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**DETERMINANTS OF THE CHOICE FOR A COMMERCIALIZATION STRATEGY BY DUTCH
INDEPENDENT GAME DEVELOPERS**

A multiple case study of Dutch Independent game developers

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Xanthe D. Duivenbode

Student number: 4202708

x.d.duivenbode@students.uu.nl

Basilicumhof 47, 1115 DM, Duivendrecht

Credits Thesis: 45 ECs

Supervisor: Dr. Jan Faber

Second reader: Dr. Maryse Chappin

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ABSTRACT

Since 2010 the number of small creative high-tech start-ups, i.e. independent developers (IDs) in the Dutch gaming industry has increased rapidly. This is due to advancements of the Internet, which made it possible to release games on digital platforms and create a direct distribution channel to users. As a result, competition in the market increased enormously and IDs are inclined to follow a rat race strategy. This strategy consists of little commercialization by releasing a new game on only one platform and immediately afterwards start to develop the next new game. However, in this way, the IDs only reach users that are actively searching for new games. Consequently, they miss out on reaching the general public. Accordingly, IDs generate low revenues and have a low chance of survival. In order to increase the chances of survival, IDs must intensify their commercialization strategy. This research aims to determine which factors influence Dutch IDs to choose a more intensive commercialization strategy. For that purpose, an explanatory qualitative research design is applied, which makes it possible to obtain in-depth insights into IDs' strategy choices. Twelve motives and ten characteristics that may influence the choice of strategy were identified from previous literature. By conducting thirty semi-structured interviews with Dutch IDs, the influences of these motives and characteristics have been empirically assessed. The influencing factors of each IDs' strategy choice were analyzed and compared. From these analyses it is concluded that there are a number of crucial factors for choosing a more intensive commercialization strategy than a rat race strategy. These factors include the motives of increasing salary/profit, image building/branding and firm viability, and the characteristics of age of ID-team members, firm age and external financial assets. Furthermore, the results show that IDs have the best chances of survival with a diversification strategy. This entails releasing a game on multiple platforms while targeting market niches. Diversification decreases the risk of not gaining enough revenues to survive. However, many contemporary IDs choose other less successful strategies. In order to make a better strategy choice, policy changes and changes at educational institutions and incubators are needed. More focus should be placed on business development and commercialization. This can be done by giving more attention to the commercial side of the game development process in order to create a better balance between the technical and commercial development of a game by IDs.

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1. INTRODUCTION

Advancements of the Internet have severely changed the traditional way of publishing in the entertainment industry (Vogel, 2014). This has led to new opportunities for producers and the use of entertainment by consumers (Hong, 2007). These advancements of the Internet make it possible to download and play games on smartphones and tablets as well as PC's and consoles, thereby creating the opportunity for producers to use an easier and direct distribution channel to their users via digital platforms. This increasing use of digital platforms for e.g. game distribution has lowered the sector's barriers for new entrants enormously (Hirt & Willmott, 2014; Parker et al., 2014). Accordingly, higher profits are possible since the costs of distributors, publishers and retailers have decreased significantly. However, by offering products on digital platforms producers only reach users that search for new products themselves. This means that producers have problems with reaching the general public, thus leading to only limited revenues (Rogers, 2003). At the same time, creative high-tech start-ups are often missing the commercial capabilities required to reach the larger market segments containing the general public (Onyemah et al., 2013; Braaksma et al., 2005, p. 19; Shepherd et al., 2000)¹. This lack of commercial capability puts these start-ups in a rat race situation of continuously trying to be the first with a new generation of products in order to generate the revenues necessary to survive instead of going bankrupt (Wright, 2015; NOS, 2015). To circumvent a rat race, creative high-tech start-ups need to reach the general public in order to gain more revenues. In this way they improve their chances of survival. Therefore, they must intensify the commercialization of their products (i.e. in terms of financial means, personnel capacities, time and knowledge) (Freeman & Soete, 1997; Lundvall, 1988; Zackariasson & Wilson, 2012a).

The Internet advancements and abovementioned consequences for the entertainment industry also apply to the booming video gaming industry, which is the focus of this study. Since the beginning of 2010 the Dutch gaming industry practically doubled in game production, primarily driven by a large growing number of pioneering independent developer start-ups (DGA, 2015; TFI, 2012, p. 3 & 42). An independent developer (ID), alias "indie developer", is a solo or a small team of game developers. Due to lowered entry barriers and increased competition, IDs are forced to continuously release new games at high speed (Feijóó, 2012). In addition, IDs need to keep up with technical improvements developed by newer entrants (Porter, 1979). These circumstances have led to the current situation of a risky and unstable industry (Wright, 2015). In this industry, IDs commercialize their games via digital platforms and after the release of a game immediately start to design a new game idea in an attempt to survive (TFI, 2012, p. 70; Parker et al., 2014; NOS, 2015). Only a small number of IDs have implemented a more intensive commercialization strategy and successfully managed a commercial breakthrough, which increases their chances of survival in the long term (GM, 2015, p. 6; TFI, 2012, p. 42; NOS 2015). However, insight into which IDs are more or less prone to adopting a more intensive commercialization strategy is still lacking.

Earlier studies on IDs focused on cultural differences with traditional industries (Martin & Deuze, 2012), specific game categories (Kuittinen et al., 2007; Stein, 2012), gender inequality of game developers (Fischer & Harvey, 2012; Harvey & Fischer, 2013), security and privacy aspects (e.g. McPerson et al., 2015) and the impact of entrepreneurship on their working life (Wright, 2015). No research has been conducted into why many ID's have not chosen a more viable strategy, i.e. a more intensive commercialization strategy. Contemporary IDs are still an emerging

¹ In this paper, one or two examples of pages which discuss the described information are referred to. This could mean it is not the only relevant page in the practical study of the issue.

phenomenon. They are unexplored and rarely researched² creative high-tech firms with a promising economic future, considering the expected market growth of 9 percent per year (Zackariasson & Wilson, 2012b; GM 2015). Therefore, the following research question is formulated:

What factors influence the choice of a more intensive commercialization strategy by Dutch IDs?

This study will address this research question by performing a multiple case study of Dutch IDs. The IDs' motives and characteristics related to their current strategy will be analyzed based on data derived from semi-structured interviews. Insights into the incentives and barriers experienced by IDs in choosing their strategies will help them to intensify their commercialization strategy more easily, thereby improving their long term chances of survival. The fact that financial resources can impose restrictions on the IDs' strategy choice are acknowledged. However, it is assumed that integrating a more commercialized strategy process is part of the ability to receive more financial resources and therefore a priority for study (Ireland et al., 2001).

In the remainder of this study a theoretical framework will be developed in order to provide a preliminary answer to the research question. Various theories are combined into a comprehensive conceptual model. In section 3 the methods of research design, data collection, measurement and data analysis are discussed. Section 4 presents the results of this study. Finally, conclusions are drawn and a discussion of the results are reported in section 5.

2. THEORETICAL FRAMEWORK

This section will outline the incentives and barriers experienced by IDs in relation to the commercialization strategies chosen. In this study a commercialization strategy is defined as the link between an ID's business model and how the ID commercializes its games. The commercialization is based on the scale of sales the ID aims for. Theories addressing incentives and barriers to pursue or not pursue large scale sales form the foundation of the theoretical framework used.

In section 2.1, four optional commercialization strategies of IDs focused on different targeted users and their accompanying activities, which differ for the targeted users will be described. The underlying idea is that there is a sequence of commercialization strategies, which can lead them to obtain a larger market share resulting in a better chance of survival by subsequently intensifying their commercial activities. Therefore, IDs should invest in acquiring resources and obtaining knowledge in order to implement more commercial activities. In section 2.2, three implementation styles for the commercialization of a game will be presented. Additionally, different underlying motives and non-motivational factors affecting this choice of commercialization strategy will be discussed in section 2.3. Thereby, hypotheses regarding the influence of the factors that stimulate and hamper contemporary IDs in their choice of commercialization strategy will be formulated. These hypotheses form the conceptual model of this study as specified in section 2.4.

2.1 Optional commercialization strategies

Four different commercialization strategies and the accompanying activities of IDs will be discussed. Additionally, the targeted users per strategy will be described, thereby clarifying the

² Stemming from the unique nature of this new and rapidly developing phenomenon, complementary industry reports mainly refer to findings of recent practical studies. A shortcoming of a pioneering study like this is that very little peer-reviewed empirical research is focused on the Dutch ID scene to date.

different chances of ID survival by the different market shares reached. The distinct strategies show a gradual intensification of successive commercialization strategies and their accompanying *commercial activities*.

2.1.1 Rat race strategy

Rat race strategists with specific knowledge and creative priorities do not tend to think in an entrepreneurial manner (Wright, 2015; NOS, 2015). IDs sell a random tested and developed game on *one digital platform* where active game searching gate-keepers can buy it, thereby creating a small niche market (only a part of the gate-keepers) without reaching the larger market of opinion leaders and followers (Rogers, 2003) (Fig. 1). Alongside the launch of a game, commercial activities are performed for a short while. After the release of the game the ID immediately starts to develop a new game (or remains producing this one niche game and commercially trying to push it, while not yet proven to be a viable game).

These rat race strategy characteristics have associated consequences. IDs' prerequisite technical knowledge allows them to enter the game industry and enables them to survive at the subsistence level (TFI, 2012, p. 42). The continuous entrance of new competitors puts pressure on the IDs to distinguish themselves by producing games in the fastest way and with the newest state-of-the-art technology (Porter, 2008). This puts them in a very risky situation due to the uncertainty of gaining enough revenues to develop the next game and survive (Wright, 2015). In order to increase their chances of survival, IDs should change this strategy into a diversification strategy.

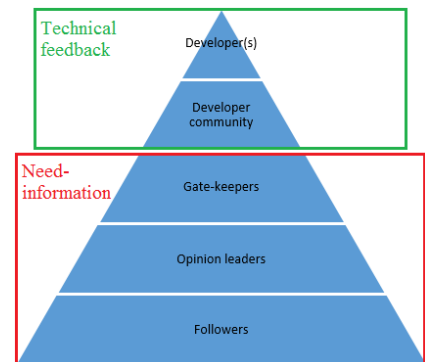


Figure 1 - The user categories (UCs)

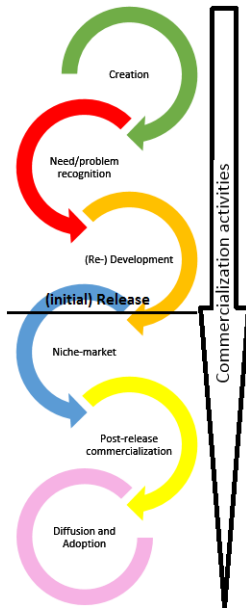
2.1.2 Diversification strategy

Diversification implies that an ID decreases its risk by releasing its game(s) initially on *more than one digital platform*, thereby targeting different niche markets, i.e. different types of gate-keeper markets (TFI, 2012, p. 94; Dymek, 2012; Rogers, 2003). The ID may also develop more than one niche focused game simultaneously. By using more diverse and less firm-specific resources in the right markets, IDs can increase their performance and revenues while restricting an increase of expenses and effort (Mahoney & Pandian, 1992; Brynjolfsson et al., 2006). In order to reach these niche markets, the ID will need to develop firm capabilities at a small cognitive distance from their own (e.g. by adding/freelancing other game specialists to the team) (Nooteboom, 2007). In order to design and develop the games, diversification strategists work with (a) more focused target group(s) than rat race strategists to provide and process extended knowledge and feedback from users in their game. Therefore, after release, an ID with a diversification strategy should also act in accordance with *User-Producer Interaction* (UPI) as formulated by Lundvall (1988). He emphasized the necessity of actively communicating between users and producers. Specific targeted gate-keepers can help game developers by sharing what they would like and/or what they miss when playing a game (*need-information*) (Fig. 1). Producers can give customers insightful *product information* in addition to the price of the game in terms of how to play the game. Such markets depend on information flows coming from both parties. In these so called “organized markets”, separate *communication channels* (CCs) must be created from producers to users and vice versa (Lundvall, 1988). By means of extensive and long term UPI within a specific target group that forms a community, an ID diversification strategist aims for niche optimization.

These diversification strategy characteristics have associated consequences. The vulnerability of IDs' investments is reduced, due to the higher chance of succeeding in more than one targeted niche market and continuing the game's development after need confirmation (Rogers, 2003). The third option to increase the chances of survival is mass commercialization. With this type of commercialization an ID tries to capture maximal revenues from one game.

2.1.3 Mass Commercialization strategy

This strategy asks for implementation of a pro-active market research and *dynamic business development process* to produce a game *that meets the majority of users' needs*, which is important in order for an ID to generate high revenues (Freeman & Soete, 1997). An ID needs to develop



routinized activities to find out what the distinguished needs of all their different target groups are, i.e. user categories (Fig. 1) (Tidd & Bessant, 2009; Rogers, 2003). By alternating between the technical and commercial stages of product development through the process, IDs can gradually incorporate the various need-content issues into a game, thereby, adjusting its technical features to stimulate diffusion further (Fig. 2) (Tidd & Bessant, 2009, ch. 7). The performance of such a mass commercialization strategy again requires an increased deployment of resources (Teece et al., 1997).

When an ID chooses a mass commercialization strategy it aims to fully diffuse the game in the market, thereby reaching all three user categories identified (beyond a niche). To achieve this diffusion, each game needs to be customized and commercialized over and over again even after its release, e.g. through a soft launch, be able to address the more demanding and passive opinion leaders (Fig. 1) (Rogers, 2003). A soft launch is a test release to a deliberate smaller group of targeted users and opinion leaders are users with a lot of experience in gaming. Opinion leaders share their experience and advice on websites, with journalists etc. This information guides the choice of games of the last and major user category of followers (Rogers, 2003; Shoham & Ruvio, 2008), what makes it important to create CCs with various, though targeted, opinion leaders in order to capture the followers.

Figure 2 - Example of an alternating mass commercializing game development process

However, if an ID wants to lower the risks further and increase its chances of survival, another strategy should be implemented: a combination strategy. A strategy which comprises spreading risks in different ways, while also aiming at diffusion. Therefore, it is the most intensive type of commercialization.

2.1.4 Combination strategy

An ID can simultaneously spread its risks as well as fully wanting to diffuse a game. With this strategic combi perspective, an ID simultaneously works on more than one mass commercialization game-project, or on a diversification and mass commercialization game at the same time. This means that the ID's target for at least one game is broader than a niche, and it performs post-release and/or soft launch commercial activities to break out of an initially created niche market (Fig 2).

2.1.5 Summary: The intensifying sequence of commercialization strategies and activities

Summarizing, the optional commercialization strategies to choose from become gradually more intensive in terms of implemented commercial activities and targeted user categories. IDs with a

rat race strategy only use one digital platform to reach a (rather unspecified) niche market of users. IDs with a diversification strategy launch on more than one digital platform and/or develop games simultaneously, but they also create and maintain CCs with users in well targeted and various niche markets. Third, IDs with a mass commercialization strategy perform a complete commercialization process with alternating stages of technical and commercial routines, thereby aiming to reach all the market's user categories. By comparison, combi strategists implement the last mentioned strategy in duplication, or mass commercialization simultaneously with diversification. Within each of the four commercialization strategies, IDs have various choices regarding how to develop and implement commercialization activities. These types of implementation options also show an intensifying use of commercialization activities by IDs based on the time, knowledge and money to be invested in the development of commercial activities, which will be explained as follows. This sequence of intensifying commercial activities and their relation to a chosen strategy is represented as the dependent variable, shown in the conceptual model in Figure 3.

