

HEC MONTRÉAL

**Disruptive Innovation and Internationalization Strategies: The Case of the
Videogame Industry**

par

Shoma Patnaik

**Sciences de la gestion
(Option International Business)**

*Mémoire présenté en vue de l'obtention
du grade de maîtrise ès sciences en gestion
(M. Sc.)*

Décembre 2017

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Résumé

Ce mémoire a pour objectif une analyse des deux tendances très pertinentes dans le milieu du commerce d'aujourd'hui – l'innovation de rupture et l'internationalisation.

L'innovation de rupture (en anglais, « disruptive innovation ») est particulièrement devenue un mot à la mode. Cependant, cela n'est pas assez étudié dans la recherche académique, surtout dans le contexte des affaires internationales. De plus, la théorie de l'innovation de rupture est fréquemment incomprise et mal-appliquée. Ce mémoire vise donc à combler ces lacunes, non seulement en examinant en détail la théorie de l'innovation de rupture, ses antécédents théoriques et ses liens avec l'internationalisation, mais en outre, en situant l'étude dans l'industrie des jeux vidéo, il découvre de nouvelles tendances industrielles et pratiques en examinant le mouvement ascendant des jeux mobiles et jeux en lignes.

Le mémoire commence par un dessein des liens entre l'innovation de rupture et l'internationalisation, sur le fondement que la recherche de nouveaux débouchés est un élément critique dans la théorie de l'innovation de rupture. En formulant des propositions tirées de la littérature académique, je postule que les entreprises « disruptives » auront une vitesse d'internationalisation plus élevée que celle des entreprises traditionnelles. De plus, elles auront plus de facilité à franchir l'obstacle de la distance entre des marchés et pénétreront dans des domaines inconnus et inexploités. Par le biais d'une analyse comparative de six entreprises – trois traditionnelles, trois disruptives – cette étude découvre que ces deux propositions sont soutenues, ainsi que des tendances additionnelles dans l'industrie des jeux vidéo – les marchés cibles pour les jeux vidéo changent et plus important encore, les entreprises traditionnelles acquièrent des compétences disruptives par le biais d'acquisitions internationales.

Mots clés : innovation de rupture, internationalisation, jeux vidéo, affaires internationales, innovation

Abstract

This thesis aims to study two of the most relevant trends in business today – disruptive innovation and internationalization.

Disruptive innovation in particular has become popular in the fields of innovation and entrepreneurship. However, it has not been as extensively studied as other topics in the academic literature, particularly in conjunction with internationalization and has been prone to being misunderstood and misused. This thesis aims to fill the gap in the literature by not only undertaking a detailed look at disruptive innovation theory, its antecedents and its links with internationalization but further by placing it in the context of the videogame industry, it provides practical and industrial insights by examining another rising trend – that of disruptive mobile and browser games.

This study begins by drawing links between disruptive innovation and internationalization from the basis that the search for new markets is a crucial component of disruption. Drawing theoretical patterns from the literature, I postulate that disruptive firms will not have a higher speed of internationalization than mainstream firms, they will also be more likely to overcome market distance and venture into unfamiliar and untapped destinations. Applying a comparative analysis to six firms in the videogame industry – three mainstream and three disruptive – this study finds support for both propositions, as well as additional insights into patterns in the videogame industry - the target markets for videogames are changing and even more significantly, mainstream firms are acquiring disruptive ones through international acquisition.

Keywords: disruptive innovation, internationalization, videogames, international business, innovation

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List of Abbreviations

3D	Three dimensional
B2B	Business to Business
CD-ROM	Compact Disc Read Only Memory
EA	Electronic Arts
FPS	First Person Shooter
IP	Intellectual Property
KSF	Key Success Factors
LAN	Local Area Network
MMORPG	Massively Multiplayer Online Role-Playing Game
MS	Microsoft
PPP	Purchasing Power Parity
RPG	Role Playing Game
UK	United Kingdom
US	United States

Acknowledgements

This thesis would not have been possible but with the help and support of many people and institutions. While it is not possible to name all of them, I would like to thank a few in particular who helped me reach this point.

First and foremost, I would like to thank my advisor, Patrick Cohendet without whose help, patience and guidance this thesis would not have got off the ground, merci beaucoup!

My parents, Dr. H.K. Patnaik and Dr. Manjula Patnaik, whose own academic accomplishments have always been a source of inspiration. Thank you for always pushing me to be better and for supporting me academically and financially during my studies.

Adrien Lelièvre, who believed in me when I did not, who has been my rock and a dependable source of support, silly jokes and get-away holidays. Thank you for taking care of me and maybe one day the fantastic work you are already doing in the videogame industry will be covered in a future thesis!

I have been lucky to count on many friends and classmates throughout this last year. A big thank you to Andrew Chou for providing Chinese translations, hand-pulled noodles and company through seven-hour writing sessions. Mille grazie also to Gianni Giuliano whose excellent fine art ateliers at the Université de Montréal provided exactly the kind of meditative tranquility I needed to work on this thesis, and helped me discover what is truly important.

Finally, thank you to the Fondation HEC Montréal, the Association des Diplômés HEC Montréal and the Fondation Benoit Duchesne whose generous scholarships gave me the financial support to complete this thesis.

Introduction

Disruptive innovation – the very name conjures up images of radical new technology, of cutting-edge innovations helmed by avant-garde startups looking to usher in a brave new world...

However, disruptive innovation is neither new nor limited to technology. Almost every invention since the beginning of time has been disrupted by another – handwritten manuscripts were replaced by the Gutenberg press in the printing industry and entire orchestras made way for digital synthesizers in music and recording. And now, we see Netflix taking the place of DVDs in the home entertainment industry. At its heart, a disruptive innovation does not merely disrupt a rival technology or business model, it disrupts the entire industry itself, taking out the old and bringing in the new.

On the other hand, another buzzword, globalization, has also given new significance to international business. Indeed, international operations are accepted as a crucial part of commercial success today (Levitt, 1983). While trade between countries has existed since the Silk Route, building and destroying entire empires, the shrinking new world we live in has brought up new and more specific issues – how do we sell innovative products abroad with changing business environments and newer markets?

Both disruptive innovation and international business at their core, are about venturing into new and untapped markets. The two concepts are immensely relevant in today's business milieu but have rarely been studied in relation to each other. Thus, this thesis aims to rectify this with the research question: *“How do disruptive firms internationalize compared to mainstream incumbents?”*

Disruptive Innovation

The term “disruptive innovation” has captured the public imagination – there are rankings devoted to finding the next big innovation, such as CNBC's Disruptor 50 (CNBC, 2016); it has even been described as a part of the zeitgeist (The Economist, 2015). However, the term has been frequently

misunderstood (Christensen & Raynor, 2003; Danneels, 2004), particularly outside academia (Mochari, 2015). There is a tendency to consider disruptive innovation from the layperson's meaning of the term disruption, as something merely new and revolutionary (Danneels, 2004).

However, the theory of disruptive innovation as proposed initially by Bower and Christensen (1996) and further developed by Christensen (1997) and Christensen and Raynor (Christensen & Raynor, 2003) refers to a very precise kind of innovation. These innovations “*change the value proposition in a market*” (Christensen, 1997, p. 232). They are almost always less sophisticated than the mainstream products offered by the market incumbents. On the other hand, they are “*cheaper, smaller, simpler and frequently more convenient to use*” (Christensen, 1997, p. 19). It must be stressed that Christensen points out that disruptive innovations need not be solely limited to radical new technologies but can include new business models and processes as well (Christensen & Raynor, 2003; Christensen & Bower, 1996).

To explain disruptive innovation very briefly, the theory proposes that industry incumbents will be eventually unseated by a disruptive technology – whether an innovation in product or in business model – that is cheaper, technologically inferior or simpler, but that is easier to use. Such a disruptive innovation initially targets a new or previously ignored market but moves steadily upmarket to change the industry as a whole, eventually becoming the new leader. Christensen and Bower's original studies cited the case of the hard disk drive industry wherein smaller disk drives with far lower storage capacities, designed for the then-neglected minicomputer market eventually edged out large mainframe hard drives to become the new industry standard (Bower & Christensen, 1996; Christensen, 1997). Other examples of disruptive innovation cited in the literature are Amazon for the book retail industry, online travel agencies that disrupted travel agencies in the travel and tourism industry, fast food chains disrupting family owned diners in the eating out industry (Christensen & Raynor, 2003).

Internationalization

Now we come to the second part of the research question – internationalization. As my thesis will demonstrate, internationalization plays an important part for disruptive firms. Because the market

for a disruptive innovation deliberately goes against the needs of established customers, disruptive entrants need to find or create new markets (Christensen, 1997). This need to find untapped markets necessarily demands that internationalization be a more essential component of such firms' business models, compared to mainstream firms. Beyond the need to find new markets, research has suggested that internationalization itself might be a source for potential disruptive innovations (Cowden & Alhorr, 2013).

Indeed, the original set of case studies in Christensen's theory demonstrate how disruptive firms have benefited from international expansion, such as Honda who found a lucrative new market segment for their bikes in North America or Intel that gained microprocessor building capacities with international collaborations.

In contrast to disruptive innovation, internationalization is better understood, albeit with a plethora of different explanatory models. Companies have internationalized in search of new markets before, and theories on internationalization are some of the oldest in academic literature, beginning with Adam Smith (1776) and David Ricardo (1817). Today, established internationalization models from the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), the Eclectic Paradigm (Dunning, 1991), the product life cycle theory (Vernon, 1966) and various innovation models (Andersen, 1993; Cavusgil, 1980; Czinkota, 1982) as well as newer theories on "born global" firms (Brush, 2012; Chetty & Campbell-Hunt, 2004; Hagen & Zucchella, 2014; Oviatt & McDougall, 1994; Rennie, 1993; Zahra, Ireland, & Hitt, 2000) continue to try to understand how firms operate in foreign markets.

Internationalization has been pointed out as advantageous for the firm's performance, scale and scope economies, knowledge integration and technological learning; it allows them access to resources, customers and capital (Ghoshal, 1987; Levitt, 1983; Oviatt, McDougall, & Loper, 1995). Indeed, there are those that argue that international markets are not only desirable but critical for the survival of the modern firm (Levitt, 1983). Reams of research have been dedicated to understanding how why companies go abroad (Dunning, 1991, 1998; Dunning & Lundan, 1993; Kim & Mauborgne, 2005) and what might be the best way to do so. Today, few industries operate without an international market, spurred on by the advent of globalization (Levitt, 1983;

Morrison & Roth, 1992; Wiersema & Bowen, 2008). Thus, internationalization is significant to disruptive firms not only as disruptors but on the most basic level as firms as well.

Academic and practical relevance

As pointed out earlier, disruptive innovation is currently the big buzzword in the industry with firms battling to be labelled the next big disruptor. Indices such as CNBC's Disruptor 50 and MIT's 50 Smart Companies seek to capitalize on this. And yet, in addition to frequent confusion of the term as mentioned earlier, there is very little academic research on the subject, more so when it comes to understanding disruptive innovation from the international perspective (Cowden & Kalliny, 2013). At HEC Montreal itself there has been no thesis conducted on disruptive innovation as a phenomenon, nor in conjunction with internationalization (Bibliothèque Myriam et J.-Robert Ouimet, 2016). This thesis will thus attempt to create a better understanding of the term and add to the relatively small body of literature on this important topic.

External circumstances make disruption of significance in multiple areas. Disruptive innovation is increasingly relevant in today's world because of the interaction between two trends – the increasing pace of technological change and the growing emergence of startups and other early stage entrepreneurial activity. Since disruptive innovation usually centres around entrant firms exploiting technological change (Christensen, 1997), growth in both these areas makes disruption important.

Today we see technological change occurring at breakneck speed – for instance, the World Intellectual Property Association stated in its last roundup of IP indicators that global patent filings have risen for the fifth straight year (World Intellectual Property Organization, 2015).

Disruption also affects startups and new businesses, since these are the main actors in the disruptive process. Globally, the incidence of startup activity is increasing – According to the Global Entrepreneurship Monitor, Total Early Stage Entrepreneurial Rate (TEA) grew by 60% in Canada, 53% in the USA, 85% in Brazil and 135% in Israel between 2005 and 2015 (Global Entrepreneurship Monitor, 2015a, 2015b). On the other hand, understanding disruption is

essential not only for startups to spark their growth but also industry incumbents to defend their position (Christensen, 1997; Christensen & Raynor, 2003).

Disruption might even have larger macroeconomic repercussions. World leaders are beginning to take notice – in August 2016, Singapore’s prime minister Lee Hsien Loong called disruptive innovation “*the defining challenge*” to his country’s economy (Channel News Asia, 2016).

Disruptive innovation perfectly captures the philosophy of “change is the only constant.” For firms and economies alike, it is essential to understand how this change occurs, how market leaders are toppled by upstarts and entire industries changed. It changes not merely industrial standards but also, it has been argued, puts power back in the hands of the consumer, acknowledging the latter’s vital role in firm strategy (Danneels, 2004).

Methodology

This thesis uses a qualitative, case study approach, taking into consideration the fact that disruptive innovation theory, proposed only 20 years ago is relatively nascent. Furthermore, the research design fulfils the three criteria commonly used to support the choice of a case study methodology – it seeks answers to a “how” question, the units of analysis in the study cannot be manipulated and finally, the context – in this case, disruptive nature of firms – is important (Yin, 2014).

At the core of this thesis is a comparative analysis between mainstream and disruptive firms, using the case of the videogame industry. The gaming industry has been studied in conjunction with disruptive strategies before, specifically in the case of console maker Nintendo (Anthony, 2008; Farhoomand & Joshi, 2009; Farhoomand & Wong, 2012). This study operationalizes mainstream gaming firms as those involved in the development and publication of traditional console and desktop videogames, and disruptive firms as mobile (including smartphone and tablet) and browser-based social and online game developer-publishers. These fulfill all the classic characteristics of a disruptive technology – most titles cost far less than traditional videogames, the technology used to create them is far less complex and their market is focused on the previously untapped segment of casual gamers of varying demographics (in contrast to the

dedicated, chiefly male, young adults that make up the traditional gaming customer base). Significantly, mobile games overtook PC and console games in revenues for the first time in 2016 (Newzoo, 2016a) making them disruptors in the true sense of the word.

Moreover, focusing on the videogame industry that is different from the business to business (B2B) centric studies of industries such as the steel and hard disk drives ones, we can test whether disruptive innovation works on a variety of industries and not just B2B, addressing an important criticism made of the validity and generalizability of the theory (King & Baatartogtokh, 2015).

Using secondary data, I propose to study differences in internationalization using an in-depth analysis involving three distinct components – speed of internationalization, market selection and the relative share of international operations and acquisitions as part of the whole. Considering the existing literature, I expect that the disruptive firms will not only internationalize faster, they will do so into markets beyond the traditional strongholds of North America, Europe and Japan.

With this thesis, not only do I aim to fill an important gap in the literature by offering a comprehensive understanding of two phenomena that are increasingly relevant in today's world, I also hope that the results will have practical significance not just for disruptive firms, but also for incumbents to understand how disruptive rivals use internationalization to their benefits.

Chapter I

Literature Review

The aim of this thesis is to answer the question – “*How do disruptive firms internationalize compared to mainstream incumbents?*” In order to do so, it is necessary to examine what importance internationalization can have for disruptive firms. Consequently, it will be important not just to draw parallels between disruption and internationalization but first of all, to understand each concept independently.

Accordingly, this literature review begins with an exploration of the process of disruptive innovation, the varying definitions of and the theoretical antecedents for disruptive innovation. On the basis of these, I argue that internationalization is of particular importance to disruptive firms. Accordingly, the preceding sections explore the concept of internationalization. Finally, I draw links between these two concepts by examining how established internationalization models support the case for the internationalization of disruptive firms and how they may predict expected patterns of internationalization for such firms, culminating in the propositions at the heart of this thesis.

1.1 Disruptive Innovation

The theory of disruptive innovation was proposed initially by Joseph L. Bower and Clayton M. Christensen (Bower & Christensen, 1996; Christensen & Bower, 1996) and further developed by in *The Innovator's Dilemma* (Christensen, 1997) and *The Innovator's Solution* (Christensen & Raynor, 2003).

It traces its roots to several other works, particularly Abernathy and Clark's seminal paper on innovation as “creative destruction.” (Abernathy & Clark, 1985), Richard N. Foster's work on the “attacker's advantage” (Foster, 1986) and Giovanni Dosi's theories on the evolution of technological trajectories (Dosi, 1982).

The crux of disruptive innovation theory lies in understanding why large firms often fail, ousted by smaller entrant firms. The answer, as per the original proponents of the theory, lies in disruptive innovations. Such innovations are almost always less technologically sophisticated than the mainstream products offered by market incumbents. On the other hand, they are “*cheaper, smaller, simpler and frequently more convenient to use.*” (Christensen, 1997, p. 19)

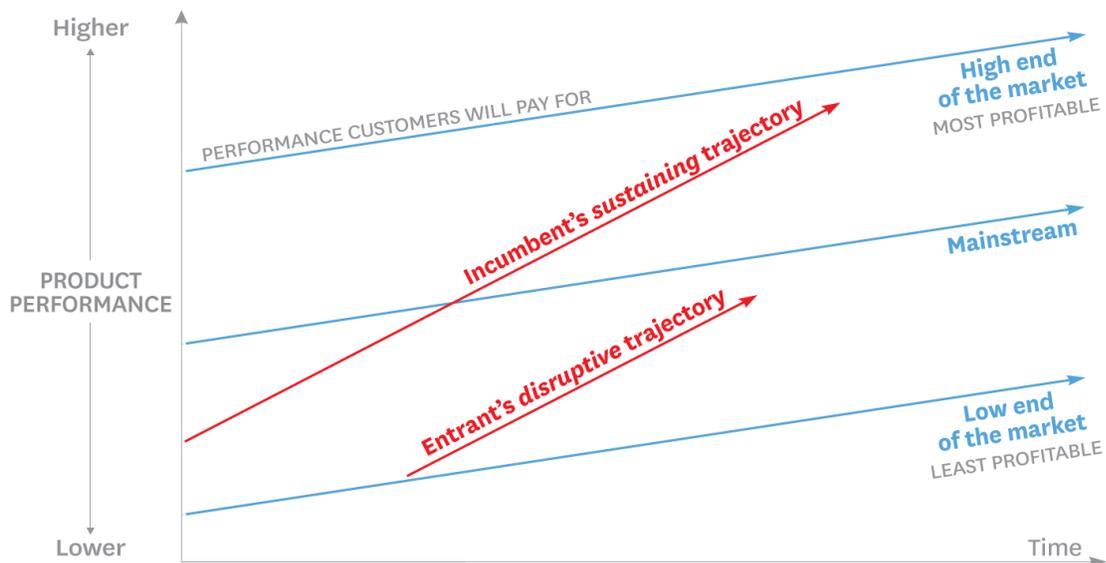
1.1.1 The Process of Disruptive Innovation

The process of disruptive innovation is represented visually in Fig 1.1 below.

Figure 1.1: The Disruptive Innovation Model

The Disruptive Innovation Model

This diagram contrasts *product performance trajectories* (the red lines showing how products or services improve over time) with *customer demand trajectories* (the blue lines showing customers’ willingness to pay for performance). As incumbent companies introduce higher-quality products or services (upper red line) to satisfy the high end of the market (where profitability is highest), they overshoot the needs of low-end customers and many mainstream customers. This leaves an opening for entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move upmarket (where profitability is highest for them, too) and challenge the dominance of the incumbents.



SOURCE CLAYTON M. CHRISTENSEN, MICHAEL RAYNOR, AND RORY MCDONALD
FROM “WHAT IS DISRUPTIVE INNOVATION?” DECEMBER 2015

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Source: Christensen, Raynor & McDonald (2015)

According to Christensen and Bower's model, disruption begins with an entrant firm in a new industry looking to commercialize a disruptive innovation, which they define as having the following characteristics – low cost, ease of use and contrary to the established performance demands of the industry (Bower & Christensen, 1996; Christensen, 1997).

These entrants are initially ignored by mainstream companies, who continue to invest in what the authors call sustaining innovations – improvements in existing technology or business models that cater to their established customer base and that sustain “*the industry's rate of improvement in product performance*” (Christensen & Bower, 1996, p. 201). Not only does the size and newness of such entrants lead them to be ignored by incumbents, the profit margins of disruptive innovations at this stage are characteristically far too low to be able to bring significant growth opportunities for large firms. Similarly, the established clientele of the industry ignores the disruptive firm's offering since it does not align with their current needs, spurring the entrants to search for new and neglected niche markets,

However, before long, the technological offer of the mainstream companies overshoots the demands of its customers. In the meantime, the disruptive firms have been steadily moving upstream, making inroads among the established clientele (Christensen & Raynor, 2003). By then, it is too late and too difficult for incumbents to align their organizational capabilities towards the kind of market the disruptive innovation caters to. The disruptive innovation thus finishes by toppling the market leader and changing the performance trajectory of the whole industry (Bower & Christensen, 1996; Christensen, 1997; Christensen & Bower, 1996).

1.1.2 Defining Disruptive Innovation

The original definition of disruptive innovation above has been debated and amended several times. Christensen and Raynor have expanded the original definition of disruptive innovation to differentiate between two types of disruptive innovation (2003).

Table 1.1 Examples of Disruption

Industry	Incumbent	Disruptor
Publishing Retail	Brick and mortar book stores	Online book stores like Amazon
Animation	High skilled and hand painted animation	Digital animation
Steel	Traditional integrated steel mills	Mini mills
Travel Services	Personalized travel agents	Online travel booking sites
Personal Computing	Laptops and PCs	Handheld and mobile devices, tablets
Operating Systems	Microsoft Windows and Apple OS	Linux

Source: Own elaboration based on Christensen (1997), Christensen and Raynor (2003)

1.1.2.1 New market disruption

This type of disruptive innovation competes not just against incumbents in the industry but more significantly against non-consumption. It targets a completely new market with a value network distinct from that of the industry. Essentially such a disruption makes it easier for potential customers to use a product. For example, in the videogame industry, Nintendo's introduction of the Wii console was a classic example of a new market disruption, creating a whole new customer base of videogame players such as families, women and senior citizens, distinct from traditional gamers (Anthony, 2008; Farhoomand & Joshi, 2009).

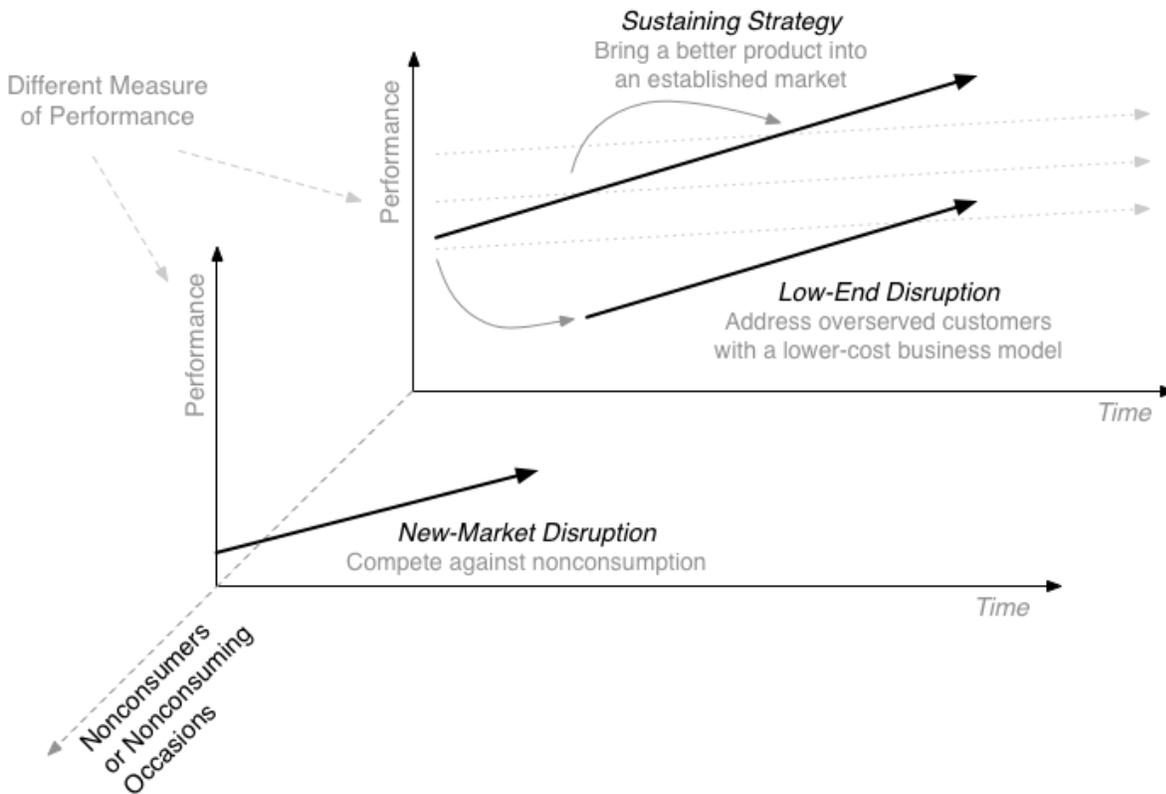
1.1.2.2 Low-end disruption

Here the target customer base for the disruptive innovation is lower end or neglected customers who are satisfied with a "good enough" performance at lower price. Such innovations are usually manufacturing and business process improvements aimed at reducing costs increasing profits and

generally, allowing for faster asset turnover. Christensen and Raynor identify low cost discount department stores, particularly Walmart, as an example of such disruption (Christensen & Raynor, 2003)

Christensen points out that firms may use both types of disruption, as well as a hybrid. And while there is a tendency to limit disruptive innovation to radical new technologies, Christensen and Raynor include business models and processes in his definition of new technology as “a process that any company uses to convert inputs of labor, materials, capital, energy, and information into outputs of greater value” (Christensen & Raynor, 2003, p. 39). Indeed, both products and processes have been included the ambit of disruptive innovation (Christensen, 1997; Christensen & Raynor, 2003; Markides, 2006). Christensen and Raynor (2003) have identified a variety of business products and processes as disruptive – from discount department stores to online travel agencies, even McDonald’s (Table 1.1).

Figure 1.2: The Different Types of Innovation Strategy



Source: (Christensen & Raynor, 2003)

1.1.2.3 Sustaining versus Disruptive Innovations

Another important element required for understanding disruptive innovation is the distinction between sustaining and disruptive innovations (Fig 1.2). This difference between sustaining and disruptive innovations is a critical component in understanding why disruptive firms must seek new markets and new capabilities.

While sustaining innovations seek to maintain the status quo of an industry's competitive makeup, disruptive innovations, by their very nature, seek to disrupt the same. Christensen defines sustaining innovations as "*new technologies that foster improved product performance.... (that) improve the performance of established products, along the dimensions of performance the mainstream customers in major markets have historically valued.*" (Christensen, 1997, p. xix). In contrast, disruptive technologies have a lower level of performance than established ones but have "*other features that a few fringe (and generally new) customers value.*" (Christensen, 1997, p. xix). As pointed out earlier products using disruptive technologies balance inferior technology with low cost, simplicity and convenience of use.

The very nature of disruptive innovations requires new markets. A disruptive innovation, unlike a sustaining one, is not aimed at the existing customer base. This means that they are initially ignored by the industry's principal customers and must start downstream, either with a new niche built of previously neglected customers (i.e. low-end disruption) or by creating an entirely new set of consumers (new market disruption).

Nevertheless, other academics have proposed their own views on what exactly constitutes a disruptive innovation. At the same time, the definition of what constitutes a disruptive innovation has been subject to debate (Danneels, 2004; Markides, 2006; Nagy, Schuessler, & Dubinsky, 2016). Markides (2006) categorises disruptive innovation into technological, business model and radical product innovation, asserting that each type of disruptive innovation arises in different ways placing a different type of competitive pressure and inciting a different type of response. Nagy et al. (2016) argue that previous definitions have been far too centred on market characteristics and instead propose a definition based on radical functionality and technical standards, defining disruptive innovation as "*an innovation that changes the performance metrics*

or consumer expectations of a market by providing radically new functionality, discontinuous technical standards or new forms of ownership.” (2016, p. 122)

Despite these variances, we can see that almost all proposed definitions have one thing in common - the requirement to change industrial performance expectations. And this, we can say is the core characteristic of a disruptive innovation – an innovation that “*changes the value proposition in a market*” (Christensen, 1997, p. 232). The definition must thus be placed in the context of a particular market and industry.

Another common criticism is the view that certain innovations might be disruptive only in certain cases (Danneels, 2004, 2006; King & Baatartogtokh, 2015; Markides, 2006). Indeed, Christensen and Raynor themselves state that disruptive innovation is relative – “*an idea that is disruptive to one business may be sustaining to another.*” (2003, p. 41) citing the Internet as an example that was sustaining to companies such as Dell but disruptive to others, such as Compaq.

Here I must note that the criticism might stem from overlooking a critical element of disruptive innovation theory: resource dependence and capabilities of both disruptors and incumbents. A disruptive innovation, when it succeeds, does so not just because of the competences of the disruptors but also because the capabilities of the incumbents which prevents them from approaching the new market. Thus, an invention will be disruptive to a company or industry if it does not already have the capabilities to adapt to the demands created by the new disruptive market.

1.1.3 Theoretical Antecedents of Disruptive Innovation Theory

As the previous sections clearly demonstrate, the search for new markets and the ability to compete in such new environments forms the backbone of disruptive innovation. Accordingly, the principal theoretical antecedents of disruptive innovation reflect these two elements as detailed below.

1.1.3.1 Creation of New Markets

The roots of the “new market” element of disruptive innovation can be traced all the way back to Austrian economist Joseph Schumpeter’s theory of “creative destruction” (Schumpeter, 1942)

Schumpeter saw capitalism as an “evolutionary process” (1942, p. 82). He believed that industries are business are subject to constant change, the new always bringing in the old. Indeed, he goes on to define capitalism as a method of economic change. In his book *Capitalism, Socialism and Democracy*, Schumpeter states:

“The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” (1942, p. 83)

He goes on to provide multiple examples of such creative destruction in various industries. For instance, the replacement of mail coaches by trains and then by airplanes in the transportation industry, from humble crop rotations and animal-led ploughs to scientific, mechanized processes in the agricultural industry.

