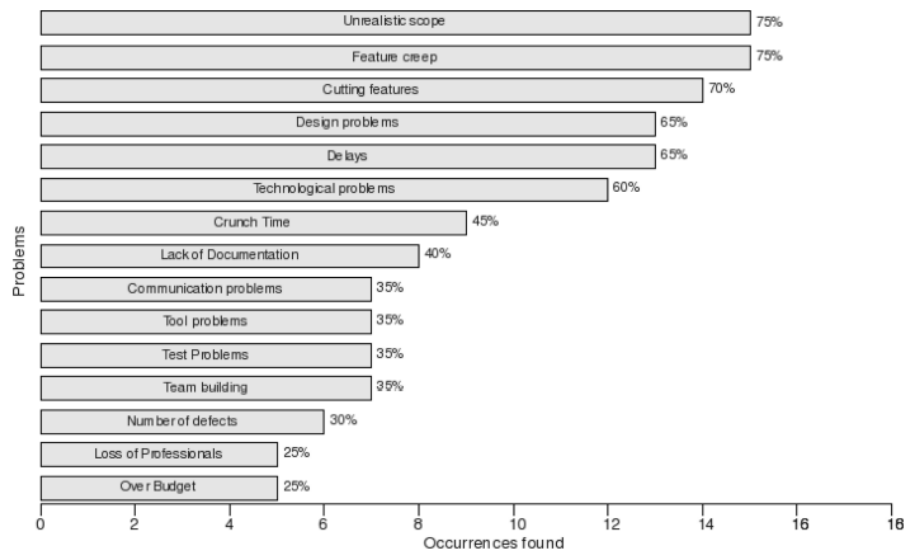


Figure 2. Problem Frequency by Petrillo et al. (2009).

Through cross reference with information systems research, Petrillo et al. (2009), found similarities between problems faced in video game development with those faced in traditional software development. However, the research concluded that the video games industry is unique in that it does not suffer from technological problems but with management issues.

2.1.3 “Pitfalls of Game Development” (2016)

Building upon Petrillo et al.’s (2009) research, Washburn et al.’s (2016) set out to develop an empirically derived taxonomy of the specific dimensions in game development that make or break a project. The authors analysed 155 publicly available postmortems and categorised 5 broad categories which were; Product, Development, Resources, Customer facing and Other. Each with their own subcategories of frequently mentioned phenomena that went wrong in a development project as seen below in figure 3.

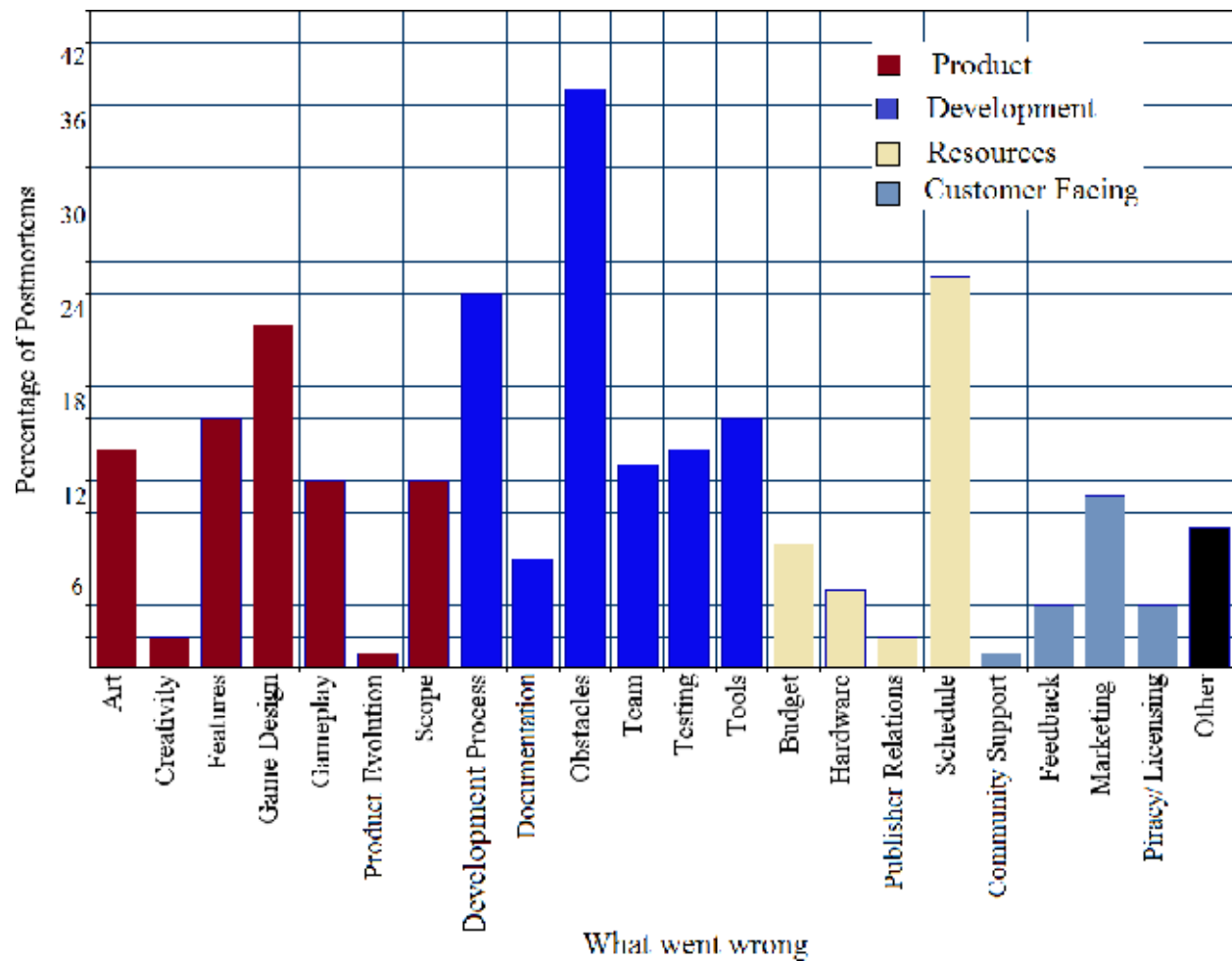


Figure 3. What went wrong frequency table by Washburn et al. (2016)

The researchers attributed the frequencies of what went wrong from specific subcategories that determined the most common pitfalls. Furthermore, Washburn et al. (2016) hypothesised the relationship that specific organisational factors may have on these issues

On the issue of team size, the authors found that 61% of teams with less than 20 members listed *game design* as one of the things that went right, while 50% of teams with more than 20 members cited it as something that went wrong (Washburn et al. 2016). This may indicate that smaller development teams produce what they deem to be better game designs. The same pattern was not observed when producing *gameplay* ie; how the game feels when interacting with it, with 42% of large teams citing that *gameplay* having gone well, while only 27% of small teams saying the same.

The authors also investigated the frequency of development pitfalls between development projects that had publishers versus those who published their own games. It was observed that 30% of the developers without publishers perceived *testing* as something that went right, while only 19% with publishers saying the same. Regarding *team obstacles*, it was found that 43% of developers that published their own games cited that (*team obstacles*) as something that had gone wrong, while 35% of those who had publishers said the same. This may suggest that publishers help to set structure to processes such as game testing, providing adequate resources and removing inefficiencies surrounding marketing.

Certain limitations in the study must be taken into account. Similar to Petrillo et al.'s (2009) study, postmortems present a limitation as they are self reported and may be filled with biases. Furthermore the authors acknowledge that there may have been misinterpretation when qualitatively analysing the data. Lastly, the discussions regarding team size and publisher's effects on the frequency of what went right or wrong are based on correlation, but lack critical analysis to prove causality, thus requiring future research to validate these findings.

2.1.4 “Problem types of video-game development problems” (2021)

One of the most up to date grey literature analyses comes in the form of Politowski et al.'s (2021) study “*Game Industry Problems: An extensive analysis of the grey literature*”. This research followed a grounded theory approach in which the researchers coded the qualitative data points into themes with the help of existing nomenclature produced by authors such as Callele et al. (2005), Petrillo et al. (2009), Washburn et al. (2016) & to form categories and to validate their own findings, seen below in figure 4.

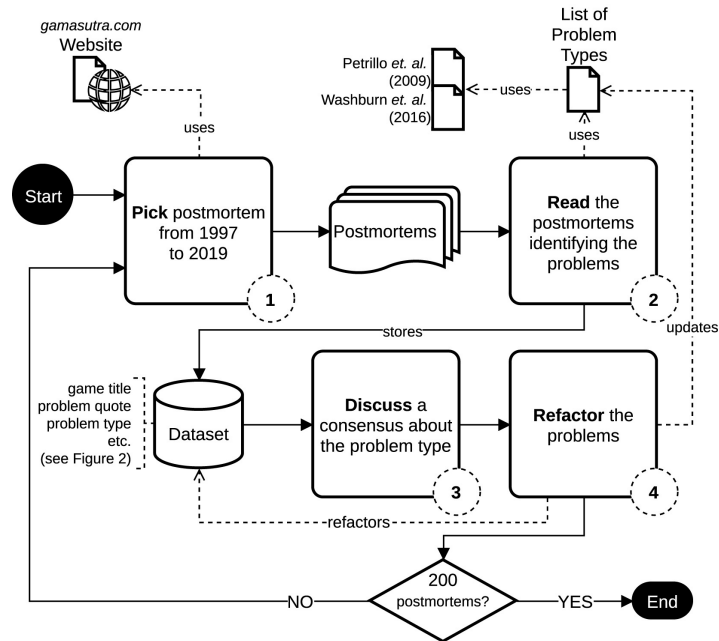
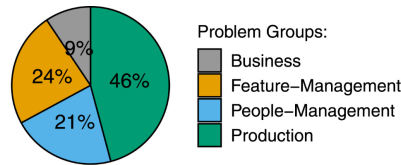


Figure 4. Steps performed to analyse postmortems and build data by Politowski et al. (2021)

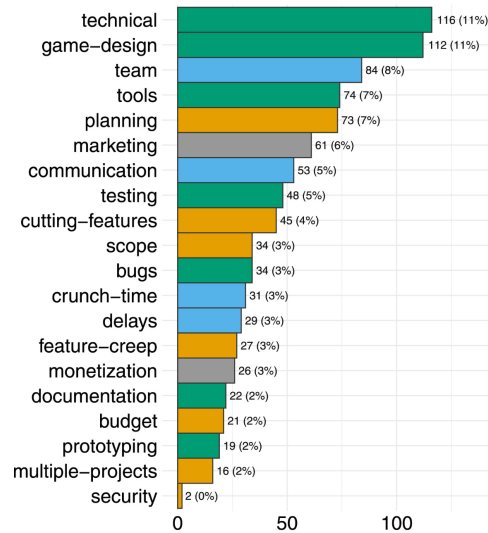
This study analysed 200 postmortems between the years 1997 and 2019, which resulted in 927 data points that were categorised into 4 primary problem groups ie; Production, People Management, Feature Management and Business. Within these 4 major problem groups were 20 types which can be seen below in figure 5. With the distribution of both the total problem groups and the subgroups as seen below in figure 6.

Type	Description
Bugs ^P	Bugs or failures that compromise the game development or its reception.
Game Design ^{PW}	Game design problems, like balancing the gameplay, creating fun mechanics, etc.
Documentation ^{PW}	Not documenting the code, artifacts or game plan.
Prototyping	Lack of or no prototyping phase nor validation of the gameplay/feature.
Technical ^P	Problems with code or assets, infra-structure, network, hardware, etc.
Testing ^{PW}	Any problem regarding testing the game, like unit tests, playtesting, QA, etc.
Tools ^{PW}	Problems with tools like Game Engines, libraries, etc.
Communication ^P	Problems communicating with any stakeholder, team, publisher, audience, etc.
Crunch Time ^P	When developers continuously spent extra hours working in the project.
Delays	Problems regarding any delay in the project.
Team ^{PW}	Problems in setting up the team, loss of professionals during the development or outsourcing.
Cutting Features ^P	Cutting features previously planned due to other factors like time or budget.
Feature Creep ^P	Adding non-planned new features to the game during its production.
Multiple Projects	When there is more than one project being developed at the same time.
Budget ^{PW}	Lack of budget, funding, and any financial difficulties.
Planning ^W	Problems involving planning and schedule, or lack of either.
Security	Problems regarding leaked assets or information about the project.
Scope ^{PW}	When the project is has too many features that end up impossible to implement it.
Marketing ^W	Problems regarding marketing and advertising.
Monetization	Problems with the process used to generate revenue from a video game product.

Figure 5. 20 Problem Types with the 4 Problem Categories Politowski et al. (2021)



(a) Number of problems related to each Group.



(b) Number of problems related to each Type.

Figure 6. Problem Group Distribution by Politowski et al. (2021)

The researchers found that on average, the most common problem area was production related, with issues such as technical problems and game design, whilst management problems (coupling feature & people management) were the second most frequent with 45%. When looking at the development of the problem groups over the course of 23 years, it is noted that production problems have stayed consistent, whilst feature management issues and business issues have seen an increase in the past decade as seen in figure 7 (Politowski et al., 2021). When cross referenced with figure 8, it can be seen that team and marketing type problems have both had an increasing trend over the past 3 decades.