2.2 Types of commercial implementation options

Three types of commercial implementation options apply to all four types of ID commercialization strategies; namely, self-deployment, outsourcing and insourcing. Combinations are possible. These types of implementation can be distinguished in terms of gradually increasing personnel capacities, financial means, time and knowledge to be invested (Wright, 2015; Tschang & Goldstein, 2004).

Self-deployment implies that an ID wants to commercialize by themselves with the in-house team members. *Outsourcing* implies that an ID subcontracts commercial activities to an external party which is based on a cooperation agreement (both parties benefit in a way) or on revenue sharing. In this implementation option a collaboration is entered into with an organization which is specialized in marketing activities or an incumbent firm in the same industry (e.g. exclusivity deal, PR-bureau, publisher). *Insourcing* implies that IDs add a member to the ID-team who has the capacity to develop commercial capabilities within the organization. This only includes long term ID-firm team members, and excludes interns and temporary freelancers, because commercialization requires focus and full commitment to the product (Weick & Eakin, 2005; Gans & Stern, 2003). Each option has its advantages and disadvantages which an ID will have to take into consideration (Tschang & Goldstein, 2004; Kosnik et al., 2006).

2.3 Motives & non-motivational factors

The difference between technical oriented rat race strategists interested in staying at a subsistence level and more market oriented IDs interested in business growth, depends on their motives and other non-motivational factors involved in making this choice (Scheiner, 2009).

In order to create insight into why IDs have chosen a particular commercialization strategy and its accompanying activities, attention should be paid to the motives and non-motivational characteristics of IDs leading to this choice. Motives are pioneering factors when it comes to the (non-)inventive behavior that IDs exhibit (Scheiner, 2009; Åstebro et al., 2014). Motives can be subdivided into pecuniary and non-pecuniary motives. These motives form reasons for the IDs' willingness and dedication to actively perform the firm's current strategy (Sauermann & Cohen, 2010). Pecuniary factors are finance related, whereas non-pecuniary factors are personal and social in nature. Non-motivational factors in this study are structural, individual and organizational

characteristics of the ID. Earlier empirical findings on motives and characteristics will be discussed in section 2.3.1 – 2.3.3 in order to formulate and build the conceptual model of this study.

2.3.1 Pecuniary motives

Salary/Profit

Work is executed with the prospect of a financial reward. The level of their financial reward can have an incentivizing effect on the work IDs are willing to do (Sauermann & Cohen, 2010; Cohen & Sauermann, 2007), indicating that a higher expected *salary*, motivates the ID-employee to engage more in commercialization.

(Financial)independence

Financial independence is reflected in which work has to be carried out as decided by the decision makers within the ID-team in order to secure the founders' autonomy (Sauermann & Cohen, 2010; Cohen & Sauermann, 2007). The issue of autonomy is important for an ID in order to remain at least at a subsistence level, instead of aiming for more financial success (Schoar, 2010; Bolton & Scharfstein, 1990). In the case of a technology oriented ID, independence will stimulate commercialization only upto the subsistence level. For a more market oriented ID, the issue of *independence* will more strongly stimulate self-empowered commercialization, as it rewards them with a more viable independent financial position. Therefore, the influencing effects of pecuniary motives on IDs' are expected as described below:

H1a: The motive to earn a salary has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H1b: The motive of financial independence has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

2.3.2 Non-pecuniary motives

The non-pecuniary motives can be categorized into two distinctive sets of social and personal motives, which have been studied in relation to technical oriented research and development, employees and their innovative output. Therefore, these motives are also applicable to IDs for whom technical orientation is a prerequisite to enter the market. Earlier studies have highlighted the stimulating effects of *peer recognition* and building a *reputation* as social motives to innovate (Cohen & Sauermann, 2007; Sauermann & Cohen, 2010). Peer recognition is in this study defined as acknowledgment by other developers. Reputation is the way in which an ID wants to be known in the game industry. IDs can achieve these by remaining at a subsistence level, which would then lead to a negative influence on the choice of a more intensive commercialization strategy. On the other hand, *firm image building/branding* and *firm viability* (long term thinking) can also dominate as social motives and will positively influence an IDs' (intensifying) strategic choice in order to achieve growth (Vallaster & de Chernatony, 2006).

Personal motives of (technical) entrepreneurs are e.g. *job satisfaction, showing that something is possible, desire for challenging work, contributing to society, self-confidence/risk willingness* in its business and the *amount of needed commercial effort* (as in performing market focused activities as a part of their optional activities) (Van Praag & Versloot, 2007; Sauermann & Cohen, 2010; TFI, 2012; Everett & Fairchild, 2014). These factors are, however, general in nature and may have different stimulating and hampering influences on the strategic choices of IDs to (not)

further intensify their commercialization strategy. Therefore, their effects cannot be specified a priori in further detail other than that they will have an influence on strategic choice and they should at least be taken into account in the analyses. The influences of the social motives mentioned above are specified below:

H2a: The non-pecuniary socially induced technical oriented motivational factor of peer recognition has a negative influence on the choice of a more intensive commercialization strategy and its accompanying activities

H2b: The non-pecuniary socially induced technical oriented motivational factor of reputation has a negative influence on the choice of a more intensive commercialization strategy and its accompanying activities

H3a: The non-pecuniary socially induced commercial oriented motivational factor of firm image building/branding has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H3b: The non-pecuniary socially induced commercial oriented motivational factor of firm viability has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H4: Non-pecuniary personal motivational factors have an influence on the choice of a more intensive commercialization strategy and its accompanying activities

2.3.3 Non-motivational factors

Individual characteristics

These factors relate to the extent to which persons have possibilities to act professionally and take initiatives, due to their individual learning curve and ability to innovate. In their work attitude and environment, ID-team members are influenced by their **age** (Ng & Feldman, 2008; Hoisl, 2007) and their **level of education** (Millan et al., 2014; Backes-Gellner & Veen, 2013). Most previous studies have shown that age and level of education have a stimulating effect on the innovative output of people, and that general experience and higher education come with years. Another positive relation has been shown between **job related experience** and innovativeness (Eisenhardt & Schoonhoven, 1990) (i.e. commercial related in order to be capable of managing further commercial development). The more job related experience ID-team members have, the more likely an innovative output will follow. Additionally, the ID-team members' **educational diversity** is an important indicator. A positive relationship has been indicated between the diversity in education of start-up teams and their innovativeness, i.e. due to the sharing of diverse knowledge and perspectives (Liang et al., 2007; Østergaard et al., 2001). Therefore, the following hypotheses are formulated:

H5a: The age of the ID-team has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H5b: The level of education of the ID-team has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H5c: The commercial job related experience of the ID-team has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities.

H5d: The educational diversity of the ID-team has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

Organizational characteristics

Older and larger firms have built up more experience and generally have more assets and capabilities to develop their strategy (Cefis & Marsili, 2007). Therefore, as IDs' **firm age** and **firm size** reflect their past development, both indicators will be checked for as variables which might stimulate the choice for a more intensive commercialization strategy. Other indicators of importance in this category are related to **earlier performance**: *number of games produced since foundation, growth in game production and last year's revenue* (Covin et al., 2006). For example, a particular level of performance can stimulate an ID to maintain the same strategy. But growth in performance may stimulate an ID to intensify its commercialization in order to maintain that growth. In order to grow, a firm's resource position plays an important role as an organizational characteristic:

H6a: Firm age has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H6b: Firm size has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H6c: Earlier firm performance has a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

Resources

In order to execute a game design and increase chances of survival every ID must develop and exploit new resources (Teece et al., 1997). These resources consist of assets and capabilities, which are tangible physical entities and intangible knowledge. IDs differ in their acquisition of resources which affect their strategic choice and activities (Wang & Ahmed, 2007; TFI, 2012, p. 94). Although these characteristics are highly related to ID-member characteristics, they are important to take into account due to their dependency on acquiring resources and a person's experience.

Assets

IDs can easily enter the market with a very low financial investment (TFI, 2012, p. 46). However, when an ID is willing to leave a rat race and thereby aim for more revenue, it must prepare and attract additional capital: **external financial assets** (Katz & Green, 2007). In the Netherlands it is relatively hard to acquire a bank loan due to the high risks involved (TFI, 2012, p. 48; GM, 2015, p. 27). Therefore, IDs must increase their chances to attract (private) investment from venture capitalists, incubators, subsidies, crowd funding etc. by creating a solid business plan, pitching and selling the game idea, and outlining the course of gaining success in order to lower the risks of (the) investor(s). Until now these are business skills most Dutch IDs lack (NOS, 2015). On the other hand, more external financial assets improve the possibilities of choosing more intensive commercialization.

Capabilities

A technically educated ID-team is confronted with two of three new venture novelties due to their liability of newness: novelty to the market and novelty to management, whereas novelty in production is not a problem since technical knowledge is a prerequisite to enter the market (Shepherd et al., 2000). In other words, an ID-team lacks the *managerial* and *commercial capabilities* to be able to pursue a more intensive commercialization strategy in order to increase the likelihood of survival of the firm (Shepard et al., 2000; TFI, 2012, p. 95). An increase in capabilities can lower the risks of IDs and enable them to realize a strategic change by, inter alia, developing and expanding their network and knowledge and adding experience/activities in several fields to the firm e.g. specific technical knowledge to reach other niche(s) (Cefis & Marsili, 2007; Mahoney & Pandian, 1992). Therefore, if an ID has more managerial and commercial capabilities in-house, the likelihood of the choice of a more intensive commercialization strategy increases:

H6d: Additional external financial assets have a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H6e: Managerial capabilities have a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

H6f: Commercial capabilities have a positive influence on the choice of a more intensive commercialization strategy and its accompanying activities

2.4 The conceptual model

This study creates an overview of the factors that may influence Dutch IDs in making their choice of commercialization strategy, which intensifies when commercialization activities become more demanding. Based on the discussed theoretical implications, this conceptual model gives a preliminary answer to the research question by specifying the effects (positive or negative) of the various factors that affect an ID's choice of commercialization strategy.

The conceptual model (Fig. 3) illustrates four optional strategies and their accompanying gradual intensification of commercialization activities by corresponding numbering. The arrows with a plus or a minus sign represent the hypothesis to be tested.

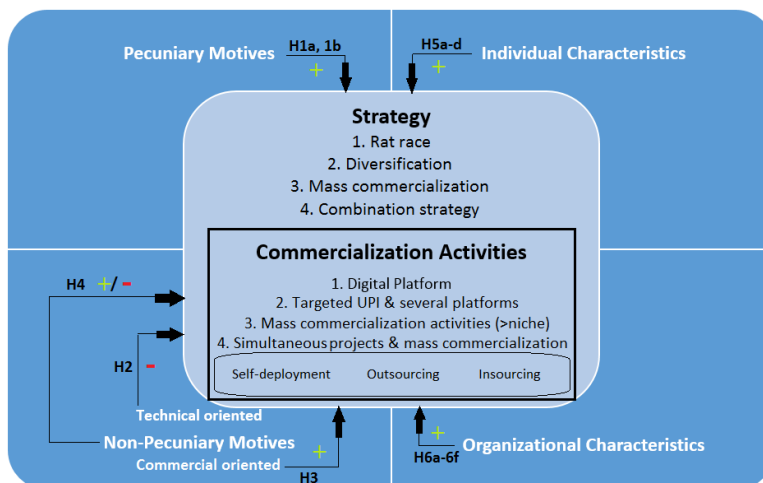


Figure 3 - The conceptual model

3. METHODOLOGY

In this section the research methods will be addressed and explained in further detail. First, the chosen qualitative research design is described. Second, a description of the data collection strategies with concrete information on the sampling and coding process is given. Third, the operationalization clarifies the measurement of the variables of this study. This section ends with a clarification of the data analysis.

3.1 Research design

This study is based on a research question with an explanatory function to analyze factors influencing IDs' choice of commercialization strategy. To answer this question and achieve an in-depth insight in this under-researched field this research takes a *qualitative deductive* approach. This approach provides the opportunity for deductive reasoning from established theoretical insights while allowing for the identification of new concepts (Bryman, 2009; Creswell, 2013). The research is structured as a *multiple case study* design in which interviews are conducted to gain deeper insights from various IDs into their commercial strategic vision, motives and background.

To account for *reliability*, the interviews are recorded and immediately transcribed when the interview is finished (Bryman, 2009). Thereafter, the transcript is sent to the interviewee for approval. Subsequently, triangulation is applied by checking the interviewee statements with the results of desktop research, after which the results will be checked by consulting ID experts. This triangulation also enhances this study's *construct validity* as it accounts for a verification of the empirical content of the theoretical concepts (Babbie, 2007). Furthermore, the possibility of *replication* contributes to the reliability of this study by providing the following in-depth description of the process of data collection and analysis.

3.2 Data collection

IDs interviewed for this study are gathered by first contacting employees of the Dutch Game Garden (DGG) (an incubator for game developers and such) and the Dutch Games Association (DGA). Subsequently, it is possible to start networking within the game industry by creating an account on the DGA website, being informed face-to-face and by e-mail contact about conferences, network lunches etc. By attending INDIGO 2015, a familiar game-expo for (upcoming) IDs and the monthly network lunch at the DGG Utrecht, a start is made in establishing contacts with potential interviewees.

This study's selection of interviewees is based on *snowball sampling*. A total number of thirty IDs will be interviewed to provide this study with enough diversity in the data to assess the hypothesized relationships. The selection of interviewees depends on two criteria; first having attended a commercial support program or not, and firm age. These distinctions formed the basis of the initial small group of respondents contacted (Bryman, 2009). Subsequently, all (initial) respondents were asked for comparable IDs that could be interviewed. All thirty interviewees cooperating in this study have the development of entertainment games as a sole focus, or this is their ambition, while currently developing entertainment and applied products. Entertainment game studios comprise 45 percent of the Dutch gaming industry, and entertainment with applied products accounting for 10 percent (GM, 2015, p. 9). Snowball sampling and the number of thirty

interviewees both delimit the *external validity* of this research, because the results cannot be generalized for a larger population. Furthermore, three *ID experts* who have knowledge and/or experience with the commercial development of IDs were approached for *pilot interviews*. These pilot interviews help with practicing the interview, identifying vague and/or incomplete questions and providing an alignment between the theoretical interview basis and real-life practice in order to secure the results of this study.

The aforementioned interviews are *semi-structured interviews*. Conducting a semi-structured interview emphasizes an open-ended view of the research and allows the interviewer to find unexpected insights (Bryman, 2009). The open questions and flexible order and phrasing of the questions give interviewees the opportunity to respond in their own words (Ibid.). The option of finding new insights in this unexplored research area is of importance in order to enrich the theoretical basis, while the interviewer can make sure that all concepts are addressed.

Each respondent is interviewed once by conducting a face-to-face (when not possible a Skype) interview in Dutch, the interviewee's and interviewer's mother language. In case of ambiguities and/or omissions of an interview, telephone consults for clarification were conducted later on. To *secure the quality* of the data the transcripts of the interviews are checked and agreed upon by the interviewee before starting the coding process. All interviews were conducted in the period from February 2016 until March 2016, a time span of seven weeks (this is relevant for e.g. the firm age at the time of the interview).

Data preparation – Start of the coding process

NVivo software was used to perform the coding process. The coding process of an interview starts immediately after an interviewee has approved the transcription. Prior to starting the coding process all codes (i.e. NVivo nodes) were developed based on the distinguished concepts and indicators in the operationalization (Table 1). The first eight interviews were coded to test if the conducted interviews correctly measured the indicators described in the theory section. Some rectifications were made in the interview scheme, and the first eight interviewees were called to correct the changes in questions that were made. These short calls were also recorded and added at the bottom of the transcripts.