While Schumpeter also takes into consideration potentially undesirable effects of such creative destruction, notably on employment and the resulting “technological unemployment” that can result as production processes including labour roles become obsolete), he regards such change as a fundamental element of capitalism. New markets, production and distribution processes and forms of industrial organization led by the capitalist entrepreneur ensure the continuation of capitalism.

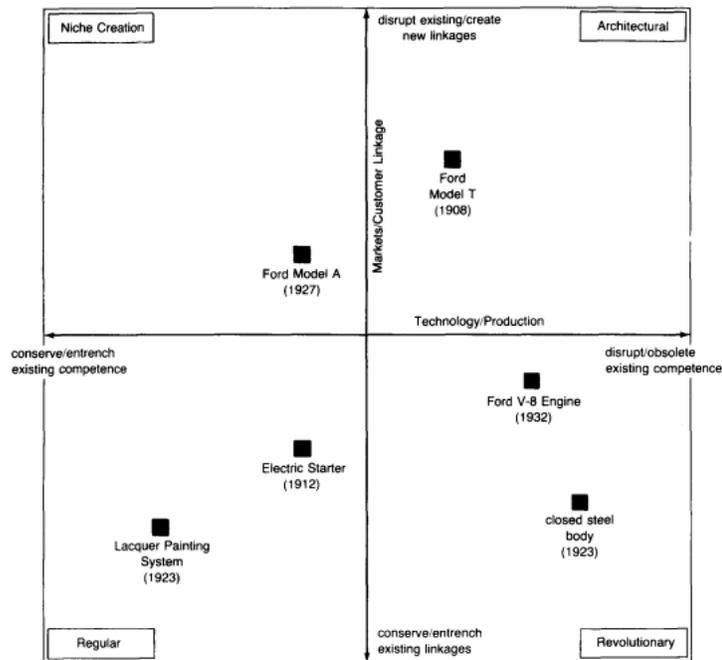
There are clear parallels between creative destruction and disruptive innovation. Not only does disruptive innovation state that new markets are formed and incumbents threatened by disruptors, but also that these very disruptors will move upstream to take the position once held by incumbents, changing the industry profile to their own image, until a new disruptor appears on the horizon.

Another significant influence on modern disruption theory is Abernathy and Clark’s (1985) “transilience map”. The authors define transilience as *“the capacity of an innovation to influence the established systems of marketing and innovation.”* (1985, p. 3).

Accordingly, they propose a taxonomy of innovations based on the interplay between the ability of the innovation to either create or disrupt new linkages and new competences: architectural, market niche creation, regular and revolutionary.

Architectural innovations establish new links and move away from traditional production systems, creating new industries as well as reformulating old ones and laying down the framework for competences. On the other hands, market niche innovations create new market opportunities by using existing technology, by complementing and strengthening them. Similarly, regular innovations use existing technology to cater to existing customers. And finally, at the other end of the spectrum we have radical innovations, that the authors define as *“innovation that disrupts and renders established technical and production competence obsolete, yet is applied to existing markets and customers.”* (1985, p. 12)

Figure 1.3: The Transilience Map



Source: (Abernathy & Clark, 1985)

Working on Abernathy and Clark's taxonomy, Henderson and Clark (1990) have pointed out that minor improvements in technology, changing the "architecture" without necessarily changing individual components can often unseat industry incumbents – the roots of this can be found in Christensen and Bower's assertion that disruptive innovations change value proposition within the same industry.

Similar to sustaining versus disruptive innovations is Foster's concept of the Attacker's Advantage (Foster, 1986) and the interplay between attackers and defenders. Indeed an early paper co-authored by Christensen is a forerunner to many of the ideas later crystallized into disruptive innovation theory (Christensen & Rosenbloom, 1995). In brief the attacker's advantage, Foster claims, belong to entrant firms who try to change the performance metrics of the industry, while defenders try to maintain the status quo with continued improvements.

Christensen and Bower's conceptualization of a disruptive innovation is therefore chiefly an architectural innovation as per Abernathy and Clark's map. The key element here is the requisite for a new market. Other researchers have also pointed out the correlation between disruptive innovation and the search for new markets. For instance, while Markides' (2006) classification of disruptive innovation into business model and technology might differ from Christensen he agrees that each case involves the "invasion" of a new market. Wan, Williamson and Yin (2015) make a special case for emerging economies as conducive to disruptive innovation since they often include new customers neglected by incumbents.

1.1.3.2 Organizational capabilities

A firm's core competences as affected by its value networks and the resulting resource dependence form the second critical building block of disruptive innovation theory. It is necessarily linked with the previous element – if new markets must be conquered, the firm needs new competences that match those markets.

Disruptive innovation theory proposes that a firm's capabilities are built upon three elements – resources, processes and values. Resources comprise all the assets that firm enjoys, whether labour or equipment. Processes are the patterns of decision making that help the firm in delivering the

good or service it has set out too. And finally, values create a framework for the firm to prioritize decisions. All of these elements come together to form a value network that dictates what kind of competences a firm chooses to develop and what strategic decisions it takes.

Christensen asserts that firms can therefore often be held hostage to value networks - a firm's given value network dictates its relations with its clientele and suppliers, its cost structures and accordingly what strategies it can and cannot adopt (Bower & Christensen, 1996; Christensen, 1997; Christensen & Raynor, 2003). This, the theory argues, is what causes disruptive innovation to pose a threat to industry incumbents – incumbents fail because their capabilities are tied to their value networks and thus, they cannot react to competitive pressure from disruptive firms and adapt to the changing demands of the market. The theory further goes on to detail three methods by which firms can create disruptive capabilities – internally, through organizational restructuring; and externally, through acquisition and/or through the creation of spin off organizations (Christensen, 1997).

The central idea of organizational capabilities, is of course an old one and can be traced back to the earliest business theories on competitive advantage whether competitive advantage of Hymer and Penrose (Hymer, 1960; Penrose, 1959), or the ownership advantage of Dunning (Dunning, 1991). These are core to internationalization models and explained in further detail in the corresponding section.

The second part of this element that is more particular to disruptive innovation is what Pfeffer and Salancik (1978) call “resource dependence”. Once set in place, value networks and organizational capabilities are very difficult to adapt, an idea originally found in previous research by Henderson and Clark (1990). The kind of value network that would permit an established firm to invest large amounts in high profit margin products aimed at mainstream customers makes it difficult to allow it to serve fringe audiences with a low-cost, low profit margin product. The interplay of organizational capabilities and value networks thus ends up creating resource dependence.

We have now seen that the search for new markets and capabilities forms a core element of disruptive innovation theory. How can disruptive firms thus find these new markets and gain the new organizational capabilities needed? The answer lies in internationalization.

While still not explored in depth, disruptive innovation and internationalization form a symbiotic relationship. International expansion can help companies enter and even create new markets, as well as to gain competences to do so. In one of the multiple case studies on disruptive innovation found in Christensen's first book, he details how venturing into North America helped Honda find a new market segment for its low cost Supercub bikes. The bikes could not compete with heavy duty vehicles made for rough American roads. However, Honda executives found that they were perfect for off-road dirt biking, a promising segment in the United States. While Honda planned to enter a market segment with a 5% growth rate, discovering a new segment for the bikes created a market with a 16% growth rate. Similarly, Intel's collaboration with a Japanese calculator manufacturer allowed it to gain competences that it would use to break into the microprocessor market (Christensen, 1997).

The following section thus moves onto understanding what such internationalization entails so as to better understand how disruptive innovation works in the context of international expansion.

1.2 Internationalization

There have been several definitions proposed for internationalization and the term itself is not always clearly defined (Welch & Luostarinen, 1988). It has been variously defined as "*the outward movement in an individual firm's or larger grouping's international operations*" and "*the process of increasing involvement in international operations*" (Welch & Luostarinen, 1988, p. 36), "*increasing involvement of the firm in the foreign country, and successive establishment of operations in new countries*" (Johanson & Vahlne, 1977, p. 23), "*the degree and type of commitment of a company and its management to business gained from sources external to the domestic, home market.*" (Piercy, 1981, p. 27)

1.2.1 Internationalization in the Age of Globalization

While international trade has long been a part of human history from the Silk Route in Asia to European mercantilism, it is now with the advent of globalization in the latter part of the 21st century that international trade is at the forefront of economic activity.

The term ‘globalization’, as we understand it now, was popularized by Theodore Levitt in his *Globalization of Markets* (1983). Definitions of globalization differ, from “*the emergence of global markets for standardised products on a previously unimagined scale of magnitude*” (Levitt, 1983) and “*the process through which an increasingly free flow of ideas, people, goods, services, and capital leads to the integration of economies and societies*” (International Monetary Fund, 2002) to the “*transformation in the spatial organization of social relations and transactions—assessed in terms of their extensity, intensity, velocity and impact—generating transcontinental or interregional flows*” (Held, McGrew, Goldblatt, & Perraton, 2000).

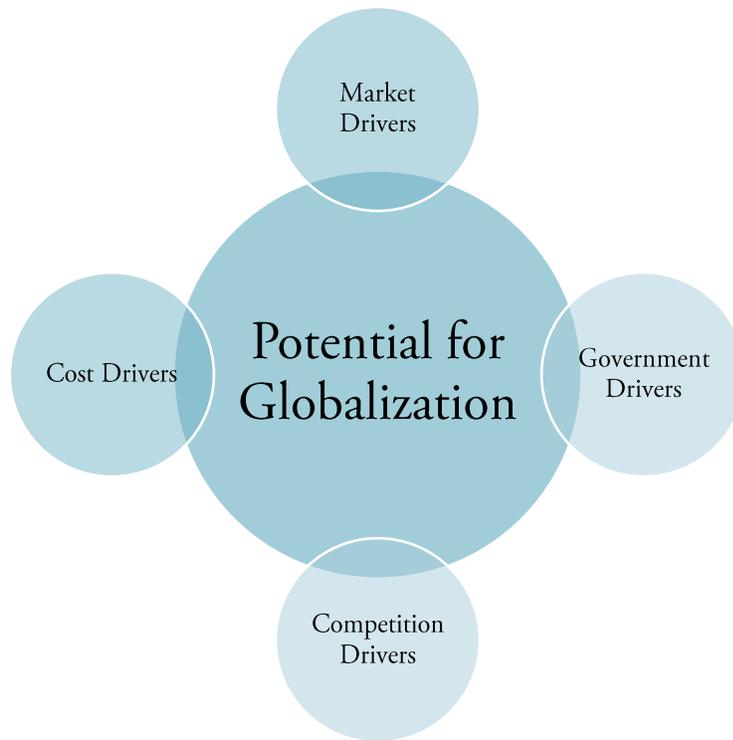
Innovations in technology, specifically in communication and transport technology, the lifting of multilateral and regional trade barriers and the increased integration of global capital markets as well as a shift towards a knowledge-based economy based on “intellectual capital” and increasing global alliances have been pointed out as the driving force behind this phenomenon. (Dunning, 1998; Levitt, 1983; Wiersema & Bowen, 2008). Yip (2001), categorizes these drivers as those created by the market, by the government, by competition and by cost. At the same time, there are factors in the macro environment that further influence these drivers – social and demographic, political and legal, economic and financial and finally, technology factors.

It is interesting to note that many of the technological and cost drivers of globalization were initially disruptive in nature, for instance, the Internet (Christensen & Raynor, 2003). As a result, firms, it is argued, have access to greater resources, economies of scale and scope and a wider customer base than ever before (Levitt, 1983).

Levitt (1983) is perhaps the most vociferous proponent of internationalization. In his seminal paper (1983) he argues that, given convergence (i.e. increased homogenization of consumer tastes due to advances in communications, transport and other technology), integration of trade and politics (as exemplified by trade agreements at both the regional and international level) and changing scales of economic activities from local to global levels, globalization is not only the

most rational plan of action for firms seeking to make profits in a world with increased competitive pressures originating from international markets.

Figure 1.4: The Drivers of Globalization



Source: Yip (2001)

1.3 Disruptive Innovation and Internationalization

Now that we have examined the concepts of disruptive innovation and internationalization in some detail it is time to examine the interplay of these two concepts. To begin with, I will examine how the literature explains why (if at all) disruptive firms can be expected to internationalize and what patterns this will follow. From this I will lay out expected patterns for disruptive firms based on both innovation and internationalization literature, that will be used to form propositions in the next section.

1.3.1 Rationale for Internationalization

Any discussion of internationalization must start with the rationale for doing it at all. Countless researchers have tried to explain how venturing abroad is of advantage to both nations and firms.

1.3.1.1 To look for new markets

Christensen and Bower assert that finding a new market is critical to disruptive innovations. Disruptive entrants must find a new niche that has been previously neglected by incumbents. This is particularly true in the case of new market disruptions.

Internationalization research has pointed to this motivation as a chief one for venturing abroad. In their seminal work on the taxonomy of FDI motives Dunning and Lundan (1993) elaborate four motives why firms undertake international operations – market seeking, resource seeking, efficiency seeking and strategic asset seeking. As per the market seeking motive, firms may internationalize in search of newer markets that might offer a newer clientele and help overcome trade and nontrade barriers. Increasingly (post 1990s) this includes easier access to adjacent regional markets, skilled labour, higher quality infrastructure, friendlier economic policies (Dunning, 1998).

Similar to Dunning's idea of a market-seeking motive for firms is Kim and Mauborgne's Blue Ocean Strategy (2005). The authors propose that markets can be divided into "red" and "blue" oceans. Red oceans refer to the "*known market space*" (2005, p. 106) composed of all industries that currently exist, while blue oceans refer to markets and industries that are yet to be created. As we can see, this has clear parallels with sustaining versus disruptive innovations – red oceans represent the market for sustaining innovations, ruled by incumbents while blue oceans are nascent markets pioneered by disruptors. Kim and Mauborgne assert that firms in a red ocean (i.e. an established market) compete on the basis of the same best practices, using each other as benchmarks. Differentiating themselves is thus costly and requires a blue ocean. Like a disruptive innovation, a blue ocean changes the rules of the games and breaks "*the existing value/cost trade-off*" (2005, p. 109), focusing on cost reduction and differentiation. While a red ocean, like a sustaining innovation, seeks to beat competitors, a blue ocean seeks to make them irrelevant.

For disruptive firms, as pointed out above new markets are obligatory due to the competitive pressure exerted by incumbent firms. To use the terminology above, disruptive firms have market seeking motives and search blue oceans that they can exploit.

1.3.1.2 To exploit their unique offerings

One of the most abiding motivations for firms to internationalize is the idea that it has certain advantages that can be transmitted for a profit in foreign markets. The basic idea that a firm or country can possess something that sets it apart from its rivals and that can be traded finds itself in various terms, albeit with subtle differences in meaning - absolute advantage (Smith, 1776), comparative advantage (Ricardo, 1817), a competitive advantage (Porter, 1985), ownership advantage (Dunning, 1991) and firm specific advantages (Hymer, 1960).

The notion can be traced back to Adam Smith's (1776) concept of an absolute advantage possessed by nations that can be traded for a similar advantage possessed by other nations. David Ricardo (1817) built on and contrasted this idea with his theory of comparative advantage, proposing that nations need not necessarily have an absolute advantage in any one good. Instead, Ricardo argued, one nation might be able to produce goods relatively cheaper than another, and vice versa, thus making it advantageous for both nations to trade with each other in the goods in which each has the greater relative advantage.

With the advent of the resource-based view of the firm, the idea of a firm with advantages to trade was brought from the macroeconomic to the microeconomic perspective. Economist Edith Penrose was one of the first proponents of the resource-based view, that essentially redefines the firm as "*a collection of productive resources*" (Penrose, 1959, p. 24). International trade acts an inducement to expansion wherein the firm can use these resources.

It was Stephen Hymer's influential dissertation on Foreign Direct Investment (FDI) that highlighted the importance of a firm's capabilities as a motivation to internationalize. Hymer argued that while local firms have a host of advantages over foreign entrants in a market, the latter can combat this with their own monopolistic or firm specific advantages. These can take the form of proprietary technology, economies of scale, brand power or even efficient managerial skill and

talented personnel (Hymer, 1960). The idea is echoed in John Dunning's influential eclectic paradigm, the basis of which is a firm's "ownership advantage" i.e. "*assets which its competitors (or potential competitors) do not possess*" (Dunning, 1980, p. 9).

A disruptive innovation, whether a new market one or a low-end one is essentially the kind of unique advantage not possessed by competitors that Hymer, Dunning and others talk about. For example, low-end disruptions require efficiencies that make the products on offer "good enough" at a much lower cost. This advantage can be exploited to its full potential by offering it to multiple markets.

1.3.1.3 To build new capabilities

Christensen and Bower point out that being able to compete in a disruptive environment require distinct capabilities that cannot be developed while competing in the same business environment as incumbents – to be able to disrupt, one must be able to break free of the value framework imposed by the existing market.

Internationalization once again provides an answer for this issue. Indeed, some of the few papers on disruptive innovation in the context of multinational firms have already pointed out the relevance of international operations as potential sources for the discovery of disruptive innovations (Cowden & Alhorr, 2013; Wan et al., 2015)

Let us return again to Dunning and Lundan's taxonomy. Apart from the search for new markets, they postulate that firms venture abroad to find new strategic assets, resources and efficiencies. The strategic asset seeking motive is of particular interest to disruptive firms. Internationalization may provide access to knowledge-related assets and markets that might protect established ownership advantages (Dunning, 1991) and the presence of institutional infrastructure to facilitate this might spur firms to take operations abroad (Dunning & Lundan, 1993). In the post globalization era, access to different consumer demands and preferences – again, critical for disruptive firms – and the availability of synergistic assets at lower cost takes on increased significance (Dunning, 1998).

Closely related is the idea of venturing abroad to seek resources. Firms may go abroad to find resources that are more easily available, of higher quality or lower price (Dunning & Lundan, 1993). With increasing globalization, the availability of local partners becomes another significant motive (Dunning, 1998). If disruptive firms need to appeal to new customers, the knowledge provided by local partners becomes a critical resource. Bartlett and Ghoshal's typology of firms refers to this as "local responsiveness" or the ability to respond to consumer preferences in a particular market (Bartlett & Ghoshal, 1987).

Finally, international markets might offer greater economies of scale, what Dunning and Lundan call the "efficiency-seeking motive" (1993), an idea shared by Levitt (1983) and Morrison and Roth (1992) in their categorization of "internationalization substrategies". The latter is of particular interest to disruptive firms since they often compete on the basis of price; greater economies of scale will allow for lower costs and cheaper prices.

The ability of international firm subsidiaries to create competences that can create larger competitive advantages for the firm as a whole has been documented in the literature – either as the integrators of local knowledge as detailed above, as subsidiary specific advantages (Birkinshaw, Hood, & Jonsson, 1998) or as their evolution into "centres of excellence" (Moore, 2001).

Thus, we can see that internationalization is of critical importance to disruptive firms for a variety of reasons. We can now move on to the core question of this thesis – how do they internationalize.

1.3.2 The Internationalization Strategies of Disruptive Firms

The process of internationalization is a necessarily complex issue for firms. They need to take into consideration a host of factors comprising the when, where and how of internationalization. In other words, the speed of internationalization, the selection of foreign markets and the correct entry mode. Accordingly, I will examine how disruptive firms can be expected to internationalize by detailing how existing theoretical models have proposed answers to each of these questions. For the purposes of this thesis, I will limit the exploration of internationalization to two elements, speed of internationalization and market selection.

1.3.2.1 Speed of Internationalization

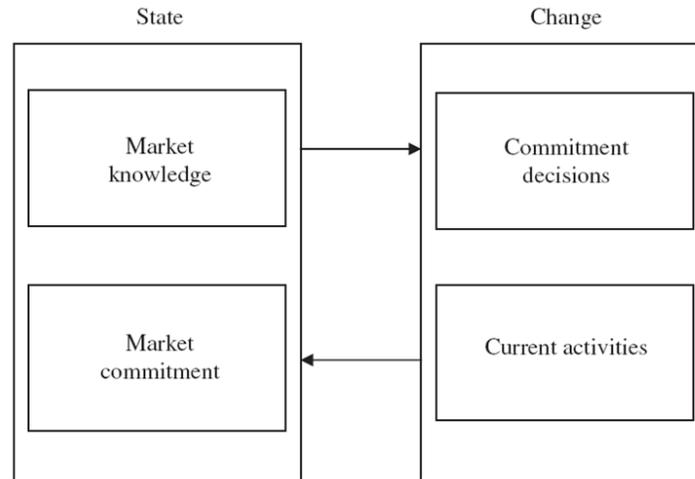
The first step in understanding internationalization is to understand when companies decide to venture overseas. Indeed, most theories of internationalization propose that firms venture abroad only after having established themselves on the domestic front (Oviatt et al., 1995).

We begin with the so-called “stages models” (Andersen, 1993) of internationalization. One of the most influential of these is the influential Uppsala model which states that, “*internationalization is the product of a series of incremental decisions.*” Accordingly, the models assert that firms internationalize gradually and in successive stages, with each stage comprising a higher degree of international involvement. Using the case of Swedish firms, the model proposes the following stages of internationalization (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) :

- Stage 0: The firm has no regular exports
- Stage 1: The firm starts exporting to a foreign country via an independent representative, such as an export agent
- Stage 2: The firm establishes a sales subsidiary abroad
- Stage 3: The firm begins production in the foreign market, beginning with simpler manufacturing activities and moving on to more complex ones

Two variables critical to this model are psychic distance and market knowledge and both determine the successive stage of internationalization. Psychic distance refers to “*the sum of factors preventing flow of information from and to the market*” (Johanson & Vahlne, 1977, p. 24) such as differences in culture, language, business practices and development.

While psychic distance might make firms wary to explore markets that are more distant from their domestic ones, it is often attenuated by market knowledge. Like psychic distance, market knowledge decides when and where a firm internationalizes – the more knowledge the firm has of a foreign market, the more willing it is to invest in a higher degree of market commitment abroad.

Figure 1.5: The Internationalization Process of the Firm According to the Uppsala Model

Source: Johanson and Vahlne (1977)

On the other hand, we have innovation models. Andersen classifies Cavusgil (1980) and other internationalization models by Bilkey and Tesar (1977), Czinkota (1982) and Reid (1981) as innovation models, wherein the process of internationalization is itself an innovation for firms. All these models start out with the firm as a domestic player that slowly shifts its focus to international markets with increasing knowledge and experience. For instance, Cavusgil's (1980) model, focusing largely on exports is comprised of the following stages:

- *Domestic marketing:* The firm's operations are limited to the home market
- *Pre-export stage:* The firm seeks information on international markets and analysis the viability of commencing exports
- *Experimental involvement:* The firms begins limited exports to a country, psychologically close to the home market
- *Active involvement:* At this stage, the firm increases its level of direct exports
- *Committed involvement:* Here international markets become as much a priority as the domestic one and managers constantly choose between allocating resources between the two.

As I have explained in the previous sections, finding new niches and building new capabilities is critical to disruptive firms. This makes internationalization of greater importance to them. In addition, the market for disruptive innovations are not only unknown but fundamentally *unknowable* (Christensen, 1997; Christensen & Raynor, 2003). Thus, problems of market knowledge and psychic distance can be expected to have comparatively lesser importance for disruptive firms and they can be expected to skip certain or all intermediary stages.

Therefore, instead of traditional stages models, I would expect disruptive firms to conform to a newer model of internationalization – born-globals. In contrast to firms internationalizing in stages, we have firms for whom international markets have always been part of their business models. Indeed, a vast amount of literature has been devoted to firms that commence international operations early in their formation. They can be called “born globals”, a term coined by Michael Rennie (1993) but can also be referred to as “international new ventures” (Brush & Vanderwerf, 1992; Zahra et al., 2000), “global startups” (Oviatt et al., 1995). For the purpose of this literature review, I have chosen to use term “born global” as it encompasses the rapid internationalization of such firms.

Apart from the terminology, there has been equally little consensus on the precise speed of internationalization that defines a born global firm. Numbers proposed range from within 2 years of inception of the firm, as per the first proposed definition of born globals, (Rennie, 1993), a 3 to 4 year period (Chetty & Campbell-Hunt, 2004) to yet larger spans of time ranging from 4 to 6 years (Brush & Vanderwerf, 1992; Zahra et al., 2000). By way of consensus we can simply think of born globals as those that “*internationalize early in their life cycle*” (Zahra et al., 2000, p. 925).

It has been argued that born global firms are more relevant in an increasingly globalized world (Chetty & Campbell-Hunt, 2004; Oviatt et al., 1995) and that their aggressive learning strategies and ability to adapt to steep learning curves create and sustain long term growth (Chetty & Campbell-Hunt, 2004; Hagen & Zucchella, 2014) – qualities that are common to disruptive firms.

Thus, drawing from the literature, I put forward my first proposition:

P1. Disruptive firms will internationalize faster than incumbent firms

1.3.2.2 Openness to Market Distance

Once the firm decides when to go abroad, it needs to pinpoint where. The Uppsala model's (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) use of psychic distance explained above also proposes to explain how firms choose which markets to enter. It argues that markets with lower psychic distance are the first choice for firms, followed by markets with increasing distance.

Vernon's Product Life Cycle (1966) theory both agrees with and contradicts the Uppsala model in two ways. While it argues that the location of internationalization first occurs with "psychologically close" countries with a similar level of income, it also states that market knowledge is of less importance for certain types of goods. The model posits that location for a product might shift several times over its life cycle. The key idea is that products – specifically high-income ones that replace labour with capital – may be initially produced in one country but end up as imports for the same at later stages of their life cycle. The model accordingly proposes the following stages of the life cycle:

- *New Product:* At this stage, the new product is conceived, marketed and sold in the domestic market, as yet new and unstandardized. Wishing to monitor domestic demand, the firm does not engage in international operations.
- *Maturing Product:* Here the product begins to acquire standardized features while at the same time being adapted for specialized uses and economies of scale are the features of this stage. This is also the stage where exports of the product begin to other high-income markets. Later in the cycle, domestic firms might explore the possibility of manufacturing the product overseas if cost differentials exist, to feed the demand from foreign markets and possibly supply third markets as well. It is at this stage that the product might begin to be imported back into the domestic market from its overseas manufacturing locations.
- *Standardized Product:* In the final stage, the product's features are standardized. Manufacturing might commence in lower income countries and the products flows back into higher income countries as well as the original domestic market.

Thus, Vernon considers the role of market information or the lack thereof, and of psychic distance in deterring firms from venturing to unknown locations abroad.

It must be noted that the concept of psychic and cultural distance is controversial. The precise definition of psychic and/or cultural distance has been a matter of debate. While there are those that argue distance is dead (Levitt, 1983), others state that not only is it a relevant topic but that there is a distinction between psychic and cultural distance (Sousa & Bradley, 2006), that psychic distance is based on perceptions while cultural distance comprises various differences in the business environment from the home market. Pankaj Ghemawat's CAGE framework take a more comprehensive view by breaking distance into four distinct components – cultural, administrative, geographic and economic differences (Ghemawat, 2001).

- *Cultural Distance*: This refers to linguistic, social, religious and other demographic differences. It is most relevant for industries or products that have a high cultural and linguistic content, such as books or television and/or are strongly related to the national identity such as particular items of food and drink
- *Administrative and Political Distance*: This refers to similarities in institutional networks, whether political or bureaucratic systems but can also extended to shared colonial ties or membership in inter-governmental associations as well as the positive or negative nature of such ties (i.e. if there are any current or historical hostilities). It is mostly relevant to industries and product pertaining to infrastructure and national security.
- *Geographic Distance*: This encompasses the extent to which geographic location can aid or hinder business. For instance, a large physical distance between the home and foreign market would create higher costs of shipping and transport for physical goods but can also delay decision making and strategizing since the corresponding time difference would often be correspondingly large. A geographically remote market without reliable transport links would exacerbate the problem. Accordingly, this dimension is more relevant for products whose physical characteristics are important (low value to weight ratio, fragile and/or perishable) and industries where communications play a vital role.

- *Economic Distance*: This refers to the differences in economic development between two markets, whether in levels of income, costs of living and the availability of natural, financial and human resources. Thus, this dimension is more relevant for products where the level of consumer income and industries where differences in input costs play a role.

Again, the fundamentally unknowable nature of disruptive innovation would mean that market distance is a less pressing concern for disruptive firms, allowing them to move beyond established markets. Indeed, as pointed out earlier, the search for new markets dictates finding niches that haven't already been exploited by incumbents. Moreover, Vernon also argues that in the case of standardized products that compete largely on the basis of price, market knowledge of psychically distant locations, such as less developed countries, is less pressing than in other cases. While disruptive products and services may or may not be standardized, competing on price points forms an important element of their nature, thus further supporting the idea that distance is less important in their strategic behaviour.

Thus, using evidence from the literature, I formulate my second proposition:

P2 Disruptive firms will tend to make their first international venture in more distant markets as compared to mainstream firms

Having examined the academic literature, it is important to take a closer look at the industry in which I place this study, to understand the context of the above propositions. Thus, I move on to the videogame industry.

Chapter II

The Videogame Industry

Games have always been a serious business for humans – from Mesoamerican ball games and Roman gladiatorial fights to the modern e-sports scene. Videogames are simply the latest iteration of this passion.