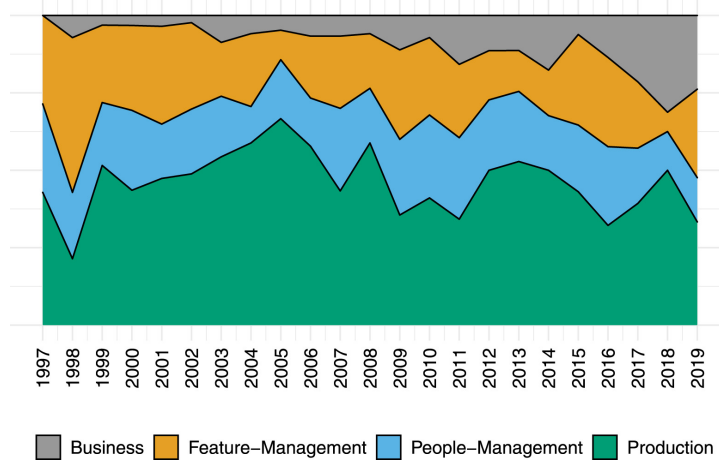


Figure 7. Problem Groups over the years by Politowski et al. (2021)

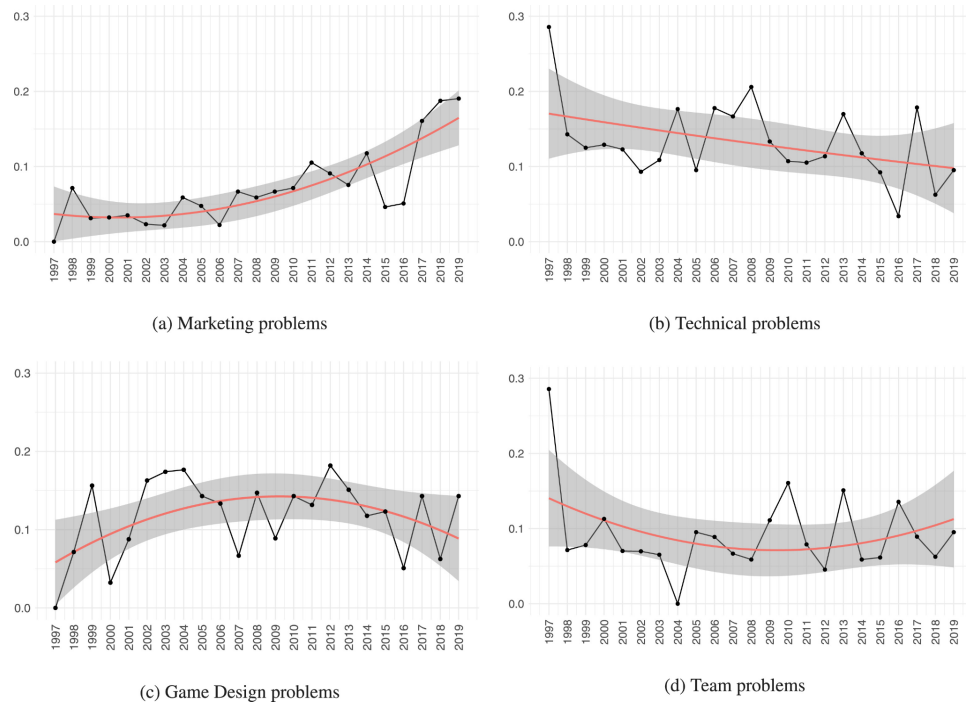


Figure 8. Four common patterns of importance of problems by Politowski et al. (2021).

Type	SubType (root cause)	N
Team	Insufficient workforce	49
Team	Environment problems	48
Marketing	Wrong marketing strategy	35
Planning	Underestimation	34
Game Design	Unclear game design vision	28
Game Design	Lack of fun	27
Technical	Platform and technology constraints	24
Game Design	Game design complexity	23
Tools	Inadequate or missing tools	22
Communication	Misaligned teams	22

Figure 9. The Top 10 Most common subtype problems by Politowski et al. (2021).

The 20 problem types as seen in figure 5 and the 10 most frequent subtypes as seen above in figure 9, served to be the focus of their research. The top two most commonly found subtypes were “*Insufficient workforce*” and “*Environmental Problems*”, which both fell under the problem type of *Team*. “*Insufficient Workforce*” refers to issues such as strained workforce resources due to inadequate budgets, planning deficiency and difficulty to find slack time, while “*Environmental Problems*” are connected to issues such as inadequate organisational design, incentive programs and excessive working hours. Beyond these team-related problems, are issues regarding *Marketing* and *Planning*, with “*Wrong marketing Strategy*” and “*Underestimation*” respectively, which refer to inadequate market segmentation and entry skills within development teams, and an over-optimistic estimation of project scope and time respectively.

The fifth and sixth most common problem subtypes were “*Unclear game design vision*” and “*Lack of Fun*” which both fall within the *Game Design* problem type. These included issues such as difficulties in specifying core game mechanics and inadequate documentation over the course of a project. Wasted work and delays caused by the realisation that a game proved to lack the “fun” during the production phase was another issue.

The subsequent two problem sub groups were “*Game Design Complexity*” and “*Inadequate or missing tools*” which fall under *Game Design* and *Tool* problem types respectively. Based on Politowski et al. 's

(2021) analysis, these subtypes are caused by the complexity brought on by over ambitious scope that clash with tight deadlines. The final problem subtype, “*Misaligned teams*”, falls under the *Communication* problem type. This was found to be common in large game companies where many different divisions work on the same project and often suffer from conflicting visions of the final product, leading to disputes regarding game design and key development decisions (Politowski et al., 2021).

2.1.5 Research Gap

The existing literature on video game development has generated taxonomies of problems, as evidenced by the works of Petrillo et al. (2009), Washburn et al. (2016), and Politowski et al. (2021). However, these studies have certain limitations in terms of theory generation and the quality of their data. As a result, the current body of academic research on challenges in video game development primarily focuses on identifying problem instances. While they draw data from post mortems, they lack the necessary data quality to construct a theoretical framework that describes the manifestation and interaction of these challenges. Thus, Politowski et al. (2021) urges future researchers to address these limitations by conducting semi-structured interviews to gain deeper insights that are unavailable through postmortems. Consequently, there exists a research gap that we aim to address. Namely, the lack of rigorous analysis of the broader problem space and their manifestations supported by high quality data derived from semi-structured interviews. We aim to go beyond identifying the problems but to understand how and why they manifest and interrelate with each other.

To address this gap, this study conducts semi-structured interviews with experienced professionals in decision-making positions across various functions, including producers, studio leaders, and executives. The interviews are analysed using an axial coding paradigm to identify patterns and explain the interrelationships between these problems, ultimately formulating theories based on our observations on the dysfunctions of game development. Upon the generation of these theories, we drew on existing management studies to propose possible explanations for the observations made throughout this research process.

3. Method & Methodology

3.1 Grounded Theory Approach

In this thesis, Grounded Theory is used as the methodology to understand the manifestations of problems in video game development and their interplay. This approach, first described by Glaser & Strauss (1967) and refined by Strauss & Corbin (1990), is an inductive methodology that allows researchers to develop a theory based on the experiences and perspectives of the participants. As well as uncovering patterns and relationships in the data (Charmaz, 2014). The strength of a grounded theory approach for qualitative research is that it enables researchers to examine topics and behaviours from various perspectives in order to gain new insights regarding known problems. As well as uncovering emerging ones in need of further investigation (Corbin & Strauss, 2015). When adopting a Grounded Theory approach, insight into a given topic is gained not by looking to existing theories. Rather, it is *grounded* in data collected, and gained via the process of analysis. An emergent theory thus spawns from the data gathered in one or several empirical studies made during the process of analysing a given phenomenon.

The methods of data collection are most commonly (but not limited to) interviews and observation, as used herein. To lay the foundations for gathering data, Strauss & Corbin (1990)'s three stages of coding - open, axial and selective - are employed in this thesis.

3.1.2 Open Coding Process

To adhere to Grounded Theory's clean-slate approach, the initial "open" codes are categorised by the researchers themselves, and are not based on an existing theory. Glaser and Strauss (1967) and Glaser (1978) recommend avoiding literature that is too closely related to the topic. Strauss (1987) also suggests separating *in vivo* codes, extracted from the respondents' language, from *scientific constructs* that are derived from scholarly knowledge and literature. In line with this, we recommend that the reader refers to appendix 4, as we briefly describe the evolution of our research, and our reasoning to not adhere to the nomenclature provided by Politowski et al., (2021) in respect to maintaining congruence with the methodology of Ground Theory Approach.

3.1.3 Conceptual Elaboration through Axial Coding

Alongside data collection, relationships between the coded elements should be investigated. Categories should be formed during the examination of these relationships by weaving elements together. This can be facilitated by an intermediary coding paradigm: Axial Coding. These emergent categories should be used as guidance for further theoretical sampling.

Vollstedt & Rezat (2019), define the components of the Axial coding paradigm as follows: The *phenomenon* is the central sub category that will be explored, and represents the “what” in the context of axial coding. Once phenomena have been identified, *causal conditions* must be identified, representing the “why” of the phenomenon. The next subcategory to be uncovered is *intervening strategies*, which are actions that participants have taken in response to a phenomenon. Finally, with the *consequences* subcategory is the resulting reaction of the strategies taken by the participants. These specific focuses allow us to detect relationships between concepts and relate them at a meta level. Once the relationships between these subcategories have been identified, a *category* can be produced. A visualisation of the result of an axial coding paradigm can be seen below in figure 10.

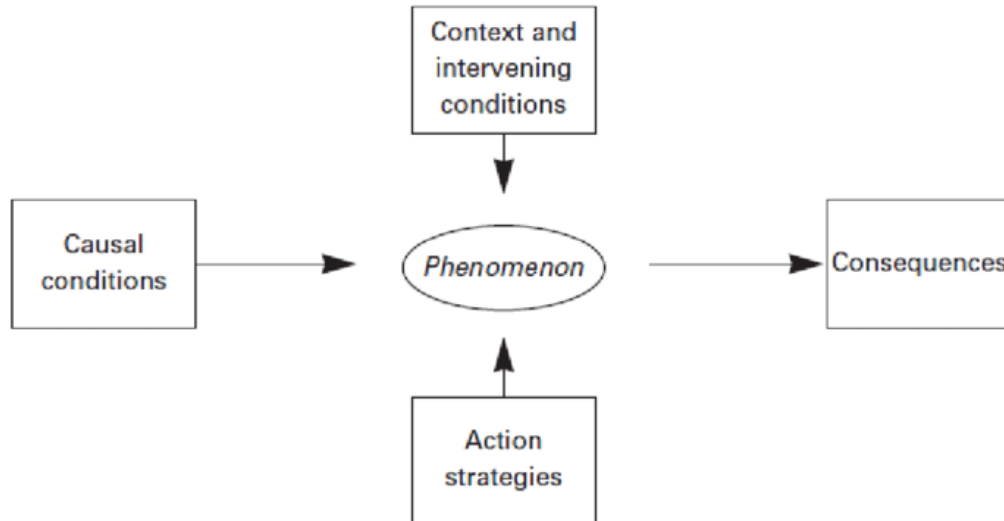


Figure 10. Axial Coding Paradigm by Corbin & Strauss (1990)

3.1.4 Selective Coding and Theory Refinement

During the “selective coding” phase, categories are further integrated and refined (Corbin & Strauss, 2015). At this point “core” categories, used to trace and define differences in behavioural patterns should be established (Glaser, 1992). It is necessary to continually question whether similar themes and categories can be observed in the new data and if any new patterns emerge. This should result in an iterative, cyclic journey that goes from coding, forming of categories and back to continued data-collection through follow-up interviews.

3.1.5 Theoretical Memo Writing

Parallel to the coding process, theoretical memos should be continuously produced to outline ideas that come up about the relationship between existing or emergent categories, their properties, and (m)any other reflections. These memos document insights along the way, as a resource for further exploration.

3.2 Preparatory Work

3.2.1 Pilot Study Test

Our first interview was conducted as a pilot study to test the interview guide (refer to appendix 1), transcription methods, and the type, quality and relevance of the data that emerged. As mentioned in appendix 4, this was also an opportunity for us to ascertain whether Politowski et al.’s (2021) taxonomy was suitable to use as a theoretical framework for the purpose of this study. Discovering the limitations of Politowski et al.’s (2021) taxonomy and coding paradigm during the pilot is what encouraged us to embrace a fully grounded approach.

The small but necessary modifications to the interview guide and data collection methods made following the pilot study ensured that we collected high-quality data that was relevant to our research questions and would contribute to the development of theory. As the results of the pilot study were positive, and we were satisfied with the data collected, we included the pilot study interview in the actual sample size.

3.2.2 Note on the Evolution of Research Focus

As we embarked on our journey, our initial assumption was that investigating a specific aspect of this sizable industry would be relatively straightforward. We expected to find a robust and well-researched

understanding of the problems in video game development that we could rely on as a theoretical framework. However, we quickly discovered that the existing literature fell short of our expectations.

Most research regarding problems in video game development has focused on identifying, categorising, and quantifying these problems to demonstrate their relative impact. We initially decided to investigate some of the problem categories identified by Politowski et al. (2021). Given our area of study in business and management, we believed we could interact with a substantial portion of the problem groups identified by Politowski et al. Consequently, we aimed to establish a theoretical framework based on the existing taxonomy of video game development issues, elaborating on business and management-related issues to explore their root causes, impact on development, and interplay with other issue types.

However, two realisations subverted this intention as well. First, we recognized that the identified problem types could not exist in isolation. Upon closer inspection we realised that the interplay and the manifestation of these problems might stretch beyond the boundaries of the problem types we chose to investigate. This realisation emerged after we considered grounded theory as a potential methodology due to the scarcity of management literature on the topic. We also came to the conclusion that attempting to flesh out some of the problem types identified by Politowski et al. (2021) would conflict with the principles of grounded theory, as the taxonomy would act as an artificial limitation rather than a theoretical framework to build upon.

To test our first suspicion, we conducted a pilot study with an open-ended interview to see if any data points emerged that were suitable for using Politowski et al.'s (2021) taxonomy as a theoretical framework. The interview yielded a much broader picture of interconnected issues, with data unsuitable for coding using Politowski et al.'s nomenclature and coding paradigm. This confirmed our thoughts about the limiting nature of using the problem taxonomy as a theoretical framework. Consequently, we decided to adopt a fully grounded approach in our pursuit of understanding the challenges in video game development.

The existing literature, including the work by Politowski et al. (2018), Washburn (2016), and Petrillo et al. (2009), lacks a comprehensive explanation of why these phenomena occur. We focused on decision-makers as our source of data, deviating from the conventional project management and developer approach in investigating this area. Our rationale for this decision was twofold. First, to investigate the interrelation of different problems, we needed insights from individuals with a bird's-eye view of the development process to avoid missing the forest for the trees. Second, a significant number of our interviewees had a developer background. Throughout the process, we debated whether to include a

developer perspective, but as our data grew, we realised that the decision-makers we interviewed also possessed the developer perspective, with most continuing to engage in actual development work.

3.3 Main Study

3.3.1 Sampling & Sample

Grounded theory, by its characteristics, employs theoretical sampling. Theoretical sampling is a type of purposive sampling in which the researcher selects participants based on their ability to provide information that can advance or refine the developing theory (Glaser & Strauss, 1967; Creswell, 2013).

Individuals were selected based on their experience in an executive or decision-making role in the video game industry and those with such experience were interviewed. Experience that would lead to a broader contextual awareness, not limited to one aspect of development, was a prerequisite for participation. As decision-makers possess the required context, they were likely to possess the knowledge and experience needed to provide information that would advance or refine a developing theory (Creswell, 2013). As Grounded Theory Research samples data and not people or places, the theoretical sampling was less concerned with participants but rather their exposure into the research area (Corbin & Strauss, 2015). Our sample consisted of 15 participants from different studios with varying tenures and positions.