3.3 Operationalization

The concepts described in the theoretical framework are operationalized in terms of indicators. This operationalization forms the guideline for the interview scheme (Appendix I/II). Table 1 entails the operationalization of the dependent variable and the dependent variables. These are the commercialization strategy and its underlying motivation and characteristics, respectively. The motives have been assessed regarding their influencing role when the choice for a particular commercialization strategy was made. The characteristics apply to the contemporary members of the ID-firm and will all be measured as the average of those team members. These team members are the regular contributing ID-team within the current implemented strategy: founders, co-owners, team members, regular number of interns and regular contributing freelancers. This excludes sporadically used freelancers and ID-teams with a varying number of interns. A large majority of IDs have a number of intern positions, which are important for running a low budget (start-up) firm (Lewrick et al., 2001).

Table 1 - Operationalization of determinants for the choice of a commercialization strategy

	Concept	Indicator / independent variable	Measurement	
Strategy	Rat race	Digital platform	0 = No digital platform used 1 = One digital platform used at release & minor commercialization	
	Diversification	Digital platforms, UPI	0 = No niche targeted UPI with user confirmation, no mass activities 1 = Digital platform(s) used with niche targeted UPI 2 = Develops niche targeted games simultaneously	
	Mass Commercialization	Mass commercialization process	0 = No mass commercialization activities 1 = Several mass commercialization activities (pre & post-release)	
	Commercial Implementation	Self-Deployment		0 = No 1 = Yes
		Outsourcing		0 = No 1 = Yes
		Insourcing		0 = No 1 = Yes
Motives	Pecuniary	Salary/Profit	7 point Likert scale: 0 = Very unimportant 1 = Unimportant 2 = Fairly unimportant 3 = Neutral 4 = Fairly important 5 = Important 6 = Very important	
		Financial independence		
	Non-pecuniary Social	Peer recognition (Technical)		
		Reputation (Technical)		
		Image building/branding (Commercial)		
	Non-pecuniary Personal	Firm viability (Commercial)		
		Job satisfaction		
		Desire for challenging work		
		Showing that something is possible		
		Contributing to society		
	Self-confidence/risk willingness			
	Amount of needed commercial effort			
Characteristics	Individual	Age(s)	Average years of age ID-team members	
		Level of education(s)	Highest educational degrees of ID-team members: MBO, HBO, University, other	
		Relevant commercial job experience	Average number of months in previous commercial job	
		Educational diversity	0 = Technical development background 1 = Technical development and managerial background 2 = Technical development and commercial background 3 = Technical development, managerial and commercial background	
	Organizational	Firm age	Years of existence since foundation	
		Firm size	Number of team members (number of contributing individuals)	
			Number of founders	
		Performance – since foundation	Number of produced and game sales since foundation	
		Performance – growth in game production	0 = No (always producing one game at a time) 1 = Yes	
		Performance – revenue (last year)	0 = no revenue yet 1 = 1–25.000 2 = 25.001–50.000 3 = 50.001–100.000 4 = 100.001–250.000 5 = 250.001–500.000	
		External financial assets	The share of funds that comes from external resources 0 = none 1 = 1–20% 2 = 21–40% 3 = 41–60% 4 = 61–80% 5 = 81–100%	
		Managerial capabilities	0 = Inadequate 1 = Moderate 2 = Satisfactory 3 = More than sufficient 4 = Excellent	
		Commercial capabilities	0 = Inadequate 1 = Moderate 2 = Satisfactory 3 = More than sufficient 4 = Excellent	

3.4 Data analysis

In order to answer the research question (1) the interviews are divided into groups per type of strategy, (2) the interviews are checked on coding per strategy group, (3) an intra-strategy analysis is performed, (4) a cross-strategy analysis of all strategies is performed. These steps will now be explained in more detail.

First, the interviews are divided in groups per type of strategy, made possible by the strategy operationalization (Table 1; first three rows). Four separate NVivo projects are created: rat race strategists, diversification strategists, mass commercialization strategists and combi strategists; each contains IDs performing the same commercialization strategy.

Second, the four strategies can now be coded based on the indicators of the motives and characteristics displayed in Table 1. Findings that do not fit the theoretical concepts discerned previously are coded as “new emerging concepts” and written as a memo. This makes it possible to create an overview of influencing concepts as they come to mind (Polkinghorne, 2005).

Third, an intra-strategy analysis is performed. This analysis entails a comparison and description of all marked indicators of the motives and characteristics of the IDs performing the same type of commercialization strategy. This intra-strategy analysis provides insight into what motives and characteristics of the IDs play a more generic or idiosyncratic role in performing each strategy discerned (Eisenhardt, 1989). The results of the analyses are based on how many interviewees performing a specific strategy agreed upon the issues asked for and on the consistency of their answers. More specifically, this analysis is based on the following differences: the role of a factor can be mentioned by a minority, half of the strategy sample/small majority, or the majority. These options are evaluated as the factor playing no role, a small role, or an evident role respectively (see Table 2) in the choice of the interviewees to perform the same strategy. However, not only findings supported by the (small) majority are mentioned in the intra-analyses. New additional insights that can provide a better understanding of underlying influences in choosing a particular strategy are also included. Accordingly, every strategy is evaluated separately in this intra-strategic analysis. In this way, it is established stepwise which factors actually play an influencing role in choosing a particular commercialization strategy and in what way, including the emerging new concepts. To be as complete and clear as possible, quotes from the interviewees are used to clarify their thoughts and priorities. All interviews are conducted in Dutch, except for one. The quotes are translated into English. For *replication* of the analysis and to maintain anonymity of the interviewees, all quotes are labeled as given by the interviewee *plus number, i.e. *1–*30.

Table 2 - Example of the evaluative basis of the analysis based on a total of eight interviewees

Interviewees that indicated the factor did play a role/total interviewees of strategy	Evaluation influence
1 or 2 or 3 out of 8 interviewees	No role
4 or 5 out of 8	Small role
6 or 7 or 8 out of 8	Evident role
Mentioned in text	Additional influential insight

Fourth, a cross-strategy analysis is conducted and provides insight into the similarities and differences between the factors that played a role in the choice of the four types of strategy. This

gives insight regarding what factors stimulate or hamper the IDs to make a more commercially intensive choice of strategy. A hypothesis is supported when the factor plays no role for the least commercially intensive rat racers, but does play a role for the other strategic IDs. In two instances, the hypothesis cannot be supported: where the factor plays no role in general or when the motive plays an equal role in all commercialization strategies. Additionally, the complementing newly emerged codes can provide broader insights to eventually explain what influences IDs in choosing a more or less commercial strategy.

4. RESULTS

This section provides an overview of the results derived from thirty interviews. First, a summary of this multiple-case study and the IDs' strategies is presented. Secondly, the most striking and recurring answers of the interviewees are elaborated per commercialization strategy. Thereafter, all data is combined in the cross-strategy analysis and evaluation of the hypotheses.

To answer the research question, only the factors indicated by the interviewees as having played a role in formulating their strategy will be thoroughly elaborated upon. It is important to distinguish the differences between the motives of the IDs with regard to their strategy choice and what aspects they find important in general.

The composition of the sample of held interviews

The sample (n=30) consists of eight rat racers (interviewees *1-*8), eight diversification strategists (interviewee *9-*16), eight mass commercialists (interviewee *17-*24), and six combi strategists (interviewee *25-*30) (see table 3). The sample contains seven student IDs, firms that have been founded by a group of undergraduates. These student IDs have chosen to perform three strategies, except the diversification strategy.

Furthermore, the IDs can be categorized into the implementation types of self-deployment and outsourcing. None of the IDs has insourced a team member yet, who is specialized in and fulltime focused on commercial activities.

Table 3 - Multiple-case study strategy composition

Chosen strategy	Self-deployment	Outsourcing	Insourcing
8 Rat race strategists 20,67%	5 IDs	3 IDs	None
8 Diversification strategists 20,67%	5 IDs	None	None
	3 IDs (UPI self-deployed, marketing outsourced)		
8 Mass commercialization strategists 20,67%	6 IDs	None	None
	2 IDs (UPI + preparations marketing self, PR outsourced)		
6 Combi strategists (simultaneously mass) 20%	6 IDs	None	None

4.1 Intra-strategy analyses

In this section the motives, characteristics and new additional insights from the interview data per commercialization strategy will be discussed.

4.1.1 Rat race strategists (*1-*8)

The eight rat racers in this multiple case-study either implement their commercialization by themselves, for as far as they perform it, or by means of outsourcing (see table 2). Outsourcing is in one case an exclusivity deal, in which the agreement only contained a financial exchange (*3). The other two outsourcing rat racers are designing a game for a vague target group, indicated as a niche. Their publishers sponsor them a little, allowing them to self-deploy some commercialization, but no clear arrangements have been made about further commercial activities (*4, *5). Two of the self-deploying rat racers focus all their effort on a niche on one platform, with the plan to support the game on the long term without a confirmation of market demand (*6, *8). The other four decided to produce a game and sell it on one platform to continue with a next game afterwards (*1, *2, *7). Six IDs are currently in a supporters program and two did not follow nor intend to follow a supporters program (*4, *7).

Motives of rat race strategists

In choosing a rat race strategy *salary/profit* does not play a role. The ID's perspective of **financial independence** mainly comprises maintaining control regarding decisions with respect to creative matters and time constraining management. Therefore, this motive is argued to be an important influential factor. A main activity that can affect IDs' financial independence is outsourcing, because it mostly works on a revenue sharing basis and influences the decision making process. Working with outsourcing is labeled negatively as *getting the money but having to work according to tight deadlines which would destroy the creativity* (*3) and *it has to do with literally wanting to do everything ourselves: developing, publishing, we have even made our own tools* (*2).

Interviewee *1 summarizes it as: *Otherwise you can just as well to go work for a firm.*

Peer recognition is non-influential, the responses are in line with: *we know for ourselves what we are capable of, we don't need other developers to notice us in such a way* (*7). In terms of choosing a strategy, peer recognition is irrelevant. **Reputation** plays a small role in the choice for a rat race strategy. Importance of reputation in the industry is argued by the fact that it can help to build a network and/or being taken seriously as an ID.

The IDs acknowledge the necessity of **image building/branding**, but also that this factor does not play a role in their strategic choice. As *6 formulated it: *we never really thought in terms of branding, maybe we should, but I think we are too focused on our project to think about how we should present our firm etc.* **Firm viability**, long term firm health, also plays no role for rat racers. To clarify this ignorance of the majority regarding this motive some short quotes are given: *At the moment the focus is on the current project* (*1). *This project must work before the firm can work* (*2). Overall this clarifies that and why firm viability does not play a role when rat racers choose their commercialization strategy.

Job satisfaction is a factor which is almost unanimously expressed as playing an important or very important role in choosing their strategy. Two quotes clarify this opinion in the case of rat race strategists. *With everything we do we find it very important we support it and it makes us happy* (*4). *We get more joy out of it by not doing work-for-hire for example* (*6). **Desire for challenging work** only plays a small role. For these IDs this whole process is challenging, because most of them decided to make their first commercial game, while not knowing what it exactly

entails. *Just do it and see where you end up* (*4, *5). **Showing that something is possible** plays an important though small role. This motive is at the root of their strategy choice, because it causes a tunnel vision. This comes from the spirit of we succeed where others did not. **Contributing to society** does not play a role at all for the rat racers.

The motive of **self-confidence/risk** plays a small role. Rat racers realize that they have high self-confidence and are willing to take risks (they simply did what they want: make a game). To substantiate their opportunistic behavior, a quote that speaks for the majority sounds as: *I would almost say we blindly went for it...-... You do need to know this is what I am going for, this is what I want to make and I believe that this is what people want...-... You just want to innovate and risk is part of that. The higher the risk, the higher the reward can be* (*5).

Amount of needed commercial effort plays no role for rat strategists. They express their focus on making a good product and that commercial activities are not actively pursued in the process. These IDs put some effort in social media when releasing the game but that is where it ends.

Characteristics of rat race strategists

The **average age** of a rat race strategist team is 24,6 years old and varies between 22-26,8 years. When looking at the **level of education** it turns out that the big majority has an HBO degree. Additionally, the overall **educational diversity** shows no diversity whatsoever. All team members have a game/software technical educational background. The last personal characteristic shows that rat racers have little or no **commercial job related experience** before starting their ID-firm. Only one founder had a company in another industry for years.

Six rat race strategists are start-ups (< 3 years) and develop a game, release it and continue with next game. The two divergent rat racers (> 3 years) put all their hope and effort into supporting one game for one platform in a not yet confirmed demand niche. One of these IDs is 6 years and 2 months old and explicitly mentioned that focus is what they need based on lessons from previous experience (*8). The average **firm age** of rat race strategists is 2,8 years.

The average **firm size** of the rat racers comprises 1,5 team members, 3,5 founders and thus a total of 5 individuals. The number of founders vary from 1 until 7. The larger founding teams (2x3 founders, 2x5, 1x7) basically work alone, sporadically attracting freelancers who work for them based on a revenue-share agreement. The small founding teams have 2-3 internship positions, and one of them also has one team member. The sole proprietorship has 3 other team members.

As for their **earlier performance** the majority of the rat racers are in their first commercial game **development** process. Two of them have **sold** a beta-edition of their game: 12.000 sales (*2) and 2.000 sales (*8). Two have released one game before: 900 sales (*1), and 500.000 sales (*7) by being one of the first to replicate an old popular computer game to be played on mobile phones. Overall rat racers have always been producing 1 game at a time and have no **revenue** yet. A small majority has received no **external financial assets** (0%). These IDs express that they want to be a “pure ID”, meaning they only want funding like subsidies given to promising projects.

In general the rat race IDs consider their **managerial capabilities** as satisfactory. However, these IDs are quite divided in their opinion about managerial qualities and activities. Three find it moderate, due to the main reasons of: lacking skills or having difficulties in communicating. The

rest finds it satisfactory or more than sufficient mainly because self-management is doable with a small team like theirs. The **commercial capabilities** are used in a small part of the rat racers' development process. Coherently three out of eight scale their internal commercial capabilities as moderate, these IDs indicate to do too little about it and therefore also gain no experience. A small majority finds it satisfactory mainly because they compare it to when they just started and knew nothing (learning-by-doing; *1, *6, *8).

New insights: Emerged new concepts of rat race strategists

Additionally, all eight interviewees argue that there is **need for focus**, which is expressed in outsourcing commercial efforts, first develop and then do some commerce, and develop for one platform. The reason is primarily wanting to develop an as perfect-as-possible game from the technical perspective. This approach enables them to offer a missing product to the market in a way that has never been made before. As if it's all about the game, not about the users.

Final summary: Rat race strategists

Table 4 summarizes the abovementioned and substantiated results of this study's rat race strategists' motives and characteristics. "No role" means that the motive did not play a role in considerations leading to their strategy choice. "Small role" means the accounted role of the motive showed a half/half ratio or a small majority. "Evident role" means the motive did play a role in the strategy choice for a larger majority. The characteristics present the absolute range and/or the average of all rat racers in the sample (average as explained in the operationalization). These become relevant in the cross-strategy assessments and final assessment.