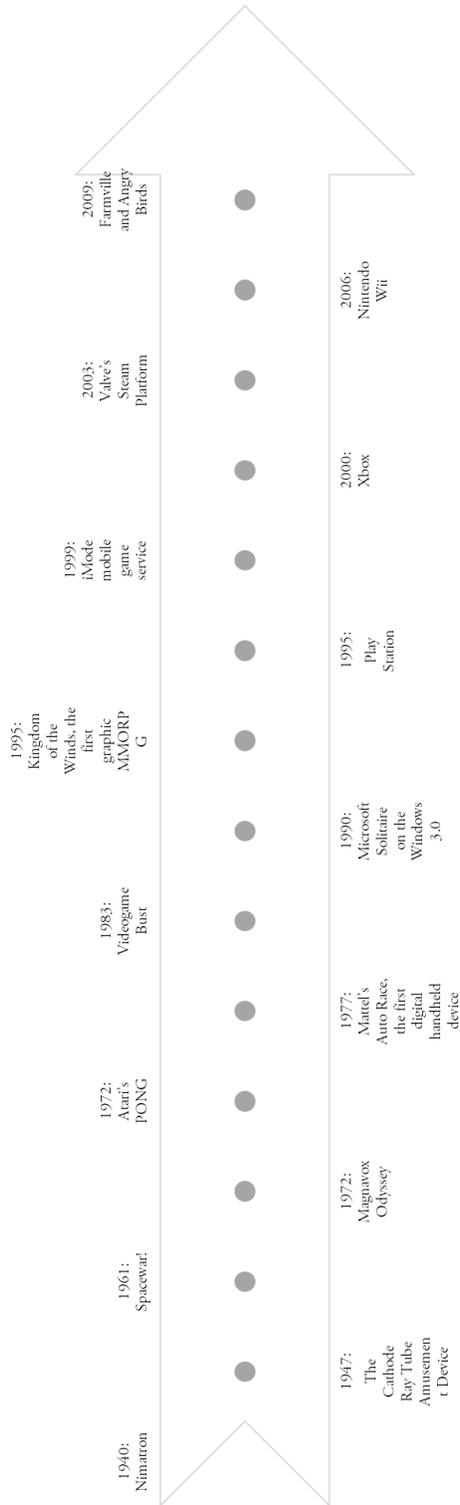
Far from being mere entertainment, videogame technology has had military, scientific and business applications as well (Marchand & Hennig-Thurau, 2013). Today, videogames represent a global market of \$99.6 billion (Newzoo, 2016a) and are one of the fastest growing segments in mass media (Marchand & Hennig-Thurau, 2013). At the same time, disruptive gaming, which includes mobile gaming, social and online browser games is all set to change the industry, which is of course, the focus of this study.

In this section, I look closer at the context surrounding disruption in the videogame industry, in preparation for the analysis which will focus on the same. I first examine the history of the videogame industry, from the arcade games of the 70s to the evolution of AAA blockbusters. This is followed by an analysis of the industry, including its core characteristics, the principal actors in the value chain and the standard revenue and business models and finally, its international markets, looking at how disruption has affected each of these.

2.1 Evolution and History of Videogames

While humans have been playing games since time immemorial, the birth of electronic games begins with the development of the information age – without computers there could be no games and indeed, the development of videogames continues to be closely tied to the development of information technology.

Figure 2.1: A (Very Brief) Timeline of Videogame History



Source: Own elaboration

2.1.1 1800s – 1940s: The Birth of Computing

The beginnings of computing and programming can be traced back to English inventor Charles Babbage's proposed Analytical Engine. This, and a second machine titled the Difference Engine were never actually built. However, Babbage's colleague, Augusta Ada Lovelace, widely regarded as the world's first programmer published his notes on the engines, adding her own ideas and expanding the possible applications of the machines (DeMaria & Wilson, 2003; Fuegi & Francis, 2003). The "1843 notes" as they are known comprised a paradigm shift, from simple calculating to computing as we understand it today (Fuegi & Francis, 2003).

While Babbage and Lovelace's engines might have been a forerunner to modern computers, it was Hermann Hollerith's census tabulating machine, built in 1890 that put the principles of computing into practice. Hollerith went on to become the founder of the Computing-Tabulating-Recording Company in 1911, later renamed to International Business Machines, or as it is known today, IBM (DeMaria & Wilson, 2003).

The 20th century brought the idea, thanks to Alan Turing and later, John von Neumann that computers could be used for more than a single purpose. However, it was John Atnasoff and Clifford Berry who created the world's first all electronic computer between 1937 and 1942. However, for years John Mauchley and J. Presper Eckert's ENIAC was believed to be the first and it became the basis for modern computers (DeMaria & Wilson, 2003). And in 1947, William Shockley, Walter Brattan and John Bardeen's invention of the transistor not only revolutionized the electronics and semi conductor industry but also paved the way for the first videogames (National Museum of Play & Games, 2017).

2.1.2 1940s – 1960s: The First Electronic Games

It is difficult to pinpoint what the first videogame was – the development of games has occurred in stages and there have been separate pioneers in hardware and software. The International Center for Videogame History credits physicist Edward U. Condon with the first electronic game system in 1940. As part of the Westinghouse pavilion at the World's Fair in New York, the Nimatron machine was designed to play the traditional game of Nim (National Museum of Play & Games,

2017). DeMaria and Wilson in their history of videogames (2003) state that Willy Higginbotham's *Tennis for Two*, created in 1958 was the first electronic game. Years later, its spiritual successor, Atari's *Pong* would go on to become one of the most popular videogames of all time.

Between Condon and Higginbotham however, there were other attempts at electronic games – from Thomas T. Goldsmith Jr. and Estle Ray Mann who patented a “Cathode Ray Tube Amusement Device” in 1947, arguably the world's first shooter game; A.S. Douglass' version of noughts and crosses, called *OXO* for Cambridge's EDSAC computer and the first computer chess program by Alex Bernstein in 1957 (National Museum of Play & Games, 2017).

However, most sources agree that the age of gaming as we know it began with *Spacewar!*, invented by MIT student Steve Russell in the summer of 1961 (DeMaria & Wilson, 2003; National Museum of Play & Games, 2017). While Condon's *Nim* game used a specific system and Higginbotham's *Tennis for Two* was played on electronic circuits, *Spacewar!* was the first true computer based game, programmed into the PDP-1 computer. More importantly, it created a subculture of gamers – it was soon being shared in college campuses across the country and went on to influence the founders of the first video game development companies, such as Nolan Bushnell of Atari and Joel Billings of Strategic Simulations, Inc.

The commercialization of videogames began with Ralph Baer, whom DeMaria and Wilson call the “*Father of Videogames*” (2003, p. 14). While Baer had ideas for a TV based game as far back as 1951, it was only in the late 60s, with co-workers Bob Tremblay and Bill Harrison that he was given funding by their employer, Sanders Associates, Inc to develop a commercial videogame. By 1967, Baer and his teammates had not only invented multiple games, including a first person shooter, he had also invented the first programmable system dedicated to videogames, the Brown Box (DeMaria & Wilson, 2003; National Museum of Play & Games, 2017). The Brown Box would become the basis of the first ever home videogame system, the Magnavox Odyssey.

2.1.3 1970s: The Birth of the Videogame Industry

The 70s were arguably the first golden age of videogame development, particularly of arcade games, as videogames broke out of their niche as an intellectual exercise and became a consumer

product. Now that the previous decades had laid the technological foundations, videogames could finally come into their own as an art form (DeMaria & Wilson, 2003).

One of the most influential pioneers in this nascent industry was Atari, headed by Nolan Bushnell. If Baer was the father of videogames, then Bushnell can be said to be the father of the industry itself (DeMaria & Wilson, 2003, p. 19). Inspired by *Spacewar!*, Bushnell created *Computer Space*, a single player version of the former, creating his own hardware. The game was installed in computer campuses, bowling alleys and beer bars but beyond the early adopter market of college students, it did not do particularly well. Bushnell, in partnership with Ted Dabney, then went on to form his own company, eventually called Atari after the equivalent of a check mate in the East Asian game of Go.

While under contract to produce videogames for slot machine and entertainment firm Bally/Midway, Bushnell convinced engineer Allan Alcorn to produce a simple ball and paddle game. So impressed were Bushnell and Dabney with Alcorn's game that they decided to manufacture hardware cabinets and market the game themselves. The result was *Pong*, the first commercially successful videogame and arguably the foundation of the modern videogame industry (DeMaria & Wilson, 2003). *Pong* earned over \$1 million in revenues and had over sixty copycats (Schilling, 2003).

The 70s were also the time when the videogame industry dipped its toe in international waters. In 1973, Japanese videogame maker Taito opened its first US subsidiary and formed a distribution alliance with Midway. In 1975, Midway licensed Taito's 1973 shooter game, *Gun Fight* (also known as *Western Gun*), the first Japanese game to be imported for sale in the States (DeMaria & Wilson, 2003). At the same time, future videogame giant Nintendo made its first foray into videogames. Founded in 1889 in Japan as the Marufuku Company to make and sell traditional Japanese playing cards, the company (renamed Nintendo in 1951) had moved on to western playing cards and other toy and games until 1974 when it secured the Japanese rights to the Magnavox Odyssey.

The following years were a time of innovation and close competition, both in console games and arcade. Inspired by *Pong*, several companies came out with their own versions (DeMaria & Wilson, 2003). The resulting race to capture the market spurred firms to come up with newer

games – Midway posed a threat to Atari with its successful *TV Basketball* (1974) and *Racer* (1975) which the latter countered with games like *Night Racer* and *Breakout*. It is interesting to note that *Breakout* was developed by future Apple co-founders Steve Jobs and Steve Wozniak, when Apple has now become an industry disruptor with a host of mobile games on its iTunes store.

Towards the late 70s, innovation in videogame titles focused on increasing visual quality with vector graphics, best exemplified by Cinematronic's spiritual successor to *Spacewar!*, titled *Space Wars*. The 70s also debuted two beloved game elements – the Easter egg and the high score. Easter eggs refer to “*undocumented features and objects*” (DeMaria & Wilson, 2003, p. 39) and were first conceived by Atari programmer Warren Robinett for the game *Adventure*. Japanese import *Space Invaders* was, as DeMaria and Wilson call it, an unwinnable game. Instead, player performances were measured against the highest score made to date.

The launch of the Magnavox Odyssey in 1972 meant that the consumer market was beginning to warm up to videogames, and Atari's launch of its home *Pong* console in 1975 broke it wide open. Other competitors quickly followed. Atari's arcade rival, Midway entered the home console market with the Bally Professional Arcade system in 1978. However, Atari was unchallenged in the home console market until Coleco's Telstar system finally broke Atari's hold on the market (Schilling, 2003).

Also notable is the Fairchild Channel F (originally named the Fairchild Video Entertainment System). It allowed gamers a much wider selection of games thanks to 21 interchangeable cartridge supports and used much superior technology, being the first console to use a microprocessor and the first programmable ROM cartridge-based videogame console. The Channel F however, was only a middling success and soon overshadowed by the Atari VCS. Incidentally, the VCS had some disruptive characteristics as well – it was cheaper to build than existing consoles and had a much simpler software architecture.

Handheld game systems also debuted in the 70s with Mattel's Auto Race. Other contenders in the handheld market this time were Bandai, Milton Bradley (whose Microvision was the first cartridge based handheld console), Entex and Tomy.

2.1.4 1980s: Boom, Bust and Boom Again

The 80s marked several significant developments. One was the emergence of companies that would grow to become the leaders of the videogame market today – Activision, Electronic Arts and Ubisoft were all founded in the 1980s. Activision, formed by ex-Atari employees was the first third party game publisher (DeMaria & Wilson, 2003) ever founded.

The 80s are often called The Golden Age of Videogames for a reason. Several classic titles such as *Pac-Man* (1980) and *Ms. Pac-Man* (1982), *Donkey Kong* and *Frogger* (1981), *Tetris* (1984), *Super Mario Bros* (1985), *The Legend of Zelda* (1986) were released this decade. It also marked the advent of licensed gaming - the *Tron* arcade game, based on Disney's movie of the same name, was the first game based on a movie (DeMaria & Wilson, 2003).

Moreover, it saw the birth of many influential videogame companies – Activision, Electronic Arts, Strategic Simulations Inc, Westwood Studios, Broderbund and Sierra Online, to name only a few. On the other side of the Pacific, Japan consolidated its position as a creative hub for games. Shigeru Miyamoto of Nintendo was one of the rising stars of gaming, having designed some of the classics of this era, including *Donkey Kong* and *Mario*. Capcom, Konami, and later, Enix and Square were other industry veterans that were founded at the same time.

It was also the Golden Age of Atari. The Atari VCS was renamed the Atari 2600 in 1982 and the launch of *Space Invaders* as a VCS cartridge game pushed sales to the top of the charts as consumers bought the console simply for the game. DeMaria and Wilson, call the release of *Space Invaders*, “...possibly the smartest move they ever made.” (2003, p. 64). Atari's sales were at their highest and it was one of the fastest growing companies in history to date.

On the other hand, the growing home gaming market meant that Atari was no longer the only rising star, giving rise to the notorious console wars of the decade. Mattel's Intellivision, officially launched in 1979 repositioned itself in 1981, using aggressive marketing to counter Atari. Along with the ColecoVision and the Vectrex (the first vector graphics console system) home gamers were now spoilt for choice. Keith Robinson, former Intellivision game designer summed up the growing market thus, “Before, the question was, ‘Should I buy a videogame system for my kid?’ After, it became, ‘Which videogame system should I get my kid?’” (DeMaria & Wilson, 2003, p. 70)

But after the boom came the bust. By 1982, there were as many as 50 game developers for the Atari 2600, and Atari, basking in the glow of its success overestimated the demand for games. Atari planned on selling 60 million cartridges a year, but did not take into account the huge onslaught of supply from new game developers. The end of the year saw millions of cartridges languishing in warehouses. By 1983, Mattell, which had captured 20% of the market less than two years ago bowed out of the gaming industry. Atari (in)famously buried millions of cartridges in the New Mexico desert (DeMaria & Wilson, 2003).

DeMaria and former Activision CEO Jim Levy analyse the bust and propose several explanations. Apart from the over supply of software and Atari's own overconfidence (they reportedly manufactured more Pac-Man cartridges than there were gaming systems), there was also the issue of the game industry's transition cycles. The videogame industry until date had shown cycles of 6 to 8 years between the introduction of a new technology, its peak and replacement by more advanced technology. At the end of the 1982 cycle, no technology had emerged that was sufficiently advanced to further console gaming.

On the other hand, a new technology both hastened the death of the 80s game consoles and saved the gaming industry – home computers. These were rumoured to eventually replace gaming systems and combined with the belief that videogames were just a passing fad, exacerbated the bust.

And yet, when the industry was trying to recover, computer gaming saved it. Indeed, many gaming companies like Electronic Arts and Ubisoft got their feet wet with titles intended for the Amiga and Commodore 64 home computers. On the other side of the world, Square Co. and Enix Inc. too entered the videogame industry via computing. Square Co. began as the personal computing division of the Denyu company. Similarly, when initially breaking into the videogame market, Enix Inc used a personal computer videogame programming contest to find titles to publish (Daiji, 2005).

Eventually, the industry limped back to normalcy at the end of the 80s. Atari had been unseated as the top console maker by the Nintendo NES. The first ever Game Developer's Conference was held in 1986, a sign that the industry was slowing moving towards a more structured nature (DeMaria & Wilson, 2003).

2.1.5 1990s: Maturation, Consolidation and the Dawn of Blockbuster Games

Videogames truly came into their own in the latter part of the 20th century. In their history of the videogame industry, DeMaria and Wilson (2003) state that the 1970s were marked by innovation, the 1980s were a period of expansion and the 1990s represented maturation of the industry.

Two technological advances furthered the development of videogames in this decade – the CD-ROM and 3D graphics technology. The decade also saw the birth of many mainstream gaming giants today, such as Ubisoft, Blizzard and Take-Two Interactive. Cult classics such as *Mortal Kombat* and *Street Fighter* were launched in this decade, as well as franchises that continue to be popular today, such as *Tomb Raider*, *Sonic the Hedgehog* and *The Sims*.

The early part of the 90s saw the Nintendo NES and Sega Genesis (known as the Megadrive outside North America) in competition with each other until CD-ROM technology entered to change the market. The technology had existed since the late 1980s, debuting with Cyan's *The Manhole* (1987). However, the technology was far too expensive to enter the mass market until the NEC Corporation, a Japanese PC manufacturer in collaboration with Japanese console maker Hudsonsoft released the PC Engine, known as the TurboGrafx-16 in the United States (Therrien, 2008). The TurboGrafx-16 had faster 16 bit graphics and superior hardware and significantly, a CD-ROM peripheral, the first gaming console to have this feature. However, its selection of software was designed for the Japanese consumer and did not find the same hold in the United States (DeMaria & Wilson, 2003). In 1992, Sega followed suit and added a CD-ROM add-on to the Genesis. Yet again, the graphics quality of these and other add-on systems left much to be desired and hence, it was not until 1995 with the launch of the Sony Playstation and the Sega Saturn that the technical capabilities of CD-ROMs were superior enough to compete with established consoles. The Saturn had a built-in modem, and was the first console with Internet and email connectivity. However, the ease of use of the Sony Playstation for game developers helped it become one of the leaders of the console market, a position it holds to today (Therrien, 2008).

The 90s were also the decade that 3D games firmly entered the mainstream, even if 3D had been introduced in video games before in *Battlezone* (1980) and *Driller* (1987). However, the technical capability of computing systems to display 3D graphics was limited, even when game development made the shift from pixels to polygons that captured 3D forms more realistically

(Wolf, 2008). The 90s saw a slew of 3D games, starting with iD Technologies' *Wolfenstein 3D* in 1991 and *Quake* in 1996, but it was Eidos' *Tomb Raider* that not only firmly popularized 3D but also created one of gaming's most enduring characters, Lara Croft (National Museum of Play & Games, 2017).

In terms of gaming content, the First-Person Shooter, a genre that is an industry standard now saw widespread popularity. While the origins of the genre can be traced back to the 1970s with *Mazewar*, it was iD Technology's brazenly violent classic, *Wolfenstein 3D* that popularized shooters once more. However, it was the release of *Doom* the following year that set the standard for shooters to come and turned the FPS into a de rigeur genre for most game developers. Incidentally, this is also the year that public concern about violence in videogames grew, culminating in a US Senate hearing on the topic (National Museum of Play & Games, 2017; Wolf, 2008).

We can also trace the earliest beginnings of casual gaming to the 1990s with the launch of Microsoft Solitaire, bundled with Windows 3.0. The National Museum of Play's history of videogames expresses the influence of MS Solitaire succinctly – "*Millions of users who would not normally pick up a game console find they enjoy playing computer games. Solitaire becomes one of the most popular electronic games ever and provides a gaming model for quick, easy-to-play, casual games*" (National Museum of Play & Games, 2017). The growing ubiquity of personal computers for homes and families probably had a role to play in this and it is interesting to note how we can parallel the same ubiquity of mobile phones with the growth of disruptive gaming.

This growing access to computers and Local Area Networks (LANs) also created the perfect conditions for the birth of multiplayer games and eventually, e-sports. The end of the 90s saw the birth of the Massively Multiplayer Online Role Playing Game (MMORPG) with the launch of Nexon's *The Kingdom of the Winds*, the first graphic RPG in 1995, and attained further popularity with *EverQuest* in 1999 (which was also the first 3D MMORPG) (DeMaria & Wilson, 2003; National Museum of Play & Games, 2017). Incidentally, Nexon is also credited with pioneering the free to play business model that is now standard in disruptive gaming. The modern e-sports domain can be traced back to South Korea in the late 90s, specifically the 1997 Asian financial

crisis that led to greater government investment in internet and telecommunications technology (Mozur, 2014).

Finally, by the late 90s, a sufficiently advanced ecosystem had been created to birth the age of mobile games. Most of these were made for particular mobile handsets, such as Nokia's runaway success, *Snake*, adapted from the 1976 arcade classic, *Blockade*. However, the predecessor of today's disruptive gaming business model was Japanese telecom giant NTT DoCoMo whose iMode service launched in 1999 allowed users not only to access Internet through their mobile phones but also to download a wider range of graphical games, such as *Namco Island* than were available before. Other countries followed such as PicoFun in Europe and JAMDAT in the United States (Tercek, 2007).

The structure of the industry also changed in this decade. It marked a period of quasi-oligopolistic consolidation (DeMaria & Wilson, 2003). The most striking example of this was Electronic Arts which went on a shopping spree in the latter half of the decade, snapping up industry veterans and pioneers such as Maxis, Origin Systems and Bullfrog Productions.

As Johns (2006) points out, while the nascent videogame industry could not support vertical disintegration in its early days, the high turnover of the 1980s meant increased competition and the predictable slump. It was therefore only in the 1990s that the modern structure of console manufacturers, publishers and development teams could be put into place. No longer confined to amateur or single person programmers, videogame companies started incorporating huge teams, separating artists and programmers. DeMaria and Wilsom (2003) compare the evolution of videogames to Hollywood and like blockbuster movies, games started having budgets and development timelines to compare. No longer were games cranked out in a matter of months. They took years and their release dates were enthusiastically anticipated.

2.1.6 2000s and Beyond: Disruption

The birth of the new millennium saw gaming become as ubiquitous an art form as cinema or television. Microsoft entered the console wars with its Xbox in 2001, followed by the Xbox 360 in 2005 which helped it quickly divide the market between itself and the Sony PlayStation

(DeMaria & Wilson, 2003). While the trend of blockbuster franchises continued with the launch of *Assassin's Creed*, the new millennium has been the age of disruption across different domains of the videogame experience.

To begin with, casual gaming, which took its baby steps in the late 1990s with MS Solitaire was now proliferating (DeMaria & Wilson, 2003). *The Sims*, developed by Maxis and released in 2000 redefined videogames to non-gamers. Indeed, it was one of the first games to attract a dedicated female audience and quickly went on to become one of the most successful games of all time, selling 200 million copies in 60 countries, translated into more than 20 languages (Rhinewald, McElrath-Hart, & National Museum of Play, 2016).

By 2001, the first mobile games went international, such as Namco and Taito's deal with AT&T to provide subscription games to US consumers. Many disruptive firms that would go on to become big players in the industry either expanded or were acquired in the first decade of the millennium; to name a few, Digital Chocolate, nGame, JAMDAT Mobile and UI Evolution. While many of these international expansions were focused on the United States, from the early days itself, previously unknown markets were being entered. For instance, South Korea was an early pioneer of the subscription based mobile game service. Other pioneering companies debuted in China (Magusoft and Shanda Interactive) and India (IndiaGames) (Tercek, 2007).

Another disruption was digital game distribution with the launch of Valve's Steam platform in 2003 that allowed users to directly buy and play videogames online (National Museum of Play & Games, 2017). The availability of digital distribution completely revolutionized the industry, giving developers freedom from the developer-publisher-distributor-retailer nexus standardized in the late 80s and 90s, and a greater share of the profits (De Prato, Feijóo, & Simon, 2014; Johns, 2006; Tschang, 2007).

Furthermore, the launch and resounding success of the Nintendo Wii in 2006 which chiefly targeted non-mainstream gamers such as women, senior citizens and families playing together made disruption a buzzword in gaming (Farhoomand & Joshi, 2009; Farhoomand & Wong, 2012).

The late 2000s and early 2010s saw the boom in mobile gaming with the launch of the Apple iPhone and Google Android, two operating systems that would dominate the market and result in

creating a thriving ecosystem for mobile game developers with the Apple iTunes appstore and the Google Play store. Similarly, Facebook allowed public membership by 2006 and consequently, social gaming took off with the astronomic success of *Farmville* and *Angry Birds*, both launched in 2009. Disruptive gaming had truly arrived. The ubiquity of mobile phones and free to play models made gamers out of everyone. The growing strength of digital distribution coupled with online crowdfunding opportunities such as Kickstarter and Indiegogo breathed new life into the indie design movement with games like *Minecraft* (2011) and *Undertale* (2015), reminiscent of the first brave new days of videogames (National Museum of Play & Games, 2017; Tercek, 2007; Wolf, 2008).

e-sports are another evolution in the industry. While videogame matches were held as early as 1971 with *Space Invaders*, it was in the 2000s that competitive gaming could be considered on the same level as football or hockey or other league sports. South Korea continued to be the cradle of the movement with the Korean e-sports Association formed by the government of South Korea in 2000 (Mozur, 2014). In 2013, the first sports stadium dedicated to e-sports, the Nexon Arena, was inaugurated in Seoul. Today, gamers broadcast (“livestream”) their games on platforms such as Twitch and are watched by millions, in the same way football matches are, and media companies such as the BBC and ESPN have sponsored e-sports teams (Newzoo, 2016a).

Presently, we see disruptive gaming going from strength to strength. In 2016, mobile game sales surpassed PC and console sales for the first time in history (Newzoo, 2016a). Perhaps nothing defines the changing face of videogames today than this – the biggest videogame company in the world, whose earnings far outstrip that of veteran game giants founded in Japan and North America in gaming’s golden age, is a Chinese company that published its first game for mobile messaging audiences in 2004 (Newzoo, 2016b).

The future will see growth in disruptive gaming but also, the evolution of new technologies such as virtual reality headsets integrated into games. For both disruptive innovation and videogames, change is the only constant.

2.2 The Videogame Industry Structure

Before launching into an analysis of the videogame industry, it is important to note that it has two distinct yet connected segments – hardware and software. Marchand and Hennig-Thurau (2013) in their conceptual framework of value creation in the videogame industry refer to these as game platforms and game content, respectively.

Game Platforms

Hardware or game platform, refers to the devices used to play the actual game – traditionally this has been a programmable videogame console. Of course, many console titles can be ported to personal computers as well. However, consoles continue to be the only hardware device manufactured exclusively for playing videogames - even if recent consoles have included media and entertainment features such as the capacity to play DVDs and music, their chief purpose continues to be videogames. On the other hand, disruptive games can be played on a plethora of platforms – smartphones, tablets and browsers, via social networks and/or websites.

Game Content

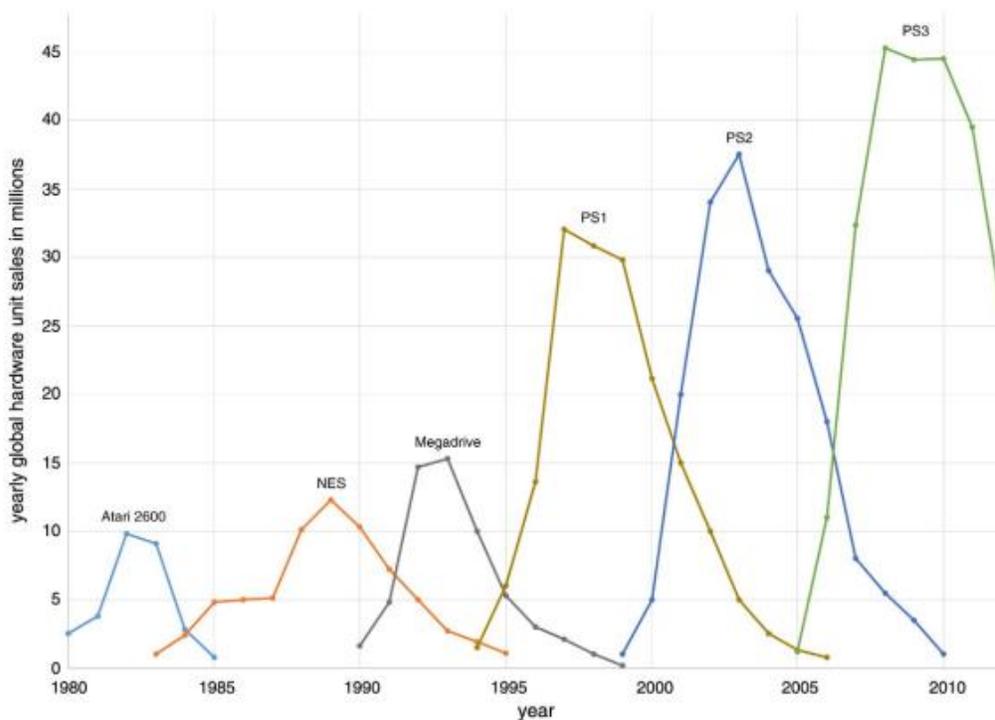
On the other side, we have software or game content which is the actual games themselves. This is largely composed of programming code and other intellectual property assets such as artistic and story design, and the game world, defined as “...*the game’s setting, including the background, history and objects in it. The game world distinguishes each games fictional world and environment from all other games.*” (Tschang, 2007, p. 993). Johns in turn defines the software segment as involving “*the coordination of tangible and intangible input*” (2006, p. 163)

While the following section will very briefly touch upon the hardware production process, for the purpose of this thesis, I will be focusing largely on the software segment of the industry as this is the chief source of disruption in the videogame industry today.

The existence of two autonomous yet inter-connected segments means that the game industry is essentially cyclical in nature (Johns, 2006; Marchand & Hennig-Thurau, 2013). In other words, hardware affects the sales of game titles and vice versa. Games tend to be designed exclusively

for one or two consoles and thus games for the latest generation of consoles tend to have higher sales. Johns estimates that the industry runs through 5 to 6 year cycles – *“booms in the sales of both hardware and software are followed by lulls as consumers anticipate the launch of the next generation of machines.”* (2006, p. 157). This can be seen in Fig 2.2 that shows a peak in each cycle as new consoles are released followed by new games designed for them, and a subsequent trough as consumers anticipate the next generation of consoles and games.

Figure 2.2: Hardware Cycles in the Videogame Industry



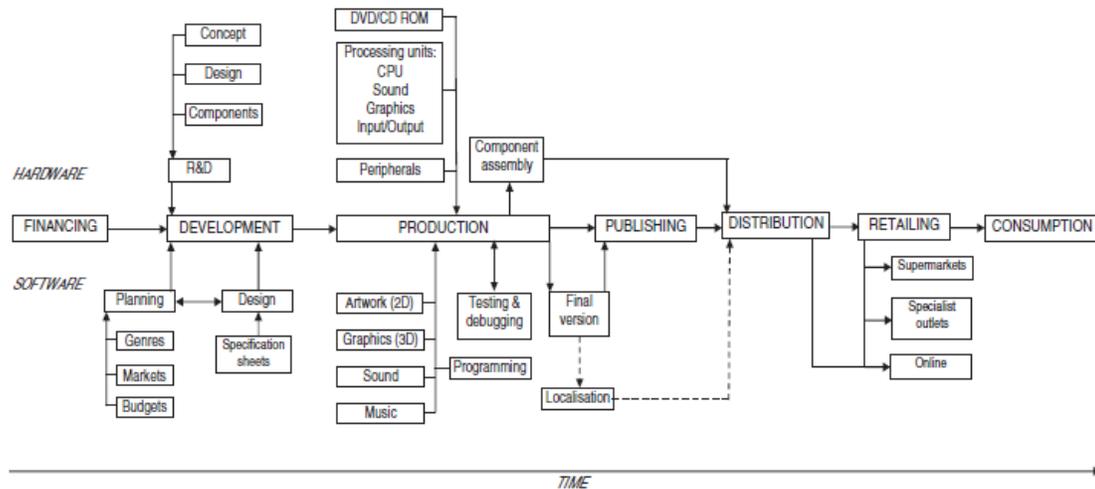
Source: (Marchand & Hennig-Thurau, 2013)

Marchand and Henning-Thurau (2013) points to this cyclical nature as the cause of integrations within the market – the leading hardware manufacturers are also the leading software publishers. This incentivizes exclusive content by developers for consoles but this might limit game sales. For instance, Japanese developer Square’s decision to produce games exclusively for the Sega Genesis has been pointed as a contributing factor in its downfall and eventual merger with Enix.