As new themes and categories emerged throughout data collection and analysis, additional participants were sought out to further explore these aspects and refine the developing theory. This cyclical process of collection, analysis, and sampling continued until theoretical saturation was reached for the developing theories, meaning that no new information was being gleaned from additional interviews, and the categories and their relationships were well established and coherent (Glaser & Strauss, 1967; Charmaz, 2014).

Throughout the study, we remained flexible and open to incorporating new participants or revisiting previous ones to gain additional insights, verify emerging patterns, or explore alternative perspectives that could enrich the developing theory. This approach ensured that the theoretical framework was grounded in the experiences and perspectives of the participants.

To maintain participant confidentiality, the sample is presented in a table with participant names anonymised, alongside their positions in the industry which can be found in appendix 2.

3.3.2 Semi Structured Interview Design

Semi-structured interviews were the primary data collection method used in this study. This type of qualitative interview allows for a flexible and open-ended approach, enabling the emergence of unanticipated themes and issues (Creswell, 2013). In this case, an initial interview guide was developed based on the research questions and was kept as broad as possible to let the participant focus on the issues they deemed most important. Conducting semi-structured interviews with video game developers, aims to fill the weaknesses of postmortem analysis, which include the lack of multiple perspectives on issues, purposive or accidental misrepresentation of the truth, and the lack of verifiability (Politowski et al., 2021).

The interviews were conducted either in person or through video calls and lasted approximately one to two hours. 13 out of 18 interviews were recorded and transcribed for analysis, while the remaining 5 interviews were transcribed by notes. This approach ensured that the researcher could accurately capture the participants' insights and experiences while also enabling the flexibility to adapt the interview process as new themes and categories emerged.

3.4 Quality & Ethical Considerations

3.4.1 Anonymity and Confidentiality

Assuring that the identity of participants and data they presented would remain protected and confidential was crucial for encouraging their willingness to share experiences without feelings of unease. All of the participants were informed on the purpose and scope of this research and were ensured their privacy in regards to the data that was collected. The participation was voluntary, and all participants signed consent forms after reading their rights to add upon or withdraw any information that they shared during the course of their interview. Furthermore, we were given permission by the participants to record the interviews, and in the cases that they did not consent to this, we supplemented with notes taking.

All of the data that has been stored, will be kept in a secure folder, in which we will delete upon the completion and grading of this research. The 15 participants were assigned a number between 1-15 in place of their names when referring to them in text, as well as a generic title descriptor. Furthermore, the organisations that the participants are employed by are not disclosed at any point in this paper.

3.4.2 Auditability

Auditability in qualitative research can be achieved through tabulating data and making sure to transcribe all aspects of data from interviews (Silverman, 2005 as cited in Corbin & Strauss, 2015). We were diligent with this process throughout the study as the majority of the interviews were transcribed and recorded in real time with the use of software namely, MeetGeek. Alongside this, our coding process is well documented and we were cognizant of the direction of our research throughout, and found it appropriate to be made available to the reader. This may help future researchers refer to our study for guidance hopefully avoid some of the deadends we encountered.

3.4.3 Validity

The validity of a study can refer to whether the findings accurately represent the features of a phenomenon that is intended to be described, explained or theorised (Corbin & Strauss, 2015), whereas Silverman (2005, as cited in Corbin & Strauss, 2015) stated validity as being the truth. Although our epistemological stance clashes with Silverman (2005), we are in agreement with Corbin & Strauss (2015) in substituting validity with rigour. We observed that the strategies proposed by Morse et al. (2002) to ensure validity, naturally lends itself to rigorous qualitative research. These strategies include methodological coherence, theoretical sampling, sampling adequacy and saturation. All of these have been taken into account throughout the course of this research project, through respecting the paradigm of Grounded Theory approach.

3.4.4 Transferability, Dependability & Confirmability

Transferability refers to the lengths in which the findings of a qualitative research can be deemed applicable to other studies of similar contexts or the extent in which the findings can be generalised (Saunders et al., 2012). As this is a Grounded Theory research, where the theoretical framework is derived from data collected by us, a transferability could be difficult to achieve. We acknowledge that the relatively small sample of industry experts from Sweden, chosen through purposive, theoretical and selective sampling methods may affect the transferability of this study. However, the rigorous auditability of this research increases the extent of which this study can be transferable, as there is transparency in how the data was collected and analysed, as well as documentation on how we came to our conclusions.

Dependability refers to the stability of the results and findings over the course of the research process. This metric identifies whether or not a similar study that replicated a similar context and participants

would produce similar results. In a qualitative study such as this one, we aim to increase the dependability by extensively documenting the research process (Bitsch, 2005).

Another construction for establishing trustworthiness in academic research, is confirmability. Confirmability is the extent to which the findings of the research are based on reliable data and is independent of the researchers' own values, biases and motives. Although the goal of a Grounded Theory study is to derive a theory out of data collected, there is a certain amount of inherent biases or subjectiveness on our part that could affect confirmability. However, it is stated by Bitsch (2005) that in grounded theory research, the integrity of the findings are built through the research process as well as the quality of the data collected, which are both aspects that have been handled with rigour. Recognizing the subjective nature of qualitative research, we have taken the effort to increase confirmability and transparency on how we have come to certain conclusions or interpreted data. To address this, the following section addresses knowledge and truth, as well as a brief note in the "Findings" section that discloses our preconceived notions going into the study, as well as any biases or interests we have in regards to the research subject.

3.4.5 Methodology & Ontological and Epistemological Congruence

When it comes to understanding human behaviour, our philosophical stance is informed by critical realism, which recognizes the interplay between objective reality and human interpretation. According to Danermark et al. (2002), critical realism assumes "the existence of an external reality independently of human consciousness, and [...] a dimension which includes our socially determined knowledge about reality". Maxwell (2012) similarly explains that critical realism "acknowledges that our understanding of reality is socially determined and conceptually mediated, and that our theories about the world are grounded in particular perspectives and experiences".

Our stance incorporates the critical realist recognition of the influence of human interpretation and subjective experience on the construction of knowledge, while still acknowledging the existence of an objective reality that can be analysed and studied. This perspective allows us to provide a nuanced understanding of reality, while acknowledging the limitations of human interpretation.

Evolved Grounded Theory, as developed by Corbin and Strauss (1990), is rooted in constructivist epistemology. While they do not explicitly mention constructivism, their focus on the subjective experiences of research participants and the researcher's own subjective experiences in shaping their understanding of the world, aligns with constructivist epistemology. This focus highlights the importance

of considering the social and cultural contexts in which the research is taking place, and recognizing the impact of human interpretation on the production of knowledge (Strauss & Corbin, 2015).

According to constructivist epistemology, knowledge is not objectively given, but rather is constructed through social interaction and interpretation (Berger & Luckmann, 1967). In this philosophical framework, it is emphasised that the subjective experiences of research participants and the researcher's own subjective experiences play a crucial role in shaping their understanding of the world (Maxwell, 2012).

This aligns well with our philosophical stance, in recognising the influence of human interpretation and subjective experience shaping our understanding of reality, and supports the idea that there may not be an objective truth.

Given the strong epistemological alignment, the rejection of objective truth by constructivist philosophy becomes less relevant in our subject matter. As the object of study is inherently human, we consider objective "truth" to be inaccessible from both perspectives. In this context, both critical realism and constructivist epistemology acknowledge the influence of human interpretation and subjective experience on our understanding of reality, and the difficulty (or impossibility) of achieving an objective "truth". The focus, therefore, shifts to exploring and understanding the subjective experiences and perspectives of the participants in the study, and acknowledging our own biases and their effects on the knowledge created.

As a result, the choice of using Evolved Grounded Theory, which is rooted in constructivist epistemology, aligns well with our critical realist stance in exploring human behaviour and experiences.

4. Findings

4.1 Note on the Axial Coding and the Categories Derived

Upon the completion of the open coding process, the individual codes were categorised under the axial coding paradigm: Causal Conditions, Context, Phenomenon, Strategies, and Consequences, each assigned its own distinct colour scheme. These codes took on various forms across different contexts, depending on the focus of the interviews. As a result, open codes were not limited to a single classification. For instance, the code "Overambitious Scope" could be seen as a problem phenomenon in some cases, a

consequence of specific strategies employed by developers in others, or even as a contextual factor influencing a different phenomenon. This organic evolution from data analysis uncovered new avenues for exploring the interactions between categories during the selective sampling stage. The analysis yielded a total of 95 *Causal Conditions*, 48 *Phenomena*, 88 *Contexts*, 51 *Strategies*, and 63 *Consequences*. After conducting axial coding, we created *categories* through the generation of theories surrounding specific *phenomena* such as “Weakening of Game Vision” or “Individual Deviance”.

In the interest of maintaining confirmability, we would like to acknowledge the fact that our perception of the data gathered may have been influenced by our own pre-existing knowledge on the industry through exposure to academic literature, the products, or work experience (in the case of one of the authors). Namely, the biases that we had going into the analysis regarding the lack of product understanding as well as the concern that developers make decisions out of self interest. Despite these biases, we made an effort to meticulously scrutinise our convictions, which can be observed throughout the “discussion” section.

4.2 Categories

The following section will present a number of refined categories meant to serve as the units of analysis for “Theories of Dysfunction”. These categories are formed using the axial coding paradigm. A table of select categories that could not be included in this section is provided in Appendix 3. Below, we will describe the findings of the categories with a series of quotes collected from interviews, as well as a visualisation of the interactions of the quotes in the form of diagrams beneath the start of every category. The colour coordination is as follows; Blue : Casual Conditions, Green : Contexts , Yellow : Phenomenon, Purple : Strategy, & Orange : Consequences.

4.2.1 Heightened Desire for Individual Impact

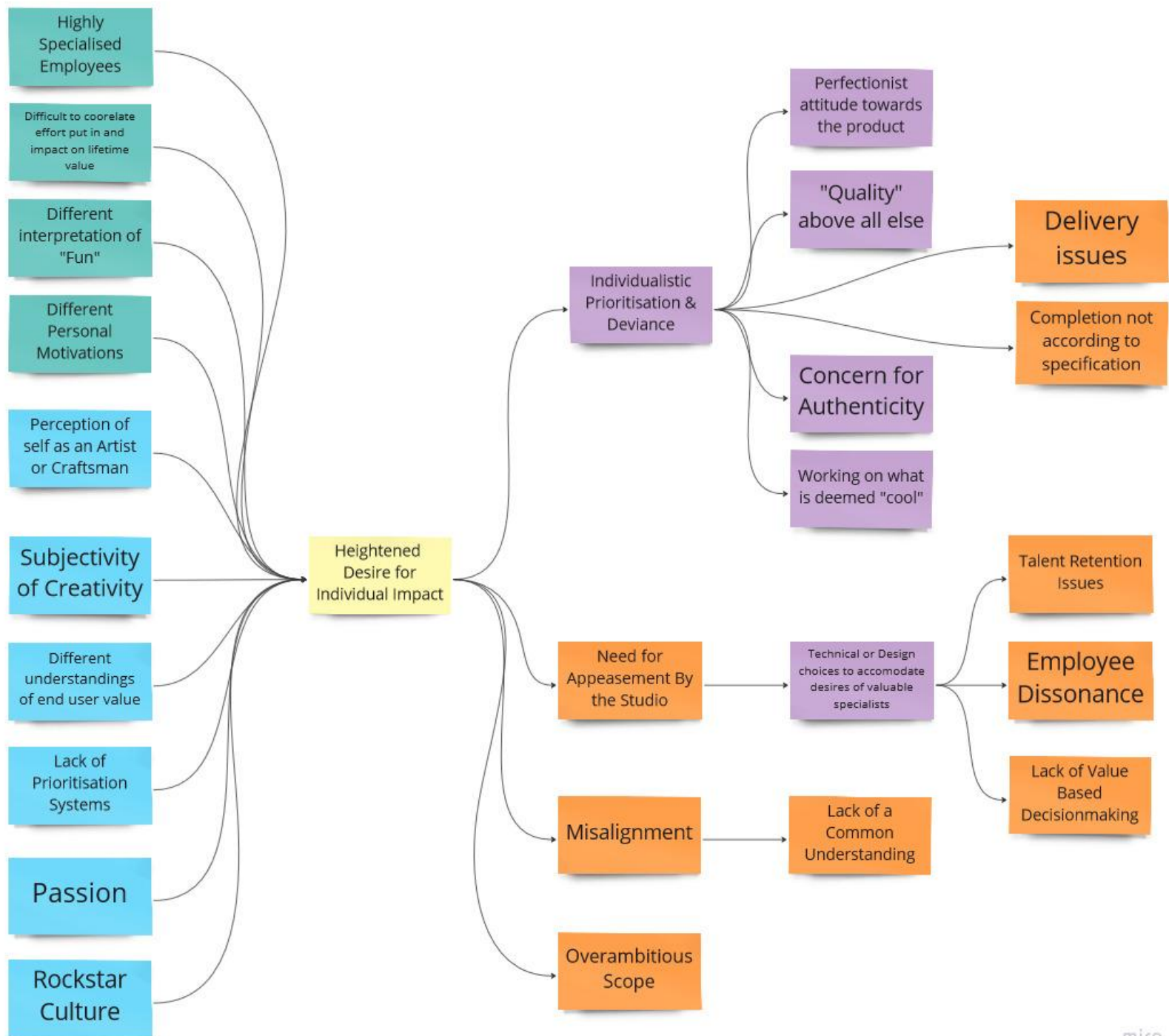


Figure 11. Heightened Desire for Individual Impact

The video game industry exhibits a unique characteristic we have categorised as "Heightened Desire for Individual Impact". Time and time again, interviewees mentioned an increased and unusual commitment

to the work itself, not driven by career progression or financial outcomes. As Interviewee 14 highlights in the following quote, there are often more lucrative alternatives for technically proficient developers, such as careers in software development.

“...you walk into the engine department. None of them are there to make a career; everyone knows (that) they can go someplace else and make twice the money[...].”

To understand this increased commitment, it is essential to explore the reasons developers choose to work in the video game industry in the first place. Our interviews revealed various motivations, which, while not an exhaustive list, provide insights into the various motivators that attract developers to the industry. These motivations are particularly relevant to the phenomenon we are exploring.

One industry-specific motivation is the allure of making video games. Developers who are passionate about video games as a form of media are naturally drawn to the industry. Their priority lies within the act of creating a product that they love, as exemplified by the comment from Interviewee 1:

“[...] you do it because you love it. And, yes, you love other workplaces and you like [sic] love other products, but I still think that it is kind of unique to be (some)where you both love the work and you love the product”.