Table 4 - Summary of the rat race strategist's motives and characteristics

	Salary	Fin.ind.	Peer	Reputation	Image	Viability	Satisfaction	Challenge	Showing
Measurement	No role	Evident role	No role	Small role	No role	No role	Evident role	Small role	Evident role
	Contribution to society	Self-confidence /Risk	Commercial efforts	Average team member age	Educational level	Educational diversity	Commercial job experience		
Measurement	No role	Small role	No role	22-26,8 24,6	All HBO	None	None		
	Firm age	Firm size	Performance	Ext. fin. assets	Man. Cap.	Comm. Cap.	New insights		
Measurement	1,9 – 6,2 Average of 2,8 years	3,5 founders, 1,5 members, Total of 5 individuals	No sales yet No production growth No revenue yet	0%	Satisfactory Average value 2,1	Satisfactory Average value 1,6	Need for focus		

4.1.2 Diversification strategists (*9-*16)

The eight diversification strategists implement the commercialization side of the development process in two ways: self-deployment or a combination of self-deployment and outsourcing. In the combined form UPI is mostly self-deployed and other PR and marketing is outsourced (*9, *15, *16). Half of the diversifying IDs focus on a niche for their own entertainment game and also perform applied work-for-hire activities (*9, *11,*14, *16). The other half develop more than one entertainment game with a niche focus (*10, *12, *13, *15). Exactly half of these IDs did not and do not intent to follow a supporters program.

Motives of diversification strategists

All diversification interviewees argue that *salary/profit* plays an influencing role. Their arguments can be categorized in two recurring substantiations. One is that the IDs incorporated this motive into their strategic choice because of the conscious aim to at least remain at a subsistence level, when possible only pay themselves what is needed (*9, *10, *15). The other argument is basically the more money you earn the more you can do and work more comfortably. The motive of *financial independence* is unanimously indicated as being an important factor in determining their strategic choice. One ID refers to it as an idyllic aim in the current industry. At the moment this firm has a fulltime sole proprietorship alongside other jobs within the game industry (*13). Summarizing, it is a step by step approach towards the goal of becoming a pure ID, namely to be able to perform without external funds and work-for-hire in the future.

Peer recognition did not play a role for the diversification strategists. These IDs do find it a hard question, because when they are recognized, communication and advice can be more easily found. But as interviewee *11 formulates it: *Eventually we don't do it for the developers, but for the users, in that sense we have our own judgement that we follow*. The motive of *reputation* plays a small role for diversification strategists. In their opinion, a quality standard within the industry, such as being a trustworthy firm, can have a further impact towards the users. On the other hand *image building/branding* plays an evident role in choosing their commercialization strategy. Diversification IDs want to propagate awareness among users and try to put themselves on the map in varying concrete implementations (the exact point of standing out). They have in common that it is focused on a chosen niche target group that fits their game. Some mention that it played a role as a goal, but that it lacks in the actual implementation (*10, *11, *14). Others said the dissemination of their image can be seen in a typical style in all of their communication and games (*9, *13, *15). In correspondence improving the *firm's viability* also plays an important role in this strategy choice. Two quotes summarize this statement: *We have reached our target group on the PC, which is actually a sub-niche. We have done a survey that made clear that a lot of our users play on console platforms. On those platforms we wish to reach more users in the niche and thus increase our viability* (*12). *It is okay, as long as we can incorporate feedback into the game and try to maintain the target group also for future games* (*9).

Job satisfaction of diversification strategists plays an influential role. How they work is mostly to enable the firm to produce their own creative ideas. They explained this as follows: *Individually it costs us a lot, but that is why we do it, to make possible what happens here during the day* (*11). *Being able to realize my own ideas, that is where I get my energy from* (*14).

The three motives of *desire for challenging work, showing that something is possible* and *contributing to society* play no role in choosing the strategy of diversification. The factor *self-confidence/risk* on the other hand plays a small and typical role. On average they have consciously chosen their strategy in a fairly opportunistic way. The IDs argue this by stating that they do take much risk but at the same time try to minimize the risk for the firm. This gives them more confidence in trying to succeed, for which risk is needed, but also confidence in maintaining viability. For example: *we have played it sort of safe to choose to make a sequel of our old successful game, but graphically and technically it has to become much better what is a risky investment* (*12). About the *amount of needed commercial effort* the diversification IDs are clear that it plays no role in their choice of strategy. However, in hindsight they do indicate that the performance of commercial activities are fairly important in their process.

Characteristics of diversification strategists

The **average age** of a diversification ID team is 26,5 year and varies from 24,8-33,4. Their **level of education** shows a diverse picture of highly educated teams as well as a mix of all levels. Overall **educational diversity** is none, since only two ID teams have team members with a managerial and commercial background (*15, *11). The rest of the teams have no educational diversity or only a game technical education mixed with an irrelevant education. These IDs' **commercial job related experience** on the other hand is quite diverse. Three out of eight have had some commercial working experience within the game industry: having owned a company (*13), or freelanced (*15), or part-time working at another commercial firm (*16). A fourth ID has three members who have done commercial activities in other industries (*10). Thus, half of these IDs have had some commercial working experience.

The official **firm age** varies from 1,2 - 6,5 years old and is on average 3,28 years old. This strategy is chosen by four start-ups and four experienced firms. The **firm size** demonstrates a founder rate from a sole founder up to 4 founders. The majority of teams work with additional members, instead of sporadically help. At three diversification IDs these members are a regular number of internships. Three other IDs work with regular (part-time) employees. The remaining two are one ID-firm that works in cooperation and one sole proprietorship. The IDs' average firm size is 2,38 team members, 2,13 founders and thus a total of 4,5 individuals.

With regard to **earlier performance** two diversification IDs have already marketed 2 games (*12, *15) and four IDs have marketed 1 game (**9, *10, *13, *16). One ID has only sold a beta-version of the game but also did work-for-hire (*8) and the remaining ID is still designing its first game while doing work-for-hire (*14). The volume of **sales** show big differences varying from 1.300 up to 700.000 euros. It is striking that the games of the IDs who have already sold two games both sold relatively well (average 287.500 sales per game). Summarizing, diversification IDs are at least in the development process of their second game after reasonable first game sales. One of the IDs has been working on this strategy since foundation (*9). The majority **grew** into this strategy, of which four started working simultaneously on their own games (*10, *12, *13, *15). Diversification strategists have an average **revenue** around 143.750 euro's over the last year (last twelve months) based on mean class revenues.

Overall, the financial assets of these IDs are **funded externally** for 0-20%. Most of them only receive small grants (*13, *14, *15). Two IDs have also received a business investment (*10, *11). One ID has also received an investment from a publisher (41-60%) (*16). Two are divergent, one has 0% external assets (*12) and one has received a loan (61-80% scale)(*9).

Managerial capabilities are described by a big majority as satisfactory. The IDs state that the contemporary team is too small to enable the necessary and desired focus/time on specialized tasks, but one ID has created a road map towards such a firm structure (*9). Currently they manage and say that learning-by-doing is key for improvement (*10, *11, *12). As interviewee *13 said: *the balance between quality and timing can be better, now it's moreover game quality*. The internal **commercial capabilities** of the ID team show quite diverse opinions and qualities. To date, overall they consider it satisfactory, based on their network and performance. Though, these IDs all mention how future improvements can be made. As *12 argues from experience: *we had a*

PR intern. When we saw what he did, we thought we can do that even better ourselves given our knowledge of the product. Two IDs mention that the firm is in need of a specialist, due to too little knowledge of commercialization and needed focus on commercialization (*11, *14).

New insights: Emerged new concepts of diversification strategists

Gaining experience, the will to learn-by-doing, plays a small role. A quote of interviewee *10 regarding this concept is: *I can give multiple examples of how we make pretty headstrong choices of which other people say that it's impossible. In that case we would rather fail trying, than think no it's not going to work.* This is expressed in commercial self-deployment and focus on niche-optimization by, for example, trying to expand to new platforms. *16 mentioned this by saying: *we now choose work-for-hire assignments as a learning investment for ourselves, as in we don't know how it works yet, but if we learn it we can use it later on for our own firm.* This willingness to learn and implement is also mentioned as a small influencing factor of **previous experience** on their strategic choice. As *13 described it: *to survive now you need to belong to the top and for that you have to focus on a niche market and you should at least make sure that some people know your game. (...) I noticed that marketing is difficult to direct, so actually the most important is that you have youtubers or other streamers who play it and share it.*

Final summary: Diversification strategists

Table 5 summarizes the above mentioned and substantiated results of this study's diversification strategists' motives and characteristics.

Table 5 - Summary of the diversification strategist's motives and characteristics

	Salary	Fin.ind.	Peer	Rep.	Image	Viability	Satisfaction	Challenge	Showing
Measurement	Evident role	Evident role	No role	Small role	Evident role	Evident role	Evident role	No role	No role

	Society	Self-confidence/ Risk	Commercial efforts	Average team member age	Educational level	Educational diversity	Commercial job experience
Measurement	No role	Small role	No role	23,8-33,4 26,5	Mix of levels	None	Some experience

	Firm age	Firm size	Performance	Ext. fin. assets	Man. Cap.	Comm. Cap.	New insights
Measurement	1,17 – 6,5 Average 3,28 years	2,13 founders 2,38 members Total of 4,5 individuals	Developing 2 nd game; reasonable sales Grown to >1 project Average revenue €143.750/year	1-20%	Satisfactory Average value 2,25	Satisfactory Average value 1,88	Gaining exp. Previous exp.

4.1.3 Mass commercialization strategists (*17-*24)

Eight mass commercialization strategists implement the commercial side in two different ways: self-deployment or a combination of self-deployment & outsourcing. Two IDs implement their commercialization in this combined way, wherein the IDs actually do all of the UPI and marketing themselves but use a PR-bureau/publisher for the mass distribution (*18, *23). Some of the self-deploying IDs aim to reach as many users possible by making concessive decisions throughout their development process (*17, *19, *22). For some of these IDs the necessity of an active marketing focus was recognized later; at that time they decided to give more time to development (further on) in the process (*21, *22, *24). Very recently one ID has added a part-timer to the team who focuses on the commercialization (*20). And one ID is actively searching for a commercialization specialist (*24). In general mass commercialists have been or currently are in a

supporters program. It is important to note that it is the goal of these IDs to diffuse their game, while the integration of the commercial process with the technical process is still in development.

Motives of mass commercialization strategists

The motive of **salary/profit** plays an influential role in the choice for mass commercialization. For these IDs money is a necessity to maintain the firms' activities in the future. Two quotes demonstrate their reasoning: *We just really invest very much in our future and therefore profit is very important (*19). You have to follow closely what should be adapted after the release and how that evolves and be able to make choices, because that can make the difference between whether or not to earn money at the end of the ride (*21).* **Financial independence** is unanimously indicated as (very) important. In their own words: *this is the reason we started a firm, we didn't like the option to work on someone else's ideas. We want our artistic freedom and we want to put our ideas into the world (*20).* An experienced ID said *it doesn't mean we don't want to cooperate, parties may invest in our ideas ... But we don't want to go back to work-for-hire or something like that (*19).*

Peer recognition and **contributing to society** play no role from the perspective of mass commercialization strategists. On the other hand building a **reputation** in the gaming industry plays a small role. A conscious decision based on making a game with innovative technique, software and/or quality that attracts and can feed attention is the basic argument. Also **image building/branding** showed to be a small important role for mass commercializing IDs. The following argument demonstrates why. *It is our intention to build a viable firm. That is why we try to build an image for the products we make, so we can integrate this into our future strategy. (...) Currently it happens that a lot of start-ups go bankrupt after having released one game ... And actually you want your firm to have a kind of identity (*17).* The IDs that indicate it as playing no role say they of course do the branding themselves, but that it had no influence on making their choice.

Firm viability is an influential motive to choose for mass commercialization. These IDs look at their firm in the short and long run and base decisions on what they wish to accomplish. Also **job satisfaction** is a very important influence. Because they want to be able to realize their passion for making games. They want a viable way to provide satisfaction of long lasting enjoyment. For these IDs it is about balancing out fun and not-fun activities. *18 formulated this as follows: *we want to work on creative game projects (...) the establishment of the firm is more a necessity. It was more in the order of what games do we want to make and how can we make money doing so.*

Desire for challenging work is a motive with an evident role that drives mass commercialist IDs. The importance of challenge lays in the fact that the IDs want to create something new instead of reproduce (slightly different). This can be combining things in a new shape, asking themselves a questions like "how far can we extend this?". The challenge can help feed their interest on the long term. *22 explains it: *we don't mean it in a way we want to reinvent every wheel, but we do want to look at each wheel to see if it cannot work better or differently.* The motive of **showing that something is possible** plays only a small role. Two arguments for this matter are showing that success is possible in this turbulent and killing industry, and showing that a different type of game can attract a lot of users. Also **self-confidence/risk** is indicated to have played a small role for the

mass commercialization strategists. In advance these IDs have chosen to behave in a more neutral to fairly opportunistic manner. Risk remains part of entrepreneurship and they bet on one game and innovativeness. The **amount of needed commercial effort** is not taken into account by mass commercialist when choosing their strategy. Only two IDs indicated it did play a role.

Characteristics of mass commercialization strategists

The **average age** of a mass commercialization ID team is 26 years and varies from 24-29 years old. Their **level of education** is mainly HBO degrees. The same lack of diversity is displayed when their **educational diversity** and **commercial job related experience** is the subject of matter. The majority has no educational diversity or commercial experience whatsoever (all design, programming, art, audio etc.). Only one team had one member with a degree in a managerial study (*19). Another team with commercial experience before starting as an ID has three founders with freelance work in the industry, doing their own marketing (*21).

The average **firm age** of a mass commercialist is 3,17 years and varies from 8 months to 9 years. In this multiple-case study this strategy is performed by five start-ups and three are experienced IDs. Their average **firm size** comprises 3,25 founders, 3,5 members and thus 6,75 individuals. The number of founders differs from sole proprietorship up to 7 founders. The majority of these mass commercialists work with regular team members alongside the founders. **Earlier performance** shows that a small majority of these IDs haven't **sold** a commercial game yet and are still in their first commercial process, they have no **revenue** yet. These are all start-ups with this strategy. Two experienced IDs have sold one commercial game of which they have sold 1.000 and 5.000 copies respectively (*18, *23). One experienced ID has marketed two commercial games as a diversification strategist, only the number of 2.000.000 sales of the first game is shared (*19). This ID previously worked according to a diversification strategy, but decided to put all his efforts in a still promising earlier released game (*19). These firms have consciously chosen to develop one game that can be interesting for a wide group of users. The average **financial assets** of mass commercializing IDs display that on average 21-40% has been received from external funds. Besides subsidies, ID firms with this strategy have received additionally funds through crowdfunding and private investments.

On average the IDs judge their **managerial capabilities** as satisfactory. Two IDs find it moderate, considering they make too little time for it (yet) (*21, *22). The other IDs find it more than sufficient and all point out one main argument: we work with a managerial framework (*17), learning-by-doing goes well (*24), and the team is small so self-management is manageable (*18, *23). And last the management is not efficient due to a larger group and a democratic climate, but there is a structure and dispersed responsibilities which has good results (*19). On the contrary **commercial capabilities** are evaluated as moderate. These IDs are convinced commercialization should be part of the production process, but half of them have not invested enough/no time in it yet, while having plans and time scheduled for it. One of these IDs is currently actively looking for a member to insource, and a small majority has the intention to do so in the (near) future.

New insights: Emerged new concepts of mass commercialists

Four mass commercialist added **research** as an influence on their strategy choice. This motive plays a small role. More specifically, this research is focused on collecting information on what

kind of commercial activities are successful, and monitoring response data on our own activities and other IDs' activities (*18, *21, *23, *24). **Gaining experience** is also explicitly mentioned by four IDs as an important factor for this choice. This is described as retention of room for strategic redirection, so called in-flux.

Final summary: Mass commercialists

Table 6 summarizes the above mentioned and substantiated results of this study's mass commercialist strategists motives and characteristics.