2.2.1 Principal Actors

The principal actors in the videogame industry are the developers, publishers and consumers (Marchand & Hennig-Thurau, 2013; Tschang, 2007). To this can be added console manufacturers, distributors and retailers with the former often playing all three roles. Fig 2.3 shows a brief outline of the game development pipeline and the role of each actor. Disruption has particularly changed the importance of each of these actors, in some cases eliminating them completely (De Prato et al., 2014).

Figure 2.3: The Videogame Development Process



Source : Johns (2006)

2.2.1.1 Developers

Developers focus on the creative production process, making the game from scratch. They create the mechanics, world and characters that are the most identifiable aspects of a game. By its very nature, the videogame industry is a creative and cultural one (Burger-Helmchen & Cohendet, 2011; Johns, 2006; Tschang, 2007). On the other hand, the artistic requirements of videogame development are balanced by more objective ones such as computer engineering and programming. The two elements need to be developed and tested simultaneously – graphics affect code and vice versa.

Despite their contribution, developers do not own character and game world IPs, only the programming code for each game (Tschang, 2007) and consequently, do not receive royalties from game sales. Instead, they negotiate with publishers to receive a fixed sum or percentage of the revenue from game sales and tend to see royalties only when the game is a hit, such as when it sells upwards of a million units (Johns, 2006).

While in the gaming food chain, developers might seem to occupy the lowest rung, the reputation and history of the studio and/or individuals working for it can elevate their position, as can the timing of negotiations.(Johns, 2006)

2.2.1.2 Publishers

Publishers perform a number of roles in the videogame development process. To begin with, they finance and allocate resources for game development and subsequent testing and marketing (Johns, 2006; Tschang, 2007); they may even play the role of distributor and retailer for the games (De Prato et al., 2014).

Publishers thus assume most of the financial risk for the project (Tschang, 2007). Accordingly, publishers exert a lot of control over the game, particularly in the pre-conceptualization and conceptualization stage – it's the publishers that decide the genre of the game, the gameplay and even the game content. Indeed, some publishers might prefer to create internal studios in order to reinforce their control over the allocation of resources in the game development process (Tschang, 2007).

As Tschang (2007) points out, IPs are the core focus of publishers. This can lead to the tension between a developer's desire for creative experimentation and a publisher's desire for returns on their investment. Burgeoning costs of videogame development mean that publishers tend to be risk averse and prefer established gameplay and recognizable IPs that can be a rich source of royalties.

2.2.1.3 Distributors and Retailers

As the name suggests, distributors and retailers ship out and sell the final product to physical sales points. Retailers can also influence the game development process by choosing which games to carry – limited shelf spaces constrain game sales (Tschang, 2007). Both negotiate with publishers to receive their share of the revenue following sales (Johns, 2006).

2.2.1.4 Console Manufacturers

Console manufacturers realised early on that software sales were more profitable than those of hardware (Johns, 2006) and becoming part of that value chain could result in an additional revenue channel and allow them to exercise a level of control over the game development process.

Console manufacturers have traditionally produced the cartridges and later, CDs containing videogames. They acquire videogame titles from a close-knit circle of trusted publishers, who pay a licensing fee to the manufacturer to sell games designed for their platform. This allows console manufacturers to perform quality checks on the content, even rejecting games if needed and to monitor industry trends and receive a percentage of game sales as well (Johns, 2006).

2.2.1.5 Consumers

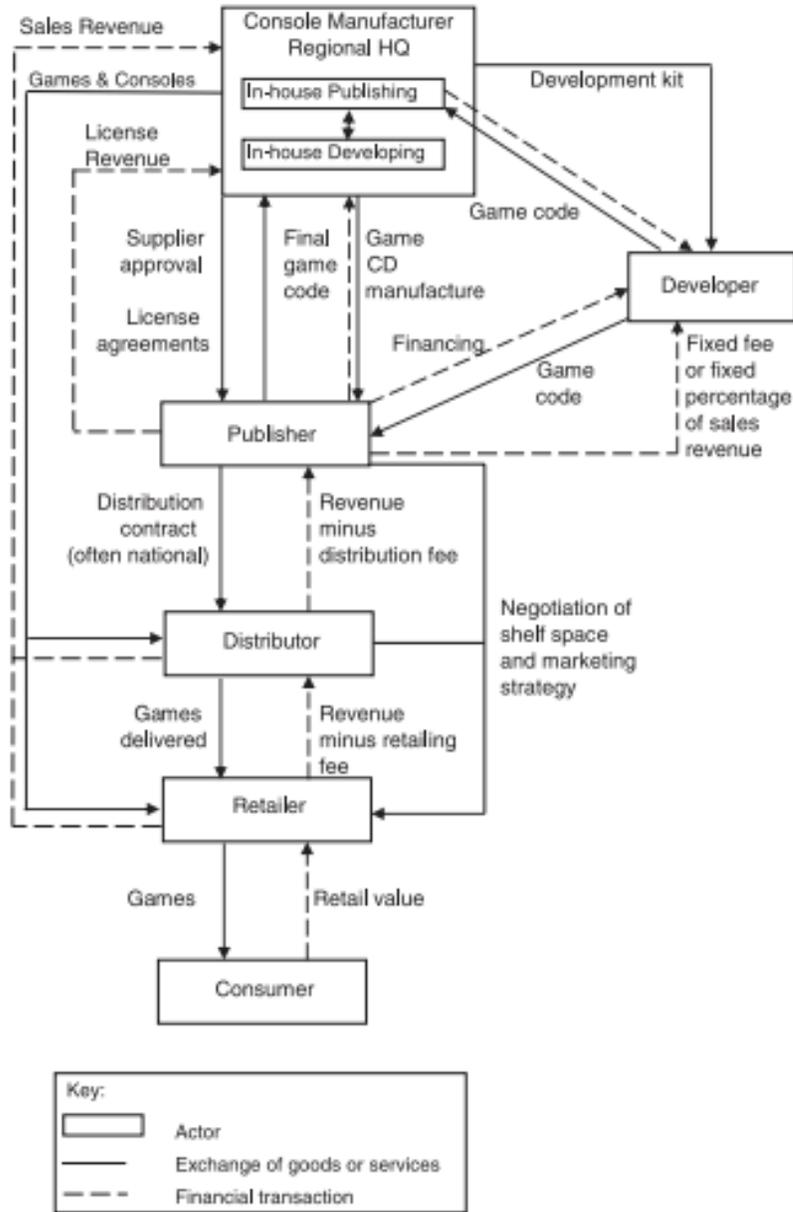
The first videogames were targeted to teenagers and children, and then to young men (Marchand & Hennig-Thurau, 2013). The typical consumer for a console videogame tends to be male, between 13 and 19 years old and tends to stick to a particular genre of games. Gamers traditionally looked for a combination of familiarity and novelty in their games, however; they tend to prefer well tuned gameplay to cosmetic innovation (Tschang, 2007).

Hardware plays a significant role in the retention of customers for a videogame. As pointed out earlier, the videogame industry is a two sided market with a cyclical relationship between hardware and software – as a consequence, consumers choose the game titles most compatible with their platform of choice (Johns, 2006; Marchand & Hennig-Thurau, 2013). Moreover, they tend to pick the platform that they expect to “*win the standardization war.*” (Marchand & Hennig-Thurau, 2013, p. 148). Thus, the customer base influences game titles and has direct and indirect

network effects for developers and publishers (Clements & Ohashi, 2005; Shankar & Bayus, 2003).

Consumers thus have a significant role to play in the videogame production process. Moreover, many go onto become videogame developers themselves (Tschang, 2007), maintaining a symbiotic feedback relationship between the industry and its market. Indeed, Burger-Helmchen and Cohendet (2011) in their typology of videogame user communities classify these as players, testers and developers, each serving a distinct role in the videogame development process. For instance, tester communities, can act as beta-testers, bringing errors and bugs to the attention of the development team. Player communities may offer in-game help to other users and may create modifications for the game itself. Finally, developer communities take the most active role, that of a co-developer itself.

Figure 2.4: Network Relationships between Actors in the Videogame Industry



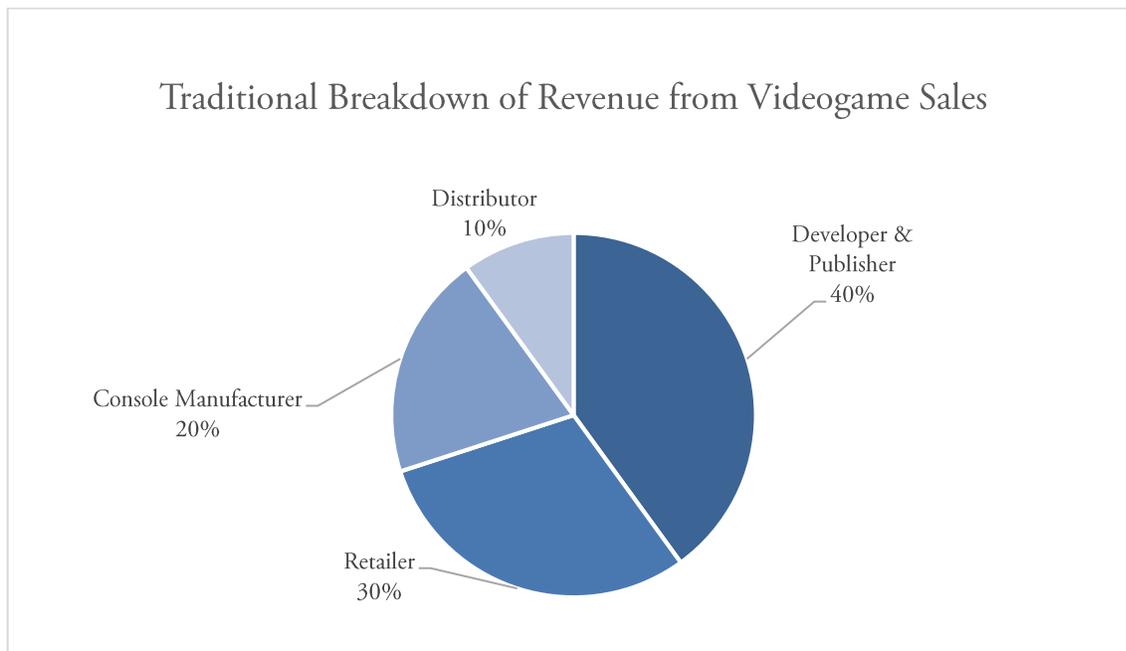
Source : Johns (2006)

2.2.2 Business Model

2.2.2.1 Pricing and Revenue

In the era where console games shipped out in the form of physical CDs dominated the videogame industry, pricing models were simple. Consumers paid a fixed price in return for unlimited play time (Marchand & Hennig-Thurau, 2013). Publishers received royalties from these sales and paid console manufacturers a fixed percentage as a licensing fee, and a percentage of game sales to distributors and retailers if those functions were not performed by either the console manufacturer or the publisher themselves. Finally, developers received a fixed sum or a fixed percentage from the publishers with a percentage of the royalties if the game became successful. An estimation of the revenue breakdown for each of the major actors in the game development process (Johns, 2006) is as follows:

Figure 2.5: Revenue Shares of Principal Actors in the Videogame Industry



Source: Elaborated from Johns (2006)

The share for publishers and developers is higher when it comes to PC games since console manufacturers are not involved – they can receive up to 60% or more of the game sales. However, often working with a console manufacturer means access to a market that's bigger, easier and better organized. Publishers can estimate sales more easily by working with console

manufacturers and thus mitigate the risk of working on a project (Johns, 2006). Developers can have access to greater marketing funds and can make a mark for themselves with console games, leading to a better negotiating position – as noted manufacturers only work with vetted publishers and those publishers in turn work with developers they know or that have established reputations (Johns, 2006).

2.2.2.2 *Barriers to entry*

In contrast to the oligopolistic nature of game console manufacturing, videogame software development has fairly low barriers to entry (De Prato et al., 2014). On the other hand, there is a far higher barrier to entry between AAA games which require large teams and established relationships with publishers, retailer and developers and indie or mobile game developers (Tschang, 2007).

2.2.2.3 *Key Success Factors*

As a creative product, it is difficult to pinpoint the success factor of a game. When it comes to mainstream gaming, particularly console games, the winner is the one who wins the standardization game. In other words, the console that dominates the market commands the most number of games made for it and thus, the most number of gamers to buy the game (Shankar & Bayus, 2003). There is thus a cyclical relationship between games and their platforms – *“the performance of software titles depends strongly on the technical capabilities of the hardware for which they are designed.... Because each game is designed for a specific console, a generation's lifecycle stage affects videogames sales at that point in time.”* (Marchand & Hennig-Thurau, 2013, p. 143)

Quantitatively speaking, game sales of more than one million units can be called a success (Johns, 2006). User retention and consequently, time spent gaming are other determinants of success, particularly for disruptive games (Newzoo, 2016a). The cyclical nature of the videogame industry means that consumers will chose the game titles that are available for the most prevalent hardware

and conversely, the hardware that allows them to play the titles they want (Johns, 2006; Marchand & Hennig-Thurau, 2013).

More subjectively, creatively satisfying players' ever increasing expectations is also a determinant of success (Tschang, 2007). Videogame consumers look for familiarity, tending to stick to a particular genre, but at the same time they also seek novelty (Marchand & Hennig-Thurau, 2013).

2.2.3 The Effects of Disruption

Disruptive changes have made a profound change in many of the core structural aspects of the industry, whether in the value chain by changing the nature and role of consumers or by eliminating certain actors such as physical distributors and retailers or by introducing completely different revenue models and changing the KSFs.

2.2.3.1 Developers, Publishers, Distributors and Retailers

With increasing consolidation and disruptive trends in the industry, the role of distributor and/or retailer might be played by the publisher or console manufacturer (De Prato et al., 2014; Johns, 2006) or eliminated altogether.

Of all parts of the videogame software supply chain, this is the part that has been most affected by changes. Online and digital distribution has resulted in a lower rate of physical distribution and indeed, of physical copies. (De Prato et al., 2014; Marchand & Hennig-Thurau, 2013). Mobile gaming app stores have of course further removed the need for physical distribution and retail. Moreover, new intermediaries have emerged, such as Apple, Google and Facebook, that are not exclusively part of the videogame industry (De Prato et al., 2014).

Digital distribution and sales have also greatly reduced the once lucrative game resale market and created greater opportunities for big data analysis, allowing for more of a customer relationship focus rather than a brand based marketing strategy (Marchand & Hennig-Thurau, 2013)

Therefore, this has allowed developers to take greater creative control. Games can now be developed by a studio or even a one-man team and published directly online, allowing for greater artistic freedom. For disruptive games, this can be done at an even lower cost, further reducing the risks associated with offbeat games. While the oligopolistic nature of the industry continues to this day, control of distribution and sales and the relative simplicity of disruptive games gives previously unafforded opportunities for smaller players.

2.2.3.2 Consumers

One of the biggest disruptive changes to the videogame industry has been the broadening of the market to include families and women (Marchand & Hennig-Thurau, 2013). Consider Atari engineer Joe Decuir's statement that "*The best games can be played with one hand, so you can have your beer or your girlfriend in the other.*" (DeMaria & Wilson, 2003, p. 25). Women were not even considered a target audience until the rise of the casual gaming market, spearheaded by Nintendo with the launch of its Wii console and the resulting games that were produced for that platform (Anthony, 2008; Farhoomand & Joshi, 2009; Farhoomand & Wong, 2012). In fact, Nintendo specifically used women as part of its word-of-mouth marketing campaign (Farhoomand & Joshi, 2009).

While consumers have always been important, the advent of mobile gaming has made them an integral part of the production process by increasing higher customer engagement. As Marchand and Hennig-Thurau (2013, p. 149) put it: "*The rise of smartphone games is likely to change the demographic composition of players even further in that they require no distinct platforms. The nearly ubiquitous nature of smartphones plus the relatively low prices for games make almost every consumer a potential gamer.*"

Mobile gamers are further enhancing the role of the consumer as "demanders and co-creators" of content, aided by the increased levels of social engagement and interactivity afforded by mobile platforms (De Prato et al., 2014). Social software in the form of player communities can create a more integrated role for consumers of a videogame (Burger-Helmchen & Cohendet, 2011). It is therefore not inconceivable that social games, where community networks are integrated right into the game design can further strengthen the role of players as co-creators.

Moreover, while on the one hand the industry is competing against non-consumption by reaching out to casual gamers (Anthony, 2008; Farhoomand & Joshi, 2009), established customers are being attracted to esports leagues both as competitors and viewers (Marchand & Hennig-Thurau, 2013; Newzoo, 2016a).

2.2.3.3 Revenue and pricing

Digital distribution has shaken up pricing models and revenue pies for the actors. Apart from the traditional retail model, several others have sprung up (De Prato et al., 2014; Marchand & Hennig-Thurau, 2013):

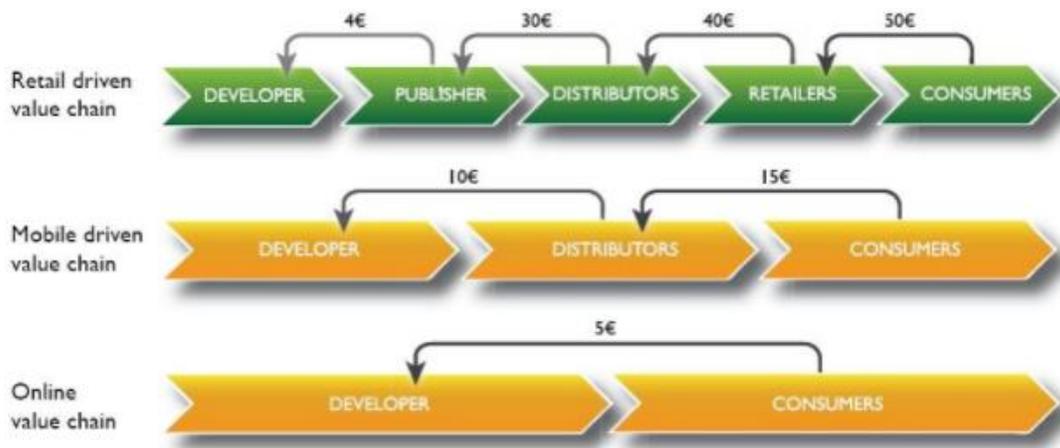
- *Subscription:* Here users pay a regular fee to subscribe to a game. This is chiefly used by online multiplayer games such as World of Warcraft or EVE Online.
- *Hybrid:* A combination of the traditional retail and subscription models. The single player version of a game might be sold via retail but the online multiplayer will require a subscription.
- *Free to play and freemium:* Mobile and social network gaming have been the drivers for this model. Here, the game is free but users must pay after a period of time or after a set number of levels in the game. Or, as is increasingly common, the game may be free for users and they may instead be invited to buy virtual goods, or “in-app purchases” as these are popularly known that enhance the game play or acts as collectibles.

The free to play model is fast becoming the most commonly used one in mobile gaming, thanks to the higher retention rate of players (De Prato et al., 2014). It can also be combined with advertising – the game remains free with advertising or users pay a fee to upgrade to a version without ads. Advertising in games can be either static product placement or tailored to match user’s locations, time zones or even in-game behaviours. Moreover, a whole new genre of games for promoting new products has arrived – advergaming.

Apart from introducing new revenue models, disruption in videogames has also changed the share of revenues for the main actors in the videogame development process. As mentioned above,

mobile and online gaming have greatly reduced and in some cases even eliminated the role of the publisher, distributor, retailer and of course, console manufacturer. Developers can earn a far larger portion of revenues from the games, while also holding on to royalties that traditionally belonged to publishers. For instance, DePrato et al., (2014) citing the European Games Developer Federation (EGDF) provide a visual representation of the changing revenues thanks to disruptions in the videogame value chain:

Figure 2.6: Changing Value Chains in the Videogame Industry



Source: (De Prato et al., 2014)

However, as Johns (2006) observes as well, acquiring a greater share of the revenue often translates into a smaller scale of revenues in the first place. The other actors in the value chain are often required to provide the necessary funds to drum up sales and reach a wider audience. At the same time, the low profit margins for disruptive trends like mobile and online gaming are in keeping with the predictions made by disruptive innovation theory.

Moreover, there has been an increasingly powerful role of game players not simply as consumers but as pointed out earlier, co-creators. Crowdsourcing, wherein funds to build the product are invested directly by the target audience is becoming popular in game development as well, opening up a whole new channel of funding opportunities (De Prato et al., 2014).

2.2.3.4 *Barriers to entry*

According to Tschang (2007), disruptive technological changes such as the advent of mobile and online gaming and the increasing role of digital distribution replacing physical distributors and retailers has led to a constant flow of new firms. Mobile gaming has further lower barriers to entry than even console games, however, it still requires the knowledge and expertise of an intermediary partner (De Prato et al., 2014; Johns, 2006)

2.2.3.5 *KSFs*

Mobile technology that can be far more seamlessly integrated into users' daily lives has enhanced the role of games but also created a different criterion for success. According to DePrato et al., we are entering "*the era of ubiquitous games*" (2014, p. 32). If, as pointed out earlier, total time spent gaming is a key success factor then mobile games with their constant presence in users' lives can be expected to create higher user retention.

2.3 The Global Videogame Industry

2.3.1 Markets

As evident from the history of videogames, the United States and Japan were the two biggest markets for videogames for the first two decades of industrial growth, followed by the emergence of Europe in the mid 80s and early 90s.

For much of its history, therefore, the videogame industry was dominated by a few countries and cities. Johns found that in 2006, the 14 largest mainstream publishers were based in either the United States, Japan or France. Corroborating this, Deprato et al. (2014) found that until 2009, over half of all videogame revenue came from North America, Europe and Japan. Johns explains this concentration by citing several factors including discrepancies in the distribution of global capital, the historic evolution of the industry itself as well as "*more complex notions of cultural embeddedness.*" (2006, p. 165)

However, in ten years, the global makeup of the videogame industry has already changed. Table 2.1 shows the top twenty countries in the world in 2016 by the amount of videogame revenue

contributed. Ten out of the twenty countries in the list are classified as either developing or transition economies by the United Nations, contributing 36% of the \$89.4 billion global revenues in 2016. Moreover, while the top ten might still be dominated by developed economies, almost all positive changes in ranking have been by developing economies while the only negative changes in ranking have been observed in developed countries, signalling a trend towards the increased importance of developing countries.

In its report on the casual games sector, Newzoo (2014) has already predicted this shift in the videogame market. The report states that globalization, and more specifically the convergence of platforms and business models has accelerated this change. Moreover, population and economic growth in hitherto untapped markets in Asia, Eastern Europe, Latin America, Middle East and Africa are driving organic growth.

As of 2016, the Asia Pacific region represents the biggest videogame market with a 47% share of the pie, as shown in Fig 2.7, followed by North America (25%) and Europe, Middle East and Africa (24%) (Newzoo, 2016a).

China and India are the fastest growing mobile markets in the world, partly due to their large populations but also due to increased access to mobile and broadband Internet (De Prato et al., 2014). For instance, in the 2017 estimate of the top gaming countries, China has more internet users (802 million) than all the developed countries combined (691 million). Indeed, India and China will have an estimated 1.2 billion Internet users by the end of 2017 (Newzoo, 2016c). Deprato et. al (2014) find that the traditional European, American and Japanese gaming strongholds will soon be overtaken by the Asia Pacific region and this change is driven by mobile and online gaming.

However, all is not lost for mature and mainstream gaming markets. Innovation in gaming is not only driving growth in untapped markets, it may also be the key to combat stagnation in mature ones (De Prato et al., 2014).

Table 2.1: Top 20 Countries by Videogame Revenue

Rank	Country	Total Revenues (USD, millions)	Change in Ranking	Economic Classification
1	China	24,368.80	Increased	Developing economy
2	USA	23,598.40	Decreased	Developed economy
3	Japan	12,447.60	Same	Developed economy
4	South Korea	4,047.30	Same	Developed economy
5	Germany	4,018.70	Same	Developed economy
6	United Kingdom	3,830.20	Same	Developed economy
7	France	2,737.90	Same	Developed economy
8	Spain	1,812.00	Same	Developed economy
9	Canada	1,792.20	Same	Developed economy
10	Italy	1,742.10	Same	Developed economy
11	Russia	1,414.40	Same	Transition economy
12	Brazil	1,274.80	Increased	Developing economy
13	Australia	1,199.70	Decreased	Developed economy
14	Mexico	1,125.80	Same	Developing economy
15	Taiwan	987.8	Same	Developing economy
16	Turkey	755.50	Same	Developing economy
17	Indonesia	704.40	Same	Developing economy

18	Malaysia	539.50	Increased	Developing economy
19	Netherlands	521.30	Decreased	Developing economy
20	Thailand	521.30	Increased	Developing economy

2.3.2 Internationalization vs Localization

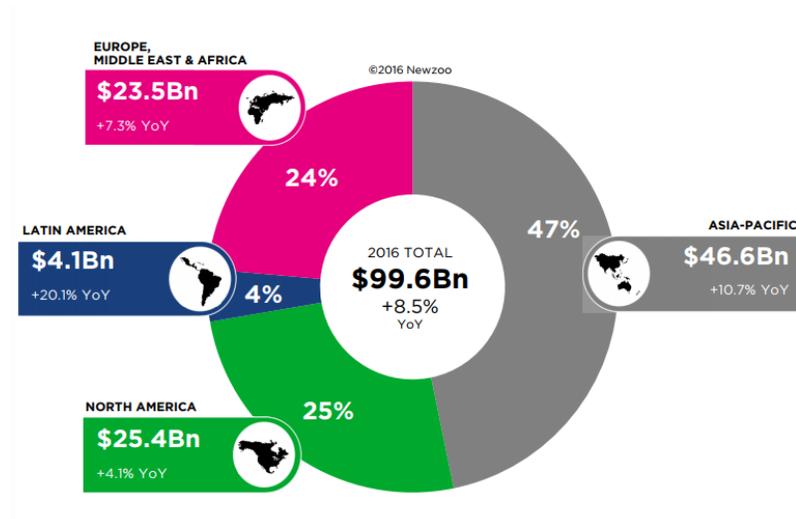
While the global videogame market has been steadily growing in geographical diversity, the creative and cultural nature of videogames means that game content often has to be localized for specific audiences (Johns, 2006), this can range for merely translating the game into local languages, to creating country specific design elements and dedicated servers to play online games in particular regions.

Games and their development are often heavily influenced by local cultures and environments – for instance, Japanese games often have a distinctive art style influenced by anime and manga, and the growth of the industry itself is owed to existing Japanese expertise in consumer electronics. Moreover, consumer tastes are not always homogenized. Even culturally similar markets such as the United States and the United Kingdom can require a degree of localization (Johns, 2006).

The opening of previously untapped markets has forced game companies to adapt internationalization strategies to markets with greater distance than they were used to. For instance, despite the growth of China as the fastest growing gaming market in the world, censorship has meant that companies that have free reign to publish games in other countries may not do so in China. Piracy has meant that the accepted business models of mainstream companies cannot be applied profitably – consumers are more likely to pay a few cents for in-app purchases on mobile phones than hundreds of dollars for consoles plus videogame titles (Einhorn & Stone, 2011; Newzoo, 2014).

Internationalization for videogames thus needs to take into account complex issues regarding the vast differences in business environments.

Figure 2.7 Revenue Contributions and Growth Rates of Regional Videogame Markets



Source: Newzoo (2016a)

Chapter III

Methods

This thesis will be using a qualitative analysis via multiple case studies in order to compare the internationalization strategies of disruptive versus mainstream firms. In this section, I describe my research design in greater detail as well as provide the rationale for choosing this particular methodology and other design elements, including how I have attempted to work with the limitations of case study research and finally, the data collection protocols.

1.1 Research Design

Following Yin's five crucial components of case study research design – the study's questions, propositions, units of analysis, logic linking data to the propositions (i.e. the analytical techniques to be used) and the criteria for interpreting the findings (Yin, 2014, p. 29) – I will now outline the research design used in this thesis, a summary of which is given in the table below:

Table 3.1 Research Design Outline

Research Question	How do disruptive firms internationalize compared to mainstream incumbents?
Units of Analysis	Firm level
Methodology	Multiple Case Studies
Operationalization of Disruptive Firms	Developers-publishers of mobile (smartphone and tablet) and browser (social and online multiplayer) games
Operationalization of Internationalization	<i>Speed of Internationalization</i> Calculated via difference between year of founding of firm and year of first international venture

Operationalization of Internationalization (cont.)	<i>Openness to Distance</i> Calculated using CAGE model composed of multiple indicators measuring several dimensions of market distance
Propositions	P1. Disruptive firms will internationalize faster than mainstream firms P2. Disruptive firms will tend to make their first international venture in more distant markets as compared to mainstream firms
Analytical Criteria	Pattern Matching
Validity and Reliability Checks	Multiple sources of evidence via secondary data, pattern matching to theoretical bases, use of alternative interpretation criteria

Source: Own elaboration

1.1.1 Research Question

“How do disruptive firms internationalize compared to mainstream incumbents?” This forms the core question of the study.

1.1.2 Units of Analysis

The main units of analysis are individual companies. While disruptive innovation is a phenomenon that eventually changes the performance metrics of an entire industry, it starts with individual firms. Similarly, internationalization, as multiple definitions evince, begins with the decisions of a single firm, even though industries as whole can be internationalized. Therefore, the primary unit of analysis for this study is individual firms.

More specifically, this study focuses on game publishers in the global videogame industry. I chose the videogame industry since past studies on disruption have largely focused on B2B industries such as the disk drive (Bower & Christensen, 1996), minicomputer and steel mill industries (Christensen, 1997). While certain strategic moves and products in videogames, notably Nintendo's Wii have been studied as disruptive, (Farhoomand & Joshi, 2009; Farhoomand & Wong, 2012) there have been few papers studying the entire videogame industry and particularly disruptive gaming such as mobile and online browser games, from the perspective of disruption.

Since publishers work with both development and business operations, they provide a more holistic view of the videogame industry than individual game developer studios. Moreover, since a publisher can work with individual studios across the globe, they provide a better subject through which to study internationalization.