Another critical motivation that came up is the artisanal pride derived from the work by a developer. Developers who are passionate about their specific craft within the industry do not necessarily think about the final product, but prioritise their specialised craft within the industry. Even if they possess the necessary skills to thrive in another industry, they choose to pursue work in video games, as their passion is very industry-specific, as Interviewee 14 finishes their statement above:

“[...] (continued from above quote about an engine department) They're into it because of the joy of writing engine routines to maximise GPU usage. That is really hard to drive from a business (financial) perspective”.

Almost all of our interviewees defined this increased commitment to work as "passion". This "passion", either for the craft or the product, has tangible effects on the development of video games. Since developers are the core elements of the process, their behaviour and motivations have a direct impact on development itself. This increased commitment translates into a heightened desire for individual impact, because of the nature of video game development as a series of decisions and subsequent actions. This

heightened commitment has dramatic effects on how these decisions are made, as summarised by Interviewee 1:

"They have chosen this because they want to do fun things, express themselves and explore. And it's a lot about exploration and doing the things that you like to do, because, I mean, to some extent, if you were to work with boring things, you can do it elsewhere and get twice the money [...]"

When asked about the consequence of making decisions based purely on what is of interest, and neglecting less glamorous work, Interviewee 1 continued:

"The game won't be done. And people will, I mean, in a short term, people will be happy because they do the thing they want. But when the game isn't done, finished on time, or even with extensions (delays) and things like that, that becomes something that really, really hurts the morale and people in the long run [...]"

The ripple effects of this individual variety in commitment, motivation and understanding, clearly stretch out well into how the final product is realised. Recognising this, we decided to investigate if there are any other factors that contribute to this heightened desire for individual impact. We quickly realised that there are some related causal conditions. The closest example would be the perception of oneself as an artist or craftsperson, as highlighted by Interviewee 11:

"[...] but like people are like artists. I don't mean it in this kind of narrow definition [...] that you make art, but like you're an "artist" [...] Like, you're doing something with the intention of showing the world what you have done, and you have created it from zero, and you're putting something of yourself into that thing, right? And you're exposing yourself via the thing to the world, and that's scary."

Considering these different motivations, the perception of oneself as an artist or a craftsperson, and the nascent, relatively niche, and sometimes juvenile nature of the industry, there is a strong cultural baggage associated with game development. We coded this as "Rockstar Culture". Although diminishing, as Interviewee 8 states, it still presents itself:

"So I think the gaming industry is growing up. And I think it's becoming more of a profession that you can do. A bit boring, but I think it's kind of like that. [...] But there's been so many, like awful things in the game industry [...] going back, when I started, like all of those things [sic] were completely different. Alien concepts like, girls don't work in the gaming industry. And of course, we should crunch. And artists are this way, designers are that way (were prevalent) [...]"

This creates a culture where work is more than just work. Interviewee 11 provides a great summary of this working culture:

“There's a lot of like, “No, we make games. That (project management methods) doesn't apply to us. Our thing is so hard.”. It's almost like a self-perpetuating thing. Like, “we crunch instead of doing things smartly.””.

This type of culture is attributed to smaller studios where individual agency is much higher due to the sheer lack of resources. Interviewee 11 exemplifies:

“So I think if it's a smaller game production, you are putting your name on a thing, and actually everyone can see your thing. This is your thing. It's almost like releasing something on your own”.

There are, of course, other motivating factors for developers. Some developers might be very cognizant of the end user even if they perceive themselves as an artist or craftsperson. However, even with this motivation that might be considered more productive, there are differences in understanding what constitutes end-user value. The lack of value-based decision-making is an important phenomenon that we explored under its own category and will touch upon.

It would be unfair to attribute the entire responsibility for this heightened desire for individual impact, which may also manifest positively, solely to developers. There are industry-related circumstances that enable and encourage this desire for individual impact. For example, the central role of art and design-related disciplines within the industry, can both enable and justify perception of oneself as an artist and a free creative. As Interviewee 1 puts it, “[...] developers do not want to be 'thing' constrained”.

As mentioned, this unique mindset manifests in certain behavioural patterns and consequences. Naturally, this heightened desire for individual impact leads to individualistic prioritisation and deviance from the vision. Interviewee 14 explains this sort of behaviour through a personal anecdote from earlier in their career:

“It's about the righteous validity of code and systems. It's the engineer brain (that) kicks in [...] So I didn't do it (going beyond the requirements, deviating from planned work) out of a like, “Oh, I want to have a career”. I did it because it was clearly better.”

The heightened desire for individual impact, in conjunction with individualistic prioritisation, is an important factor in the lack of value-based decision-making. For example, Interviewee 10 mentions, “*You would probably focus on the stuff that you think is the most important in your game.*”.

As multiple developers share this desire for increased individual impact, this collectively leads to a natural increase in the scope of the project. This is a central theme for one of our theories. Over-ambitious scope is another theme that we investigated under its own category and will briefly explain.

Additionally, individual motivations and the desire to increase personal impact lead to different understandings of the process, the product, and the features. As mentioned by Interviewee 7:

“And when we started the first gig we had, me and [Omitted co-worker] [...] said what kind of features do we have left to complete this game. We start listing them, and then we start talking and realise (even after) working for two years, we still had some different views on where the game would end up and even though we were basically sitting next to each other living, eating and sleeping together.”

This lack of alignment is explored under its own category as well.

Finally, one interesting consequence that we recognized was the perceived need for the studio to appease this heightened desire. Interviewee 14 touches upon how it impacts decision-making:

“...like in other industries, it might be a lot more, maybe cold or hard, you just look at ROI and see if it's worth it or not, guess it's such passion (drive) and creative industry you have a lot of people to keep happy as well.”

The management of creativity emerged as a recurring topic in discussions with interviewees. While there was a consensus on the importance of fostering individual contribution to a certain extent, the reasons varied. Some interviewees emphasised the need for quality control in the product, as mentioned by Interviewee 14. Others highlighted the practicality of decentralising decision-making due to the complexity of involving a single point of contact, as stated by Interviewee 12:

"You need to be able to sit down as we do now (referring to the interview) and like, take a couple of hours. Because every single person that I talk to about the project, they have unique questions because they look at the project from their craft, and want to know about very specific things. And I think in a project with [a large number of - Omitted] people, it's impossible for everyone to truly understand the project."

Additionally, from a talent retention perspective, many developers expressed that their motivation for their work extended beyond being purely career oriented. Interviewee 9 reflected :

"(referring to motivating developers) That struggle is kind of big, and it results in a churn of the people that we have. People come in thinking they're going to be making these cool new things, and then find themselves sort of hamstrung."

And, of course, appeasement by giving more agency to developers, who may or may not have the end user value in mind, is another path to a lack of value-based decision-making.

4.2.2 Over Ambition

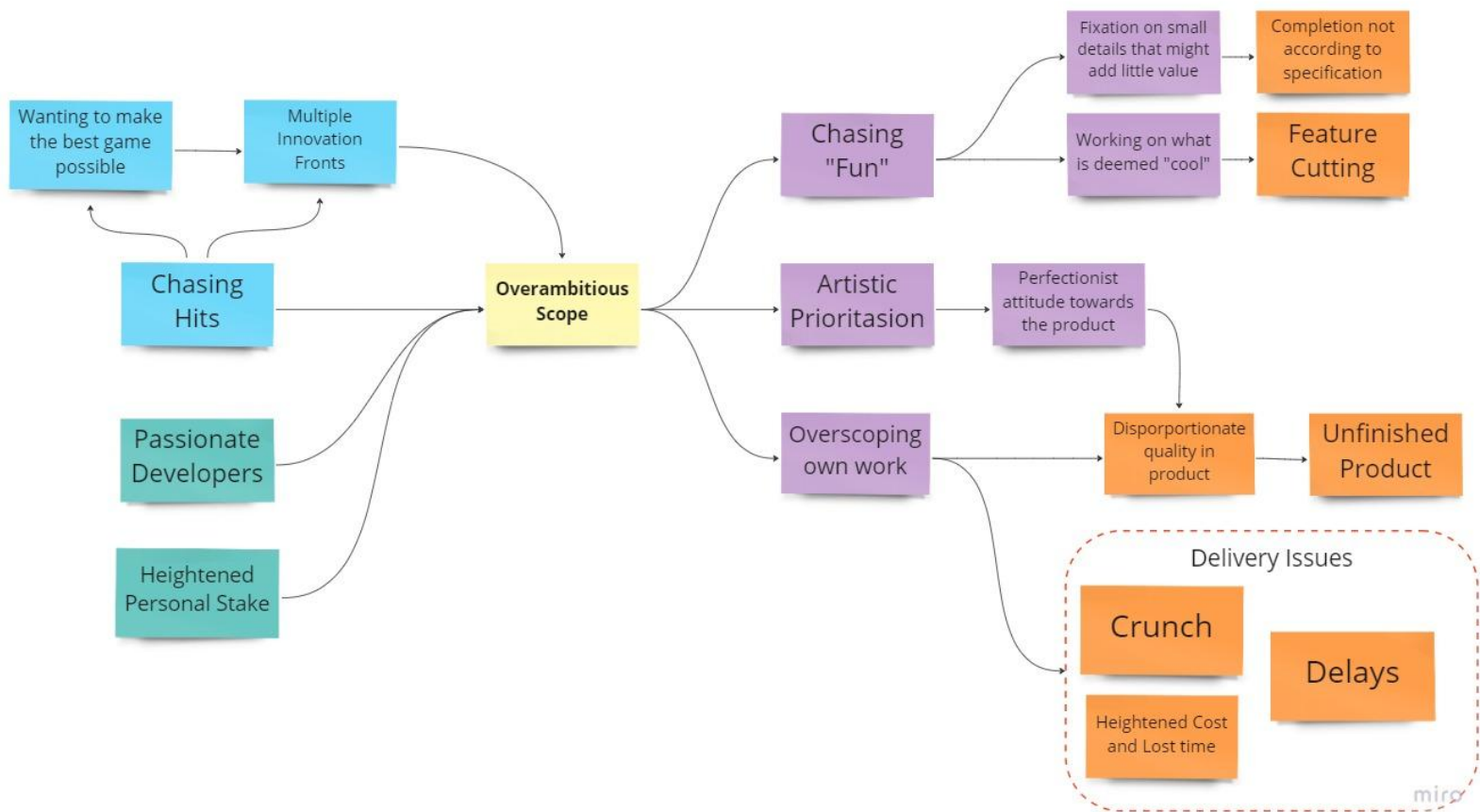


Figure 12. Overambition

Scope management has been widely reported in previous academic studies on the challenges of video game development, and was represented as one of the core issues throughout our interviews. When inquiring about what the potential causes for overambition in the industry were, both personal and business related motives were cited. Interviewee 3, noted :

“extreme passion can be detrimental, [...] which is an issue because in the gaming industry we are still a lot more hit driven than others”

Due to “hit driven” perception of the industry, overambition is often justified. In conjunction with this, interviewee 2 reflected on previous failed projects :

“there was one game at [Omitted studio] where we didn’t release because we tried to innovate on too many areas at once”.

These interviewees provided insights on the constant push to innovate and the financial pressure to create successful games leading to a culture that can perpetuate unrealistic and unattainable ambitions for their games. Furthermore, interviewee 3 discussed the challenges with predicting the return on investment when it comes to allocating time and resources in specific areas of development such as graphics, gameplay, software and other innovations, which can lead to overscoping work that may not be value driving.

“the ability to predict lifetime value in relation to cost is often missing [...] we often struggle with understanding how much we are willing to spend on maintenance that (only) hardcore players may see, compared to a DLC (downloadable content) that we will sell for 50 SEK, but the dilemma arises where maybe the passionate (hardcore) players who will drive the most revenue might stop playing if we skip out on these small details”.

When discussing ambition, interpersonal motivations were also very salient, interviewee 5 stated:

“In the video game industry, the majority of the people are in it for their passion for games [...] Which leads to us wanting to deliver the best possible thing [...] a lot of people have personal stakes in the things they build”.

Furthermore, interviewee 1 reflected on the unique attitudes that perpetuates overambition amongst developers:

“it’s a weird place, because[...] anything is possible and there’s no limit or anything like that”.

These quotes help to understand that there are positive and negative motivators that perpetuate over

ambition, through the passionate drive for creating the best game possible as well as the fear of scrutiny and failure.

Some of the behaviours in relation to ambition that the participants observed can be seen below. Interviewee 12 reflected on the fact that many developers often overscope their work by getting fixated on small details:

“People scope their own work, which I think is a problem... people have this attitude that they want to do their part best”.

“We were working on a third person game, where the audience (player’s view) could never get very close to specific things, not enough to see small details [...] but what people (developers) tend to do is like they zoom into everything and make small scratches and stuff no one will ever see”

Additionally, interviewee 1 spoke about how the creative endeavour of producing a “fun” game can further perpetuate over ambition and scope growth:

“it becomes so apparent, when fun always comes first, it can create an environment where a designer could say it will not be fun in its current state, and will not be fun unless I get another month (to work)”.

The consequences of both individual overambition and overambitious scope were related to the ability to deliver on time and the sacrifices that have to be made in the end. Interviewee 8 reflected on one of their projects:

“there was one project (omitted) that was the most noteworthy for me, I think we over promised and under delivered, we basically messed up the scope.... and had to release a game in a state we were not happy with”.

Additionally, interviewee 5 reflected on the consequence that overambition can have on the features in the game as well as the morale of the people who spent time and effort developing them:

“Over ambition and passion can have a negative aspect sometimes, where people have to “kill their own darlings” in order to deliver things on time [...] on something they worked on for a long time and were really proud of (gets cut)”.