Table 6 - Summary of the mass commercialization strategist's motives and characteristics

	Salary	Fin.ind.	Peer	Rep.	Image	Viability	Satisfaction	Challenge	Showing
Measurement	Evident role	Evident role	No role	Small role	Small role	Evident role	Evident role	Evident role	Small role

	Society	Confidence/Risk	Commercial efforts	Average team member age	Educational level	Educational diversity	Commercial job experience
Measurement	No role	Small role	No role	24-29 26	All HBO	None	None

	Firm age	Firm size	Performance	Ext. fin. assets	Man. Cap.	Comm. Cap.	New insights
Measurement	0,67-9 Average of 3,17 year	3,25 founders 3,5 members Total of 6,75 individuals	Overall no sales, Consciously 1 mass game, Majority has no revenue yet	21-40%	Satisfactory Average value 2,43	Moderate Average value 1,43	Research Gain exp.

5.1.4 Combi strategists (*25-*30)

All six combi strategic IDs perform their commercial activities by self-deployment. But, one of these IDs mainly implements this through a regular freelancer whom they are trying to insource as an equal co-owner (*29). Half of these IDs also perform work-for-hire (*27, *28, *29). One combi ID has just started to perform this strategy (*28). In contrast to the others this ID described this strategy shift more as a coincidence, since the interns started working on a second game as a test. A small majority of these ID firms are commercially completely independent, whereas two follow a supporters program.

Motives of combi strategists

Salary/profit plays only a small role in choosing their strategy. It is clear that this motive has been consciously taken into account, but varies greatly from unimportant to important. Thus, on the average it displays a neutral role in the strategy choice. However, **financial independence** is a very distinct incentive for the combi strategists. The majority indicated this as influential in a (very) important way, because: *When you are in a cooperation technically all agreements are on paper, but you never know for sure it doesn't have an effect on other choices you make. Financial independence is something that causes/enables you to make smarter choices* (*26). Another interviewee does mention a new type of so called ID-publisher that mainly just helps IDs out on the commercialization side. This is an option they would consider (*29).

For the first time **peer recognition** plays a role, while overall it does play a neutral role in the choice. The following quotes give a clear perspective on why these IDs do take the motive into account. *Initially it not very quickly came to us to gain certain contacts, but eventually we noticed what could be the effects and it caused a change of our working method. The influence of being*

*noticed by certain IDs and get in contact helps us get forward. In this way meeting other people with same experiences does influence us in the way we work (*27). It is not my main thing, but it indicates how your ideas will be accepted. You always have to deal with the fact that if an industry starts to oppose you, it becomes much more difficult to achieve what you want (*30). Reputation* is actually put into perspective in the same way as peer recognition. The main line argued is that being known within the industry beyond a few peers is good for B2B attraction and that a certain wider spread reputation gives you a better opportunity to try out more edged ideas, with an innovative or groundbreaking goal.

Image building/branding is unanimously revealed as a motive for a combi strategist. It is emphasized that *it is especially important to talk to the right people, so the followers know how to follow us. (...) And we try to make all our products in our own typical style (*25). This is our distinguishing feature (*28, *30).* The last two interviewees argue this factor in coherence with peer recognition and reputation, as it all boosts attention and familiarity for their products. To further explain the status of *28, they are deploying other capabilities through a mass activity in another industry. The plan is to link that activity as commercial attention to their game(s). **Firm viability** plays a small role for combi strategists. Overall this small role is caused by the aim to test how this strategy works (see new insights).

All general non pecuniary motives have played an influencing role in the choice for a combi strategy. **Job satisfaction** is mentioned by almost all of these IDs as their initial drive, since passion for entertainment games is at the core of their firm establishment. *We want to make entertainment games because we are passionate about it, but we want to do it in such a way that we actually can do it the way we want (*25). If one of us says my energy has run out, then we adjust our strategy accordingly. Our idea now for the marketing is another activity that is in line with what I wanted to do since I was little, so the combining link derives primarily from my enjoyment (*28).* These quotes show that the combi strategists let their satisfaction play a role in their strategy, while consciously trying to mold positive consequence for the firm's strategy. **Desire for challenging work** and **showing that something is possible** have been taken into consideration by a small majority. The IDs argue the importance of challenge as follows: *if it is not challenging we would have done it differently (*29). If the work is not challenging it becomes mindless and then I come to a point where I am no longer excited (*30).* Thus, combi IDs describe this as a necessity to perform in the way they do. The motive of **showing that something is possible** is expressed in showing that their type of game can fit a larger audience.

Combi strategists indicated that **contributing to society** played an influencing role, because these IDs keep the opportunity in mind to put a social message into games or the possibility for an applied application, while not letting it become the focal point. The combi strategists described **self-confidence/risk willingness** as a motive that has played an influential role in a way that a combi strategists consciously try to balance risks as much as possible. Last, the **amount of commercial effort needed** is not taken into account as a prior motive to choose a commercialization strategy. Only two combi IDs indicated that a part of their team is more focused on commerce, some besides doing other activities for the game.

Characteristics of combi strategists

The **average age** of a combi strategy team is 28,7 years and varies from a deviant 21 years (*28) up to 32,75 years old. Their teams' **level of education** displays ID firms with solely HBO (under)graduates and IDs with a mix of all educational levels from MBO-University. On the contrary, **educational diversity** shows a flat line of only technical relevant educational backgrounds (or combined with other educations). Additionally, the **commercial job related experience** shows that a small majority of combi strategists have had earlier work for which they have done commercially related activities that they can use for their ID-firm. Two of these IDs have team members that have worked in commerce related function for several years, in the game industry as well as in other industries (*27. *30). Two IDs mention that one founder has had experience in sales and learned about users psychology (*26, *28).

The average **firm age** of a combi strategists is 3,41 years and their actual age varies from 0,75 – 4,8 years old. This makes a combi strategist a nearly experienced ID firm. The **firm size** of these IDs comprise 2,83 founders, 4,2 members and thus 7 individuals. It must be noted that this is after excluding a divergent student ID that is in a promising position of working with 36 interns. The number of founders varies from 1 up to 5 and combi strategists mainly work with regular freelancers for a certain game.

Looking at **earlier performance** half of the combi strategists have already **sold** 1 commercial game, within a different earlier chosen strategy. This has led to 70 sales with a rat race strategy (*28), 20.000 sales with a diversification strategy (*30), and 300.000 sales with a mass commercialization strategy (*25). The other three are still in the process of their own first commercial game(s), while two of them do work-for-hire also. All of these ID firms have **grown** from producing only one commercial game to working on multiple games at the same time. Overall combi strategists had a **revenue** of 1-25.000 euros (one did not share). The **external financial assets** of combi strategists in general are 0%, mainly due to the fact that most of them try to make it as a pure ID (all on their own). One of these IDs is looking for an investor (*27).

Their **managerial capabilities** are between satisfactory and more than sufficient. The IDs argue that this is based on having had no problems until now. However, they continue to invest in it by thinking of possible improvements and/or having agreements on who has to take on what responsibilities if the firm becomes suddenly much busier (commercially). The combi strategists also express their **commercial capabilities** in between satisfactory and more than sufficient. They argue this by mentioning that their commercialization is based on market research and UPI info (*25, *26). One ID has a cooperating freelancer on commercial activities (*29). Another ID uses experience from earlier work (*27). The last ID sees this as its specialty (*30).

New insights: Emerged concepts of combi strategists

Additionally these IDs explicitly mentioned **research, previous experience** and again **gaining experience** as additional separate motives that have influenced their choice. For these IDs these motives displayed to play a small role. They are trying to find a guide line through desktop research on user preferences and studying other IDs successes and failures. Lessons from earlier experience play a role in making this choice, which these IDs are pinpointing as the motive of gaining experience, since they want to learn-by-doing and trying out what works best (*26, *28,

*29, *30). Several of these teams exist of individuals with opposite characters, who balance out the short term vs. long term focus (*25, *26, *29).

Summary: combi strategists

Table 7 summarizes the above mentioned and substantiated results of this study’s combi strategists motives and characteristics.

Table 7 - Summary of the combi strategist's motives and characteristics

	Salary	Fin.ind.	Peer	Rep.	Image	Viability	Satisfaction	Challenge	Showing
Measurement	Small role	Evident role	Evident role	Evident role	Evident role	Small role	Evident role	Small role	Small role
	Society	Confidence/Risk	Commercial efforts	Average team member age	Level of education	Educational diversity	Commercial job experience		
Measurement	Evident role	Evident role	No role (4,5)	21-32,75 28,7	Mix All or All HBO	None	Small majority		
	Firm age	Firm size	Performance	Ext. fin. assets	Man. Cap.	Comm. Cap.	New insights		
Measurement	0,75-7,1 3,41 years	2,83 founders, 4,2 members, Total of 7 individuals	3/6 in 2 nd game project Grown to >1 project Revenue 1-25.000/year	0%	Satisfactory up to more than sufficient, Average value 2,5	Satisfactory up to more than sufficient, Average value 2,5	Research Previous exp. Gain exp.		

4.2 Cross-strategy analysis

In this section the data is analyzed at a higher level of aggregation. All four strategies will be checked on similarities and differences of influences, based on the earlier described and reasoned roles that various factors play for the four groups of IDs. Table 8 gives a complete overview of this final comparison.

First, the motives will be analyzed in the order of virtually playing no role in general, virtually playing an equal role for all strategies, and the ones that play a role in order to choose a more intensive commercialization strategy. Secondly, in the same order the influences of IDs’ characteristics will be identified. Third, some characteristics that only clarify a choice for certain strategies will be distinguished and explained. Additionally, the new insights that stimulate a difference in choice will be discussed. This eventually leads to the evaluation of the hypotheses, which are supported or not supported (table 9). Hereby, it is indicated what factors stimulate or hamper IDs in making a more commercially intensive strategy choice.

Table 8 - Final summary of the strategy-influencing factor relationship. The content means: 0 = no role, + and - = small role, ++ and -- = evident role. The characteristics demonstrate the leading average as explained in the operationalization.

Factor	Rat racer	Diversification	Mass commercialization	Combi strategist
Salary/profit	0	++	++	+
Financial independence	++	++	++	++
Peer recognition	0	0	0	--
Reputation	-	-	-	--
Image/branding	0	++	+	++
Firm viability	0	++	++	+
Job satisfaction	--	--	++	++
Desire for challenge	+	0	++	+
Showing possibility	--	0	+	+
Contribution to society	0	0	0	+
Confidence/risk	+	+	+	++
Comm. efforts needed	0	0	0	0

Age of members	24,6	26,5	26	28,7
Educational level	All HBO	Mix of levels	All HBO	Mix/all HBO
Educational diversity	None	None	None	None
Comm. job experience	None	Some	None	Some
Firm age	2,8	3,3	3,2	3,4
Firm size	5 individuals	4,5 individuals	6,8 individuals	7 individuals
Earlier performance	€0 revenue	€143.750 revenue	€0 revenue	€1-25.000 revenue
External financial assets	0%	1-20%	21-40%	0%
Managerial capabilities	2,1	2,3	2,4	2,5
Commercial capabilities	1,6	1,9	1,4	2,5
New insights	Need for focus	Gain experience Previous experience	Gain experience Research	Gain experience Previous experience Research

Three theoretical motives have not been taken into account by the IDs when considering what strategy to perform. These motives (virtually) play no role in the choice for a commercialization strategy: *peer recognition*, *contribution to society* and *commercial efforts needed*.

The six theoretical motives that play an almost equal role in all four commercialization strategies are *financial independence*, *reputation*, *job satisfaction*, *desire for challenging work*, *showing something is possible* and *confidence/risk*. Since these motives influence all IDs in their choice of a strategy, they can be regarded as motives that stimulate people to become an ID in general.

This leaves three theoretical motives that play no role for rat race strategists but are the reasons for IDs to choose a more commercially intensive strategy. The theoretical motives that play a role to choose a more intensive commercialization strategy are: *salary/profit*, *image building/branding* and *firm viability*. All indicate more business mindedness rather than a solely technical development focus.

Educational diversity is the individual characteristic that shows to be absent in all strategy choices, even in almost all IDs. Therefore, the only statement that can be made regarding this characteristic is that it has no influence on the choice of a commercialization strategy.

Three characteristics virtually play an almost equal role in the choice of a commercialization strategy. This are *educational level*, *managerial capabilities* and *commercial capabilities*. All of them receive the same appreciation when choosing a strategy. Only the commercial capabilities of combi strategists show to be an outlier.

The three characteristics of *age of members*, *firm age* and *external financial assets* appear to play a role when choosing a more intensive commercialization strategy. In general, these characteristics increase with a more intensive commercialization strategy in contrast to rat race strategists. The team members are at least 1.5 year older, the firm is 0.5 a year older and more additional external financial assets are received. The combi strategist is however an outlier with regard to external financial assets as a described attempt to be a ‘pure ID’ in their first development process.

The remaining four characteristics show to be influential in more explicit ways. The choice for a diversification or combi strategy is influenced in a distinctive way by *commercial job related experience*, *earlier performance* and also the already mentioned *educational level* to some degree. It has been shown that these two more intensive commercialization strategies are chosen by ID teams that have some commercial working experience, generated a revenue, and a team with a mix

of educational levels instead of only HBO members.

The characteristic *firm size* shows to stimulate the choice of a mass commercialization or combi strategy. These ID teams have about two individuals more working on the game(s) in development than IDs performing the other two strategies.

Last, the new insight that plays a role in the choice of a more commercially intensive strategy is *gaining experience*. All more intensive commercialization strategies have this additional motive of wanting to learn-by-doing in common. Additionally, in case of the new insights more distinctive ways of influence can be established. *Previous experience* is a motive that stimulates IDs to choose for a diversification or combi strategy, whereas doing *research* stimulates IDs to choose for a mass commercialization or combi strategy. Additionally, *need for focus* hampers rat racer IDs to choose a more intensive commercialization strategy.

Assessment of the hypotheses

The cross-analysis findings provide the necessary information to evaluate the hypotheses that were formulated in the theory section and illustrated in the conceptual model (Fig. 3, p. 9).

The motive related hypotheses 1a, 3a and 3b state that *salary/profit, image building/branding* and *firm viability* have a positive influence on the choice of a more intensive commercialization strategy. Since the choice of a more intensive commercialization strategy goes hand-in-hand with these motives prior to making a strategic decision, these hypotheses are supported. And thus, these motives stimulate IDs to perform a more intensive commercialization strategy than rat racers.

All other hypotheses on motives having a positive or negative influence on the choice of a more commercially intensive strategy cannot be supported. Hypothesis 2a, and a part of hypothesis 4 are not supported due to the fact that IDs do not think about *peer recognition, contribution to society* and *commercial efforts needed* when making a strategic choice. Additionally, hypotheses 1b, 2b, and the rest of hypothesis 4 cannot be supported because all motives virtually play the same role for all strategies. *Financial independence, reputation, job satisfaction, desire for challenge, showing a possibility* and *confidence/risk* do not stimulate nor hamper the choice of a more commercially intensive strategy.

Hypotheses 5a, 6a and 6d on IDs' characteristics stated that *the age of the ID-team, firm age* and *external financial assets* have a positive influence on the choice of a more intensive commercialization strategy. As the average team ages are higher, the firms are older and the received external assets virtually increase, these hypotheses are supported. This means that an increase of these characteristics stimulates the choice of a more intensive commercialization strategy. Supplementary, hypotheses 5c, 6b, and 6c state that *commercial job related experience, firm size* and *earlier performance* positively influence the choice of a more intensive commercialization strategy. These three characteristics are shown to be absent or lower in rat race strategists, in comparison to diversification and combi strategists. Therefore, these hypotheses are only partially/divergently supported.

One characteristic has shown a completely divergent relational finding. Hypothesis 5b stated that the *level of education* positively influences the choice of a more intensive commercialization strategy. Since the educational level of ID-teams is almost the same for every strategy, the

hypothesis is not supported. However, a mix of educational levels does stimulate the choice of a more intensive commercialization strategy, namely a diversification or combi strategy.