1.1.2.1 Operationalizing Disruptive Innovation

Using the definition and characteristics laid out in the literature (Christensen, 1997, 2013; Christensen & Raynor, 2003; Christensen & Bower, 1996), I have decided to group mobile, social and online (browser) gaming to measure the effect of disruptive innovation. As pointed out in the introduction, they fulfill all the classic characteristics of a disruptive technology:

- *Cheap*: Mobile gaming titles cost significantly lesser than PC and console titles. For instance, the average retail price for a PC game ranges from \$50 to \$60 and, adjusting for inflation, has been standard for a number of years (Wilde, 2017). On the other hand, mobile game users are highly price sensitive (Riggs-Zeigen & Burns, 2011). Most mobile games use a “free to play” model – In an analysis of mobile games on Apple's iOS platform, research firm EEDAR found that 90% of mobile game apps on iOS are free; the next most common price point is between \$1.99 and \$4.99 (prices in USD) (Walker, 2014). Similarly, social games such as the ones found on networks such as Facebook are, like the networks themselves free to play.
- *Lower profit margins*: Even as they grow, mobile games are yet to reach the stage where they can be as profitable as PC and console games (Deloitte, 2016). Again, disruptive

innovation theory tells us that such innovations cannot offer high profit margins in the beginning, which is why they are also ignored by incumbents.

- *Simpler*: The technology required to create disruptive games is far simpler than PC and console games, which often require specialized game engines, as explained further in the previous chapter on the videogame industry (Farhoomand & Wong, 2012).
- *New markets*: The demographic for mobile, browser and social games is quite different from that for PC and console. Traditionally, customers for PC and console games have been centred on the ‘hard core’ gamer demographic (Farhoomand & Wong, 2012). However, mobile games chiefly target casual gamers (Deloitte, 2016; Riggs-Zeigen & Burns, 2011) and indeed, have derive great success chiefly due to the targeting of untapped markets such as women (Chen, 2017).
- *Convenience of use*: Unlike PC and console titles that require either a computer or a specialized console to play, mobile gaming is available on cellular phones that have a greater penetration than consoles and are more integrated into users’ daily lives (De Prato et al., 2014; Marchand & Hennig-Thurau, 2013).
- *Changing the industry profile*: The most significant argument in support of mobile games as disruptive is the fact that they are moving upstream and starting to dominate the market. Mobile games overtook PC and console games in revenues for the first time in 2016 (Newzoo, 2016). The biggest videogame company in the world today is Tencent, who specializes in games for mobile and social platforms.

Indeed, in terms of Christensen and Raynor’s updated categorization of the two types of disruptive innovation, disruptive games can be classified as both a new market and low-end disruption – new market since they target the previously neglected niche of casual gamers and low-end since they offer a gaming experience for a much lower price than PC and console.

It must be clarified that mobile gaming includes games played on *mobile devices* i.e. smartphones and tablets, as specified in several industry reports (Deloitte, 2016; Walker, 2014) and online games refer to browser games played on the Internet, with or without specific social networks. I have chosen to include browser and social games in the disruptive category, which is largely

dominated by mobile, because they share the same characteristics of lower cost and technological standards and a different target audience than that of mainstream gaming. Moreover, the lines between these and mobile games are often blurred – for instance, the extremely popular social game Farmville could be played online on Facebook’s website as well as on smartphones and tablets, using Facebook’s mobile app. Indeed, with increasing access to the Internet on mobile devices, browsers and a consequence, browser based games are no longer limited to computers.

Additionally, browser and social games are distinct from PC gaming – while online games can be played using a PC, they do not use the disk drives required by the latter; players can simply log on to the game website and/or social network and play. Moreover, PC games are more often than not “ported” version of console games i.e. the software for the game is reworked in order to be playable on a PC. Indeed, PC and console share several other characteristics. The price points are similar, the same level of technological complexity is used to create the games and most importantly, they have not only traditionally headed the market but also because the customers for both tend to be the same - 87% of console gamers also play games on PC (Newzoo, 2016a). As disruptive innovation theory states, it is customers that drive a company’s choice into selecting a sustaining innovation as an incumbent or a disruptive one as an entrant. Hence for the purpose of this study, PC and console are together identified as incumbents.

1.1.2.2 Case Selection

Since a truly disruptive firm will be one that is capable of changing industry standards, it must have a strong enough performance to exert competitive pressure on incumbents. Therefore, I have chosen the top ranking firms in the annual 2016 ranking of global videogame firms by revenue (Newzoo, 2016b), produced by specialist videogame research firm, Newzoo, excluding those firms that also have console manufacturing operations. As pointed out in Chapter II on the videogame industry, console manufacturers have multiple revenue streams and value chains, and thus do not necessarily work under the same circumstances as publishers, compromising the value of a comparative analysis with mobile videogame companies.

Another criterion of selection was to ensure enough diversity among the subjects to randomize the sample, small as it is and ensure greater validity. Thus, the selection includes firms from the

established videogame markets of US, Europe and Japan as well as emerging ones, notably China. This also allows us to compare and contrast the strategic behaviour of incumbent and disruptive firms from the same geographic regions as well as markedly different ones. Such diversity is furthermore desirable in studying differences in internationalization within different cultural and geographical groups and ensuring that strategies are not based entirely on considerations specific to one country or region – such as cultural attitudes to business strategies

1.1.3 Propositions

Following the literature review, I have outlined two propositions in support of the core research question i.e. how disruptive companies internationalize as compared to mainstream ones. These are:

- P1: Disruptive firms will internationalize faster than mainstream firms
- P2: Disruptive firms will tend to make their first international venture in more distant markets as compared to mainstream firms

1.1.3.1 Operationalizing Internationalization

This thesis examines internationalization through two distinct lenses – speed of internationalization and openness to market distance. This will help to understand the internationalization of companies at a more in-depth level, looking not merely at how many operations the company runs abroad but also how fast they moved abroad and how willing they were to move into markets they were not familiar with.

1.1.3.2 Speed of internationalization

This is the time period wherein the firm starts international operations. I measure this quantitatively by the number of years after conception that firms start operating internationally. In other words, I subtract the year of the firm's first international operation from the year of its founding. In the case of firms that were involved in other market segments than videogames I take

the year of founding of their videogame operations instead. I then match the pattern found in the six cases to verify my first proposition - *disruptive firms will internationalize faster than mainstream firms*.

1.1.3.3 Openness to Market Distance

The ability to overcome psychic distance is an important indicator of the level of internationalization of a firm. I measure the distance each of the top markets for each company poses.

In order to avoid confusion regarding the long-standing debates of psychic versus cultural distance, I have decided to use the term “market distance” to refer to the combined differences in cultural, physical and business environments that have an impact on internationalization decisions. Accordingly, in my measure of distance I have chosen to adopt the Ghemawat CAGE framework which I believe to be far more comprehensive.

Even so, distance is a very subjective measure. In order to add an element of objectivity and measurability, I have decided to rank the level of distance into six levels:

- 0 = No or extremely low distance
- 1 = Low distance
- 2 = Moderately low distance
- 3 = Moderately high distance
- 4 = High distance
- 5 = Extremely high distance

In addition, to make the framework more pertinent not only to the videogame industry but to the mainstream or disruptive nature of each firm as well, I add a weightage qualifier between 10 (lowest) and 40 (highest) to the distance score of each element as follows:

1.1.3.4a Cultural Distance

In my model, I consider multiple indicators with a focus on language, since these will determine to an essential degree how easily a game can be translated and localized. I thus consider the de facto language (since some countries, such as the United States do not have an official one) as well as the language family and written script both of which also make a difference. For instance, languages in the same family often share vocabulary and grammatical structures that can facilitate translation. Similarly, a shared written script also facilitates localizing games for other speakers. I also consider socio-cultural differences using Hofstede's 6-D model of cultural dimensions, since consumer tastes are also a contributing factor in videogames. Other indicators include shared historical ties (which can provide a basis for the kind of cultural, literary artistic and mythological references often made in game design) and shared sociocultural institutional membership such as the Francophonie or the Arab League which can strengthen such socio-cultural ties. As explored in the preceding chapter, videogames are not only a cultural product, their internationalization has been dependant on notions of cultural embeddedness in each distinct market. Thus, of all the dimensions in this distance model, I have decided to place the highest weightage on this, given the nature of videogames as a cultural and artistic product. Therefore, cultural distance has a weight of 40 points.

1.1.3.4b Administrative and Political Distance

The indicators used in this dimension of the model are classical ones, mentioned in Ghemawat's original framework – political system, shared colonial ties and shared institutional membership. Drastically different political systems can complicate the process of setting up an international venture, while shared colonial ties can, by providing a somewhat familiar base with the administrative and bureaucratic system of the foreign country, somewhat alleviate this. Finally, shared memberships in intergovernmental institutions can facilitate business between the home and foreign market, especially when there are additional trade agreements.

Administrative distance, per the theory, has a higher bearing on sectors involving government regulations, such as those related to the public sector. Videogame regulation is ambiguous at best ((Millan, 2016)) and more focused on IP rights (covered in the economic dimension). Moreover,

without any global regulations for the Internet, most online games avoid the regulatory net. Thus, administrative and political distance has a relatively low bearing on videogames and is weighted at 10 points.

1.1.3.4c Geographic Distance

The geographic indicators found most relevant to and included in my model are the physical and time difference (calculated between the company's headquarters and the location of the international venture), worldwide air transport departures and per capita electricity consumption. Physical distance determines the ease of access to the market. For mainstream games, this could be an important determinant in shipping titles to retail locations. For online and disruptive games, physical distance has relatively lower bearing but can determine the location of gaming servers for MMORPGs and other real time online multiplayer – greater distance can often mean the need to maintain multiple servers for different regions. Time differences can complicate decision making and implantation of strategy. For online games, this can be an important factor in maintaining gameplay and fixing any service outages on time. I use air transport departures as an indicator of the location's connectivity with the rest of the world. Finally, per capita electricity consumption will determine how far consumers are capable of playing electronic games in the first place. I thus give geographic distance a weight of 20 points.

1.1.3.4d Economic Distance

The economic indicators used in the model are GDP per capita (measured by Purchasing Power Parity), household final consumption expenditure per capita, the share of high technology exports as a percentage of manufactured exports and payments made for the use of intellectual property. GDP per capita can determine consumer ability to pay for videogames. Similarly, household final consumption expenditure per capita, as per the World Bank's definition is the market value of all goods and services purchased by households and also includes payments for licences and other government fees. It is thus indicative of both consumer income and the cost of setting up businesses. I chose to include the share of high technology exports as an indication of the readiness

of the country to adopt videogames in terms of consumer tastes as well as hardware capabilities. Finally, since IPs are an important factor in videogames and before venturing abroad, game companies need to be assured that their IP assets will be protected and not subject to piracy, I have included the payments made for the use of IP, such as royalties and licenses. This significance merits economic distance an overall weight of 30 points.

To calculate the Openness to Market Distance for an individual market, I analyse the differences between the firm's country of origin and that of its first international venture. As far as possible, I use data pertinent to the year of entry. This can often make a great difference to the analysis, especially considering how the economic distance between certain markets (particularly disruptive ones) has closed in recent years. Next, I assign a score from 1 to 3 for each of the four dimensions above. Then, depending on the significance of that element to the firm, I multiply the first score by a weight from 1 to 3. The total of this score represents the Openness to Distance which I analyse in the context of the second proposition - *Disruptive firms will tend to make their first international venture in more distant markets as compared to mainstream firms*

1.1.3.5 Defining International Ventures

As pointed out in the preceding literature review, "internationalization" is a difficult concept to pin down precisely with several definitions existing, as explained in the literature review. For the purpose of this thesis, I will use the most common element of each definition i.e. "international operations".

I therefore analyse international operations from the point of view of current operations as well as acquisitions. Current international operations give a picture of the top markets for the company as it is now. On the other hand, they may not fully capture the openness or overcoming distance since the company might have ventured into untapped or high distance markets only to close down operations later (for example, Ubisoft's African operations were shut down but it remains the only company studied to have ventured into that market). The presence of a company in an international location, whether through the acquisition of a foreign firm and/or a strategic alliance or investment

in an international partner allows the firm to create a more direct path to acquiring knowledge about the new market and as a result, building up the appropriate capabilities.

Moreover, acquisitions represent a way to gain competences suited to a particular market, especially in the case of cultural products such as games. The development of organizational capabilities is an important factor in both internationalization and disruptive innovation theory. As pointed out in the literature review, several researchers have pointed to internationalization and specifically, to the presence of subsidiary specific advantages (Birkinshaw et al., 1998; Moore, 2001).

Secondly, I have chosen to only include internationalization strategies that would apply to both disruptive and traditional companies to ensure a comparable level of analysis. Given the disruptive nature of mobile and online gaming, exports cannot be applicable to all disruptors. For instance, take many social games – a game published on Facebook’s social media platform will almost always be available to all users of the platform regardless of country of residence. Moreover, with the rapid dismantling of physical shipments of games and a shift to online distribution even for traditionally PC and console titles CITE physical exports to international locations are decreasing in importance and I have thus taken the decision to exclude them from an examination of international operations.

1.1.4 Analytical Techniques and Interpretation Criteria

Given the research question and propositions, I feel that pattern matching provides the most suitable analytical framework for this study.

Pattern matching, as the name suggests, involves matching patterns of information found in the case to existing predictions made on the basis of theory. It has been called one of the most desirable analytical techniques in case study research (Trochim, 1989; Yin, 2014). Pattern matching can bring together different types of data to be studied (Yin, 2014) – particularly suited in this study where the data can be both quantitative (internationalization speed) and qualitative (market location and entry mode).

Unlike quantitative studies, qualitative studies do not have a significance threshold. In the absence of the equivalent of a p-value, it is difficult to decide the significance of the results in qualitative case studies. Following Yin (2014), I have decided to use rival explanations as alternative interpretation criteria to explain deviances from the proposed theory.

1.2 Research Design Rationale

The literature, in its definition and characterization of case studies, allows us to determine where case studies can be used. Thus, by drawing links with my own research question, I justify this choice of methodology as follows.

1.2.1. Advantages of Case Study Research

1.2.1.1 In-depth and holistic exploration

The chief rationale for using qualitative case study research for this thesis is that it allows for an extensive and in-depth exploration of the matter at hand. At the same time, it permits a holistic view (Yin, 2014). Thus, case studies permit not only an exploration of the internationalization decisions of individual companies but also a holistic overview of internationalization in disruptive versus mainstream contexts.

For instance, this thesis uses the willingness of firms to move into unknown markets with high distance as one measure of their internationalization. Analysing market distance is already a fairly subjective process and requires a case-by-case exploration. Certain dimensions of distance are more pertinent in specific contexts than others. For instance, cultural distance is more pertinent to videogames than to say, cement, while the reverse is true for geographic distance. Moreover, we need to analyse distance in the context of the particular firm and the year in which it internationalized. The distance between South Korea and the United States for example, was much higher in the early part of the 20th century than in the latter.

Thus, the small number of subjects in a case study approach is perfectly suited for such in-depth exploration instead of a purely quantitative analysis that would necessarily require adding a generalization due to a high number of subjects required.

1.2.1.2 The role of context and decisions

A case study, as defined by Yin, is “*an empirical enquiry that investigates a contemporary phenomenon (“the case”) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.*” (Yin, 2014, p. 16). Schramm defines the essence of a case study as decisions – why, how and with what consequences (1971). Accordingly, the study of disruptive innovation, which is very much a real-world phenomenon as opposed to an abstract concept, lends itself well to case study research. Moreover, as pointed out in the preceding literature review, internationalization begins with a set of decisions. Thus, it is suited to understand the decisions that lead an enterprise to go abroad.

Similar to Yin’s context, Stake (2013) states that multiple case studies can allow researchers to examine how different environments change the performance of certain phenomena. Thus, multiple case studies can be useful in this study where we examine internationalization in a disruptive versus mainstream environment.

As pointed out in the example of distance above, the context in which each firm internationalizes, including year, market and the type of firm it is, changes how the data is understood.

1.2.1.3 How and why questions with unmanipulable units of analysis

Yin states that case studies are particularly applicable where how or why questions are asked about “*a contemporary set of events over which a researcher has little or no control.*” (Yin, 2014, p. 14). Similarly, he goes on to state that it lends well to research using units of analysis that cannot be manipulated.

The research question in this thesis is clearly stated as a how question. Secondly, unlike an experiment which can be manipulated, a case study uses a more passive analysis. Both disruptive innovation and internationalization are phenomena that can only be observed by a researcher. Neither the disruptive nature of the firms, nor their decision to go abroad nor indeed, the very firms themselves, can be changed by the researcher.

1.2.1.4 Nascent nature of disruptive innovation theory

As pointed out in the Introduction, disruptive innovation is a fairly new topic of research and even more so when it comes to studying it in the context of internationalization. Consequently, it is better suited to a case study that can be exploratory or descriptive (Yin, 2014).

1.2.1.5 Research antecedents

Research on both disruptive innovation and internationalization has used case studies in formulating and building theory. The original study by Bower and Christensen (Christensen & Bower, 1996) used cases from the disk drive industry. Similarly, the Uppsala model, now an integral part of international business academic literature, was based on case studies of four Swedish firms (Johanson & Vahlne, 1977).

1.2.2 Limitations of Case Study Research

1.2.2.1 External validity

Case studies usually incorporate a small sample of subjects. Even multiple case studies are ideally between 4 and 10 cases, as a higher number of cases have more interactivity than can be properly understood (Stake, 2013). Compare this to quantitative analysis where sample sizes are much higher. As a consequence, questions can be raised as to the extent to which the results from a case study might be generalized (Yin, 2014). In order to attenuate this drawback, I have decided to use multiple case studies featuring firms from different parts of the world.

1.2.2.2 Analytical criteria and robustness checks

As Yin (Yin, 2014) states, analytical criteria for case study research are undeveloped at best. Unlike quantitative research, the subjective nature of qualitative analysis cannot rely on a p-value and margin of error to validate robustness. In order to ensure I use pattern matching to test propositions already drawn from literature, Moreover, I follow Darke, Shanks and Broadbent's (1998) advice to establishing rigour in the interpretation by providing alternative explanations.

These act as robustness checks to ensure that, as far as possible, the results can be explained by the nature of disruptive firms, and not by other reasons.

1.2.2.3 Researcher Bias

The use of secondary data allows this study to circumvent biases arising from the behaviour of participants. However, this does not pre-empt researcher bias in the interpretation of the findings. As Walsham (1995) points out, the mere fact of being an involved researcher necessitates a degree of bias in interpretation, since analysing case studies is different from merely objectively reporting data. In order to reduce such bias as far as possible, I am using the pattern matching analytical technique which is grounded in a solid theoretical framework drawn from existing literature. As far as possible, for instance in the distance analysis, I have also used multiple indicators, many of them based on quantifiable data, to confirm the patterns found.

The figure below shows tactics for ensuring validity and reliability. As explained above, several of these tactics have been used to overcome limitations of case study research.

Figure 3.1 Case Study Tactics for Validity and Reliability Checks

TESTS	Case Study Tactic	Phase of research in which tactic occurs
Construct validity	<ul style="list-style-type: none"> ◆ use multiple sources of evidence ◆ establish chain of evidence ◆ have key informants review draft case study report 	data collection data collection composition
Internal validity	<ul style="list-style-type: none"> ◆ do pattern matching ◆ do explanation building ◆ address rival explanations ◆ use logic models 	data analysis data analysis data analysis data analysis
External validity	<ul style="list-style-type: none"> ◆ use theory in single-case studies ◆ use replication logic in multiple-case studies 	research design research design
Reliability	<ul style="list-style-type: none"> ◆ use case study protocol ◆ develop case study database 	data collection data collection

Source: Yin (2014)

1.3 Data Collection

1.3.1 Sources

The chief source of data for this thesis is publicly available company data, particularly annual reports, press releases and government filings. Company data was used to obtain the year of founding and the list of current international operations as well as the history of its international acquisitions of each firm. The online database Zephyr was used to construct a timeline of international acquisitions. Wherever needed, a second online database, Orbis, was used to validate or complete the information.

To construct the history of each firm, additional sources such as newspaper and magazine articles, academic papers and chronologies were also used. To construct the market distance model, data from the World Bank was used for several indicators.

1.3.2 Rationale for Using Secondary Data

This thesis will use only secondary data on internationalization strategies culled from annual reports of the companies under study. This is for multiple reasons, related both to the specific nature of this thesis and the value of secondary data.

The chief reason is to avoid several criticisms made earlier of previous studies in disruptive innovation, that the validity and generalizability of the original theory (King & Baatartogtokh, 2015). The use of freely available public data will allow for greater validity of the results.

Moreover, as pointed out in the preceding section, case study research can itself face issues of external validity. Thus, in order to strengthen the validity of the results, I have chosen to use publicly available data on internationalization decisions of the firms.

Secondly, since disruptive innovation by its very definition is one that challenges current industry leaders, the top gaming companies by revenue in each category, disruptive as well as incumbent, needed to be studied. Since these companies are spread globally conducting interviews in multiple countries would have been beyond the scope of this thesis – as noted above, these companies are spread across the United States, China, Japan and France. Furthermore, as the case selection

Chapter III: Methods

section explains, such diversity is desirable in doing a more in-depth comparison and contrast of strategic behaviour and in helping alleviate the validity issues mentioned.

Having laid out the research design and methods, I will now apply these to the case studies that form the analytical basis of this thesis.

Chapter IV

Presentation of Case Studies

The following chapter will take a more in depth look at six videogame companies – three mainstream and three disruptive. The companies and the rationale for choosing each one is as follows.

Mainstream Gaming Firms

Electronic Arts

Electronic Arts, commonly known as EA, is an established industry veteran, having absorbed many of the videogame industry's pioneering firms. Its long history as a founding member of the modern videogame industry makes it a natural choice for study. Moreover, Electronic Arts has had a prolific acquisition history, allowing for substantial data on its internationalization strategies.

Square Enix

Square Enix was formed from a merger between two Japanese industry giants, Square Co. and Enix Inc. Japan being the other most important and pioneering videogame market outside the United States, it would have been necessary to include a Japanese firm. Unlike Nintendo and Sony, Square Enix is devoted solely to videogame software, making it an appropriate choice for comparison with disruptive gaming.

Ubisoft

French game company Ubisoft is one of the most prolific videogame companies in the world. Whereas mainstream gaming is dominated by American and Japanese companies, Ubisoft remains one of the few European ones to have international expansions to match American and Japanese videogame multinationals.

Disruptive Gaming Firms

Tencent

Chinese tech conglomerate Tencent is the biggest videogame company in the world. Its dramatic conquest of the industry makes it necessary to any study of the growth of disruptive gaming.

Nexon

Founded in South Korea, Nexon is one of the oldest online MMORPG makers in the world. It is also credited with debuting many key features of disruptive gaming, such as the free to play model. Having been founded in the late 90s, Nexon is the oldest disruptive company in this list.

Zynga

Zynga is included on the list as one of the few high ranked Western disruptive game publishers. Its astronomic success was built on casual social games. While Zynga's star might have dimmed, it remains a recognizable name in the industry for its past achievements

Each case begins with a brief presentation of the company, its current standing and the titles it is most associated with. Next, I explore its history and business model. Finally, I analyze the individual patterns of internationalization for each firm with an additional section on capabilities in rival segments i.e. of disruptive companies by mainstream firms and vice versa.

Mainstream Gaming

4.1 Electronic Arts

Electronic Arts is one of the oldest and biggest videogame companies in the world today. It has produced some of the most iconic franchises in videogames such as *Need for Speed*, *Medal of Honour*, *The Sims* and the EA Sports line which includes *FIFA* and *John Madden Football*.

Indeed, as per the 2016 Newzoo ranking of international videogame firms by revenue, it is the highest ranked publisher/developer after Activision Blizzard (excluding console manufacturers such as Sony and Microsoft). As of 2016, it is the sixth biggest videogame company in the world by revenue, with annual earnings of USD 4.6 billion and an annual growth rate of 8%

Since its inception, EA has forged a reputation for aggressive growth strategies and innovative titles. In recent years, it has embraced new trends in gaming, delving into the disruptive gaming market with the same strategy of key acquisitions it has used for mainstream gaming in the past.

4.1.1 Origins

Electronic Arts was founded in 1982 and originally conceived as Amazin' Software by Trip Hawkins, a former marketing manager for Apple. Other key early personnel – such as Bill Budge (creator of the games *Raster Blaster* and *Pinball Construction Set* for the Apple II computer) and Danielle Buntin Berry (creator of the 1978 Apple II stock market simulation game *Wheeler Dealers* and a pioneering proponent of social and online gaming) – were also drawn from computing, as was usual for early videogame companies.

EA was originally a publisher, sourcing titles from independent game developers. EA's first batch of titles to be shipped in 1983 were titles for the Commodore 64 computer and comprised *Hard Hat Mack* (by Michael Abbot and Matthew Alexander), *Archon: The Light and the Dark* (by Freefall Associates), *Axis Assassin* (by John Field), *Worms?* (by David Maynard) and *M.U.L.E* (by Ozark Softscape). It was not until 1987 that the company developed its first in-house title, *Skate or Die* (published by Japanese publisher Konami).

Their next game, *One on One: Dr. J vs. Larry Bird* was a basketball simulation, tied in sports stars Julius Erving and Larry Bird and its success lead to a host of licensed videogames marketed using popular sports figures. However, it was *John Madden Football* (later renamed *Madden NFL*) released in 1988 that would become the official precursor of the EA Sports line that would go on to spawn the company's biggest titles. Hawkins personally recruited celebrity sportsmen, and the games were actively designed with their inputs

While initially focused on PC games, in part due to the videogame bust and possibly as a result of the professional background of its own personnel, EA made the foray into console games when Hawkins was able to negotiate better terms for the company against Sega's notoriously high licensing fees. Electronic Arts went public in 1989 and the incoming capital allowed it to greatly push forward into the console gaming segment.

By the late 1980s and early 1990s EA started acquiring third party studios. The most significant of these acquisitions were Distinctive Software in Canada and Maxis; Westwood Studios and UK-based Bullfrog Productions were other veteran videogame studios that were incorporated into the EA fold.

In the late 90s, EA continued with the licensed videogame trend by moving from sports to TV and feature films with a slew of videogames tied-in with Hollywood releases such as the James Bond game, *Tomorrow Never Dies* and the TV show *Xena: Warrior Princess*. By the 2000s, EA had consolidated its position as one of the biggest videogame publishers in the world with more well-timed strategic acquisitions such as BioWare (its most expensive acquisition to date). It also started making forays into disruptive gaming in the mid 2000s with JAMDAT Mobile.

4.1.1.1 Business Model

Today, EA continues to develop its own videogame titles as well as those developed by others. It entered the mobile gaming market earlier than many other mainstream gaming companies through strategic acquisitions.

The company's core organizational divisions are divided into labels, the most important of which are EA Worldwide Studios and EA Sports (both of which group several which comprises internal game development studios, the latter comprising those dedicated to licensed sports games such as Madden NFL and FIFA). Other divisions include EA Play (online multiplayer and mobile) and EA Technology (which includes IT support services such as EA Digital Platform (EADP) and Frostbite).

EA has followed an aggressive growth strategy, acquiring independent studios and either merging them into existing operations or shutting them after acquisition of IP assets (DeMaria & Wilson, 2003). As pointed in the section above, licensed games form the other core component of its business model. While initially its marketing strategy depended on individual game designers (In the early days Bill Budge was the poster child "rock star" designer for the company) it has moved away from this into building licensed franchises aimed at promoting brand recognition.

4.1.2 Early Internationalization

4.1.2.1 Speed of Internationalization

EA's first wholly owned international operation was in 1986 when it set up an office in the UK. The Surrey office was intended to take control of distribution channels in Europe. Consequently, EA has a particularly rapid internationalization rate of four years, which is the fastest among all the mainstream firms studied.

4.1.2.2 Openness to Distance

EA has a low Openness to Distance Score of 130, the lowest in fact of all companies studied. Table 4.1a shows the CAGE analysis for EA with its first international venture in Guildford in the United Kingdom in 1986 while Table 4.1b shows the final scoreboard for the same.

Table 4.1a: CAGE Analysis for Electronic Arts

Dimension	Indicator	Home (United States)	International (United Kingdom)
Cultural	De facto Language	English	English
	Language family	Indo-European	Indo-European
	Written Script	Latin	Latin
	Avg. Cultural Dimension Score	55.5	57.5
	Shared Historical Ties	Yes, since inception of US	
	Shared Sociocultural Institutional Membership	No	
Administrative & Political	Political system	Federal Republic	Constitutional monarchy
	Shared Colonial Ties	Yes	
	Shared Institutional Memberships and FTAs in 1986	United Nations, World Bank, OECD; no FTAs	
Geographic	Physical distance (San Mateo - Guildford)	8,653.92 km approx.	
	Time Difference (San Mateo - Guildford)	Plus 8 hours	
	Air transport, registered carrier departures worldwide in 1986	6,106,000	498,900
	Electric power consumption (1986, kWh per capita)	10,424	4,954.00
Economic	GDP per capita, PPP (1986, constant 2011 international \$)	37,062	26,769
	Household final consumption expenditure per capita (1986, constant 2010 US\$)	21,225	14,393
	High-technology exports (1986, % of manufactured exports, 1989 data used) ¹	32%	25%
	Charges for the use of intellectual property, payments (1986, BoP, current US\$, thousands)	1,401,000.00	1,035,088.15

- *Cultural*: The United States and the UK have long had cultural, linguistic and historical ties, since the colonization of the former by the latter. Even today, centuries after independence, the US and the UK share a common cultural platform. For starters, the major language in both countries is English. Therefore, localization of videogames would not be an onerous task. Using Hofstede's 6-D model of cultural dimensions, we see that

¹ Due to non-availability of data for years preceding 1989

the cultural makeup of both countries is fairly similar as well. Therefore, EA's cultural distance with the UK is 1.