4.2.3 Decision Making Pathologies

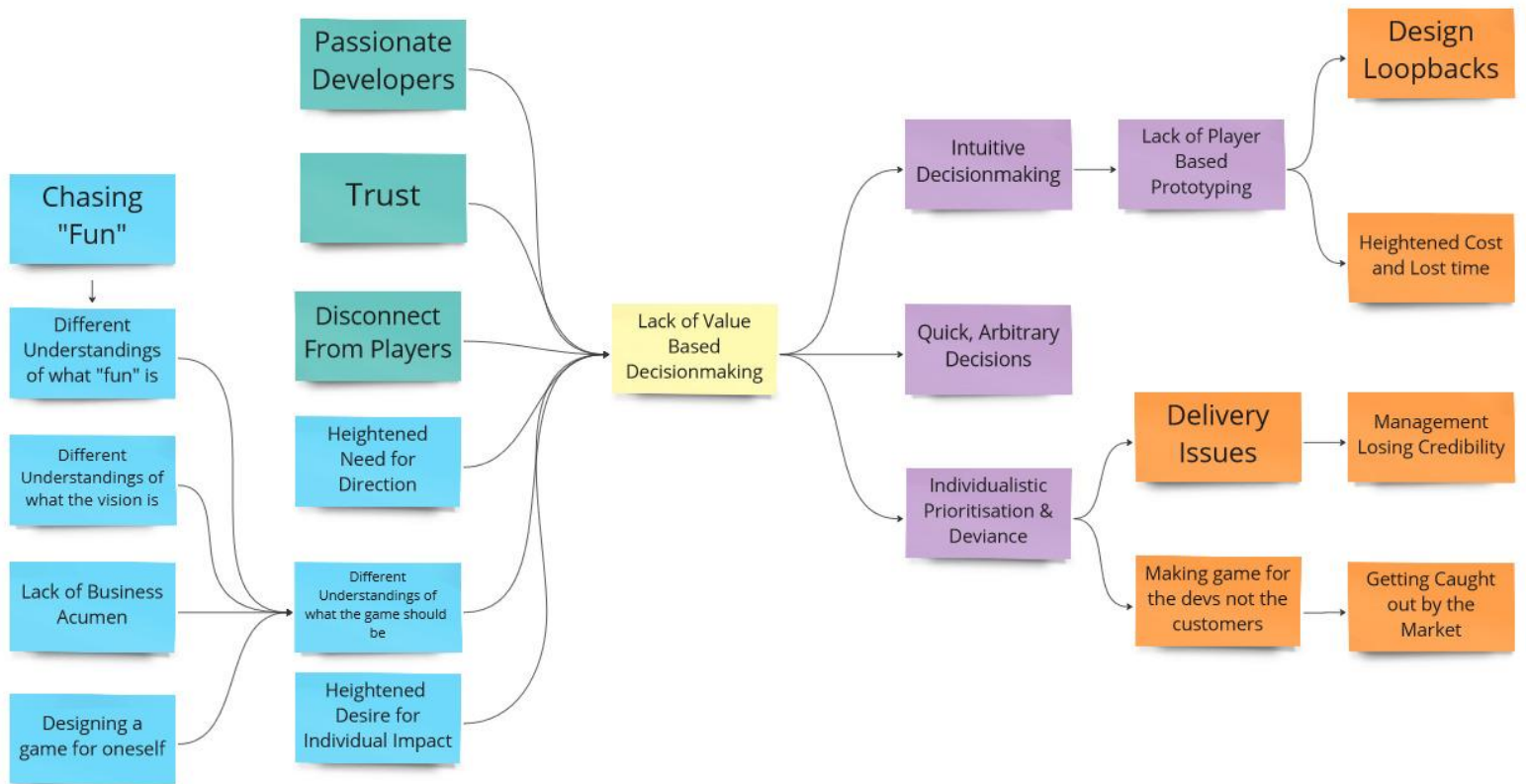


Figure 12. Decision Making Pathologies

Interviewee 6 described ill-fated productions as,

"[...]not (exactly) like death by a thousand cuts -because death means that the thing died at the end, but they are more like a series of unfortunate decisions that lead to a lot of pain and stress at the end."

This aligns with the description of video game development by interviewee 4:

"an accumulating chain of decisions over a long time span",

In this category section, we examine an essential phenomenon: Lack of Value-Based Decision-Making.

While this thesis aims to explore the reasons for unintuitive decisions in development, we have previously discussed personal motivations for not prioritising player value (see Heightened Desire for Individual

Impact). However, portraying developers as unprofessional and placing the burden of these decisions solely on individual motivations is unfair. We have questioned if there might be mechanisms at play undermining a complete value offering, even if a group of developers are mindful of "player value".

Upon reviewing our interviews, we realised that different individuals within the development process had varying definitions of player value. Naturally, when their understanding of this goal differs, misalignment may occur, and a lack of unified understanding of player value can lead to prioritisation issues, leaving intuition as the only guide for decision-making. Interviewee 7 demonstrates this with the quote,

"And then you have to find the right balance to give the teams their own sort of objectives while you still have a requirement or a sort of overarching vision that holds them together..."

Fun, as a goal, frequently appears throughout our interviews. Interviewee 14 emphasises its importance, saying,

"[...] I think it's more important that you have a fun game than that you have a solid plan, which I stand by[...]"

However, Interviewee 4 states that, *"fun is not a good KPI"* due to its intangibility. Interviewee 7 elaborates on that aspect, saying,

"(on trying to gauge if a game will be fun as a whole) [...]it's not easy to judge, but yeah, I think it's a matter of faith in many ways [...]"

Interviewee 14, when asked, provides an alternative viewpoint regarding their earlier remarks, stating:

"It doesn't need to be fun. It can be (attractive) because it's scary or because it's (adult content) [edited] or whatever, right? But, there is something that people (that draws them), there's some value in there."

Thus, not only is fun inherently subjective, but there are also different viewpoints on whether fun should be treated as the key value driver. At the developer level, the vision is something to make decisions and build the game around, as summarised by Interviewee 12:

"With the vision. It's a support structure" also referring to it as *"what the game is supposed to be"*.

As such, different understandings of the vision or misalignment also lead to varying understandings of what constitutes player value or what the game should be.

As best stated by Interviewee 1 with the earlier quote about working with the product one loves, many developers are also players themselves. This leads to an interesting phenomenon of designing a game for oneself, treating oneself as a representative of the audience. Interviewee 3 provides a good example:

"And then people came up with this idea which I think is their childhood dream of what they want a game to be like or what they did as kids, you know like it's a game set in [hometown of a developer- Omitted] ".

This often coincides with what we coded as a "lack of business acumen," a complex phenomenon containing multiple aspects we've observed, such as culture, the nature of the industry, personal motivations, etc. In a nutshell, developers may have difficulty seeing the game as a product divorced from their creative endeavour, and separating the larger playerbase from themselves. As defined by Interviewee 8:

"I'm not going to call the lack of understanding, but it's rare that you have people taking a step back to evaluate something as a product."

These factors contribute to developers having different understandings of what constitutes player value and, consequently, different understandings of what the game should be. This creates a certain level of creative decision deadlock, leading to intuitive decision-making from project management, as exemplified by Interviewee 7:

"...(design needs to keep the strong) vision they have, because if you start to falter it's like then it's going to be a bit of everything and nothing basically."

Alongside the different understandings and the heightened desire for individual impact, an interesting phenomenon also arose from our interviews: a heightened need for direction. Starting with an anecdote by Interviewee 7:

"Creativity is such a weird thing ... we had brought in an artist and (we) just felt like since they're a "creative" they might be actually creative. They asked me what kind of style I wanted and I said "you pick a style you can do whatever you're an artist, so just do it" and he just crumbled under pressure and just quit"

We can see that complete creative freedom is not always desirable for every developer. Interviewee 12, alongside others, also touches upon this by using the term "support structure". Seemingly at odds with our previous category, this highlights the individual differences between developers and is a contributing factor that leads to intuitive decision-making. Interviewee 7 summarises it well:

"Most people want some guidance, I learned that the hard way [...] Sometimes you rather say it doesn't matter because it doesn't matter really, (when asked about the inconsequential red v blue decision I say) I don't know I just felt like red for the day and like blue the next day. I think sometimes you just have to pick ..."

In conjunction with this heightened need for direction, decision-makers are often overwhelmed with the number of seemingly small decisions, leading to quick and arbitrary decisions on issues considered low-stakes. These decisions might or might not end up being one of the unfortunate decisions mentioned by Interviewee 6.

We previously mentioned that individualistic prioritisation and deviance may lead to delivery issues. One aspect of that category we haven't explored is management losing credibility and creating a feedback loop, as Interviewee 6 explains:

"And then maybe there must be some buffer added (to the available development time). But when you add the buffer, people think that, "Oh, it's still okay. We have a lot of time." And then people don't take into account the deadlines and don't take them seriously." (Regarding scoping)

Designing a game for oneself, when prioritised, results in a product made for the developers themselves. Interviewee 1 exemplifies this:

"But if, if we're 100 people making a game for millions, and if the designers are making the game for themselves, it's really high rates. I mean, it needs to be much broader."

4.2.4 Misalignment

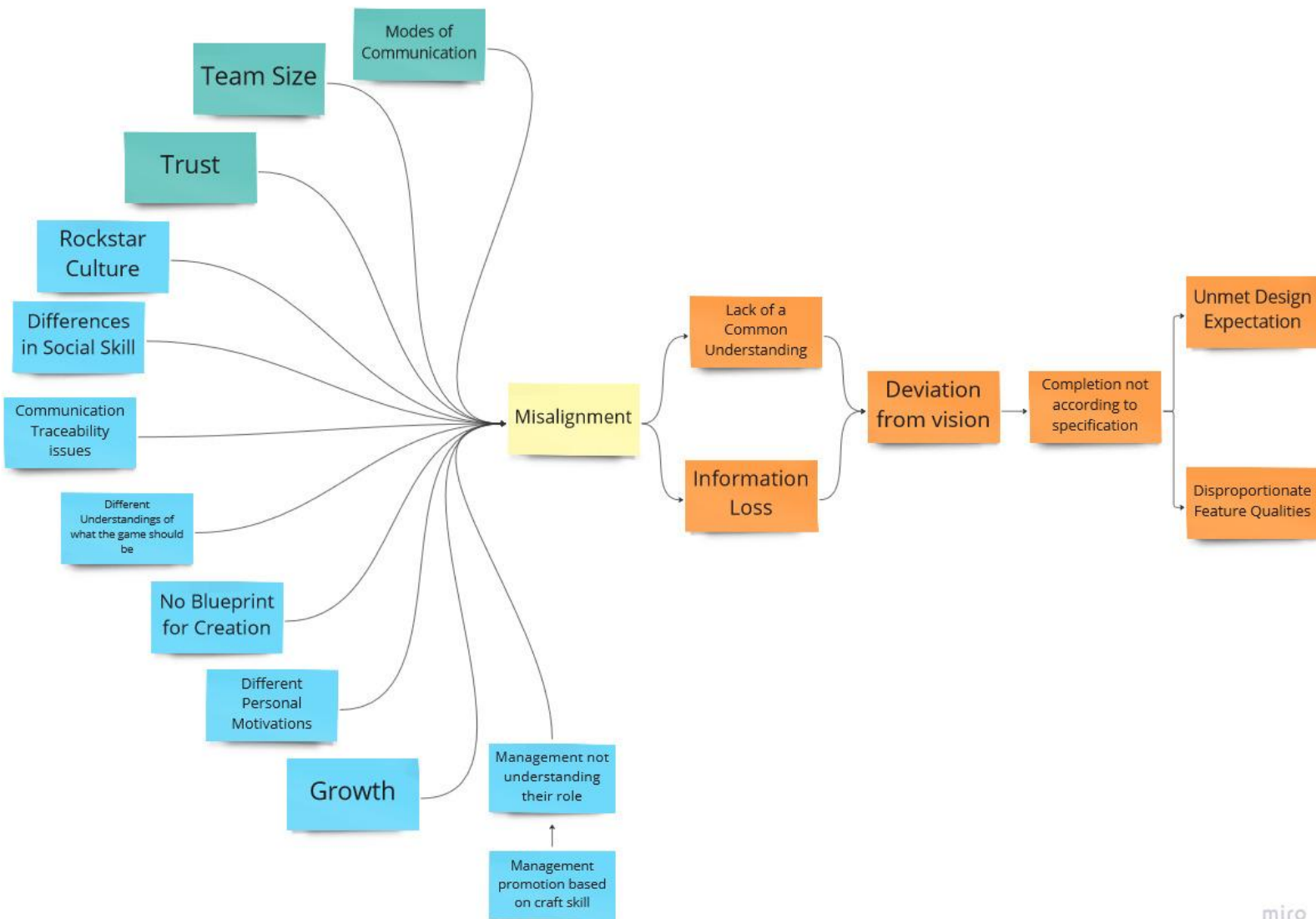


Figure 13. Misalignment

One relatively straightforward but important category that we observed, is a collection of communication issues that we name "Misalignment." This category encompasses both misalignment regarding current information and differences in understanding of the game. As a multidisciplinary and creative endeavour, it is no surprise that almost all of our interviewees give enormous importance to communication and alignment. This sentiment can be summarised by the words of Interviewee 8:

"I have tried to align so many people over these years... spent a considerable amount of time just syncing people, aligning people and saying like this is what is to focus on".

As a recurring phenomenon in the problem space, *Misalignment* has many sources. These can be organisational, through the appointment of managers based on craft skill who might lack the necessary management competencies, as Interviewee 8 explain:

"And since people are so different, it's like a matter of communicating quite differently. And you need to be really sensitive about that... And while a manager has to be really sensitive, and maybe even not know as much about a craft, but have people skills instead."

Personal factors, such as different individual motivations and deviance due to heightened desire for individual impact, can lead to misalignment, as Interviewee 5 describes:

"Imagine we're making (a racing game set in a city), so what you're working on needs to align with that. And that becomes tricky when the world building people decide we actually want to have a lake here (in the middle of the city). But we haven't planned to build any boats. You can't drive on the lake so what do we do now?? So like the potential pivoting that one team has to do, in order to fulfil the goals, kind of potentially cascades out into other teams."

Additionally, the subjective nature of the product can lead to different understandings of what is being built, as Interviewee 7 recounts in the previously referred anecdote about different understanding of what the game is. These are all examples of causal conditions that might lead to misalignment between developers and management or developers themselves. However, whenever the topic of communication issues came up, it did so almost exclusively in the context of studio growth.

When asked, growth has been the first causal condition that misalignment is attributed to. This is unsurprising, as the number of people in need of alignment increases. Naturally, any of the causal conditions that might lead to misalignment have a higher chance of occurring. There are some contextual factors that must be kept in mind. The need for and existence of trust between management and creatives is a mitigating factor in misalignment, according to Interviewee 7:

"Finding a good game director or lead designer that you trust and you can connect with (is crucial). So that trust also extends to the studio heads actually, like your "heads" must also trust in that creative vision absolutely."

Deficiencies in communication traceability can also contribute to misalignment, Interviewee 8 also brought up methods of communication and information transfer as a possible moderator for the effect and pointed at the inefficiency of digital solutions for communication, as Interviewee 8 states:

"Like some people. It's hard with different communication methods. Was it posted in Slack? Did someone read it that day? Was it in a meeting? Did we have meeting notes? [...] Was it on internal documentation?"