Finally, the remaining hypotheses on characteristics having a positive influence on the choice of a more intensive commercialization strategy cannot be supported. *Educational diversity* (H5d) is absent and plays no role at all for IDs. And *managerial capabilities* and *commercial capabilities* (H6e, 6f) cannot be supported because both play virtually the same role for all strategies.

Table 9 - Evaluation of the hypotheses. Green means supported, gray means not supported because it applies to all strategies in an equal matter, white means not supported because it has no influence and yellow means divergently supported.

Independent motives	Evaluation of hypothesis	Independent characteristics	Evaluation of hypothesis
Salary/Profit (+)	Supported – Stimulating influence	Age(s) (+)	Supported – Stimulating influence
Financial independence (+)	Not supported – ID general context	Level of education (+)	Not supported – Divergent finding for Diversification + Combi strategists
Peer recognition (-)	Not supported – No influence	Educational diversity (+)	Not supported – ID general context
Reputation (-)	Not supported – ID general context	Comm. job related exp. (+)	Divergently supported – Div + Combi
Image building/branding (+)	Supported – Stimulating influence	Firm age (+)	Supported – Stimulating influence
Firm viability (+)	Supported – Stimulating influence	Firm size (+)	Divergently supported – Divergent finding for Mass + Combi strategists
Job satisfaction (≠)	Not supported – ID general context	Earlier performance (+)	Divergently supported – Div + Combi
Desire for challenge (≠)	Not supported – ID general context	External financial assets (+)	Supported – Stimulating influence
Showing possibility (≠)	Not supported – ID general context	Managerial capabilities (+)	Not supported – ID general context
Contribution to society (≠)	Not supported – No influence	Commercial capabilities (+)	Not supported – ID general context
Confidence/Risk (≠)	Not supported – ID general context		
Commercial efforts (≠)	Not supported – No influence		

5. CONCLUSION & DISCUSSION

In this section first a reflection on the chosen theoretical framework with regard to the study's findings is given, in combination with answering the research question. This is supplemented by a critical discussion of the research process regarding the theoretical implications and managerial implications of the results obtained. Finally, a reflection is given on the research limitations and complementary future research subjects are described.

5.1 Conclusion

This study explains what factors influence the commercialization strategies chosen by IDs. Four types of performed commercialization strategies of IDs have been identified, namely a rat race strategy, a diversification strategy, a mass commercialization strategy and a combi strategy. Every strategy comprises a specific view on targeted user categories and accompanying commercial activities to monetize their own products. Based on the literature, motives and characteristics have been discerned with a clear stimulating or hampering influence on the choice of a more or less commercially intensive strategy. This insight into the incentives and barriers experienced by IDs in choosing their strategy is an attempt to help them improve their long term chances of survival.

The study shows that IDs do not follow a sequence of successive commercialization strategies in expanding their market orientation as was initially assumed. All strategies are initially chosen by groups of IDs. However, the theoretical framework made it possible to find out what motives and characteristics stimulate Dutch IDs to enter the gaming industry and become a more intensively commercializing firm. A small number of motives, and a broader and diffused set of characteristics stimulate IDs to choose a more intensive commercialization strategy. The qualitative approach based on semi-structured interviews enabled the researcher to retrieve an

overarching vision of what factors affect the choice of commercialization strategies by IDs. It provides the opportunity to explain from the results obtained, which factors have a stimulating or hampering influence on the choice of a more intensive commercialization strategy than a rat race strategy.

In combination with the methodology followed, the theoretical framework and the empirical research are adequate in determining what and how factors influence the choice of a commercialization strategy by Dutch IDs. Decisive stimulating factors for IDs to choose a more intensive commercialization strategy are: *salary/profit, image building/branding, firm viability, age of ID-members, firm age* and *the external financial assets*. However, it also gave the opportunity to find out in particular that the will to *gain experience* (learning-by-doing) is a motive in this respect. Additionally, the motive which hampers IDs to intensify their commercialization strategy is their *need for focus* on technological development.

One of the unanticipated additional results is a new vision on the chances of survival in the current game industry. In the contemporary situation, IDs have the best chances of survival in the short and longer term with a diversification strategy based on their earlier performance, by simultaneously focusing on several niches on different platforms. Intensification toward mass commercialization is not a road to success. Then it seems that IDs try to overdo commercialization in order to distinguish themselves in an attempt to survive. The commercialization strategy of diversification shows the generation of the necessary revenues and creation of interaction with targeted audiences, which is essential in order to establish a good foundation to continue with the development of games. In this highly competitive market it is even more important to target a niche stepwise and to try to optimize that niche. Afterwards, when a financial and user buffer is built, IDs may attempt to broaden their commercialization further toward larger markets.

This pioneering study has given insight into the factors that account for the differences in the strategic choices of thirty Dutch IDs. Considering the innovative and divergent nature of IDs in this contemporary and turbulent industry, it is advisable to base future research on larger samples. Quantitatively testing these findings can make them generalizable to a larger population. Finally, future research must, with regard to the young age of these firms, focus on a longitudinal and/or replicating study to find out what factors determine successful and unsuccessful commercialization strategies of IDs in the long term.

5.2 Theoretical implications

This study is one of the few empirical studies that is focused solely on IDs and one of the first specifically focused on their innovative behavior. Other related studies are more focused on the digital gaming industry in general, or the IDs' rights, game types and lives. Additionally, this research provides the first insight from a strategic management perspective. Wright (2015), did an explorative study of the ID sector in North West England in 2012, for which all kinds of actors were interviewed. In contrast to Wright (2015), this study is a deductive explanatory contribution to our knowledge of business and strategical considerations of IDs. This increases the understanding of ID reasoning and can help to increase their chances of survival. Also, it is the first empirical study on IDs' strategies in the Netherlands.

The results obtained in this study show that the theoretical framework and conceptual model derived in the theory section are adequate to explain the choice of commercialization strategy by IDs. It is found that most of the influencing factors are covered by the framework and it enables the research question to be answered.

One of the main implications of this study relates to the theoretical assumption that the higher the commercialization, the better the chances of survival. For today's ID market, the findings show otherwise. Earlier empirical and practical studies show that there is a permanent discontinuity in the game industry caused by its innovative technological dynamics (Parker et al., 2014; GM, 2015 etc.). This study's findings confirm the prevalent search of IDs to distinguish themselves from other ID start-ups, leading to an even distribution of various performed commercialization strategies. However, the unequally distributed performance of IDs does not provide most strategies with the essential resources and UPI to survive and develop a new game. Thereby, the results obtained regarding IDs' most promising strategy choice is in line with predictions from a macro-landscape study of Geels and Kemp on niche management and regime formation (2007). They stated that a technological discontinuity continuously establishes a new sociotechnical regime and firms should therefore focus on market niche selection related to their technological niche selection (Geels & Kemp, 2007; Schot & Geels, 2007). The results of this micro-level study also show the largest efficacy of niche focused diversification IDs, which contradicts the described theoretical assumption. In other words, rat racers and other IDs that want to increase their chances of survival in this turbulent unstable market should choose a diversification strategy. It features the message that if they want to employ a commercialization strategy with a larger scope now, they should not (yet). Diversification comprises an effective intermediate step toward commercialization on a larger scale. Geels (2002) describes that when focusing on (a) niche(s), firms can offer themselves the time to gradually grow while securing their own innovative and creative development toward a more generic market. Niche formation can secure community interaction, based on UPI, which allows for technical feedback as well as gaining experience with the commercial process (Kemp et al., 2007). If at an early stage a niche demand is confirmed by a user category, the development process can be started with the help of UPI. Therefore, diversification allows IDs to incrementally approach users and stimulate further development in order to meet the demanding customer niches. However, this implies that it is not recommended to approach a larger and more generic user segment, in accordance with the diffusion theory of Rogers (2003). In the current market situation this would lead to a high chance of inefficiency of addressing users. The outcomes of this study show that with diversification, an ID can at least generate sufficient revenues to develop a next game.

During the research it also became clear that IDs do not follow a gradual upscaling of their commercial activities as expected. Most evidently this can be seen in the chosen strategies and related firm ages; on average, mass commercializing IDs are younger than diversification strategists. Therefore, the theoretical assumption of successive intensifying commercialization strategies should be revised. Parker et al. (2014) already showed that the power asymmetries in the gaming industry are diminishing due to the innovative publishing opportunities caused by technological change, i.e. the availability of Internet based publishing platforms. This study shows that in the case of Dutch IDs the technological change also leads to young firms choosing a more commercially intensive strategy even without having an adequate resource base. This can be

explained in two ways. First, a small number of success stories can trigger a large volume of graduating Dutch game students to behave opportunistically and try to repeat it (GM, 2015, p. 6). Secondly, the majority of start-ups have little revenue and make little to no profits, which drives entering IDs to try out other business models (Wright, 2015; GM, 2015, p. 5 & p. 20).

Consequently, the discerned strategies show to be equally distributed over the IDs included in this study rather than a concentration of rat racers, which is different than expected. This study's assumption that a small amount of IDs have implemented a more intensive commercialization strategy was partially based on a study of the Dutch gaming industry conducted in 2011 (TFI, 2012). The equal division of the IDs over the four commercialization strategies indicates a growing commercial awareness since 2011. However, according to experts it is important to reflect on the relation of a growing commercial awareness and the eventual actual performed strategy of the IDs at the end of the development process. Therefore, it must be noted that some IDs indicated that they try to keep their strategy as flexible as possible for a long period of time. During the expert triangulation it was stated that this rich environment of chosen strategic business models of IDs is caused by start-up IDs who overrate their commercial capabilities. Other research statements can help further reflect on this implication, as it applies to the description of a typical creative entrepreneurial ID who has "an acceptance or willingness to self-exploit or be exploited" (Wright, 2015, p. 43). In addition, starting IDs display the features of an "entreplooyee" as argued by Pongratz and Voß (2003), namely: self-control, self-commercialization and self-rationalism. This is supported by the insights provided by experts, which indicate that in the current market, start-up IDs start to perform a self-deploying commercialization strategy other than a rat race. While in the meantime the required amount of commercial activities and necessary capabilities still backfires on them. Eventually, this puts IDs back in a rat racer strategy, simply wanting to finish the development of the product and release it. This over-confidence in relation to the IDs' implemented strategy and performance is confirmed by recent Dutch gaming industry research. A total of 71 percent of Dutch gaming companies think that their own company is doing well, in contrast to the 32 percent who think that the Dutch gaming industry is doing well (Everett & Fairchild, 2014; GM, 2015, p. 28). Therefore, the chosen commercialization strategy should be seen as a future business model goal, a distinctive strategy the IDs want to grow in. The actual effect of the growing commercial awareness on the implemented and utilized commercialization strategies will become more clear in the future.

5.3 Managerial and policy implications

From the theoretical implications and findings that a diversification strategy is the best choice for an ID to increase its chance of survival, the managerial implications of this strategy will now be discussed, followed by the policy implications implied by this study's findings.

The divergent and decisive factors that stimulate and enable IDs to perform a diversification strategy are the characteristics of *mixed educational levels* and a little *commercial job related experience*. These findings suggest that the higher the team members' diversity in level of education, the better IDs are able to cope with current market demands and niches. This is in contradiction to other IDs, who generally have team members with only HBO-degrees. It seems that this characteristic of level diversity, rather than the assumed high level of education, can help IDs to create better performance. Additionally, commercial job related experience among the team

members is shown to improve a firm's performance. It was indicated by IDs that this experience is of help in understanding and being able to find out what the users' needs and wishes are. However, this is a characteristic that most ID-firms lack.

Even while lacking commercial job related experience and coherent commercial capabilities, various start-up IDs choose more intensive commercialization strategies. This issue has several causes and consequences that need to be addressed by other industry actors. Recent research of the Dutch gaming industry (GM, 2015, p. 21) demonstrates that new ID start-ups are constrained due to the ID-teams' limited commercial capabilities: "Specifically, new studios lack a dedicated business and/or marketing expertise that can help them successfully identify market demands and launch a product in that segment." IDs' lacking commercial capabilities and experience can lead to a misjudgment or ignorance of necessary commercial activities and efforts. Throughout this study it became clear that *the amount of commercial efforts needed* plays no role in an ID's choice of strategy. Prior to developing a game IDs conceive a basic idea, a concept design as the game's essence. Simultaneously, prior to the start of development of a commercial game, IDs need to start developing the commercial side of the development process. This comprises user needs, the commercial aim and, coherently, the activities by which they can be achieved. The finding of the excluded amount of needed commercial efforts in making a strategy choice makes it evident that more attention is needed for the parallel business side of gaming entrepreneurship.

The IDs that have chosen to perform a more intensive commercialization strategy than rat racers show that there is a growing awareness that they are running a business. Still there is a specific recurrent managerial implication. In these more commercially intensive strategies the product portfolio is instrumental to the firms' viability, while rat racers are focused on product development instead of business operations. However, IDs with a more intensive commercialization strategy still prioritize product quality over timing of the market entrance. The lack of attention to market introduction and its timing is only one of the unnecessary and hampering managerial aspects that these technical creative entrepreneurs encounter. This issue needs to be and must be better managed to secure and possibly accelerate the IDs' promising economic future (Banks & Hesmondhalgh, 2009).

Besides increasing commercial awareness, educational programs and incubators should also give meaning and content to this topic. Being aware and better informed about this complementary side of the entire development process can help IDs to take into account that the development process of a commercial game is based on a certain balance of activities of a technical and commercial nature. It is important to continuously improve the commercialization knowledge of technical graduates in accordance with what the market requires in order to increase their chances of survival (Barr, 2009). The foregoing indicates that the Dutch education and incubation system still lacks provision of sufficient attention to business development and commercialization, or that the IDs fail to sufficiently implement their knowledge. Both need to be addressed.

Furthermore, the entanglement of undergraduates and entrepreneurship seems to be a relevant issue in existing policies in order to increase Dutch IDs' chances of survival. The Netherlands has relatively many gaming students in comparison to other European countries, in addition to a significantly smaller revenue per employee than for example Sweden and Finland (GM, 2015, p. 30). The low revenues, which contribute to future limitations and reduce chances of survival, have also been proven an issue for Dutch IDs in this study. When this study's results were discussed

with an ID expert, an educational policy difference became apparent that can be of significant influence on the efficacy of Dutch start-up IDs. Finnish gaming students may only release a game after graduation, whereas Dutch students are encouraged to immediately develop and release a promising game design, even during their studies. Policymakers should recommend protection of these yet undergraduates from jumping into business, while lacking commercial business education and experience and, accordingly, having a much larger chance of failure.

5.4 Limitations and further research

The data used in this study were collected by means of snowball sampling. This made it possible to collect contact details, which are not consistently available for every type of strategy, and personally contact potential interviewees. The personal introduction increased the positive response rate, as confirmed by the interviewees. However, the sample size, the actors and industry specific study subject causes a low generalizability of the research findings (Bryman, 2009). First, because a survey was expected to give a low response due to the self-exploitative nature of IDs and their lack of time, the snowball sampling method was preferred (Bryman, 2009; Wright, 2015). Additionally, quantitative data provides less in-depth insights. A survey among a random sample of IDs can validate the findings and increase their generalizability to a larger population. This should improve the external validity of this study in the future.

This study's findings relate to start-ups and young firms in a new industry, which has not yet reached full scale development and maturity. It would be interesting to analyze in-depth IDs' strategy choices, successes and failures over the long term. To date, it is not clear in what direction the industry and actors will behave in the future. First, the focus on the successive transition of strategies should be further elaborated in future research in order to be able to gain deeper insight into the evolution of IDs' strategies and their chances of survival. Second, conducting a similar study in two or three years from now (2016) for example and/or a longitudinal study can complement this study and show if mass commercialization and combi IDs become more viable in the long term (Bryman, 2009).