- *Administrative and Political:* The United States and the United Kingdom are both parliamentary democracies, albeit the US is a federal republic and the UK a constitutional monarchy. On the other hand, they have shared colonial ties and while the two countries were not as well integrated in 1986 as they are now (the G7 and G20 had not yet been founded), they were both founding members of the United Nations as well as permanent members on the United Nations Security Council. Administrative distance between the two is therefore fairly low, giving this dimension a score of 2.
- *Geographic:* The geographic distance between EA's San Mateo office (its headquarters at the time of internationalization) and its first international operation in Guildford in the UK is 8594.40 km. However, at 43 km away from London, one of the world's biggest metropolises, Guildford scores low on remoteness as well. The eight-hour time difference would certainly complicate business decision making but compared to other markets, this is not an extremely large difference. On the other hand, the US had a far more developed network of air transport and higher electric power consumption in 1986, the year of internationalization. All of this results in a moderately low geographic distance with a score of 2
- *Economic:* Both the UK and the US are developed countries and in 1986, they shared roughly the same level of economic development, with the United States scoring slightly higher than the UK on most indicators. Therefore, in terms of economic development, there is only slight significant difference between the two, thus scoring this dimension 1 point.

Table 4.1b: CAGE Analysis Scoreboard for Electronic Arts

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	1	40	40
ADMINISTRATIVE	2	10	20
GEOGRAPHIC	2	20	40
ECONOMIC	1	30	30
TOTAL			130

Source: Own elaboration from sources listed in bibliography

4.1.3 Subsequent Internationalization

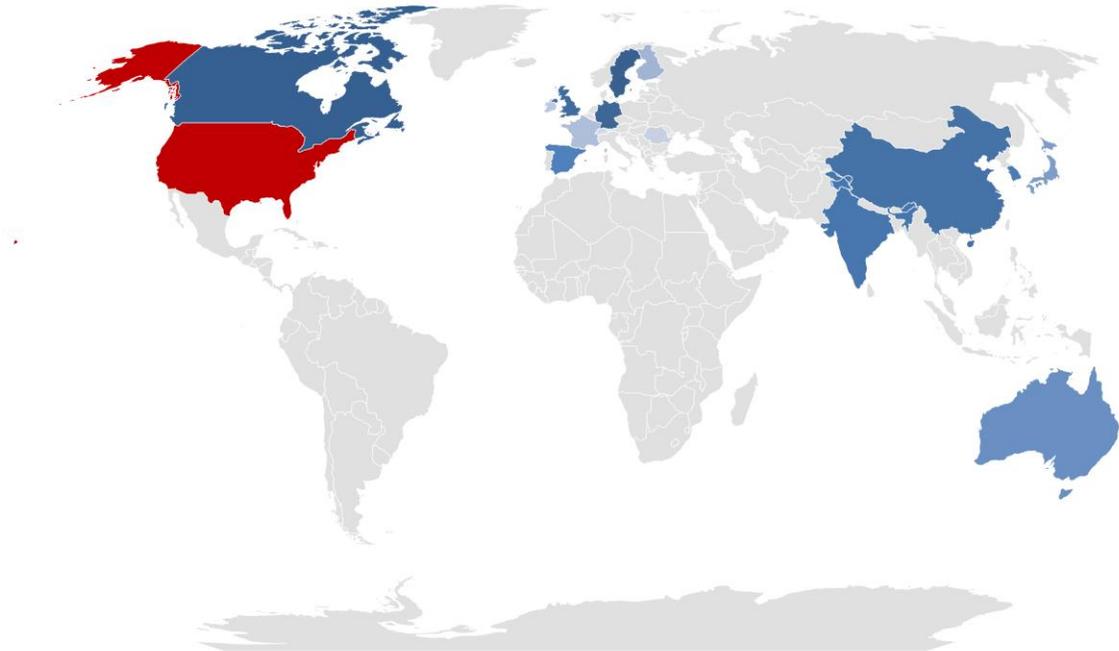
EA has a rapid speed of internationalization and a majority of its current operations are based overseas. On the other hand, it favours domestic acquisitions over international ones and has the lowest openness to distance score among the firms studied. Analysis of its subsequent internationalization strategy provides more insights into its use of acquisitions to build competences.

4.1.3.1 Current Operations

International markets make up the bulk of EA's current operations and its geographic diversification is only a close second to Ubisoft as demonstrated in Fig 4.1.1a. As of 2016, a full 57% of EA's revenue was derived from international sources.

Figure 4.1.1a: Locations of Electronic Arts' Current Operations

Electronic Arts: Current Operations



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■ US: 13	■ Canada: 9	■ Sweden: 5	■ Germany: 3	■ UK: 3
■ China: 2	■ India: 2	■ South Korea: 2	■ Spain: 2	■ Australia: 2
■ Japan: 1	■ Singapore: 1	■ Finland: 1	■ France: 1	■ Ireland: 1
■ Romania: 1	■ Switzerland: 1			

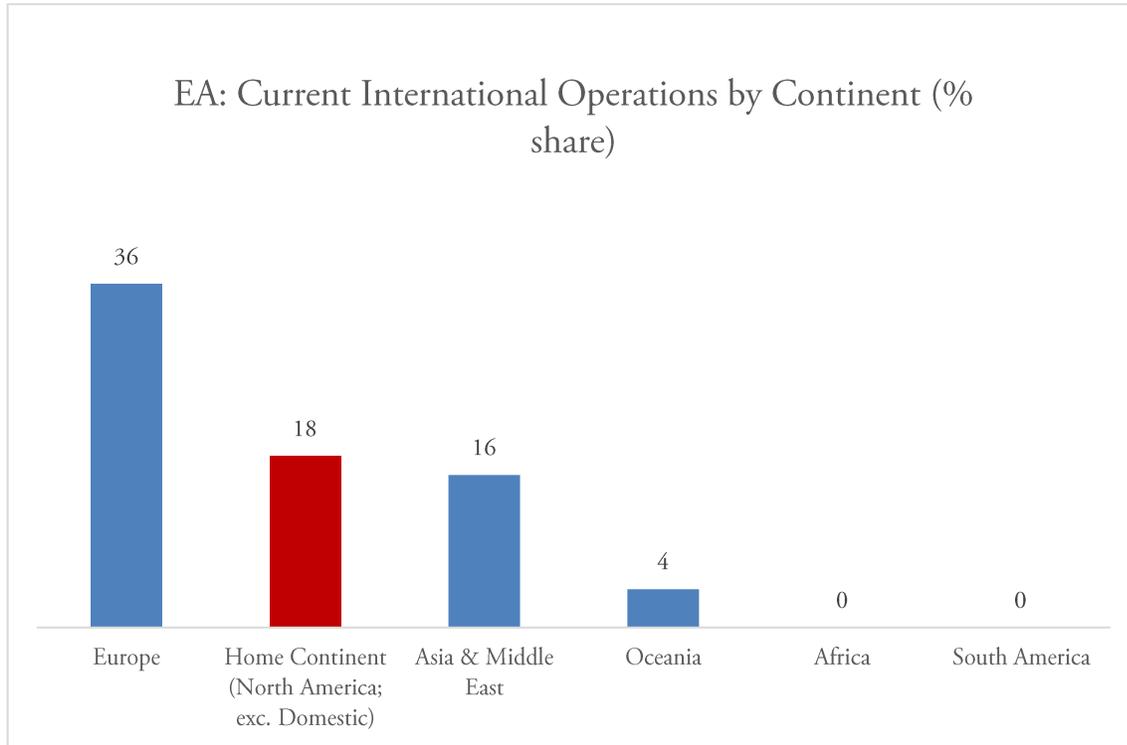
Source: Own elaboration from sources listed in bibliography

While Canada is the biggest individual international market, as a whole, Europe is by far the biggest regional market for EA. In comparison, its home continent of North America and Asia and the Middle East lag behind with 18% and 16% of the share of operations respectively.

This has much to do with the company's history in Europe. In an interview former Executive Vice President of EA, Frank Gibeau tied the company's business in Europe as central to their international success as a whole. This was largely because European gamers mostly used personal

computers such as the Amiga for gaming and were slow to adopt consoles. As a PC game developer, EA could bank on the clientele to purchase its titles. Multiple strategic acquisitions in Europe, such as Maxis, Digital Illusions and Criterion only furthered its position.

Figure 4.1.1b: Figure 4.1 Electronic Arts' Current Operations Divided by Continent



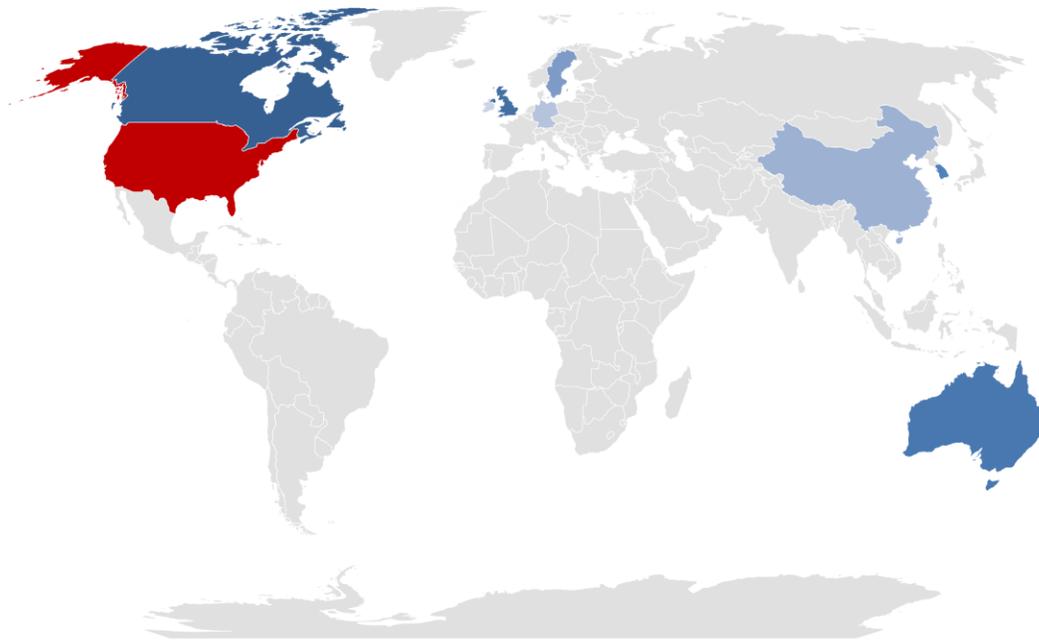
Source: Own elaboration from sources listed in bibliography

4.1.3.2 Acquisition History

As pointed out earlier, EA has a long and varied acquisition history thanks to its strategy of snapping up developers and merging them and/or their IP assets into the company, a move that has often drawn criticism.

Figure 4.1.2a: Locations of Electronic Arts' Acquisitions

Electronic Arts: Acquisition Locations



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■ US: 25	■ Canada: 7	■ UK: 5	■ Australia: 3	■ South Korea: 3
■ Sweden: 2	■ China: 1	■ Germany: 1	■ Ireland: 1	

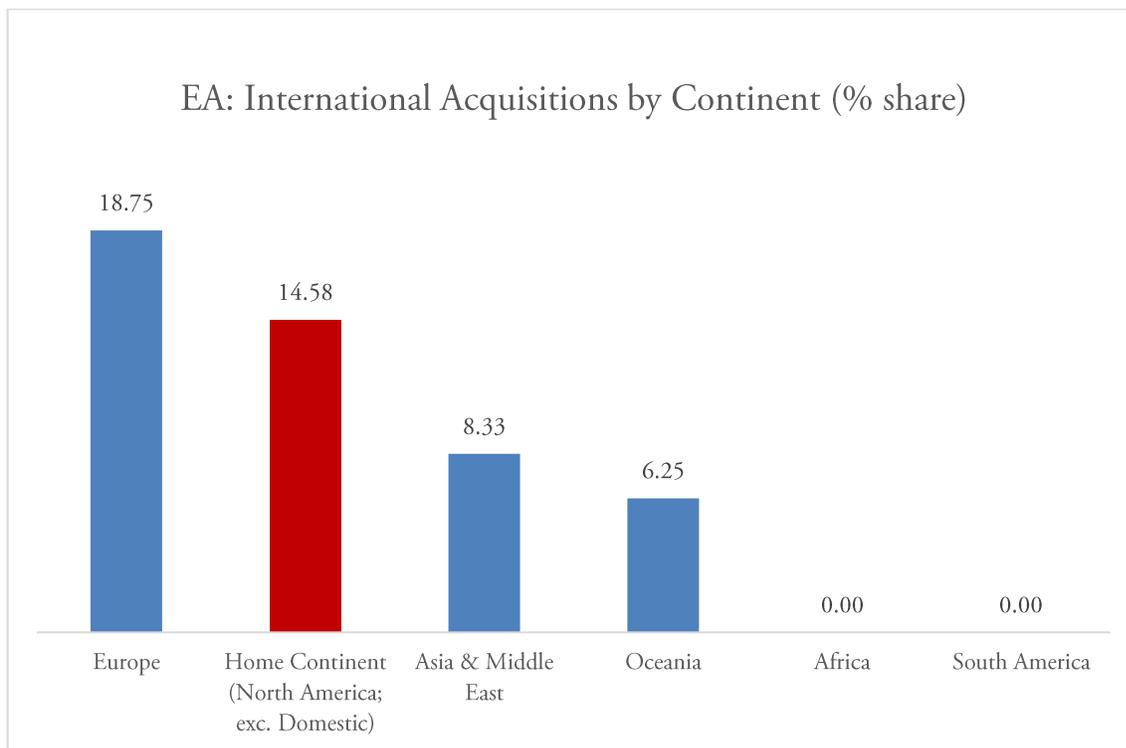
Source: Own elaboration from sources listed in bibliography

EA's first acquisition was in 1987 when it took over Canadian firm Batteries Included. However, it wasn't until 1991 that it made its first significant acquisition – another Canadian firm, Vancouver-based Distinctive Software, who had produced games for a rival publisher, Accolade and who would go on to produce the popular Need for Speed series of games as EA Canada. Between 1995 and 1998, EA made a series of high profile acquisitions – Bullfrog Productions

(developer of *Dungeon Keeper*), Maxis (creator of *The Sims*), Westwood Studios (creator of *Dune II*, that would influence real time strategy games for decades to come). Almost all of EA’s acquisitions were merged or renamed but not all their fates were equal. Westwood Studios, for example was merged with Burst Studios and renamed EA Pacific, which was itself shut in 2003 and the employees moved elsewhere. On the other hand, Distinctive Software/ EA Canada continues to be one of EA’s biggest operations creating some of its most popular titles, notably FIFA and Need for Speed.

In terms of markets, EA tended towards a higher number of domestic acquisitions (52%) – the highest of any mainstream company studied. However, this may be due to the fact that the USA was a pioneering market for game development and hence had a higher number of developers worth acquiring.

Figure 4.1.2b Electronic Arts’ Acquisitions Divided by Continent



Source: Own elaboration from sources listed in bibliography

As with current operations, Europe continued to be a significant source of acquisitions. However, this was largely due to British acquisitions. Again, this can be partially explained by the fact that

the UK was a computing force in the early days of both computing and games, although certainly, the lack of distance with North America can be a contributing factor. Excluding domestic acquisitions, North America (that is to say, Canada) form an important market as well. Asia and the Middle East are the third largest market. Finally, while the share of Oceania is very small, it must be pointed that EA is the only form studied that has made acquisitions on the continent.

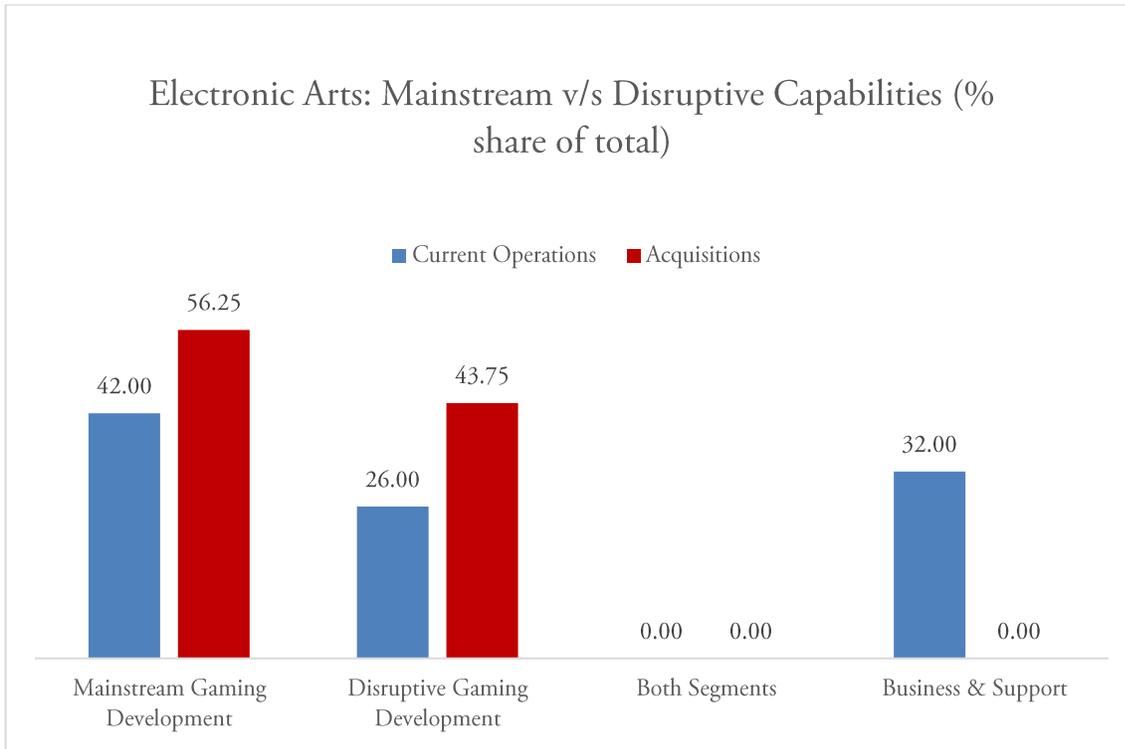
4.1.3.3 Disruptive versus Mainstream Capabilities

Of all mainstream firms studied, EA shows the highest level of openness to disruptive gaming. Indeed, almost half (43.75%) of EA's acquisitions have been for disruptive companies. EA Mobile and Redcrow Mobile are part of the 26% of EA's operations that deal with disruptive game development.

EA's tryst with this segment began with the acquisition of Pogo.com, a casual online gaming site in 2001, followed by JAMDAT mobile in 2005. The latter formed the basis of EA Mobile and gave the company the competences to start developing mobile games for good and at USD 680 million, was one of EA's biggest purchases to date. Thus, by 2006 EA was able to partner with Nokia to produce games for its mobile phones.

Other acquisitions have been indirectly related to disruptive gaming. The Sims, for example, drew a large female crowd and therefore EA's acquisition of Maxis, way back in 1997, can be indicative of this openness to moving out of the mainstream gaming segment.

Figure 4.1.3: Electronic Arts' Operations and Acquisitions by Capability



Source: Own elaboration from sources listed in bibliography

Mainstream Gaming

4.2 Square Enix

Square Enix was an early pioneer of videogames in Japan and continues to be a force in the videogame industry. It is ranked 11th globally by revenue with a 37% growth rate in 2016 (Newzoo, 2016b). The company boasts of readily recognizable and successful IP assets such as *Final Fantasy* and *Kingdom Hearts* as well as others, such as *Tomb Raider* and *Space Invaders* acquired through strategic acquisitions. Square Enix has further diversified into film, animation and comic books.

4.2.1 Origins

Formed in 2003 as a result of a merger between Enix Inc and Square Co., both based in Tokyo, Japan, Square Enix nevertheless has impressive gaming antecedents dating back to the birth of the industry itself – both its founding companies were one of the earliest videogame firms in the world.

Like many Japanese videogame firms such as Nintendo and Taito, Enix Inc began life in a very different field. Founded in 1975 as the Eidansha Boshu Service Centre, the firm originally produced newspapers dedicated to the real estate trade. It began its foray into personal computing, and then gaming in 1982 thanks to founder Yasuhiro Fukushima who noticed the growth of the American videogame industry on his travels abroad.

Enix is credited with pioneering the modern developer-publisher arrangement by outsourcing the actual game development to others, much in the same way that publishing houses depend on writers for creating books. Since the company did not have the capability to create its own games, Enix ran a videogame programming contest, selecting titles for publication. One of its first games thus selected was *Love Match Tennis*, published in 1983 along with a host of other titles. The game was created by Yuji Horii who would go on to create Enix's biggest hit *Dragon Quest* – the game was apparently so popular that the Japanese government required Enix not to release games on school days to prevent students from skipping classes to line up for the game.

Square entered the videogame market in 1983, the same year as Enix, and like the former, began its videogame history with PCs. Originally a division of the Denyu PC and power construction company, Masafumi Miyamoto, the son of the Denyu's owner created the company's first game in 1983. *The Death Trap*, published in 1984 for the NEC personal computer was the company's first title. Square Co as a stand-alone company was formally founded in 1986.

If Enix can be said to pioneer publishing Square pioneered the modern game development team. Before Square, games were traditionally built by a single programmer. Miyamoto changed this by dividing the development among various team members, including graphic designers and professional story writers as well as computer programmer. However, like other videogame companies Enix faced a slump following a slowdown of the market in 1986. The following year in 1987, Square had a reversal of fortunes when it released what was to become its most successful videogame franchise to this day – *Final Fantasy*.

By the new millennium, however, it was evident that dependence on the *Final Fantasy* franchise was becoming detrimental to Square. In 1997 Square founded Square Pictures in Honolulu, Hawaii with the intention of transforming videogame titles into motion pictures. However, the release and consequent failure of *Final Fantasy: The Spirits Within* brought the company to the brink of bankruptcy.

In April 2003, Square Co was merged with Enix Inc bringing together two veterans of the Japanese and indeed, global videogame industry.

4.2.1.1 Business Model

The company's chief business model is what it calls a "Polymorphic business model". In the words of John Yamamoto, former CEO and President of Square Enix Europe:

"Our current vision is to create polymorphic content. So, we are aiming to form original ideas without being restricted by the notions of hardware or media, and to deliver these ideas via consoles, online gaming, mobile gaming, or DVD." (Fahey, 2004)

In other words, while traditionally videogame development involves creating specific titles matched to particular videogame hardware, Square Enix aims to create IP assets that can be transferred across such hardware. Consequently, Square Enix's business lines include not just videogame development but also film and animation studios and comic book publication. This is a natural extension of the strategy one of its founding companies Enix has had since its inception, that of broad product lines catering to various genres and multiple platforms. While Square had a limited profile and indeed, had an exclusive publishing contract for Sony consoles starting in the late 90s, Enix has always aimed to cater to multiple platforms and various genres.

4.2.2 Early Internationalization

4.2.2.1 Speed of Internationalization

Square Enix, post merger, has the fastest rate of internationalization among all the firms studied, including the disruptive ones – it acquired American mobile developer UI Evolution in 2004, a year after the merger. However, this is not altogether reflective of the capability and willingness to internationalize since both Square and Enix were established firms with their own international operations well before the merger and thus the acquisition of UI Evolution is not the first international venture for either company. Therefore, to present a more accurate picture of the company's internationalization speed I have chosen to average the speeds of Enix Inc and Square Co.

Enix's foray into videogames officially began in 1983 and it opened its first international office, Enix America Corporation, to localize its videogames in 1990 in Washington state in the US (late shut down in 1995 and replaced by Enix America Inc in 1999); Enix's original speed of internationalization is thus 7 years. Square, on the other hand also entered videogames in 1983 and established its first international office, Square L.A. Inc, in 1989 with a speed of 6 years. The average speed is thus 6.5 years, which while the slowest among all companies studied, is still somewhat comparable to other mainstream companies.

4.2.2.2 Openness to Distance

Despite its slow speed of internationalization and comparatively less internationalized operations and acquisitions, Square Enix has the highest Openness to Distance score of all mainstream firms studied, 330. As with the speed of internationalization, the analysis takes into account both Square Co and Enix Inc, which coincidentally established their first international venture in the exact same location – Redmond, Washington, albeit in 1989 and 1990 respectively. This analysis uses 1990 as the year of analysis.

Table 4.2a: CAGE Analysis for Square Enix

Dimension	Indicator	Home (Japan)	International (United States)
Cultural	De facto Language	Japanese	English
	Language family	Japonic	Indo-European
	Written Script	Japanese (Hiragana, Katakana) and Chinese origin kanji script	Latin
	Avg. Cultural Dimension Score	69.5	55.5
	Shared Historical Ties	Until recently, acrimonious with both countries having gone to war in WW2	
	Shared Sociocultural Institutional Membership	No	
Administrative & Political	Political system	Constitutional monarchy	Federal Republic
	Shared Colonial Ties	No, but significant US presence after WW2	
	Shared Institutional Membership & FTAs in 1990	United Nations, World Bank, OECD; no FTAs	
Geographic	Physical Distance (Tokyo - Redmond)	7,680.82 km	
	Time Difference (Tokyo - Redmond)	minus 17 hours	
	Air transport, registered carrier departures worldwide in 1990	476,000	6,848,600
	Electric power consumption (1990, kWh per capita)	6,806	11,713
Economic	GDP per capita, PPP (1990, constant 2011 international \$)	30,447	38,240
	Household final consumption expenditure per capita (1990, constant 2010 US\$)	21,025	23,100
	High-technology exports (% of manufactured exports)	24%	33%

Charges for the use of intellectual property, payments (1996, BoP, current US\$, thousands) ²	9,828,945.31	7,837,000.00
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Source: Own elaboration from sources listed in bibliography

- *Cultural:* Japan and the United States have a very high cultural distance. For starters, the most commonly used language in United States is English, which utilizes the Latin script. On the other hand, Japanese is not even in the same Indo-European language family and further uses four different scripts – hiragana, katakana and Chinese origin characters called kanji. Translating videogames from Japanese to English and vice versa is therefore a complex process. As per Hofstede’s cultural dimensions, the two countries differ greatly in their socio-cultural makeup as well, implying that Japanese gamers might have different tastes from American ones. Finally, while the United States and Japan have long had ties, in the recent past those were rather acrimonious – the two countries fought on opposing sides in World War II. Indeed, the US entered the war as a result of the Japanese strike on Pearl Harbour. Therefore, while 45 years might have passed since the end of the Second World War and Square Enix’s entry into the United States, the countries’ historical past was too heavy to disregard. Thus, the cultural dimension is scored at 5.
- *Administrative and Political:* Japan and the United States are governed by two different political systems. Japan is a constitutional monarchy headed by an emperor who in the past was traditionally considered a deity, while the United States is one of the oldest democratic nations in the world. On the other hand, while the two countries do not share colonial ties, the US had a significant presence in Japan after World War II, heading the Allied Occupation. The two also share memberships of several important intergovernmental organizations. While there are no bilateral treaties between the two, shared membership of organisations like the OECD and the United Nations would make doing business somewhat easier. This dimension is thus scored 2 points.

² 1996 data used to unavailability of data for previous years

- *Geographic:* The United States and Japan are geographically rather distant. In terms of physical distance alone Square and Enix’s Tokyo headquarters and Redmond are 7,680.82 km. By itself this distance is not very large. For instance, Paris and San Francisco are slightly further apart. However, the time difference of 17 hours increases the geographic distance between the two. Japan’s air transport links were significantly lower in 1990 as well. In terms of geographic resources, electric consumption per capita in Japan in the same year was close to half that of the United States, which can imply lower videogame use as well. This dimension is thus scored 4 points.

- *Economic:* For all the high cultural and geographic distance between the US and Japan, economically speaking the two are strikingly similar. In the year Square and Enix entered the United States, GDP per capita and household final consumption expenditure were at close levels, implying that both countries had disposable incomes to spend on games. Moreover, they both had a comparable level of technological development in terms of high tech items exported and IP payments made. This dimension is thus scored 1 point.

Table 4.2b: CAGE Analysis Scoreboard for Square Enix

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	5	40	200
ADMINISTRATIVE	2	10	20
GEOGRAPHIC	4	20	80
ECONOMIC	1	30	30
TOTAL			330

Source: Own elaboration from sources listed in bibliography

4.2.3 Subsequent Internationalization

While both Square and Enix had international offices before the merger, since then, Square Enix has opened new offices in previously untapped markets such as China and Montreal. Moreover, the firm has several minority stakes such as those in Rocksteady Studios as well as joint ventures, such as the educational game venture SG Lab with Gakken and Skywalker Inc with Xavel.

Square Enix embarked on an intensive expansion spree, particularly in Europe following the merger in 2003. This was to take control of the sale and distribution of their titles as part of a concentrated move to solidify the publishing segment of the firm. Moreover, since their games have a marked Japanese sensibility, internationalization allows more efficient localization and marketing of these games.

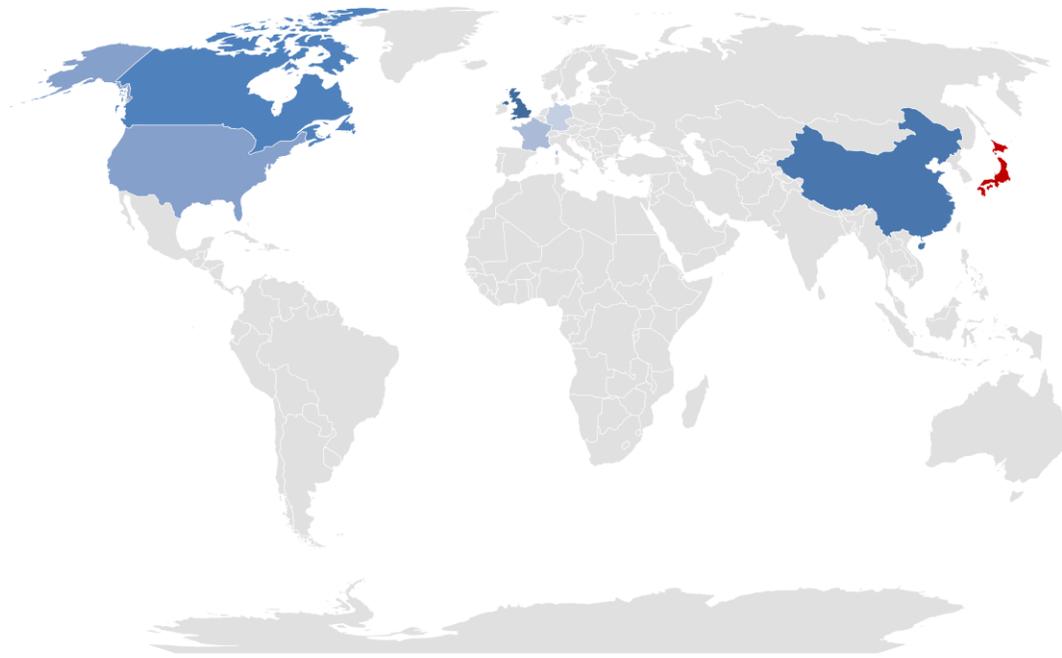
4.2.3.1 Current Operations

While domestic operations account for a little over 40% of Square Enix's current operations, it has the lowest concentration of operations on home continent (9%), implying a lower preference for psychically closer markets. Indeed, if number of locations are anything to go by, Europe is the biggest market for Square Enix, followed by North America.