Who reads internal documentation? It's like it's all of those. And what Slack channel was it? In what Google Meet did you say it is?"

The consequences of misalignment can be broadly categorised into two groups. The first is a lack of common understanding, as best exemplified by Interviewee 7's anecdote (page 40) regarding different understandings. The second consequence is simple information loss. For example, Interviewee 8 mentions meetings as non-permanent avenues of information transfer.

As an interconnected system, a video game studio cannot afford for its component teams to be out of sync. Interviewee 7 points out:

"Yeah, it's easier when you're a small team that's very easy because then you know like some people need more direction, for some it's less... especially for me as a manager now (it's difficult) when you have like eight or ten teams with different leaders in them. The people in those teams have different sort of (requirements) so when I set requirements for the team as a whole, I need to find leaders below me that can (stay aligned)..."

Consequently, different understandings of the reality of production, different understandings of the vision, or information being lost, in conjunction with other forces (e.g., desire for individual impact), will lead to a final product that does not satisfy specifications.

4.2.5 Managerial Appointments Based on Craft Skills

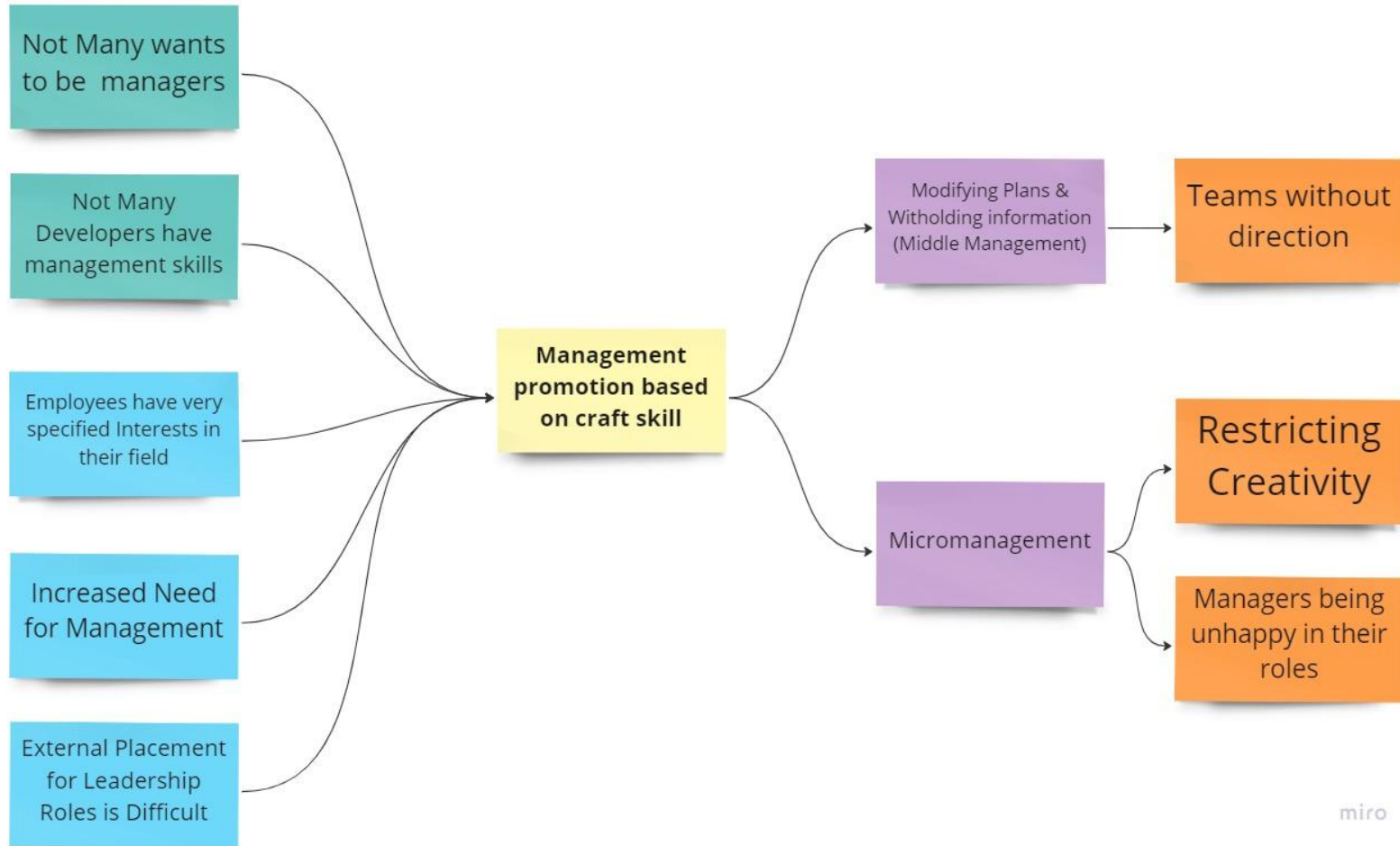


Figure 14. Management Appointment Based on Craft Skills

In studios experiencing rapid growth, the increased demand for middle management has created leadership challenges for some. As many specialised developers join a studio, the demand for increased coordination and delegation has become critical, as evident in the interviews we conducted. The interviewees reflected on the challenges associated with appointing managers, especially in such an industry with people having niche expertise.

Interviewee 13 reflected on the nature of such a passion driven industry and the scarcity of people who go into the industry specifically with the goal of wanting to become a future leader:

“the percentage of people in gaming who want to be leaders or interested in becoming a good leader are... fewer, more people are in it for the passion, culture and the art”.

While interviewee 13 painted a picture of how there are not enough people with interest or adequate skills to become managers, the question regarding why people in the industry have reservations about looking outwards for potential managerial talent was addressed by interviewee 2:

“people who actually want to be in middle management, they might not be interested in the game”.

Additionally, interviewee 14 reflected on how managers coming into video games from another industry may find it difficult to lead groups of creatives who like to do things their own way:

“A lot of people from traditional businesses are in it for monetary reasons, and coming into roles within the gaming industry, they are usually shocked because people don’t do well with being told what to do”.

These casual conditions as well as contexts lead to the issue with internal promotions as interviewee 8 stated:

“It’s the same across every industry, if you are really good at your work, you get promoted to be a manager.... But those (managerial skills) are completely different skill sets and you (who got the promotion) might not even want to be in such a role.”

Interviewee 8 reflected on the impact that promoting specialists lacking managerial skills caused in their previous projects:

“I’ve discussed with team leads who said that their teams were lacking information, and when I spoke with the lead, they knew everything, I realised that they weren’t taking the things I’ve told them to their subordinates.....I think some who come into these roles don’t realise the responsibility of setting a direction with the information they have been given”.

In addition to lack of delegation and communication skills, interviewee 14 reflected on people in management positions who are too passionate about the craft and cannot step away:

“As someone who is very good at doing a special set of skills, they may have the tendency to micromanage their team, but in reality they don’t need that....people that are very passionate enjoy being the key driver.....so they are basically not doing what they really want to”.

5. Discussion: Theories of Dysfunction

The following sections will aim to answer our 3rd and final research question. Having analysed the interview data through the axial paradigm, the following theories of dysfunction are our attempts to enrich the existing knowledge of managerial problems in video game development through positing a specific (not exhaustive) list of theories that may help to interpret our findings.

5.1 Value Misattribution

5.1.1 Misappropriation of Value

In a space where what constitutes a “game” is up for debate (Egenfeldt-Nielsen et al., 2020), adding another layer of abstraction and definitively formulating what a “fun game” is close to impossible. However, as demonstrated in many of our interviews and the categories we extracted from them, “fun” is commonly used as a metric to determine the success potential of a game, or the relative importance of a feature.

Very much like product categories such as electronics, consumer goods, or cars, customer expectations and performance objectives in video games differ from product to product. We observed a dearth of understanding when it comes to what constitutes “quality” in a given video game when evaluated as a complete product. Fun that is purely derived from the “act of play” is often conflated with specification quality; the “fit-for-purpose”. This behaviour would be accurate in instances where fun is the sole performance objective for a video game. However, attaining fun does not guarantee success, but also failing to do so does not mean certain catastrophe.

“*Warhammer 40.000 Darktide*”, agreed as being (by developers themselves, critics and disgruntled players alike) one of the most “fun” experiences the medium has to offer; was met with significant negative reception (Zak, 2023). “*Firewatch*”, another video game, consists of not much more than walking around at a very slow pace, gameplay-wise. Yet, alongside numerous other accolades, it was nominated for 5 BAFTA Awards, winning “*Best Debut Game*” (Staff, 2017). These two games serve wildly different “purposes”, *Firewatch* does not claim to be categorically “fun” in the same manner as *Darktide* does. However, it is clearly recognised as a high quality and entertaining product.

This phenomenon is not only due to the subjective nature of what “fun in video games” is, or where it comes from. It is also due to the fact that players may very well evaluate a game, and not treat “fun” i.e.

the enjoyment of the moment to moment gameplay, as an important evaluation criteria. They might even ignore fun completely as a metric, depending on the game. Interviewee 14 refers to this, “*It (a game) doesn’t have to be fun...*” (pp. 42) and qualifies other possible avenues of value for the player. As such, it is safe to say that “fun” cannot serve as a surrogate for quality in video games, meaning it cannot be the sole performance objective.

As it is not possible to use a single metric to gauge quality -or what makes a “good game”; any other attribute of a video game becomes less important on their own as well. The players, or the value they expect to be delivered, takes centre stage. Because in the end, it is the player who decides if the specifications of a game are “fit-for-purpose” and that evaluates the value on offer accordingly.

Each player may have a unique set of preferences and expectations that affect their evaluation of a game's value proposition. Thus, if the “purpose” - or what is of value to the player- is defined by these expectations, so is the “fit” for that “purpose”. Then, the evaluation criteria for quality are attributed by the player, and defined by their expectations of the game.

As such, we propose another answer to the question “Why do video games fail?”: misattribution of value. What developers perceive as a complete and valid value offering might not be in line with their audience. When developers fail to attribute the sources of player value to the correct components of a game, misalignment occurs on the topic of the value on offer. As players’ attitude towards the product is determined by their evaluation of the value delivered, and as this evaluation is defined by their expectations of the product, the question of managing player expectation becomes salient.

Player expectations are shaped in two distinct ways. Explicitly, through marketing and communication, which lies beyond the scope of our work, and implicitly through the characteristics of the game or even the studio themselves. The existence of certain features or traits are implicit commitments for other traits to form a complete value offering. The same principle applies with a studio's portfolio, a game being made by “Studio-X” creates implicit expectations. An appropriate analogy is, if an electronic device is designed in a compact form factor, there is an implied promise of portability. This means there are additional implicit expectations from the product on the side of the customer, e.g. a suitable battery life for extended mobile use, appropriate ergonomics for easy stow-away etc.

In our context, this translates into player promises that are associated with certain features or attributes of a game. A player promise refers to the commitments made by developers to their audience regarding the

attributes or experiences players can expect from a game. The term “Player Promise” has been coined by game designer Alex Jaffe at the “Game Developers Conference 2020”, building upon a lecture by Zak McLendon from 2018 at “NYU Game Center: PRACTICE 2018”.

Player promises create a set of expectations that shape how players perceive the game's value and potential for enjoyment. Player promises can be communicated through marketing materials, gameplay features, the game's narrative, setting and other design choices. This means player promises are not exclusively explicit, players can infer these and shape their expectations, which play a significant role in players' assessment of a game's value.

Misattribution of value occurs when developers misunderstand or overlook key value drivers in a game. In other words, fail to recognize and deliver on the player promises. This misattribution tends to stem from the fact that most developers are players themselves. Interviewee 10 touched upon this, alongside many others (Interviewees 1,3,4,7,12,14). Developers tend to lean on themselves for research, and incorrectly assume if they themselves see a certain feature as valuable, so will the players. As Interviewee 10 puts it, *“That is a dangerous assumption to make.”*

Certain phenomena we observed over the course of our research are related to player promises, and are important in explaining how value misattribution manifests. For example, *Overambition* leads to a proliferation of player promises through scope creep and added features. More features implicate more player promises, for example; Interviewee 14 hypothesised a scenario in which a team implementing a feature that places unexpected work on other teams. This common chain reaction is due to the fact that the new feature, in order to be a complete value offering, needs inter team work. In other words, further features are needed to fulfil the newly minted player promise. This creates a ripple effect of incomplete features, and a subsequent increase in unfulfillable player promises due to time constraints.

Focusing on less important aspects, neglecting the elements that players perceive as valuable, or not questioning the implicit player promises may inadvertently create a misalignment between the game's features and players' expectations.

5.1.2 A Brief Note on Value Misattribution at a Studio Level

An interesting sentiment we encountered on multiple interviews was regarding a seemingly confounding phenomenon: players who reviewed games negatively even after having played for hundreds of hours.

The interviewees who touched upon this phenomenon defined it as “review bombing”. They were uniform in their agreement that this was a deliberate display of displeasure from the players’ side. Although this might be true in some cases, we propose another explanation.

We believe there is a misattribution of value inherent in this pervasive argument. The argument conflates the value delivered to the players with the amount of time they spent playing the game, or to put it simply it poses a simple equation of “Hours of Entertainment = Delivered Value”. This is reminiscent of a quote by marketing professor Theodore Lewitt: “People don’t want to buy a quarter-inch drill, they want a quarter inch hole!” (Furr & Dyer, 2014). Players do not aim to spend time playing the game, they have expectations from the game in order to be entertained. However the assumption is, if people are playing the game for so long, there must be enough value delivered to them. Based on this assumption, the high “entertainment hours per dollar spent” is at times used as a justification for the lack of a complete value offering, or a complete game.

The argument misses to take “time spent” as a cost in the benefit-cost calculation that determines the value of a video game. Player promises that have been executed well, can provide enough “benefit” for a player to play a game and spend the “time” cost of dealing with non-value added aspects of a game. However, this does not guarantee immunity to criticism of the unfulfilled promises. As this is not value delivery by the studio, it is value extraction by the player.

Attributing the sources of player value in a game correctly does not guarantee success however. Video games, as commercial products do not exist in isolation from the outside world. Developers of *Ōkami*, a commercial failure, have managed to identify the sources of player value correctly, and delivered on the player promises. This is evident in the rave reviews, accolades and the recent, massive success of its remaster. However, commercial mis-steps have prevented it from reaching its potential. This presents another interesting avenue for future research on failures of communicating the player promises effectively.