Furthermore, the issue of the validity not being optimally explored relates to the implementation options. Self-deployment, outsourcing and insourcing were not well distributed over the sample to cover the results based on this distinction (see Table 3). The validity of the results would be higher if this categorization could be taken into account, and is thus something to note for further research.

The amount of new insights found can be enlarged by conducting more interviews, which can further improve the study's construct validity. In general, the IDs mentioned that the theoretical motives and characteristics covered the influences in making their strategic choice. Only four new insights of *need for focus*, *gain experience*, *previous experience* and *research* have been discussed in the results section as additional influences. However, there are also other influences mentioned, but it occurred that they were mentioned by IDs with different strategies and therefore not considered relevant for choosing a particular commercialization strategy. One of these new insights is the influential characteristic of *team dynamics/harmony*. This needs to be elaborated upon and taken into account in future research, in order to analyze how this concept stimulates or hampers the choice of a more intensive commercialization strategy and its success. Insourcing an additional team member influencing the team dynamics has not yet occurred. This is something

IDs explain by mentioning that such people are immensely hard to find, meaning commercially educated and/or experienced people who also share and understand the passion for a game. Many IDs in this case study's sample referred to a preference for insourcing someone who is a friend of them, and someone who besides focusing on commercialization also has technical development capacities (Aoyama & Izushi, 2013; Izushi & Aoyama, 2006).

The study's internal reliability can be improved by letting the transcripts be coded by multiple-coders, thereby improving the inter-subjectivity of the interpretation of the answers (Bryman, 2009). Readers have the opportunity to request the anonymized interview transcriptions from the researcher³ which allows them to check the consistency of the research process. Also, in the results section quotes have been shared and references to interviewees given to further support the internal reliability. By providing a thorough methodology on the data collection, data preparation and data analysis an attempt has been made to enhance the external reliability or replicability of the research. Additionally, the interview guide and operationalized data collected in the interviews can be seen in Appendices I and II. If an answer showed to be unclear or ambiguous in hindsight, the interviewee was contacted for a complementing telephone consult or e-mail. Instead of making a subjective decision, all uncertainties were checked in this way and/or complemented with more information about the context and substantiation of the answer provided during the interview. All interviews, telephone and e-mail consults have been transcribed and stored.

³ The transcriptions will only be given after personal contact with the researcher, after which approval must be given regarding sharing and for what purpose(s) the data will be used. Two transcriptions cannot be shared, because the interviewee has indicated that this is not allowed.

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7. APPENDICES

APPENDIX I – Interview scheme in English

Interview introduction master thesis Innovation Science research - Xanthe Duivenbode

The purpose of this interview is to determine what has driven your indie game studio to choose a specific business strategy and why you have chosen this strategy. For this study I will conduct interviews with 30 Dutch indie game studio's.

With these interviews, I want to create insight into the strategy choice of Dutch indies and how they can be improved.

I would like to make an audio recording of this interview (in a quiet area), so that your answers can be accurately written and verified. Afterwards I will anonymously process the interview data in my analysis.

Do you agree to these terms?

If you are interested in the results, I will send you my research afterwards. Concerning my English study, the report will be written in English.

Interview structure

The interview will last one hour approximately and consists of three parts. First I would like to ask you a number of open questions about your current strategy and related objectives applied by your firm. Then we go deeper into the underlying motives that influenced your choice for the current strategy, and to what extent they have influenced your choice. Finally, I would like to ask you some questions about the background of your company and its team members.

This study is focused on the substantiation of your answers and the story behind your answers. Therefore, there may be open questions so you can answer in your own words. Thus, sometimes I will ask follow-up questions if something is not entirely clear to me.

Basic information

Can you tell me the following about the person that I may interview and your firm.

Function(s) interviewee(s): ...

Phone number interviewee: ...

Follows/followed a commercial program (like DGG) OR Completely independent indie game studio

If you have any questions, please let me know!

Xanthe Duivenbode; xantheduivenbode@gmail.com; 06-2 704 3922

Strategy = the combination of your business model and how you commercialize your game(s).

Topic 1: Strategy

- Does your firm focus on entertainment OR applied OR a combination of both?
 - *Do your entertainment games have another contribution?
 - Have you done / Do you do work-for-hire?
 - Why, and what is the plan behind it?
- How many games are currently in development at your firm?
 - When will this/these game(s) be released?
 - What is your standard approach regarding the number of simultaneous projects?
 - What engine do you work with? And why?
- On which platform(s) is/are your games released?
 - What is your standard approach regarding the number of targeted platforms at release?
 - (Within what period of time will you port it to (an)other platform(s)?)
 - And why this period of time?
 - What do you carry out in the 6 – 12 months after the release of a game?
 - When and how do you process the feedback (of users)? (tools for inquiry?)
 - *Can you tell me more about the way in which you perform your commercialization? (Self, outsourcing, insourcing) --- And why in this way?
 - What do you do in-house after the release of a game?
 - What is the target of your commercial activities? (niche/mass)
- What is the target audience / market segment of your game(s)? (initial target – end targeted)
 - When was this target group determined?
 - What type of user group do you think your audience is? [IDs – community – gatekeepers – opinion leaders – followers]
 - What do you think is your achieved market segment?
- Can you explain your firm's **strategy** to me in your own words? (How do you develop and bring a game into the market?)
- What do you think of your current strategy?
 - Can you further explain why?
- Do you think this is the best strategy for your firm? --- Why (not)?
- Did you perform this strategy from the beginning?
 - *How long did the firm exist when the strategy changed? (chronological overview)
 - *Per strategy change: timing and why?
- Have you ever considered to further expand the commercialization?
 - Why (not)?
- Would your firm be able to further expand the commercialization?
 - Why (not)?

Topic 2: Motives

Now there will be questions about the underlying motives of your firms' strategy choice, separated into two parts. In the first part I will give you the opportunity to talk freely about such motives. In the second part I will ask you about some motives that I have discussed in my thesis. It would be helpful if you explain and substantiate every answer as good as possible.

- Can you tell me in your own words what reasons have driven you (the firm) to decide to choose and perform this strategy? **Later on also classify on Likert scale

Then we will proceed to part 2 of the motives, the theoretical implications of my thesis

- Can you tell me what role every specific motive played **in the choice for your current firm's strategy** on the 7-point scale? – Indicate what motives did NOT play a role.
0 = Very unimportant 3 = Neutral 4 = Fairly important
1 = Unimportant 5 = Important
2 = Fairly unimportant 6 = Very important
 - And could you immediately **substantiate** your answers?

Salary/profit opportunities

Financial independence [autonomy about what needs to be done and what can thereby be earned]

Peer recognition [be "seen" in the indie scene; receive recognition from other developers]

Reputation (building) [way you(r games) are known / will be known in the industry]

Building an image/branding [propagate a business reputation towards the users/society]

Wanting to improve the firm's viability [long term]

Job satisfaction

Desire for challenging work

Showing that something is possible (what you have in mind)

Contribution to society

Self-confidence/risk willingness (choosing the strategy)

= Very risk averse versus very opportunistic [in the choice for our strategy taking risk was very unimportant = 0 = **very risk averse**; rather play it safe OR we found it very important to take risk / had a lot of confidence in making an opportunistic choice = 6 = **very opportunistic**].

Commercial efforts needed [in relation to commercialization(!) strategy]

0 = we do what has to be done, also in the perspective of commercialization, the amount of efforts do not matter;

6 = very important, we did not want to do commercialization so we decided not to deliver such efforts.

- *If motives are classified in a similar scale: Could you make a priority list of the motives that have played a *scale* role in your choice of strategy? Rank them from most important / most compelling reason to least important / least compelling reason.
- Do you have any other motives/reasons that you might like to add and substantiate? One we haven't discussed yet but that did play a role in choosing your commercialization strategy?

Topic 3: Non-motivational factors

In this last part I would like to ask you a couple of questions about your firm and the team.

Organizational characteristics

- Since when/How long does the firm exist? (number of years and months since official founding date)
- How many fulltime employees work at the firm? (inclusive founders)
 - Do you use parttime/freelance employees? How many and for what?
 - Do you use interns? How many en for what?
 - Standard number of intern positions?
- Earlier performance ----
 - How many (commercial) games has your firm developed since foundation? (commercial/applied)
 - Has the (annual) number of developed games increased, decreased or remained the same since foundation?
 - What is your last years' revenue? [this is **anonymous**, and will only be used to link concepts to performance] (12 months)
 - No revenue yet
 - 0-25.000
 - 25.001-50.000
 - 50.001-100.000
 - 100.001-250.000
 - 250.001-500.000
 - What is the amount of sold games (of your last two releases)? [with out free-to-play!]
 - What did you prepare strategically before the start of the firm?
- Did you receive external funds for the firms' current projects?
 - What percentage of the funding comes from *type of external source*? [banks, VCs, private individuals, crowdfunding, publishers, ...]
 - 0-20%
 - 21-40%
 - 41-60%
 - 61-80%
 - 81-100%
 - Have you ever tried other external financial sources?
 - Why ... not?

- Can you classify and substantiate the internal commercial/marketing capabilities of the firm?
0 = Inadequate 2 = Satisfactory 3 = More than sufficient
1 = Moderate 4 = Excellent
 - Can you tell me about possible developments regarding these capabilities?
 - And why this would be necessary?
 - And how this could be accomplished?
- Can you classify and substantiate the internal management capabilities?
0 = Inadequate 2 = Satisfactory 3 = More than sufficient
1 = Moderate 4 = Excellent
 - Can you tell me about possible developments regarding these capabilities? (time issues)
 - And why that would be necessary?
 - And how that could be accomplished?

Individual characteristics

- What are the ages of the founders?
 - And of the other team members?
 - And of the structural freelancers?
 - And of the interns?
- What is the educational background of all team members and founders? [game technical/management/commercial/other]
 - And what is their educational level? (MBO, HBO, University, other)
 - What are the educational levels of the founders
- What kind of commercial job related experience do the team members have, prior to their current job?
 - *How many months of experience?

CLOSING questions

- Did you miss anything in this interview?
- Would you like to add something to what you have said in the interview?
- Do you have any questions for me?

Finally, I am wondering if you know indies, comparable to your firm, whom I could interview for my study?

- Contact information
- Commercial support/NOT supported? AND Firm age? (<3years<)

APPENDIX II – Interview scheme in Dutch

Interview introductie master thesis Innovation Science onderzoek Xanthe Duivenbode

Het doel van dit interview is te achterhalen wat jouw indie game studio heeft gedreven om een bepaalde bedrijfsstrategie te hanteren en waarom je/jullie deze strategie hebt/hebben gekozen. Voor dit onderzoek zal ik 30 Nederlandse indie game studio's interviewen.

Met deze interviews wil ik meer inzicht creëren in de strategie keuze van Nederlandse indies en hoe die verder verbeterd kunnen worden.

Graag zou ik een audio opname maken van dit interview (in een rustige omgeving), zodat jouw antwoorden nauwkeurig kunnen worden uitgeschreven en kunnen worden geverifieerd. Nadien zal ik de interview resultaten anoniem in mijn analyse verwerken.

Stem je in met deze voorwaarden?

Indien je geïnteresseerd bent naar de resultaten zal ik mijn onderzoek na afloop kunnen toesturen, in verband met mijn Engelstalige studie is deze in het Engels geschreven.

Interview opbouw

Het interview zal ongeveer één uur duren en bestaat uit drie delen. Eerst wil ik je een aantal (open) vragen stellen over je/jullie huidige strategie en samenhangende doelstellingen die jouw bedrijf hanteert. Vervolgens gaan we dieper in op onderliggende motieven die de keuze voor jouw/jullie huidige strategie hebben beïnvloed en in welke mate. Als laatst wil ik je enige vragen stellen over de achtergrond van je bedrijf en de teamleden.

De focus van dit onderzoek ligt op de onderbouwing van je antwoorden en het verhaal achter je antwoorden. Er zijn daarom veel open vragen zodat je in je eigen woorden kunt antwoorden. Soms zal ik daarop doorvragen in geval het een en ander mij niet geheel duidelijk is.

Basis informatie

Kun je mij van tevoren het volgende laten weten over de persoon die ik mag interviewen en het bedrijf.

Functie(s) geïnterviewde(n): ...

Telefoonnummer geïnterviewde: ...

Commercieel programma volgend/gevolgd (zoals bij DGG) OF Volledig Onafhankelijke indie game studio

Als je nog vragen hebt dan hoor ik het graag!

Xanthe Duivenbode; xantheduivenbode@gmail.com; 06-2 704 3922.

Strategie = combinatie van business model EN hoe jullie je game(s) commercialiseren.

Onderwerp 1 : Strategie

- Focust jullie bedrijf zich op entertainment OF applied OF combi van beide?
 - *Hebben jullie games naast entertainen een andere bijdrage?
 - Hebben jullie work-for-hire gedaan/aan het doen?
 - Waarom en wat is het plan erachter?
- Hoeveel games zijn er nu in ontwikkeling bij jullie?
 - Wanneer komt/(komen) deze game(s) uit?
 - Hoe is jullie standaard aanpak wat betreft het aantal gelijklopende projecten?
 - Met welke engine werken jullie? Waarom?
- Voor welk/(welke) platform(en) gaat/gaan jullie games uitkomen? Welke bij release?
 - Hoe is jullie standaard aanpak wat betreft aantal targeted platforms?
 - (Binnen welke tijd komt die op andere platformen uit?)
 - En waarom deze periode?
 - Wat voeren jullie in de 6 – 12 maanden na de release van een game uit?
 - Wanneer en hoe verwerken jullie feedback (van users)? (verwerkte tools?)
 - *Kun je meer vertellen over de manier waarop je de commercialisatie in de praktijk brengt? (zelf, outsourcen, insourcen) --- En waarom zo?
 - Wat doen jullie zelf na de release nog met de gereleaste game?
 - Wat is het doel van jullie commerciële activiteiten? (niche/mass)
- Op welke doelgroep / marktsegmenten is jullie game gericht? (initieel-einddoel van gebruikers)
 - Wanneer is deze doelgroep vastgesteld?
 - Hoe groot denk je dat die doelgroep is?[IDs – network – gatekeepers – opinion-followers]
 - Hoe groot denk je dat jullie bereikte marktsegment is?
- Kun je mij in eigen woorden vertellen wat voor strategie jouw bedrijf hanteert? (hoe brengt je een game op de markt)?
- Hoe bevalt deze strategie voor je bedrijf?
 - Kun je dat verder toelichten waarom?
- Denk je dat dit de beste strategie is voor je bedrijf? --- Waarom wel/niet?
- Hebben jullie deze strategie van begin af aan gehanteerd?
 - *Hoe lang bestonden jullie al toen de strategie veranderde?
 - *Per strategie wijziging: timing en waarom?
- Hebben jullie ooit overwogen om de commercialisatie (nog) verder uit te breiden?
 - →Waarom wel/niet?
- Zou je bedrijf in staat zou zijn om de commercialisatie verder uit te breiden? – Waarom wel/niet?

Onderwerp 2: Motieven

Nu volgen er in twee delen vragen over de onderliggende motieven van jouw bedrijf zijn strategie keuze. In het eerste deel laat ik je daar geheel vrij uit over praten. In het tweede deel zal ik naar een aantal motieven die ik in mijn studie heb besproken vragen. Het zou van pas komen als je elk antwoord zo goed mogelijk toelicht.

- Kun je in eigen woorden vertellen welke redenen jullie gedreven hebben deze strategie te hanteren? **Later laten indelen op de Likert schaal.