Figure 4.2.1a maps out Square Enix's current operations. Of all mainstream gaming firms studied, Square Enix has the highest share of domestic operations (39.13%) to international ones, as compared to EA (20.63%) and Ubisoft (26%). The bulk of its international operations are concentrated on Europe, North America and to a lesser degree, Asia.

Figure 4.2.1a: Locations of Square Enix’s Current Operations

Square Enix: Current Operations



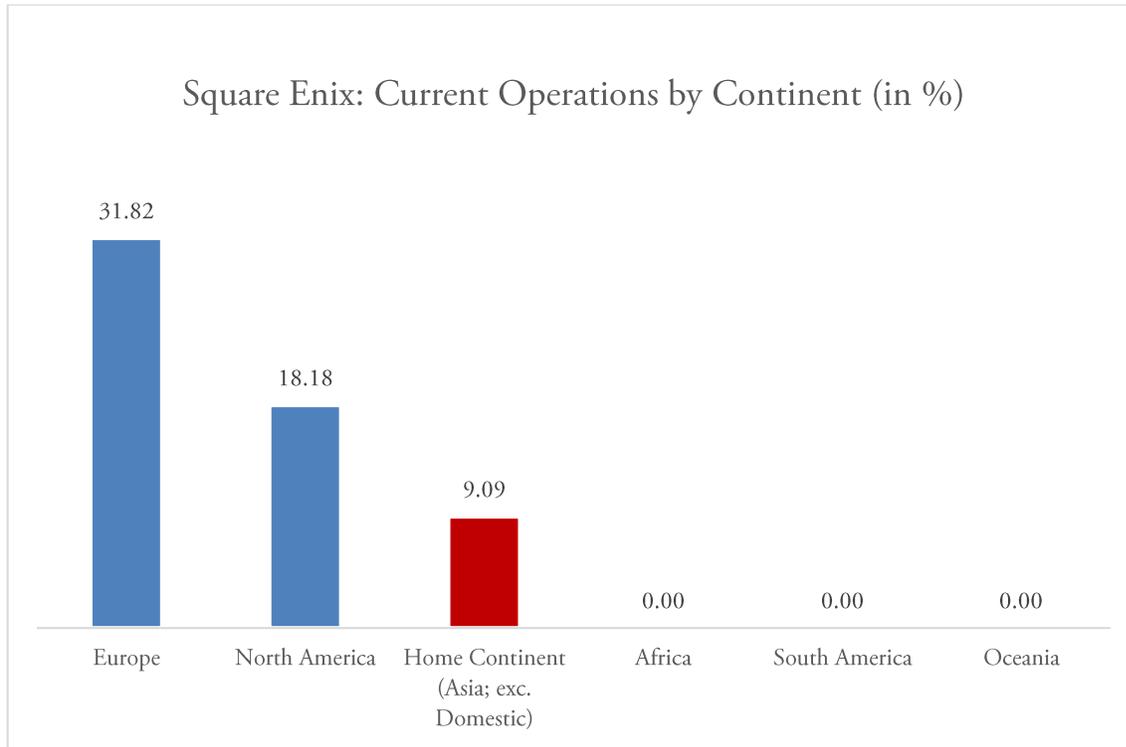
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■ Japan: 9 ■ UK: 5 ■ China: 3 ■ Canada: 2 ■ US: 2 ■ France: 1 ■ Germany: 1

Source: Own elaboration from sources listed in bibliography

While the company’s geographic diversification is lower than that of the other mainstream gaming firms studied, it also has a lower preference for less distant markets as demonstrated by Fig 4.2.1b which shows the share of each continent in its list of current operations.

Square Enix’s biggest market is Europe, followed by North America. Excluding domestic operations, its home continent of Asia accounts for only 9% of all its current operations.

Figure 4.2.1b: Square Enix's Current Operations Divided by Continent

Source: Own elaboration from sources listed in bibliography

4.2.3.2 Acquisition History

Square Enix's acquisition history begins with the merging of Square's Japanese, American and British operations in 2003, although these acquisitions were officially put under Enix's management in 2004. Square Enix also made a few acquisitions of independent developers, particularly in mobile, such as the Japanese online gaming developer PlayOnline and American mobile studio UI Evolution (which was eventually shut in 2007 to make way for Square Enix's own mobile greenfield projects, Square Enix Mobile and SmileLabs). The two most important acquisitions made by Square Enix are the venerable Taito Corporation and Eidos.

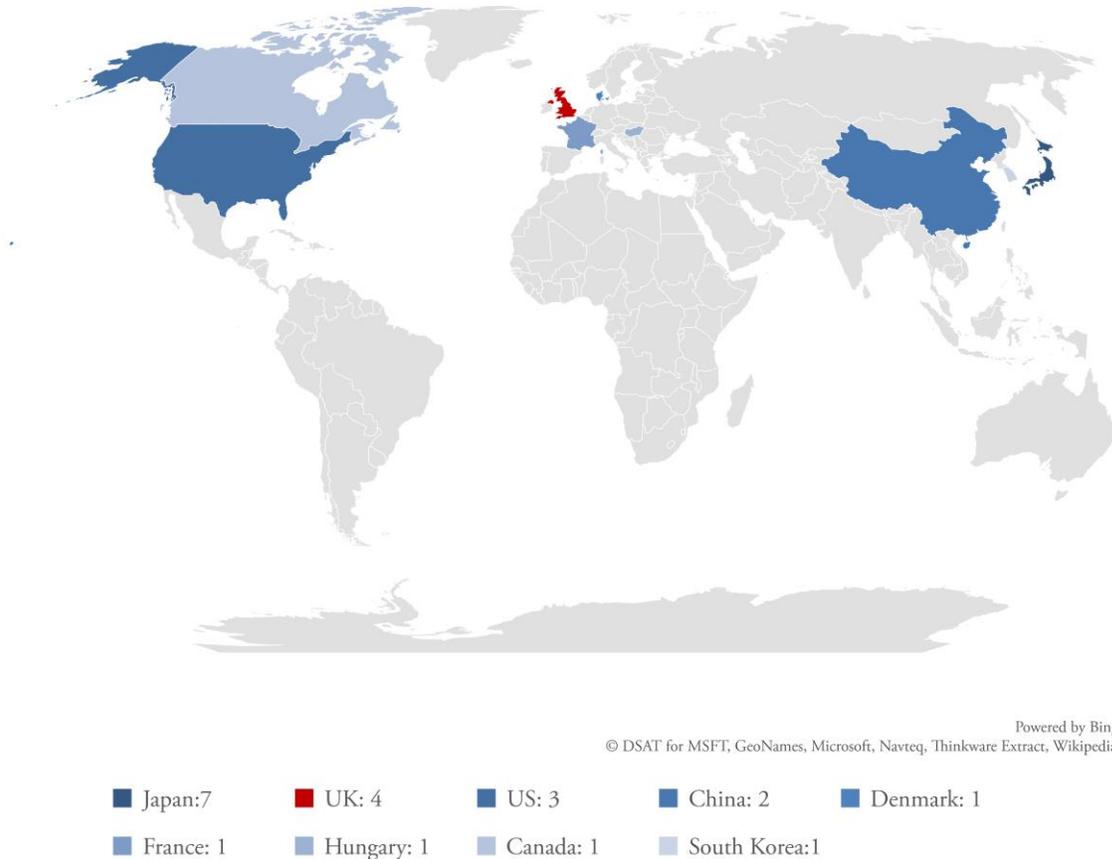
The Taito Corporation was founded in 1953 in Tokyo as an importer of vending machines and entered the videogame market in the early 70s. Known primarily for its arcade games, such as *Space Invaders*, Taito also produced games for various mainstream consoles while moving into the mobile gaming domain in the early 2000s, beginning with *Bubble Golf* in 2004. Square Enix

acquired Taito in 2006, merging the Japanese headquarters with SQEX Inc (formerly known as Game Designers Studio). It also acquired Taito's subsidiaries - Beijing Taixin Cultural Amusement Co. Ltd. In China; Taito Art Corporation, Taito Tech Corporation, Effort Co. Ltd and Baltec in Japan and Taito Korea Corporation in South Korea. All of these subsidiaries were eventually liquidated or shut down between 2008 and 2012.

The second significant acquisition and one that opened up access to important markets in Europe and North America was that of Eidos Interactive in 2009. Founded in London in 1984, Eidos created such successful videogame franchises as *Tomb Raider* and *Deus Ex*. It was bought by SCi Games in 2005 until 2009 when Square Enix took over. The acquisition gave Square Enix access to the UK market as well as the Canadian (Eidos Montreal), French (Eidos France), Hungarian (Eidos Hungary) and Danish (IO Interactive) ones with additional access to the Chinese (Eidos Shanghai) and American markets (Crystal Dynamics). Of these IO Interactive was demerged via a management buyout in 2017 and Eidos Hungary shut down in 2009. Nevertheless, this acquisition, particularly that of Eidos' UK studios, also allowed access to important IP assets that would allow Square Enix to cater to European gamers who may or may not have the same tastes as its Japanese audience.

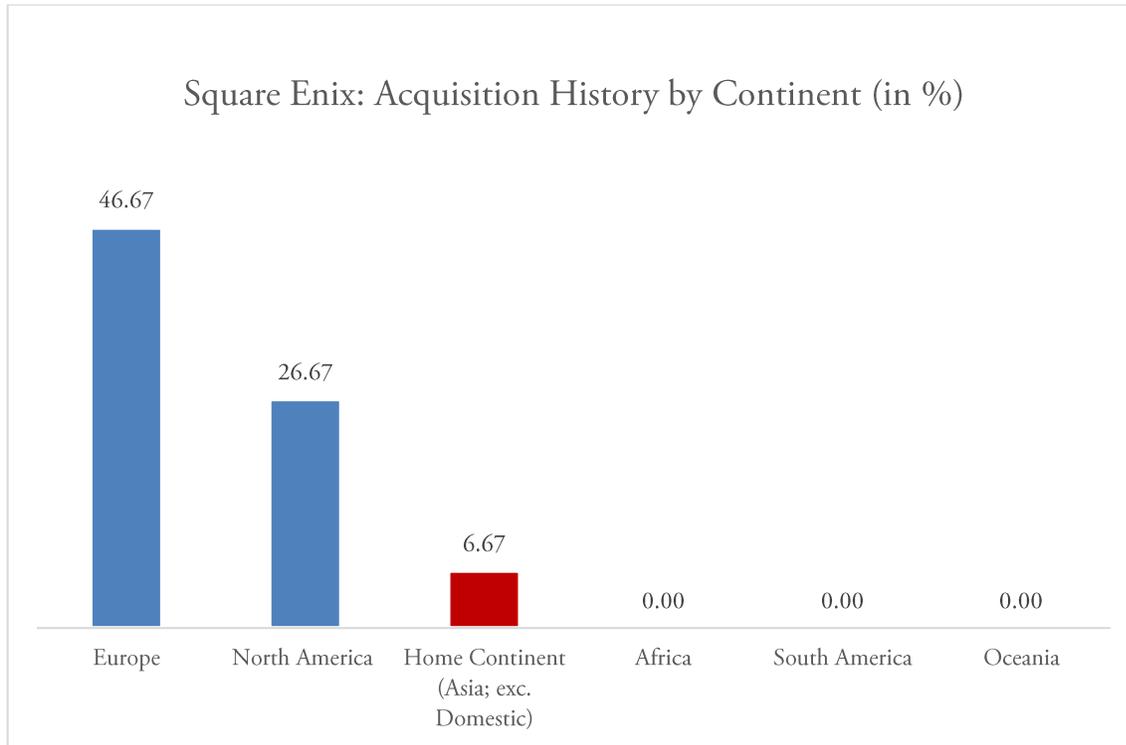
Figure 4.2.2a: Locations of Square Enix's Acquisitions

Square Enix: Acquisition Locations



Source: Own elaboration from sources listed in bibliography

Fig 4.2.2a maps out Square Enix' acquisitions by location while Fig 4.2.2b ranks the acquisition markets by their share of the total. Once again, Square Enix has turned to Europe for its acquisitions, in line with its international strategy mentioned above. North America is the second biggest source of acquisitions while once again, Asia comes last.

Figure 4.2.2b: Square Enix’s Acquisitions Divided by Continent

Source: Own elaboration from sources listed in bibliography

4.2.3.3 Disruptive versus Mainstream Capabilities

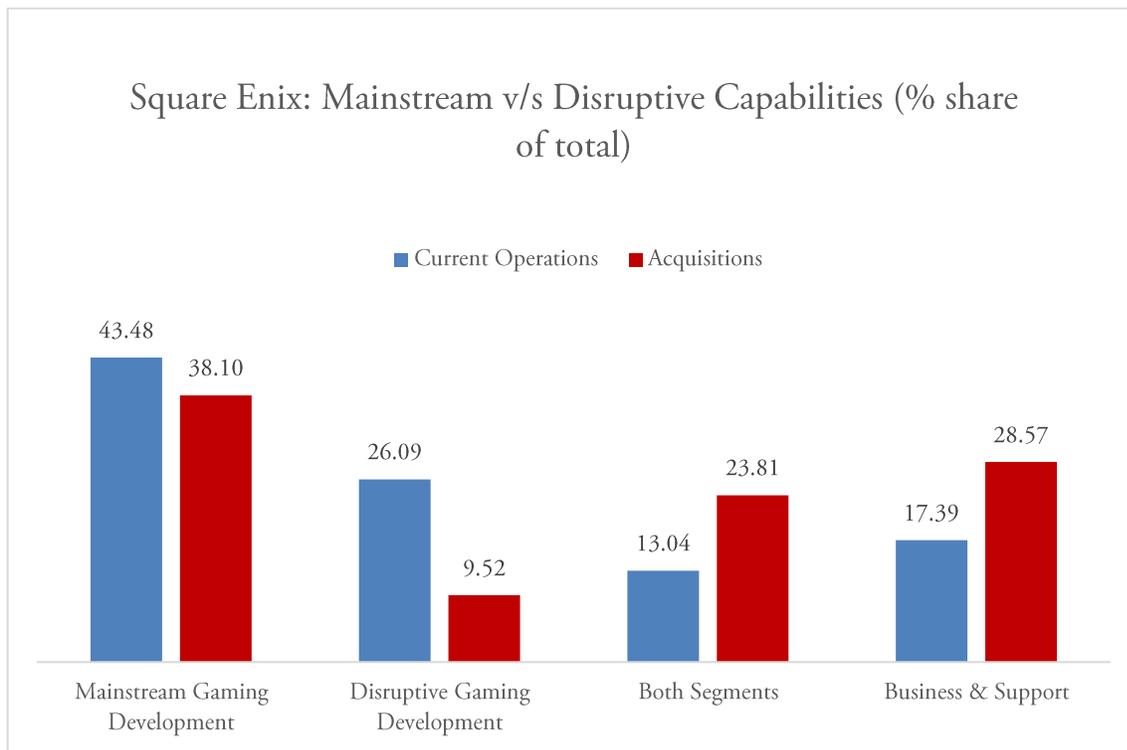
While still very much a mainstream gaming company, Square Enix has wholeheartedly embraced disruptive gaming. It released its first game for Japanese mobile platforms, *The Portopia Serial Murder Case* in 2003. Enix had previously ported a version of its successful *Dragon Quest* series to mobile in 2002 as *Dragon Quest Monsters i*. In line with its avant-garde approach to video gaming, Square Enix had recognised the ubiquitous nature of mobile phones and their gaming applications from the start. Disruptive gaming is simply a natural extension of Square Enix’s polymorphic strategy. Once again, to quote John Yamamoto in a 2004 interview:

“Also, we believe that the mobile phone, which we carry every day, being a multi-functional device, is an ideal channel through which to deliver polymorphic content,” he says. “So, maybe the mobile is one of the best multi-functional devices to make delivery of our polymorphic ideas. Utilising the everyday quality of the mobile phone, we will continue to provide content that everybody will enjoy.” (Fahey, 2004)

Square Enix’s first acquisition as a merged company in 2004 was mobile gaming studio UI Evolution INC, based in Los Angeles. However, apart from UI Evolution, PlayOnline and the Taito Corporation, which also had several mobile titles under its belt, most of Square Enix’s disruptive development has been in-house, unlike EA and Ubisoft who have developed acquired disruptive gaming abilities via acquisitions.

In 2008, it established two disruptive gaming ventures within a month of each other – Square Enix Mobile Studio in January and Smile Lab in February both intended to replace UI Evolution. In 2011, it added yet another disruptive development studio, Hippos Lab.

Figure 4.2.3: Square Enix’s Operations and Acquisitions by Capability



Source: Own elaboration from sources listed in bibliography

Currently, 26.09 % of Square Enix’s development operations are dedicated to disruptive gaming while a further 13.04% of its operations have disruptive gaming component in addition to its original segment. Thus, of all mainstream companies studied, Square Enix has the highest disruptive capabilities.

Mainstream Gaming

4.3 Ubisoft

Ubisoft is arguably the most recognizable European publisher of videogames today, notably for its popular *Assassin's Creed* series of games as well as *Far Cry*, *Prince of Persia* and the *Tom Clancy* series.

Headquartered in Rennes, in north-western France, it is chiefly a publisher for console games, the majority of its titles are published for the Sony PlayStation and Microsoft Xbox consoles. In recent years, Ubisoft has expanded into motion pictures and more importantly, disruptive gaming, particularly mobile. As of December 2016, Ubisoft is the 13th biggest videogame firm in the world with annual earnings of USD 1.6 billion and an impressive 57% growth rate.

4.3.1 Origins

Ubisoft was founded in Carentoir in France and from the beginning has been very much a family venture, helmed by the five Guillemot brothers who continue to play an active role in the company. The brothers began a retail business selling audio CDs and computers in the early 1980s finally moving on to videogames. Discovering the difference in margins between whole sale and retail, the brothers began a mail order service for games for the Amstrad computer in 1984, followed by those for Amiga and Atari.

Ubi Soft (the name was changed to Ubisoft in 2003) was formally founded in 1986 in Rennes and began life as a distributor of console games with agreements with well known publishers and developers such as Activision EA, Sierra Online and Lucas Arts.

The company started internal game development in 1991 with their Paris studio in Montreuil and opened their first international studio in Bucharest, Romania the following year. The first internally developed title, *Rayman*, designed by Michel Ancel and developed by Ubisoft Montpellier (then known as Ludimedia) was released in 1994 to great success, allowing the company to go public in 1996.

With its IPO, Ubisoft intended to delve deeper into videogame development as opposed to simple publishing and distribution. Following the capital injection of \$80 million with the IPO, Ubisoft went on an international expansion spree, opening studios in Shanghai, Montreal (which would go on to become its biggest operation), Casablanca and Milan as well as business subsidiaries in Japan, Hong Kong and Denmark, to name only a few.

Since 2000 Ubisoft has been consolidating its international presence, moving into previously untapped markets and segments. At the same time, it has been under threat of takeovers from French media conglomerate Vivendi, which has already acquired one Ubisoft property, Gameloft.

4.3.1.1 Business Model

Ubisoft is essentially a publisher developer – it publishes titles by third party studios in addition to developing its own titles. More specifically, Ubisoft’s strategy is centred around the franchise business model, creating multiple games in the same universe with the same IP assets, a move that the company says assures long term visibility. As a consequence, despite publishing third party titles, it also focuses on acquiring its own brands.

While it continues to follow the traditional retail distribution channels of mainstream gaming firms, it has also opened up to newer models, such as app downloads and free to play, albeit with varying results.

4.3.2 Early Internationalization

4.3.2.1 Speed of Internationalization

Ubisoft first ventured abroad in 1991 with marketing and distribution subsidiaries in the US, UK and Germany, thus giving it a speed of internationalization of 5 years. As with many other mainstream gaming companies, such as Electronic Arts, these operations were a way to take control of distribution and sales channels. As far as Ubisoft was concerned, this also signified a step towards building a market for its in-house titles – up until then it was known chiefly as a distributor of third party games.

4.3.2.2 Openness to Distance

For analysis purposes, I consider the United States its first international venture, since this is implied by company documents to be so. The overall openness to distance score for Ubisoft is 210. The CAGE analysis and for US and France is found in Table 4.3a and 4.3b.

Table 4.3a: CAGE Analysis for Ubisoft

Dimension	Indicator	Home (France)	International (United States)
Cultural	De facto Language	French	English
	Language family	Indo-European	Indo-European
	Written Script	Latin	Latin
	Avg. Cultural Dimension Score	63.17	55.5
	Shared Historical Ties	Yes	
	Shared Sociocultural Institutional Membership	No	
Administrative & Political	Political system	Unitary Republic	Federal Republic
	Shared Colonial Ties	Yes	
	Shared Institutional Membership & FTAs in 1991	United Nations, World Bank, OECD; no FTAs	
Geographic	Physical Distance (Paris - San Francisco)	8,924.29 km	
	Time Difference (Paris - San Francisco)	Minus 9 hours	
	Air transport, registered carrier departures worldwide in 1991	408,000	6,623,900
	Electric power consumption (1991, kWh per capita)	6,360	12,134
Economic	GDP per capita, PPP (1991, constant 2011 international \$)	29,811	36,543
	Household final consumption expenditure per capita (1991, constant 2010 US\$)	17,639.00	22,846.00
	High-technology exports (1991, % of manufactured exports)	19%	32%
	Charges for the use of intellectual property, payments (1991, BoP, current US\$, thousands)	1,748,149.93	4,040,000.00

Source: Own elaboration from sources listed in bibliography

- *Cultural:* France and the United States have had a long history together and the former was a significant ally to the American independence cause in the 18th century. Moreover, French and English as Indo-European language using the same Latin script have more in common than say, English and Japanese. On the other hand, according to Hofstede's cultural dimensions, the French and the Americans have a very different cultural makeup. Indeed, the disparity in scores for this indicator is second only to the disparity between the Japanese and Americans. Thus, while translating and localizing videogames made for the French market to the American one may not be very complex, the socio-cultural characteristics of the intended audience may be quite different from the foreign one. Taking this into consideration, the cultural distance between France and the US is scored at 2 points.
- *Administrative and Political:* Both France and the United States are republics, albeit of two different flavours – France is, strictly speaking, a unitary senatorial semi-presidential republic while the US is a federal presidential one. All the same, this is not as disparate, particularly considering the multiple shared memberships in intergovernmental organizations the two share, including permanent membership of the United Nations Security Council. Moreover, France and the US share colonial ties – French colonization of present day United States started in the 16th century and the two have shared close ties since then. Therefore, this dimension is score as 1.
- *Geographic:* The physical distance between Paris and San Francisco is fairly high, however the distance is somewhat mitigated by the time difference of 9 hours which while high is lower than many other markets studied. On the other hand, France was less well connected than the States in 1991, which might have possibly affected distribution. Similarly, lower electricity consumption per capita implies lower use of electronics and consequently, videogames. Accordingly, this dimension shows moderately high distance and is scored 3.
- *Economic:* The United States and France are both developed countries and their economic profile for 1991 reflects the similarities in economic development when it comes to per capita income and household consumption expenditure. On the other hand, the United

States had a far more developed technology sector in 1991 and this moderates the comparative lack of economic distance. Thus, this dimension is scored 2.

Table 4.3b: CAGE Analysis Scoreboard for Ubisoft

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	2	40	80
ADMINISTRATIVE	1	10	10
GEOGRAPHIC	3	20	60
ECONOMIC	2	30	60
TOTAL			210

Source: Own elaboration from sources listed in bibliography

4.3.3 Subsequent Internationalization

With 50 operational international locations, Ubisoft is by far the most geographically diverse firm studied, whether mainstream or disruptive. Its first international development studio was inaugurated in Bucharest in 1994. Today, its biggest studio operation is an international one – its Montreal studio. Moreover, with 3000 employees, Ubisoft Montreal is the biggest videogame studio in the world today.

While its market selection does show a fair level of reluctance to embrace distance – most of its operations are focused on Europe – it is the only company studied that has had operations in markets that do not normally feature among videogame companies notably its Moroccan operations, open in 1998 but shut down in 2016, nevertheless represents the only operation by a videogame company in this study in Africa to date. Ubisoft’s first non-European office was in Japan, an established gaming hub. However, it did also set up a production unit in Shanghai in

1996 in an early recognition of China's potential. Currently, it runs a mobile gaming studio in Abu Dhabi, making it the only company studied to run operations in the Middle East.

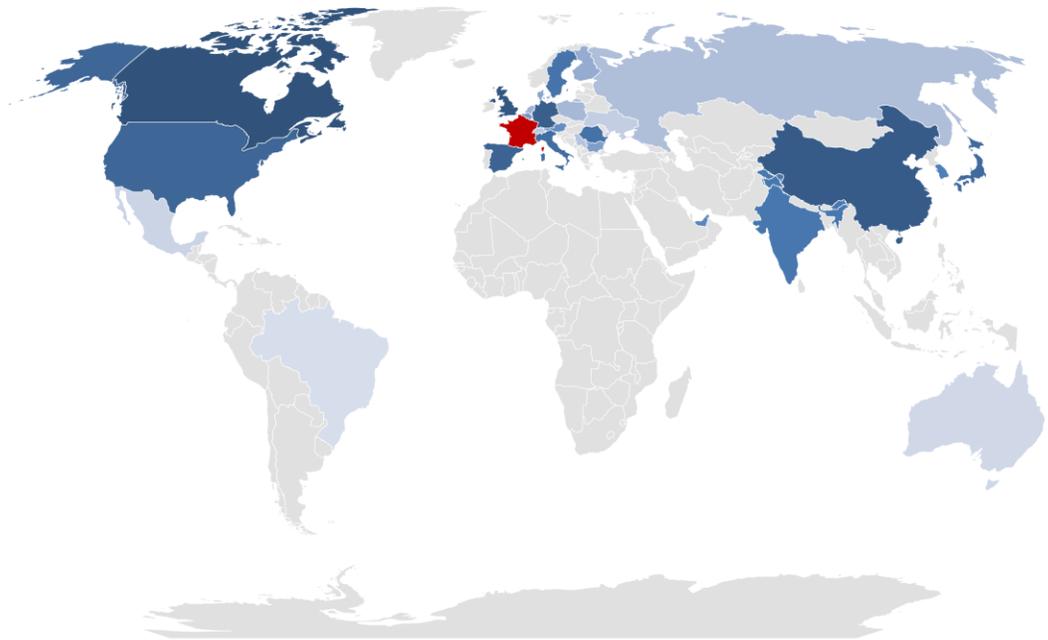
4.3.3.1 Current Operations

Fig 4.3.1a maps out the spread of Ubisoft's current operations. Ubisoft's openness to internationalization is demonstrated not just in absolute numbers, but in the share of international operations, which at 79.37% of the total is the highest among all firms studied.

However, Ubisoft's international operations have a very clear European slant at 44% of the total, even excluding domestic French operations (Fig 4.3.1b). Its next most important markets are equally, North America and Asia (15.87%) each while South America and Oceania come in last at 1.59% each (although it must be noted that Ubisoft is the only firm studied with current operations in South America and the only one to do so after Electronic Arts).

Figure 4.3.1a: Locations of Ubisoft's Current Operations

Ubisoft: Current Operations



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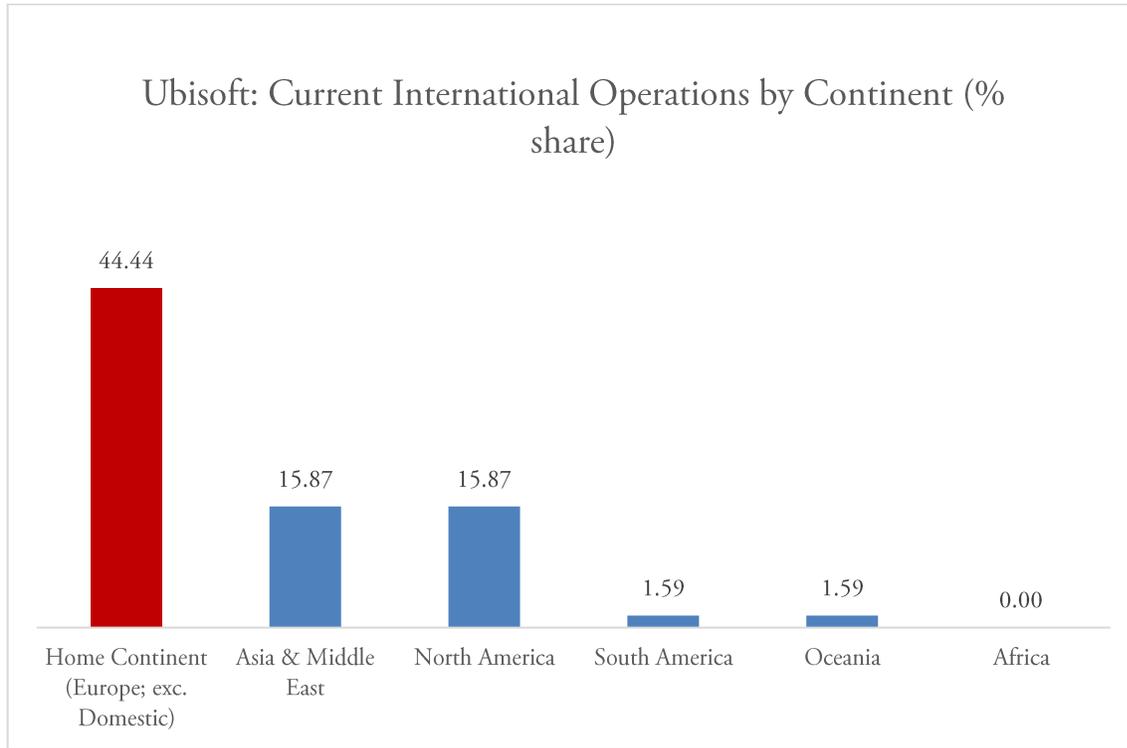
■ France: 13	■ Canada: 6	■ UK: 5	■ China: 3	■ Germany: 3
■ Spain: 3	■ US: 3	■ Japan: 2	■ Italy: 2	■ Romania: 2
■ Sweden: 2	■ India: 1	■ Philippines: 1	■ Singapore: 1	■ South Korea: 1
■ UAE: 1	■ Austria: 1	■ Belgium: 1	■ Bulgaria: 1	■ Denmark: 1

Source: Own elaboration from sources listed in bibliography

In terms of individual countries, Canada forms Ubisoft's biggest international market with a total of six operations. However, almost all of these are in the francophone province of Quebec. As noted earlier, its most important operation in terms of both development and business operations is located in Montreal. While Quebec's videogame focused trade promotion activities may have played a part, the resultant low distance arising from shared linguistic and historical ties is sure to have played a part – while every mainstream gaming company studied has at least one operation

in Quebec, none of them are as intensive as Ubisoft. More so considering that the company is all set to open a fifth Quebecois operation in Saguenay in 2018.