5.1.3 Theoretical Reconciliation of Player Promises with Value Delivered

There is no commonly accepted definition of customer value; nor any definitive conceptualization on the typology of customer value for any given product (Smith & Colgate, 2007). However, in line with Smith & Colgate we used a simpler definition of value. In our context, value is what players “get” (benefits), relative to what they have to “give up” (costs) (Zeithaml, 1988), and the subsequent attitude towards, and

emotional bond with the product (Butz & Goodstein 1996). As seen in the analysis of the misattribution of value in video game development, the elusive question on which aspects of the final product will deliver value to the player is a question that cannot be answered with a singular response. However, the practical framework for customer value creation by Smith & Colgate (2007) provides insights that can help video game developers distinguish which aspects of a game will deliver specific benefits in the eyes of the player. The objective is to identify the most crucial features from an operational standpoint that should be prioritised for development.

There are four major dimensions of value that illustrate the key benefits and sacrifices for the customer: functional, hedonic, symbolic, and cost sacrifice. Functional value refers to the extent to which a product meets the desired performance criteria. This can be exemplified by factors such as aesthetics, quality, customization, creativity, reliability, and other benefits. Hedonic values, on the other hand, refer to the extent to which a product creates experiences for the customer through sensations and emotions. This results in values such as pleasure, enjoyment, excitement, and humour. Symbolic value pertains to the extent to which a customer associates psychological significance with a product, such as self-concept, self-worth, and spirituality. Finally, in order to maximise and realise these aforementioned values, it is in the interest of the product/service provider to minimise the costs and sacrifices associated with the use and ownership of the product. These costs may include financial, psychological, risks, and time (Smith & Colegate, 2007).

This framework has valuable applications, as it would enable studios to identify possible gaps in the value offering. The practical applications of which would be through identifying what Christensen et al. (2016) coins the *Job to be done*. Referring to the goal that the customer seeks to accomplish in a given game, the “job” never relies on a singular function ie; having a “fun” gameplay, but have significant social and emotional dimensions that must be considered, such as the hedonic & symbolic values as well as the costs as cited by Smith & Colegate (2007).

We also find the Operations Performance Objective framework by Slack et al. (2018) as a possible tool in reconciling the player promise and what is delivered. This is through the process of generating performance objectives that dictates the internal decisions regarding the value creation process. This is done through the relative prioritisation of specific performance objectives ie; which features create appropriate value that addresses the player promise.

The nomenclature for determining the relative importance for specific performance objectives are *Order Winners*, *Qualifiers* & *Delights*. Order Winners are the operational objectives that are the primary/critical factors; i.e. the key attributes that make a player want to purchase and continue to play the game. Order Qualifiers are the critical hygiene factors that are expected to be at a certain ‘qualifying’ level; they are not major determinants of success and represent aspects of the game that would result in benefit from further improvement. Finally, the delights are aspects that may drive value but are unaware to the customer, thus inclusion of it may result in added player value but would not be a detractor in the case of its exclusion (Slack et al., 2018). The prioritisation of the operations performance objects are not static, as it adjusts according to the subsequent innovation within the product category; in the context of video games, value delivered in the form of fun gameplay at a given point in time will inevitably become a qualifier in following instalments as the players will come to expect that quality; becomes an implicit player promise.

The benefit of prioritising the operational objectives as *Order Winners*, *Qualifiers* and *Delights* is that it allows for effective trade offs in the development process. Trying to achieve excellence on all fronts (overambition) results in everything becoming mediocre (Slack et al., 2018). This process of clarifying what the critical factors for a game to focus on can be done through the mapping of the features and aspects into an importance-performance matrix. This matrix includes the “appropriate”, “improve”, “urgent action” and “excess” zones, which fall on the axes of performance and importance for customers as seen below in figure 15. The modified axes and the use of the matrix is further detailed in the next section.

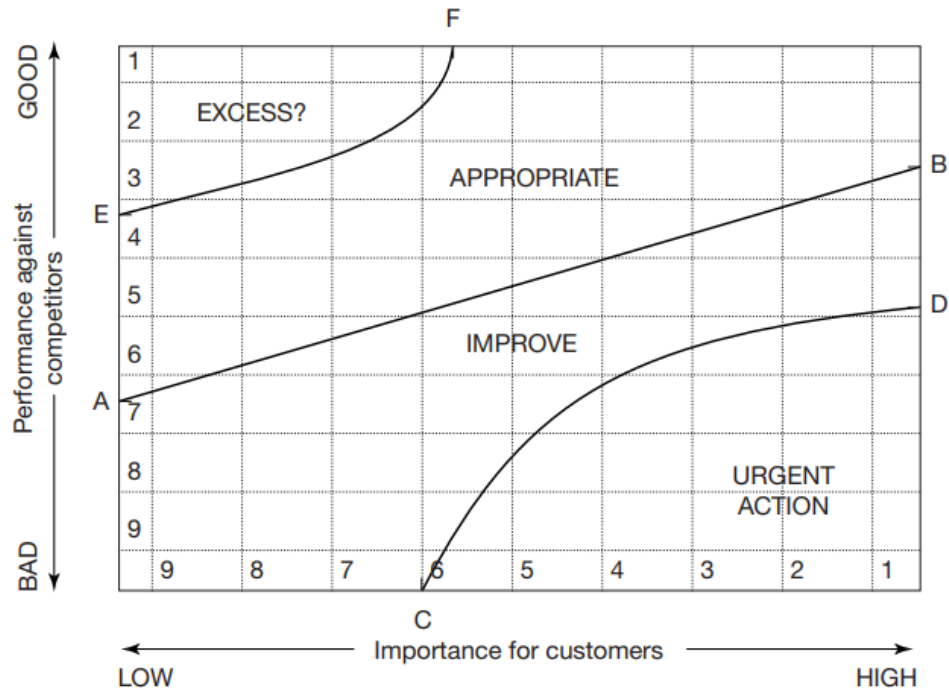


Figure 15. Importance - Performance Matrix by Slack et al. (2018)

5.1.4 Practical Reconciliation of Player Promises and Value Delivered

Stage 1. Identifying the Player Promise and Attribute to Key Values Needed (Conception)

The implicit commitments that are made through player promises, or what players expect out of a certain creative direction are, naturally, unfulfilled until the game is realised and released. Every player promise then, manifests as a problem to solve: How might we fulfil the expectations associated with this commitment? These expectations are also not immediately visible, and video game developers, not unlike most innovators, tend to focus on the solutions without deeply understanding the problem at hand first (Furr & Dyer, 2014). Through our interactions with developers, we believe that this is even more pervasive in game development, due to the creative and artistic nature of the work (*see 5.1.1 Misattribution of Value*).

Looking at player expectations as unresolved problems enables us to question why a certain expectation exists and why it is important. This leads us to understanding the “*Job to be done*” - i.e. the actual need related to a given problem. The perfect summary of the concept would be the above-mentioned quote regarding quarter-inch-drills and quarter-inch-holes (pp.53). The *Job to be done* in that example is the

hole, not obtaining the drill itself; ergo the value proposition of the drill lies solely within its ability to produce said holes.

The practical application of this in our context starts with understanding the jobs-to-be-done associated with each player promise. Let us use the commonly brought up example of a hypothetical, open-world role playing game. And let us focus on the most fundamental player promise that this sub-genre has: the open world itself.

In this hypothetical example, one *Job to be done* associated with the player promise of “Open World” could reasonably be for the player to have a sense of exploration and wonderment. In this case, the solutions i.e. the features associated with this player promise, must be shaped in service of providing players with as much of this experience as possible. The common mistake of prematurely committing to solutions without understanding the *Job to be done*, occurs at this stage. This is another example of the phenomenon we name *Misattribution of Value* in the previous section. Misattribution would manifest as an over-focus on the size of the playable area over the number and distribution of meaningful choices that the player can engage in.

Developers should be mindful of the implicit expectations certain solutions will inevitably create, inadvertently increasing the number of player promises made. This inflation of commitment can be controlled by evaluating the value on offer at the product level. By understanding and categorising the types of value that each player promise delivers, and examining them holistically as a complete game, developers can make more accurate and mindful decisions regarding the number and extent of player promises that are part of a game.

To understand the value on offer at a product level, we go back to Smith & Colgate’s (2007) value framework. By placing the Player Promises, the associated jobs to be done, and the value framework typology on a matrix, the entire value on offer can be mapped. This practice serves two main purposes. First, it demonstrates the gaps in the value offering at a product level. This informs the developers of possible avenues of added value when modifying player promises. Second, player promises that have overlapping value propositions or with unsatisfying cost-benefit relations can be re-evaluated to effectively control scope.

Stage 2. Identifying and Prioritising Features According to Key Performance Objectives (Production)

Upon having dictated the player promises, the jobs to be done, and the subsequent designing of the specific features to accomplish these promises; the development team can apply the principles of the Operations Performance Objectives. This will involve engaging in a collective dialogue to determine which features act as Order Winners, Qualifiers, and Delights. For instance, when aiming to create an engaging open world, specific features like geographical elements, expansiveness, adaptive climate, architectural styles, cultural nuances, wildlife, puzzles, and social systems will be considered.

These features will be prioritised based on the Operations Performance Objectives, aligning with the key values of functional, hedonic, symbolic values, and cost considerations. For example, if the functional value of an engaging open world lies in providing a deep range of activities, expansiveness could be deemed as a qualifier, as it would not result in additional value if the play area becomes excessively vast. Furthermore, the creation of an overly vast game would potentially harm the player experience by increasing costs such as time to get from point A to B. In this case, the expansiveness of the open world could be benchmarked against existing titles to determine a “qualifying” size for an open world setting.

This approach allows for trade-offs and effective prioritisation of other features such as culture, geography, and puzzles, which may be considered Order Winners in this hypothetical game. These critical features enable the game to fulfil its promise of providing challenges and interactive elements that address the intended *Job to be Done*. These order winners would be assigned through the consideration of key elements that the development team will be able to excel at and ultimately elevate the player experience. Once these essential features are prioritised, auxiliary features like adaptive weather or social systems such as karma can be assigned as delights. Their purpose is to enhance the overall player experience and further advance the objective of fulfilling the player promise, but are not critical features for this specific player promise.

By establishing this internal alignment, the development team ensures a clear understanding of the critical success factors/features for the game, while also considering non-critical aspects that could contribute to meeting the player's expectations. Once this stage has been completed the subsequent development and allocation of time and resources to these features would commence in respect to the priorities set through the performance objectives.

Stage 3. Application of IP Matrix to Current Stage Performance vs Player Promise (Evaluation)

To ensure that the game's development stays on track with the Player Promises made, it is crucial to regularly evaluate the progress of specific features. The Importance-Performance Matrix by Slack et al. (2018) can serve as a powerful tool for this. However, some adjustments are necessary. Instead of measuring the Y-axis as "Performance Against Competitors," it should be substituted with "Performance of the Game in its Current Stage". Additionally, the X-axis should be adjusted to "Importance to the Player Promise" instead of "Importance to Customer", as we are evaluating features on a player promise level.

The process involves finding the intersection point between the current performance of a feature and its importance to fulfilling the player promise. The importance score on the X-axis is determined by the priority level assigned to the feature during the development stage (Assigning Performance Objectives). Features deemed as Order Winners will likely have high scores ranging from 1 to 4, Qualifiers may fall between 5 and 7, and Delights between 8 and 9. The importance level of a feature can vary, with some order winners being ranked as 1 (most important) and others as 3, for example. The feature is then placed on the corresponding level of the Y-axis (Current Performance) to determine its position on the Importance-Performance Matrix.

By mapping the performance of current features relative to their importance to the player promise, developers can assess if further work is required. This evaluation helps identify features that are in urgent need of work, require slight improvements, or are at an appropriate or overachieving level. Once the mapping is complete, developers can critically evaluate which key customer values they may be missing and take appropriate actions.

Stage 4. Re-evaluation of Value that is being Delivered (Iteration)

Designed to deliver a complete value offering across multiple types, different player promises and their associated features are inherently interconnected. In order to accurately judge the effects of the necessary re-adjustments to the player promises, it is essential for developers to re-evaluate the game holistically. Going back to the Player Promises- Value Types evaluation, and mapping the new value offering again is our suggested way to do so. This re-alignment at a game level helps mitigate orphaned player promises or underutilised value types. Player promises should be added, removed or modified according to the new value landscape, and inter-dependent promises should be re-evaluated if any part of the inter-dependence system is altered.

This iterative stage is followed by a new feature prioritisation stage, kickstarting another round of production. As the product evolves through its development, this cycle of “*iteration-production-evaluation*” ensures that continuous realignment on value attribution and effective allocation of resources.

5.2 Absence of Control in the Creative Process

5.2.1 The Ungoverned Developer

The clash between the passionate aspirations of developers pursuing their artistic dreams and the objectives of game studios to deliver a product creates a challenging reconciliation. Our observations indicate that individuals who enter the industry are driven by the goal of realising their artistic ambitions and working with a product they have loved since childhood, resulting in video game studios being part of a passion driven industry. This passion is manifested in several positive ways, including the dedicated effort invested in creating exceptional games, the perception that game development is not merely a job, but a fulfilling pursuit, and an unwavering commitment to achieving perfection.

Naturally however, the production of video games necessitates adhering to reasonable cost and time constraints, ensuring profitability, and ultimately delivering an enjoyable experience for the players. This introduces a range of boundaries, including scheduling, budgeting and most importantly, customer centricity. For some developers, these considerations may be unfamiliar territory, especially for self-taught individuals who embarked on their journeys as teenagers by modifying their favourite games or working on independent projects. Through conversations with developers, it became evident that the

notion of being a game developer in the industry is often romanticised to such an extent that many struggle to reconcile it with the reality of working within a studio environment alongside hundreds of employees on a product instead of what they deem to be “cool”.

Throughout the course of this research, the observed tension has been a captivating aspect, as it offers valuable insights into the underlying causes of well-known managerial challenges. During the interviews, passion emerged as a distinct variable in game development, contributing to developers' heightened desire for individual impact. This desire for individual impact often leads developers to perceive their work as highly significant, which, unfortunately, can result in dysfunctional behaviours such as self-importance, overscoping, and overambition. These behaviours can be particularly detrimental due to the intricate interdependencies within game studios. Deviations in scheduling and design compliance can incur significant time and financial costs as complex software issues need rectifying.

While individual factors certainly play a role in these dysfunctions, it would be unjust to assume that game developers are inherently self-destructive or inclined towards stubborn individualism. Our observations highlight overarching managerial challenges that were consistently mentioned by interviewees; particularly related to effective communication within a large studio. These communication challenges lead to a cascade of misalignments throughout the development process, such as the implementation of features that contradicts initial game design and undefined scope of developers. It is not reasonable to place blame solely on individual developers, as their ability to effectively scope their work and adhere to the desired specifications relies on the presence of effective leaders who can establish a clear vision and provide appropriate guidance. We have observed instances where ineffective delegation within management leads to scenarios where developers are left to interpret expectations without clear boundaries or guidance for scoping their work effectively.