Dan gaan we nu naar deel 2 van motieven, de theoretische implicaties van mijn thesis

- Kun je mij vertellen in welke mate ieder motief een rol heeft gespeeld **in de keuze voor jullie huidige bedrijfsstrategie** op de 7-punten schaal? – Geef aan welke géén rol hebben gespeeld.
0 = Zeer onbelangrijk 3 = Neutraal 4 = Vrij belangrijk
1 = Onbelangrijk 5 = Belangrijk
2 = Vrij onbelangrijk 6 = Zeer belangrijk
 - En zou je bij deze keuze meteen je antwoord kunnen **onderbouwen**?

Salaris/winst mogelijkheden

Financiële onafhankelijkheid [zelfbeschikking over wat er gedaan moet worden en wat te verdienen]

Peer recognition [“gezien” worden binnen scene; erkenning van een aantal andere developers]

Reputatie (opbouwen) [manier waarop je (games) bekend staat/wil staan binnen industrie]

Opbouwen van een imago/branding [bedrijfsbekendheid uitdragen naar maatschappij]

Het willen versterken van de **levensvatbaarheid** van het bedrijf [lange termijn]

Werk voldoening / plezier

Verlangen voor uitdagend werk

Aantonen dat iets mogelijk is (wat jullie voor ogen hebben)

Bijdrage aan de samenleving

Zelfvertrouwen/bereidheid om risico's te nemen (met de keuze van de strategie)

= Zeer risico avers vs. zeer opportunistisch [in onze strategie keus was het zeer onbelangrijk risico nemen = **0 = zeer risico avers**; liever dat we beter weten dat het goed gaat OF wij vonden het zeer belangrijk risico te nemen/ hadden veel zelfvertrouwen om deze strategie te kiezen = **6 = zeer opportunistisch**]

Te moeten leveren **commerciële** inspanningen [i.v.m. intensievere commerciële(!) strategie]

0 = wij doen wat gedaan moet worden ook commercieel en laten de hoeveelheid nodige inspanning geen rol spelen,
6 = zeer belangrijke wij hebben de hoeveelheid commerciële inspanningen laten meewegen in strategie keus.

- *Indien motieven op eenzelfde schaal zijn ingedeeld: Zou je deze lijst van motieven ook een rangorde kunnen geven? Van belangrijkste/meest zwaarwegende motief naar onbelangrijkste/minst zwaarwegende motief?
- Zijn er nu nog motieven die je zou willen toevoegen en onderbouwen, aangezien die een rol hebben gespeeld in het maken van de strategiekeus?

Onderwerp 3: Non-motivational factors

In dit laatste onderdeel wil ik je een aantal vragen stellen over je/jullie bedrijf en het team.

Organizational characteristics

- Sinds wanneer/Hoe lang bestaat je bedrijf al? (aantal jaar en maanden sinds officiële oprichting)
- Hoeveel fulltime werknemers werken er bij het bedrijf? (inclusief founders)
 - o Maken jullie gebruik van parttime/freelance medewerkers? Hoeveel en waarvoor?
 - o Maken jullie gebruik van stagiairs? Hoeveel en waarvoor?
 - Standaard aantal?
- Prestaties ---
 - o Hoeveel games heeft je bedrijf ontwikkeld sinds oprichting? (commercieel/applied)
 - o Is het jaarlijks aantal tegelijk ontwikkelde games toegenomen, afgenomen of gelijk gebleven gedurende de afgelopen?
 - o Wat is jullie jaar omzet van afgelopen jaar? [**anoniem**, is enkel om te concepten te kunnen linken] (12 maanden)
 - Nog geen omzet
 - 0-25.000
 - 25.001-50.000
 - 50.001-100.000
 - 100.001-250.000
 - 250.001-500.000
 - o Wat is het aantal verkochte games (van de laatste twee releases)? [zonder free-to-play!]
 - o Wat hebben jullie in strategisch opzicht voor de start van het bedrijf voorbereid?
- Hebben jullie voor de financiering van het bedrijf voor de huidige projecten gebruik gemaakt van externe bronnen?
 - o Welk percentage van de financiering van is afkomstig van *welke externe bron? [banken, VCs, private personen, crowd funding, subsidies, publisher(s), ...]
 - 0-20%
 - 21-40%
 - 41-60%
 - 61-80%
 - 81-100%
 - o Hebben jullie ook wel eens andere externe bronnen geprobeerd?
 - Waarom ... niet?
- Kun je de interne commerciële/marketing capaciteiten van het bedrijf op de schaal indelen en toelichten?

0 = Onvoldoende	2 = Bevredigend	3 = Ruim voldoende
1 = Matig		4 = Uitstekend

 - o Kun je vertellen over mogelijke ontwikkeling van deze capaciteiten? (tijdsverdeling)
 - o En waarom dat nodig zou zijn?
 - o En hoe dat bewerkstelligd zou kunnen worden?
- Kun je de interne management capaciteiten op dezelfde schaal indelen en toelichten? :

0 = Onvoldoende	2 = Bevredigend	3 = Ruim voldoende
-----------------	-----------------	--------------------

1 = Matig

4 = Uitstekend

- Kun je vertellen over mogelijke ontwikkeling van deze capaciteiten? (tijds verdeling..)
- En waarom dat nodig zou zijn?
- En hoe dat bewerkstelligd zou kunnen worden?
- Hoe zou je het huidige klimaat in de game industrie omschrijven?

Individual characteristics

- Wat zijn de leeftijden van de founders?
 - En van de teamleden?
 - En structurele freelancers/medewerkers?
 - En de stagiaires?
- Wat voor opleidingsachtergrond hebben de teamleden? [game tech/management/comm/anders]
 - Op welk niveau? (MBO, HBO, universiteit, anders)
 - En wat zijn de opleidingsachtergronden en niveaus van de founders?
- Wat voor commercieel gerelateerde werkervaring hadden de teamleden voorafgaande aan hun huidige job?
 - Hoeveel maanden ervaring?

AFRONDINGSVRAGEN

- Heb je in dit interview iets gemist?
- Of is er iets wat je nog zou willen toevoegen?
- Heb je nog vragen?

Als laatst vraag ik me af of je andere indies kent, vergelijkbaar met jullie, die ik voor mijn onderzoek zou kunnen interviewen?

- Contactgegevens - Support training/Not-supported en Duur van bestaan (<3jaar<)

APPENDIX III – Operationalized data tables

The following tables (Tables 10–14) reveal the interviewees answers in measurements. These give more specific insights into the interviewees answers and their strategy categorization. The tables complement the content of this study directed by the operationalization table (Table 1, page 15). However, it is important to note that these numbers only give direction to the qualitative substantiation given by the interviewees, which is the core of this explanatory study. In coherence with the rest of the study, the rat racers (interviewees *1–*8) are red, the diversification strategists (interviewees *9–*16) are blue, mass commercialists (interviewees *17–*24) are yellow, and the combi strategists (interviewees *25–*30) are green.

Table 10 - Operationalized data table on the chosen strategy of IDs

Text ref.	1 platform	>1 game at a time	Targeted niche UPI	Mass act.	Self	Outs	Ins
*1	1	0	0	0	0	1	0
*2	1	0	0	0	0	1	0
*3	1	0	0	0	0	0	1
*4	0	0	0	0	0	0	1
*5	0	0	0	0	0	1	1
*6	1	0	1 (unconfirmed)	0	0	1	0 (intern)
*7	1	0	0	0	0	1	0
*8	1	0	1 (unconfirmed)	0	0	1	0
*9	0	1	2	0	0	1	1
*10	0	1	2	0	0	1	0
*11	0	1	2	0	0	1	0 (intern)
*12	0	1	2	0	0	1	0
*13	0	1	2	0	0	1	0 (help..)
*14	0	1	2	0	0	1	0
*15	0	1	2	0	0	1	1
*16	0	1	0	0	0	1	1
*17	0	0	0	0	1	1	0
*18	0	0	0	0	1	1	1
*19	0	0	2	1	1	1	0
*20	0	0	2	1	1	1	0 (free/part)
*21	1	0	0	0	1	1	0
*22	1	0	0	0	1	1	0
*23	0	0	0	0	1	1	1
*24	0	0	0	0	1	1	0 (in search)
*25	0	1	0	0	1	1	0
*26	1	1	0	0	1	1	0
*27	0	1	0	0	1	1	0
*28	0	1	0	0	1	1	0
*29	0	1	2	1	1	1	0 (in search)
*30	0	1	0	0	1	1	0

Table 11 – Operationalized data table of 7 theoretical motives. Numbers other than black means the motive did not play a role in the choice of strategy made by the ID.

Text ref.	Salary	Fin.ind.	Peer	Rep	Image	Viability	Satisfaction
*1	3	4	2	5	3	3	6
*2	3	6	0	2	4	1	5
*3	4	5	0	3	1	2	6
*4	3	3	5	5	5	0	6
*5	0	4	4	6	2	6	6
*6	5	5	1	5	4	6	5
*7	2	4	3	5	1	4	6
*8	6	6	0	6	6	6	6
*9	2	5	3	4	6	3	3
*10	2	4	4	3	2	3	6
*11	5	6	3	1	2	5	6
*12	4	3	4	5	4	4	5
*13	3	6	3	4	5	6	6
*14	4	5	4	5	3	6	5
*15	3	4	2	4	6	6	5
*16	4	5	2	5	3	6	4
*17	5	5	2	6	6	6	2
*18	5	6	4	3	4	6	6
*19	4	6	2	2	4	6	5
*20	3	6	2	4	5	5	3
*21	5	6	1	1	6	6	6
*22	5	3	6	6	4	4	6
*23	2	3	3	0	0	4	6
*24	5	6	4	4	5	6	5
*25	5	6	1	2	5	3	6
*26	4	5	5	4	3	3	5
*27	3	5	4	2	4	5	5
*28	2	6	3	6	6	4	6
*29	2	5	2	3	5	5	5
*30	1	5	4	5	4	2	6

Table 12 - Operationalized data table of 5 motives and 2 individual characteristics. Numbers other than black means the motive did not play a role in the choice of strategy made by the ID.

Text ref.	Challenge	Showing	Society	Confidence / risk	Comm.effort	Ave. Age	Education Levels
*1	6	5	1	6	3	26,3	3HBO
*2	3	4	0	4	3	26,8	5HBO
*3	3	5	1	5	3	23,8	4HBO,3MBO
*4	5	4	3	6	2	22	nu 2HBO,MBO
*5	6	6	0	5	2	23,3	nu 5HBO
*6	2	5	1	4	4	26,4	2Uni,3nuHBO
*7	2	5	1	5	1	23,25	HBO,2nuHBO,havo
*8	6	3	3	2	5	25,6	2Uni,HBO,nuHBO,nuMBO
*9	1	5	2	6	2	24,3	2HBO,MBO
*10	4	5	5	6	2	33,37	4Uni
*11	5	4	5	6	6	26,25	2Uni,HBO,4nuMBO
*12	2	4	1	5	2	23,8	2HBO,3nuMBO
*13	4	6	3	6	5	29	HBO
*14	2	3	4	2	2	24,5	2HBO,2HBO,nuHBO
*15	6	5	4	4	6	26,1	4Uni,2uni,HBO
*16	4	6	5	4	5	24,5	2HBO,nuHBO,nuMBO
*17	3	5	1	5	4	24	3HBO,3nuHBO
*18	5	5	4	2	5	25,5	2HBO
*19	5	2	0	5	5	29	2Uni,13HBO,3nuHBO
*20	2	5	5	5	3	24,4	HBOall,3nuHBO,nuMBO
*21	4	4	4	3	2	26,5	5HBO
*22	5	5	2	3	4	24,3	5nuHBO
*23	4	4	1	3	5	29	1Uni,1HBO
*24	2	6	3	2	0	25	3HBO,2nuHBO,nuMBO
*25	6	3	4	1	4	31,2	5HBO
*26	4	5	4	1	6	32,75	nowHBOall
*27	6	4	5	5	4	30,5	anders,2Uni,2HBO
*28	4	2	4	3	4	21	HBO,MBO,2nuMBO
*29	4	5	3	3	4	29,2	7HBO,2nuHBO
*30	5	5	4	6	5	27,5	MBO, HBO, Uni (alles)

Table 13 - Operationalized data table of 2 individual characteristics and 3 organizational characteristics. Commercial job experience can be inside and outside the gaming industry. Educational diversity * means other irrelevant background. Firm size is measured in: founders, student/internships, regular contributing freelancers, co-owners, and members of the team.

Text ref.	Comm.experience	Edu div.	Firm age	Firm size	Comm game/sold
*1		0	0	2,17 3f	1/900
*2		0	0	3 5f	1beta/12.000
*3		0	0	1,75 7f	0
*4		0	0	1,83 3f	0
*5		0	0	1,92 5f,2s,1r	0
*6		1 *2		3,25 1f,1co,3s	0
*7		0	0	2,3 1f,3m	1/500.000
*8		0 *0		6,17 2f,1m,2s	1beta/2.000
*9		0	0	1,5 2f,1m	1/1.000 (div)
*10	both years in&out	*0		6,5 2f,2r	1/250.000 (div)
*11		0 *3		2,5 3f,4s	0
*12		0	0	4,5 2f,3s	2/100.000/300.000
*13	years with other IDs		0	1,17 1f	2/11freem/1.750
*14		0	0	2,25 1f,1co,2m,1s	0
*15	Freelancing		2	3 4f,3m	2/700.000/50.000
*16	Part-time Other ID	*0		4,8 2f,2s	1/15.000 (rat)
*17		0	0	0,67 3f,2s	0
*18		0	0	4 2f	1/1000
*19		0	1	9 7f,8m,3s	2/2000000/(-) (div)
*20		0 *0		2,75 4f,4s,3r	0
*21	Years sporadically		0	1,17 5f	0
*22		0	0	2 3f,2r	0
*23		0 *0		3,16 1f,1r	1/5.000
*24		0	0	2,58 1f,2m,3s	0
*25		0	0	7,1 5f	1/300.000 (mass out)
*26	1 founder 1,5 year		0	0,75 4f,36s	0
*27	Several years in&out	*0		4 1f,2m,2r	0
*28	both years outside		0	2,4 2f,2s	1/70 (rat)
*29		0 *0		1,4 4f,2s,3r	0
*30	Several years in&out		0	4,8 1f,14r	1/20.000 (div)

Table 14 - Operationalized data table of 5 organizational characteristics

Text ref.	Growth	Revenu	Ext.Fin. Assets	Man.cap.	Comm.cap.	
*1		0	1	0%	1	2
*2		0	4	0%	2	1
*3		0	0	81-100%	1	2
*4		0	0	21-40%	1	1(not yet)
*5		0	0	0%	3	2
*6		0	0	1-20%	3	2
*7		0	2	0%	3	1
*8		0	minus	0%	3	2
*9	(always div)		1	61-80%	2	2
*10		1	4	1-20%	2	2
*11		1	1hoog!	1-20%	2	1
*12		1	5	0%	2	3
*13		1	1	1-20%	2	2
*14		1	1hoog!	1-20%	3	0
*15		1	5	1-20%	2	3
*16		1	4	41-60%	2	2
*17		0	0	41-60%	3	1
*18		0	1	1-20%	3	1
*19	0-1-0		5	1-20%	3	2
*20		0	0	21-40%	weetniet2	weetniet2
*21		0	0	0%	1	2(not yet)
*22		0	0	81-100%	1	1
*23		0	2	61-80%	3	2
*24		0	0	41-60%	3	1(not yet)
*25		1	(-)	0% (current)	1	2
*26		1	0	0%	3	2
*27		1	0	0% (in-search)	3	3
*28		1	1	21-40%	2	1
*29		1	1	0%	3	3
*30		1	3	61-80%	3	4