The challenges of communication and delegation are compounded by a scarcity of suitable candidates for internal managerial positions within studios. We have observed this as a prevalent issue, primarily because many individuals enter the industry with the primary goal of perfecting their craft and are hesitant to transition away from the hands-on aspects of development. Moreover, external recruits from other industries often face difficulties in integrating into the unique technological and cultural idiosyncrasies of video game development. As a result, studios tend to promote internal candidates who may lack essential managerial skills, further contributing to the aforementioned problems of communication and delegation. This deficiency in leadership can result in poor delegation, and a limited understanding of how to harness the talents and passions of developers effectively.

5.2.2 Leadership and the Levers of Control

After examining the dysfunctions that contribute to ungoverned developers and the resulting lack of control in the development process, existing management literature offers valuable insights into the underlying causes and potential solutions for these issues.

Discussing the challenges of controlling video game development raises two alternative strategies; observing the individual or the wider organisation as the unit of measure. As Elton Mayo (1975) states in his study of human relationships in organisations, a worker's performance is linked to their interactions with their workplace, emotions, group norms and sentiments, all of which are critical variables that motivate and guide human behaviour. However, modern economists provide an alternative perspective, positing that employees are innate opportunists as it is the central tendency of an average person and it is the job of the organisation to reconcile self interest with the desire to contribute (Simons, 1994).

Although we have observed that individual factors contribute to the challenges within development, the issues regarding a studio's ability to effectively reconcile self interest with the desire to contribute were central in our analysis. This was exemplified in how developers who lack critical leadership skills were promoted to be in managerial roles. These game developers are technically qualified in their roles, as they are able to use appropriate tools and have hands-on experience with the craft (Northhouse, 2019) and are essential elements of the studio producing the final game. However, the deficiencies in conceptual skills (Katz, 1955) amongst managers who have been promoted purely based on their craft skills were salient. Namely, in the ability to work with ideas and placing the company's goals into perspective (Northhouse, 2019), which can be exemplified in the cases presented by interviewee 8, with their experience with managers who withheld critical information from their subordinates or the inability to carry and delegate the vision effectively as exemplified in the quotes by again interviewee 8 (page 47).

Having observed that ineffective promotion schemes led to managers lacking in conceptual skills, we attribute that these deficiencies result in developers having to dictate their own line of work due to ambiguity, resulting in dysfunctions such as overambition. In this regard, the levers of control framework provides valuable insights into how managers can effectively navigate and set in place systems that regulate these tensions between developer's desire to contribute and their self interests.

The levers of control consist of beliefs, boundaries, interactive and diagnostic control systems, enabling managers to establish strategic control. This is done by fostering core values (beliefs) aligned with business strategy, exploring new opportunities (interactive), while mitigating risks (boundaries) and monitoring success factors (diagnostics) (Tuomela, 2005). The passion driven culture, evidenced by behaviours such as ambition, pursuit of excellence, treating the product as art, and pushing boundaries, is (passion driven culture) an example of *Belief Systems* in studios. These beliefs were explained as being tacit, as many of the interviewees believe that those who enter the industry have a shared understanding of each other's love for video games. These tacit values in studios are often remnants of the shared understanding between a small group of people who started the company out of passion, however as Simons (1994) states, an explicit set of beliefs are critical for large organisations as it allows for a common purpose and direction for the organisation.

There seems to be a fallacious narrative among developers, that being passionate and a player themselves innately results in their decisions being player oriented. As seen in behaviours such as overscoping and over prioritising one's own work as well as not seeking external input, these practices are symptomatic of an organisation that lacks a common credence on how to and for whom they are creating value. This developer centricity is prevalent in game studios, as highlighted by many interviewees who proposed the rhetorical question "*who are you making the game for; you or the player?*". To address these concerns of a lack of direction, establishing an ideological core in the form of a belief system is crucial (Narayanan & Boyce, 2019). This would help video game studios overcome challenges such as value misattribution through placing the player promise at the centre stage.

We have observed that the tacit belief system in the video game industry resonates with developer's innate desire to contribute. However, with each new project, there are too many opportunities for developers to realise their desire to achieve on an individual level. These individual level achievements can range from the satisfaction from contribution, to the joy of the artistic process or simply prestige. Thus absence of an effective control system to contain this opportunism leads to challenges such as *Over Ambition* and *Heightened Desire for Individual Impact*. Thus, we propose implementing boundary systems, which explicitly define strategically undesirable behaviours (Tuomela, 2005) and establish development rules for employees to follow.

The creative nature of game development, coupled with its unpredictable and iterative nature, makes it challenging for managers to establish concrete instructions and deliverables. Moreover, there is a

prevalent belief within the industry that the creative process should be unrestricted, empowering developers and fostering bottom-up innovation.

Thus, having effective boundary systems in place would delineate the acceptable range of activities in the form of “opportunity spaces”. Simons (1994) describes boundary systems as limits that are defined by business risk and opportunities. The effectiveness of this is that it would function as the domain for searching and empowerment, this is critical in such a creative and unpredictable industry, as it is not possible for managers to foresee all of the potential problems and opportunities that their developers will face.

Boundary systems could manifest in forms of enduring principles that everyone must abide by, but moreover, we believe that having unique boundaries communicated on a project/team basis would be greatly effective. This will allow managers to delegate decisions and allow for flexibility for their developers to have creative freedom within an agreed field of play (Simons, 1994). This would address the issues of hampering creativity as seen in interviewee 14’s reflections, many managers resort to micromanagement as a way of reducing risk, destroying all personal initiatives. In addition to freeing managerial dependencies, it would allow for effective communication as it would reduce information load for developers as well as preventing inter departmental deviations.

We believe that effective boundary systems would allow for the management of the risks associated with individuals overscoping their own field of work, prioritising what features are the most important to pursue as well as creating a common understanding of what is acceptable to implement into a game. To tie in the concept of the creative promise that a studio has with a certain video game project, this would effectively serve as a boundary system in which management will be able to control the development process. Having generative, clear and concrete promises that are made to the player, will allow for the generation of ideas that are in line with the creative promise. As well as foster an iterative and critical dialogue on whether the game that is being developed is truly in line with expectations that the players have (Mclendon, 2018).

6. Conclusion

In the quest to answer the elusive questions on why video games fail, we proposed these research questions:

RQ1: How do problems emerge in video game development, and what are their underlying causes?

RQ2: How might these problems interrelate and impact one another in the context of video game development?

RQ3: How might these problem interrelations enrich the current understanding of the managerial challenges in video game development?

Through the process of exploration in line with the methods for conducting a grounded theory study, we have come up with potential answers to these research questions, which may serve to challenge the descriptor of a “fool’s errand”.

Addressing **RQ1**, our research and subsequent axial coding process uncovered key challenges prevalent in video game studios. These challenges include the emergence of problems stemming from a Heightened Desire for Individual Impact, Overambition, Decision Making Pathologies, Misalignment, and Managerial Appointment based on Craft Skills. These categories served as vessels for analysing the interrelations among challenges in video game development and were the all important starting point in developing our theories in service of understanding why these challenges occur.

By examining these interrelations, we were able to answer **RQ2**, which revealed that these categories contribute to what we refer to as Value Misattribution and Absence of Control in the Creative Process. These dysfunctions shed light on how the underlying value that players derive from a game is often misunderstood from a product development perspective. Additionally, developers lack appropriate creative oversight to bring forth a game that delivers the value customers expect.

To address **RQ3**, we turned to existing management literature, drawing from concepts such as the Typology of Customer Value (Smith & Colgate, 2007), Jobs to be Done (Christensen et al., 2016), Performance Objectives (Slack et al., 2018), Leadership Skills (Northouse, 2019), and The Levers of Control (Simons, 1994). Armed with the understanding provided by business and management scholars before us, we were able to discuss the dysfunctions observed in our study and provide possible insights into overcoming value misattribution and the absence of control in the creative process.

Our research aimed to fill the gaps in existing knowledge identified by Petrillo et al.'s (2009), Washburn et al.'s (2016), and Politowski et al.'s (2021). In Petrillo et al.'s (2009) research, dysfunctions such as over ambitious scope were cited to amongst the most commonly attributed challenges, our analysis on value misattribution sheds light on the how the inception stages video game development can cause developers to misappropriate where customers gain value, and prioritise an array of features leading to overscoped projects. Furthermore, our analysis on the lack of defined boundary systems and the promotion of managers lacking in contextual skills contributes to the understanding of why communication can break down in larger studios. Finally, our analysis of the two dysfunctions enriches the understanding of feature and people management problems which were found to be the problem areas that are quickly becoming the most prevalent amongst video game studios according to Politowski et al. (2021).

Our research has and our findings are subjected to certain limitations however. As we have conducted this research on the data gathered from interview participants that work in the Swedish video game industry, our findings may be influenced by cultural factors that may be unique to the country. Furthermore our sample size does not allow for us to generalise our findings to the entire Swedish video game industry, nor development as a whole as they may be coloured by the idiosyncrasies of certain company cultures. From a theoretical perspective, we discussed the applications of management theories such as the levers of control, however for it to be fully generalisable, one would have to effectively understand the central tendencies (Simons, 1994) of video game developers as an occupational group. To address these limitations we urge future researchers to reapply our research method on a larger sample size that are diverse in nationality, studios and functions to arrive at generalisable answers to our research questions.

Theoretically, we believe that we have opened the doors to many interesting research avenues that we were not able to explore within the scope of our master's thesis. These potential research avenues were brought to light through the analysis of the various categories we created, some of which had to be excluded from this thesis due to time and space constraints (these categories, as previously mentioned, can be found on appendix 3). Future researchers can further examine the use of the Simon's (1994) levers of control, namely on diagnostic and interactive control systems, and their degree utilisation in the gaming industry and how they affect development. Additionally the influence of politics (inter/extra organisational) on decision making in game development, we observed through a select few interviews that the decisions on which resources to deploy for a game are often decided, not out of the interest of the product but due to the implications that it has with specific stakeholders. This stretches to unexpected areas within game development; decisions and issues that would otherwise be characterised as purely

technical, such as which software tools to use, turned out to be motivated by people related concerns such as retention and developer appeasement. Finally, the relationship between player expectations and the promises that a studio makes, namely how this dynamic affects the reception and success of a title is the crucial second half of our Value Misattribution theory. Expectations created by implicit commitments would naturally have as much if not more impact on how players assess the value on offer.

We hope to have shed some light onto this fascinating industry and provided a natural entry point for curious business & management researchers that will come after us, and managed to allay some of the fears of being perceived as foolish.

Appendix

Appendix 1. Interview Guide for Purposive Sampling Stage

1. Introduction (2-3 minutes):
 - Briefly introduce yourself and the purpose of the interview
 - Explain that the interview will focus on the challenges and issues faced by game developers in the video game industry
 - Obtain informed consent from the participant
2. Background Information (5-7 minutes):
 - Ask about the participant's role in the video game industry and their experience in the field
 - Ask about the types of games they have worked on and the platforms they have developed for
 - Ask about their experience with game development projects and their involvement in the different stages of the development process
3. Problem Identification (15-20 minutes):
 - Ask the participant to describe any challenges they have faced while working on a game development project
 - Ask them to describe the impact of these challenges on the project and their team
 - Ask about the factors that contributed to these challenges
 - Ask about their strategies for overcoming these challenges and if they were successful in doing so
 - Ask about any lessons they have learned from their experiences with these challenges
4. Problem Analysis (15-20 minutes):
 - Ask the participant to describe any recurring challenges they have faced in their career
 - Ask about the root causes of these recurring challenges
 - Ask about any solutions they have tried and their effectiveness
 - Ask about the interplay between different challenges and how they impact each other
 - Ask about the impact of these challenges on the game development process and the end product
5. Conclusion (5-7 minutes):
 - Thank the participant for their time and participation in the interview
 - Ask if they have any questions or additional information they would like to share
 - Close the interview and obtain feedback on the interview process

Appendix 2. Interviewees

Interviewee	Position	Date	Recorded (Y/N)	Duration
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Number				
1 - Pilot Interview	Director (Design)	20.02.2023	Y	1:21:54
2	Founder & CEO	22.02.2023	Y	44:26
3	Exec. Producer (EP)	27.02.2023	Y	1:09:01
4	Founder & CEO	28.02.2023	N (Typed Notes)	1:10:00
5	Project Manager	03.03.2023	Y	48:57
6	Technical Director	06.03.2023	Y	33:37
7	Founder & CEO	07.03.2023	Y	49:16
8	Director	08.03.2023	Y	1:02:56
9	CTO	09.03.2023	Y	1:06:19
10	Manager (Tech)	09.03.2023	Y	45:20
11	COO	09.03.2023	Y	1:00:09
12	Game Director	20.03.2023	Y	1:11:24
13	Publishing Executive	21.03.2023	N (Typed Notes)	40:00
14	Designer	27.03.2023	Y	1:55:23
8 (Follow-Up)	Director	11.04.2023	Y	48:02
15	CEO & Industry Rep.	21.04.2023	N (Typed Notes)	45:00
11 (Follow-Up)	COO	28.04.2023	N (Typed Notes)	35:00
14 (Follow-Up)	Designer	05.05.2023	N (Types Notes)	30:00

Appendix 3. Short List of Relevant Categories not Included in the Thesis

Central Phenomenon	Short Description
No Blueprint for Creation	The lack of standardisation in the video game development process, due to each project being an innovation on multiple fronts such as creative design, story telling, software and technical specifications.
Vision Decay	The instances of a core vision in a video game falling apart due to internal tensions, misalignment and the lack of accountability.
Chasing Hits	The impacts of how the lack of product standardisation, the industry being trend driven and the challenges in securing financing results in studios chasing hits.
Not Seeing the Game as a Product	The absence of developers or a studio recognising that the game they are working on is a product that is meant for players. Instead being viewed as an artistic pursuit.
Team Appeasing	The asymmetry in power dynamics, in which managers are forced to appease the demands of their developers, which may or may not be value adding for the final product.
Increased Need for Management	The effects of growing organisations and incremental complexity of the technical work, and the subsequent inflation of middle management layers.
Do vs Buy Decisions	The internal politics that occur on the decision to build certain things in house or use external resources are strongly tied with the interests of the specific teams and employee retention.
Crunch	The result of overambition and underestimation, leading to feature cutting and perpetuation of unsustainable development practices.

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