Figure 4.3.1b: Ubisoft’s Current Operations Divided by Continent



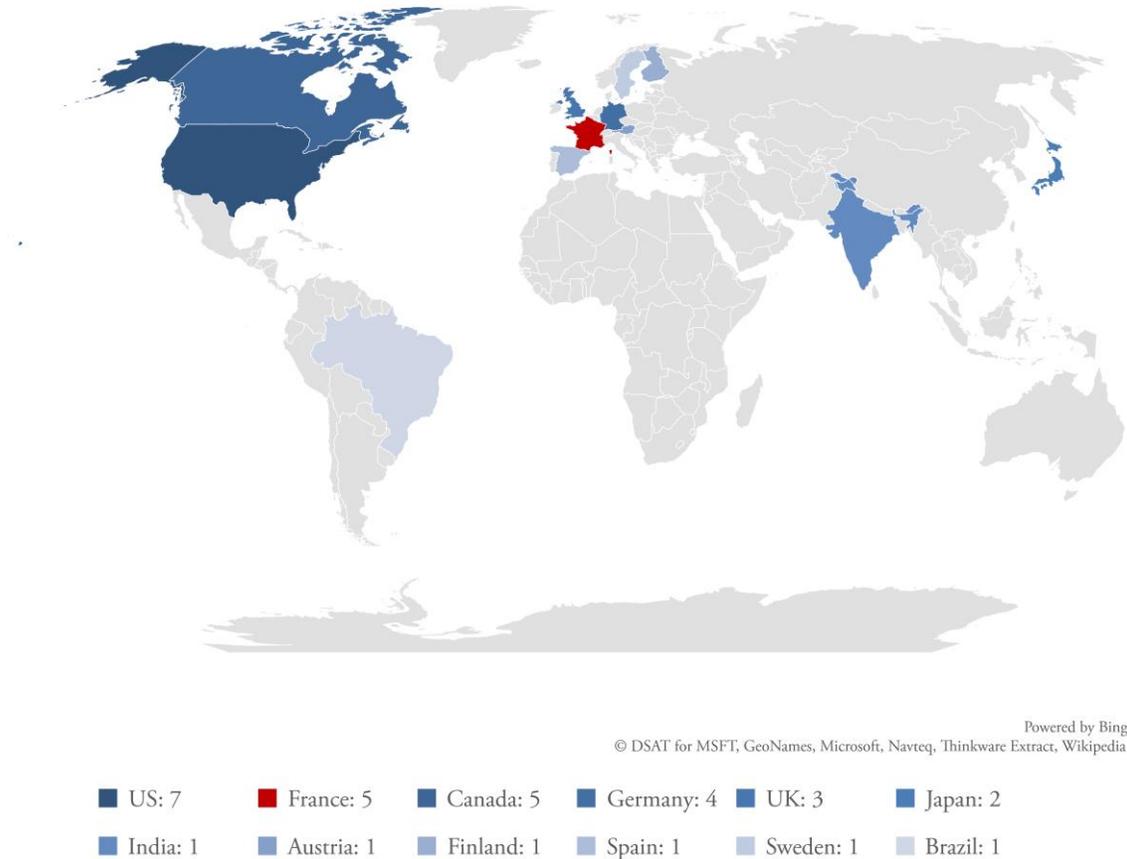
Source: Own elaboration from sources listed in bibliography

4.3.3.2 Acquisition History

As with many other gaming firms, acquisitions have been a way for Ubisoft to gather the development capabilities required to move from its original role as a distributor of videogames made by other studios and publishers to a prolific publisher-developer in its own right. Fig 4.3.2a maps out Ubisoft’s acquisition locations

Figure 4.3.2a: Locations of Ubisoft's Acquisitions

Ubisoft: Acquisition Locations



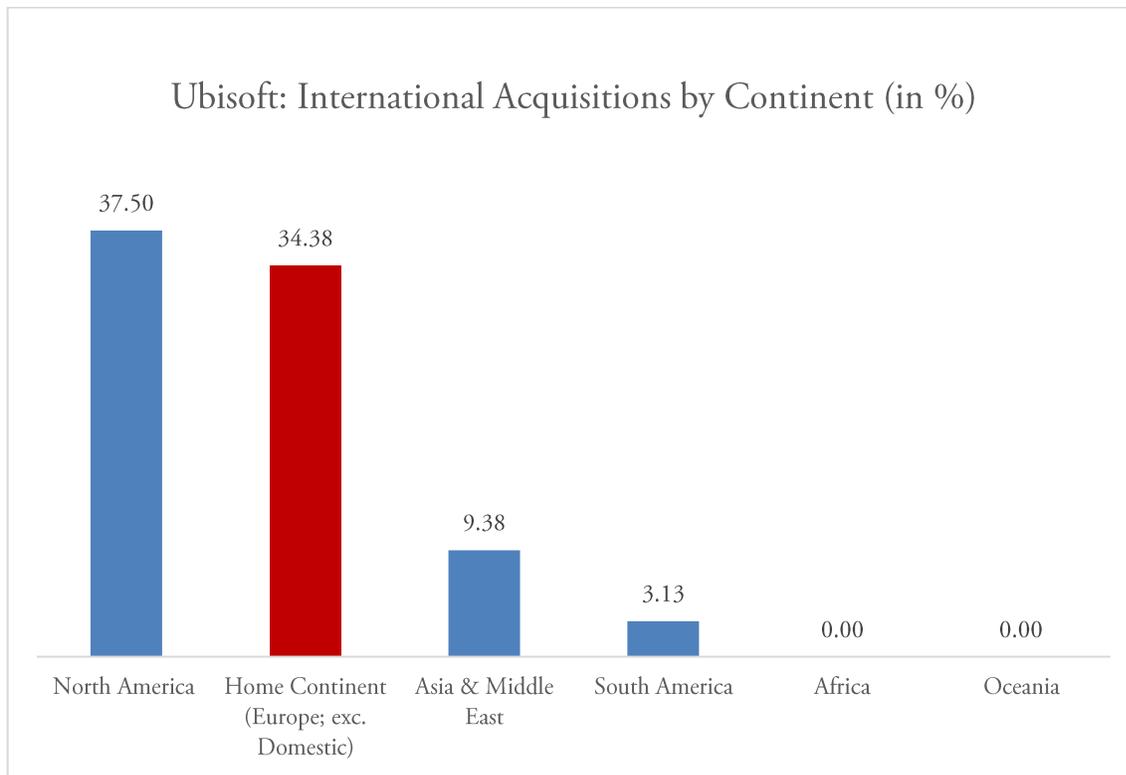
Source: Own elaboration from sources listed in bibliography

While Ubisoft had a stream of international expansions in the 1990s, these were in the form of greenfield projects. It did not make its first international acquisition until 2000 with the purchase of Austrian videogame retail firm Game Busters, which was later renamed Ubisoft Austria and continues to handle marketing, sales and public relations for the region. However, this was followed by several strategic acquisitions of independent game studios, notably industry veteran

Strategic Simulations Inc (SSI) in 2001. Founded in 1979, SSI introduced the nascent gaming public to such classics as *Dungeons & Dragons* and *Panzer II*.

Other significant acquisitions in this period included another industry veteran, UK-based Reflections Interactive, US-based Red Storm Entertainment (creators of the famous *Tom Clancy* series) and Swedish Massive Entertainment (purchased from rival publisher-developer Activision Blizzard). In the 2010s, Ubisoft has made multiple acquisitions in disruptive gaming, particularly in mobile gaming, starting with Owliont in 2011.

Figure 4.3.2b: Ubisoft’s Acquisitions Divided by Continent



Source: Own elaboration from sources listed in bibliography

In terms of location, North America has been the source of most of Ubisoft’s acquisitions, followed closely by Europe. While the other regions have a much lower share, it is interesting to note that Ubisoft has made a little over 3% of its acquisitions in South America, one of the few companies studied to have ventured there.

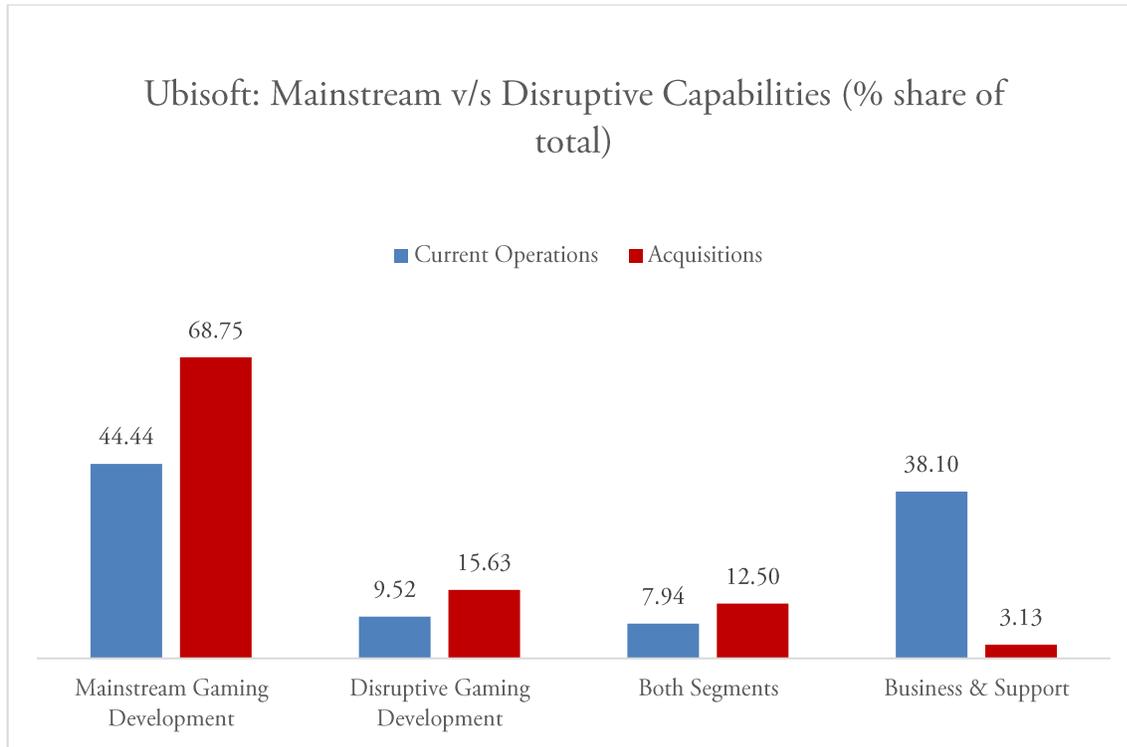
4.3.3.3 Disruptive versus Mainstream Capabilities

Ubisoft has openly declared its openness to disruption. In an interview in 2012, CEO Yves Guillemot stated that the company's policy of adapting to disruptive platforms such as mobile was to adapt the new platforms and produce titles for multiple platforms as quickly as possible, following this with monetized sequels after the initial capture of a particular platform market.

Traditionally catering to a decidedly mainstream gaming audience, Ubisoft made the decision to delve into non-traditional gamers in 2007 with an announcement of a new casual games division, beginning with two educational games, *My Life Coach* and *My Word Coach* aimed at helping users improve their wellbeing and linguistic skills respectively. A few years earlier, Ubisoft had published the *Petz* series of games aimed at children, and in 2003, increased its minority stake in Gameloft on the basis of the growing mobile gaming market - Gameloft largely produces mobile content (and was founded by Michel Guillemot). However, it was starting 2007 that it modified its business strategy to tap into the growing disruptive market.

In 2012, Ubisoft created its Mobile HQ to integrate the acquisitions in mobile gaming that it began purchasing in 2011 – Owlent (2011), Digital Chocolate (2011), Future Games of London (2013) and Ketchapp (2016). Early in 2017 it made the foray into online browser games with the purchase of Growtopia. In addition, its Abu Dhabi operation as well as its now defunct Casablanca one were both involved in mobile gaming. On the other hand, its foray into free to play online gaming has not yielded the desired results and in 2016, Ubisoft shut down four such games.

Figure 4.3.3: Ubisoft's Operations and Acquisitions by Capability



Source: Own elaboration from sources listed in bibliography

Currently 9.52% of its operations are devoted to disruptive gaming while an additional 7.94% of studios have competences to work in both mainstream and disruptive gaming. These figures are slightly larger when it comes to acquisitions (15.6% and 12.5% respectively).

Disruptive Gaming

4.4 Nexon

A pioneer in disruptive gaming, South Korean videogame publisher Nexon is credited with many firsts – the first graphical Massively Multiplayer Online Role-Playing Game (MMORPG), the first Internet quiz game, the first dedicated esports arena; and even more significantly, the first free to play game. Nexon was arguably the first disruptive gaming company at a time when disruptive innovation was barely recognized. As the company, itself states:

“What we did, in essence, was revolutionize the online gaming industry by dispelling the notion that online games are only being played by a marginal group of hardcore gamers. We proved that online games are a progressive, mainstream form of entertainment to be enjoyed by everyone clear across the demographic spectrum.” (Nexon, 2015)

Nexon was founded in Seoul in 1994 and has grown to be the country’s largest gaming company. Its online racing game, *KartRider* is one of the most popular in South Korea with over 30% of the population estimated to play it. Today, its games boast of 1.4 billion users internationally. According to videogame market research firm Newzoo’s annual rankings of videogame companies by revenue, Nexon was the 15th biggest videogame company in the world in 2016, and the third biggest disruptive gaming publisher/developer after Tencent and Netease. Nexon’s reputation has been solidified by successful IP assets such as *Dungeon & Fighter*, *Mabinogi* and *MapleStory*, which continue to be popular over a decade after their launch.

4.4.1 Origins

Nexon was founded in Seoul, South Korea as the NEXON Corporation in 1994 by software developers Kim Jung-ju and Jake Song. In 1995, it launched its first game, and the first graphic MMORPG, *Baramue Nara* or *Kingdom of the Winds*, based on Korean mythology. The game was launched in 1997 in the United States as *Nexus: The Kingdom of the Winds*. It was soon followed by *QuizQuiz*, the first online Internet quiz game.

In 2003, Nexon moved its headquarters from Seoul to Tokyo. The same year, it published one of its most successful games, *MapleStory*, a free to play MMORPG. The following year, it published *Mabinogi*, developed by its internal studio devCAT, part of its Korean operations. Both titles continue to attract users 14 years after their release.

However, Nexon remained a private company until 2011 when its initial public offering on the Tokyo Stock Exchange became the largest IPO in Japan and the second largest tech IPO globally for that year.

4.4.1.1 Business Model

Online MMORPGs form the bulk of Nexon's gaming titles, followed by games for mobile devices. Nexon uses wholly owned subsidiaries (either greenfields or acquisitions) to develop its own titles and at the same time, has partnerships with independent studios to publish their games via its subsidiaries in South Korea, Japan, the United States, Taiwan and Thailand. Two of its most successful titles, *Dungeon & Fighter* and *MapleStory* and *Mabinogi*, were originally developed by independent studios Neople and Wizet respectively, both of which were acquired shortly after the games' release.

While licensing its games Nexon uses a franchise model in markets where it is not present. Thus *MapleStory* is published by Nexon's own subsidiaries in North America, Japan and Europe but Shanda Entertainment in China and Level!Up Games in Brazil, to name a few. Nexon has partnerships with studios and publishers in over 110 countries.

While Nexon's first titles, *The Kingdom of the Winds* used a pay to play model, the company became a pioneer of the free to play business model which forms the backbone of disruptive gaming with its online quiz game *Quiz, Quiz* (now known as *QPlay*) used microtransactions to allow users to purchase virtual goods for their in-game avatars as well as other accessories and items.

4.4.2 Early Internationalization

4.4.2.1 Speed of Internationalization

Nexon's first international operation was establishing KRU Interactive in 1994, showing a speed of 3 years, which is slightly higher than the other disruptive firms studied in this thesis, both of which internationalized within 2 years of founding.

However, compared to mainstream gaming firms such as Ubisoft (5 years) and EA (4 years), this is still fairly rapid. Moreover, as its first international base Nexon chose Santa Clara, California which has a large distance from its home base of South Korea. KRU Interactive eventually demerged from the parent company. Becoming an independent company following the establishment of Nexon America in 2005.

4.4.2.2 Openness to Distance

Nexon's Openness to Distance score is 380, the highest of all firms studied. The CAGE analysis can be found in Tables 4.3a and 4.3b as follows:

Table 4.4a: CAGE Analysis for Nexon

Dimension	Indicator	Home (South Korea)	International (United States)
Cultural	De facto Language	Korean	English
	Language family	Koreanic	Indo-European
	Written Script	Hangul (but also occasionally uses Chinese origin Hanja script)	Latin
	Avg. Cultural Dimension Score	55.17	55.5
	Shared Historical Ties	Yes; but recent, dating back to Korean War	
	Shared Sociocultural Institutional Membership	No	
Administrative & Political	Political system	Unitary Republic	Federal Republic
	Shared Colonial Ties	No, but significant US presence via military alliance in 1953	

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	Shared Institutional Membership & FTAs in 1997	United Nations, World Bank, WTO, OECD, G20; no FTAs in 1997	
Geographic	Physical Distance (Seoul - Santa Clara)	8,881.19 km approx.	
	Time Difference (Seoul - Santa Clara)	Minus 17 hours	
	Air transport, registered carrier departures worldwide, 1997	229,300	7,942,900
	Electric power consumption (1997, kWh per capita)	4,652	12,890
Economic	GDP per capita, PPP (1997, constant 2011 international \$)	18,527	41,812
	Household final consumption expenditure per capita (1997, constant 2010 US\$)	7,999.00	26,134.00
	High-technology exports (% of manufactured exports)	27%	32%
	Charges for the use of intellectual property, payments (1997, BoP, current US\$, thousands)	2,529,800.00	9,161,000.00

Source: Own elaboration from sources listed in bibliography

- Cultural:* At first glance, South Korea and the United States have a very high cultural distance. The linguistic disparities between Korean which uses the hangul script and the United States' de facto language, English is high, although considering the comparative simplicity of hangul as a syllabary this linguistic distance is less marked than say, English and Japanese or Chinese. Moreover, the first game Nexon introduced in the United States, Kingdom of the Winds was heavily influenced by Korean mythology and American audiences' lack of familiarity with the mythological history of the game would have certainly been an initial obstacle. On the other hand, the two countries have had a recent but close history – they have been allies since the 1950s. Indeed, a congressional report prepared by the United States government calls South Korea one of the country's most important and strategic partners in Asia. According to Hofstede's cultural dimensions, while the two vary on different indicators, their average scores are strikingly similar. Thus, the cultural distance between the United States and South Korea is moderately high and is thus scored as 3.

- *Administrative and Political:* The two countries are both republics and while they do not have any colonial ties, the US was a significant military ally for South Korea in the Korean war and the alliance holds to this day. In 1997, both countries shared membership of a higher number of intergovernmental organizations than in the years before - the United Nations, the OECD, the World Bank and the WTO (formed in 1995). However, there were no bilateral trade agreements between the two, it would take ten more years for the United States-Korea Free Trade Agreement to come into being. Thus, this dimension is scored 1 point.
- *Geographic:* Geographically, South Korea and the United States are very far apart. The distance between Nexon's Seoul headquarters in 1997 and their Santa Clara operation is roughly 8,881.19 km. This distance would have been exacerbated by the 17-hour time difference. For a company specializing in MMORPGs, the time delays would be significant, especially considering Internet servers were not as reliable in 1997 as they are now. Moreover, South Korea was far less connected in terms of air transport and Seoul was not the kind of global hub it is now. Electricity consumption too was much higher in the States. Thus, this dimension is score as an extremely high distance one, with 5 points.
- *Economic:* Economically speaking, South Korea in 1997 was quite distant from the United States. The country was reeling under the 1997 Asian financial crisis and macroeconomic indicators such as current account deficit, exports and industrial production had already taken a negative turn since 1995. On the other hand, the United States per capita income was more than twice that of South Korea's, its per capita final household consumption more than three times that of the latter. The United States had more technology exports and made more payments for intellectual property rights. Since the economic profile of the States was stronger in every way from South Korea in 1997, economic distance is scored 5.

Table 4.4b: CAGE Analysis Scoreboard for Nexon

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	3	40	120
ADMINISTRATIVE	1	10	10
GEOGRAPHIC	5	20	100
ECONOMIC	5	30	150
TOTAL			380

Source: Own elaboration from sources listed in bibliography

4.4.3 Subsequent Internationalization

While at first glance, Nexon might appear to be less diversified internationally than other disruptive firms thanks to its concentration in Asia and North America, thanks to its franchise business model, it serves many more via various partnerships. Indeed, 70% of Nexon's revenue comes from overseas operations. Furthermore, Nexon has investments in a number of foreign studios such as Shiver Entertainment, Robotoki and Rumbel Games in the US and Playfusion in the UK.

The United States was Nexon's first international market, and continues to be its biggest one outside Asia. Unlike other firms studied, Europe does not figure among Nexon's priority markets either in current operations or in its acquisition history. At the same time, it does have a consolidated subsidiary on the continent – Nexon Europe Limited was initially launched in 2007 in the UK, which was moved to NEXON Europe S.à r.l. in Luxembourg in 2010. Nexon's European operations were once again shifted to Nexon Europe GmbH in Berlin in 2015. The company established its Taiwanese operations in the same year and subsequent years have seen a gradual outreach to developing markets in South East Asia.

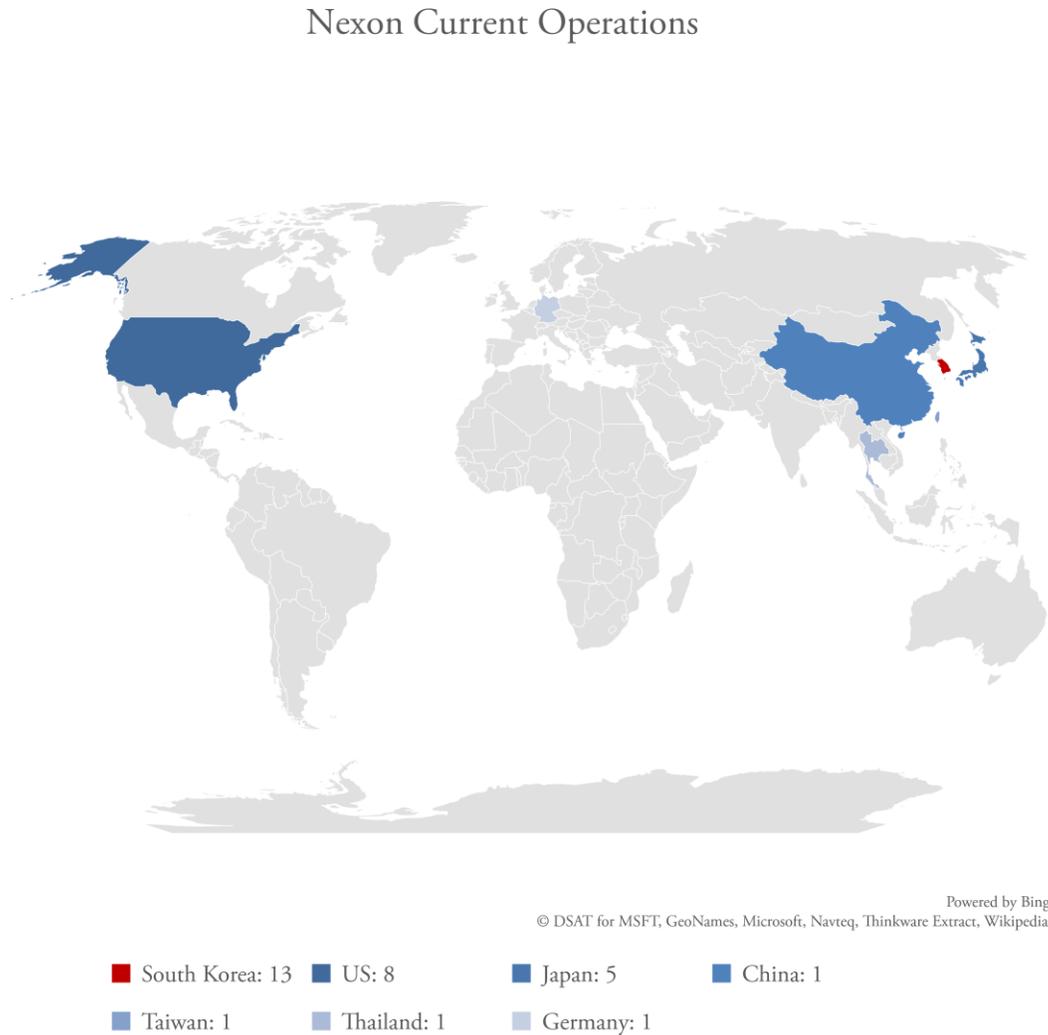
Nexon entered the Japanese market with a strategic alliance in 2000 with Solid Networks Inc and finally moved its headquarters to Tokyo the following year. Despite this move, Nexon remains essentially a South Korean company with a higher concentration of operations in that country. Consequently, for analysis purposes, this study treats Nexon as a South Korean firm and not a Japanese one.

4.4.3.1 Current Operations

Fig 4.4.1a shows a map of Nexon's current operations, both domestic and international. South Korea, the United States and Japan form the company's principal markets.

As mentioned before, despite having moved its headquarters to Japan, Nexon remains at heart, a South Korean company and this is reflected in the fact that most of its operations are located in South Korea. Of all the companies studied, Nexon shows the highest parity between domestic and international operations – while most companies have a necessarily higher percentage of international operations, only 56.67% of Nexon's operations are located abroad. At the same time, the fact that it has moved headquarters to an international location (albeit a culturally close one) and management is both South Korean and Japanese indicates a greater openness to internationalization than would be indicated by the figure previously mentioned.

Figure 4.4.1a: Locations of Nexon's Current Operations



Source: Own elaboration from sources listed in bibliography

While it may seem that the majority of Nexon's operations are focused on its home continent of Asia (70%), excluding domestic operations indicates that international operations are equally divided among Asia and North America at 26.67% each of the total (Fig X). While the non-existent presence in Africa, South America and Oceania is not unusual, Europe is somewhat underserved with only one major operation in Germany, which has replaced previous Nexon European headquarters in Luxembourg. Even while accounting for partnerships instead of

greenfields and acquisitions, Nexon has the smallest presence in Europe of all the other continents served.

Figure 4.4.1b: Nexon’s Current Operations Divided by Continent



Source: Own elaboration from sources listed in bibliography

4.4.3.2 Acquisition History

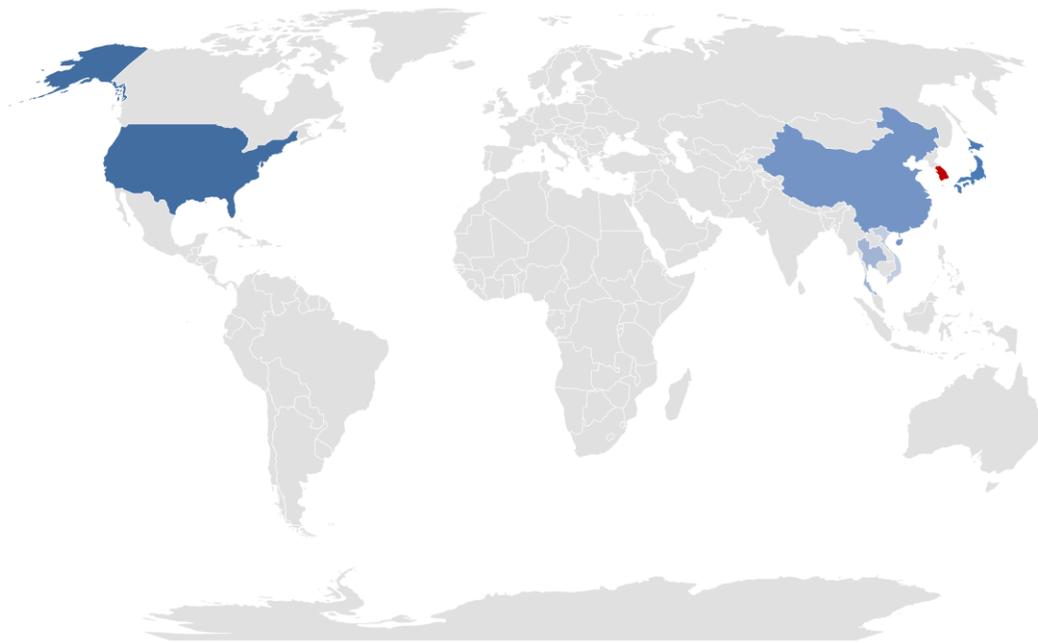
Nexon’s acquisition history is limited to Asia and North America as mapped out in Fig 4.4.2a and Fig 4.4.2b

Nexon’s first acquisition was *MapleStory* developer Wizet in 2004, followed by another South Korean MMORPG developer, Neople in 2008, makers of the wildly popular *Dungeon & Fighter* (also known as *Dungeon Fighter* outside Asia). Both acquisitions brought valuable IPs to the company. Nexon’s first international acquisition, however, was not until the following year when it acquired California-based Fantage, another MMORPG maker. Contrary to Neople’s action, beat’ em up game, Fantage is a lifestyle MMORPG focused on virtual goods. Nexon’s acquisition

profile for the subsequent years was largely limited to Asian companies, albeit with American subsidiaries. In 2013, Nexon acquired Big Huge Games, its first non-Asian origin game developer since Fantage.

Figure 4.4.2a: Locations of Nexon's Acquisitions

Nexon: Acquisition Locations

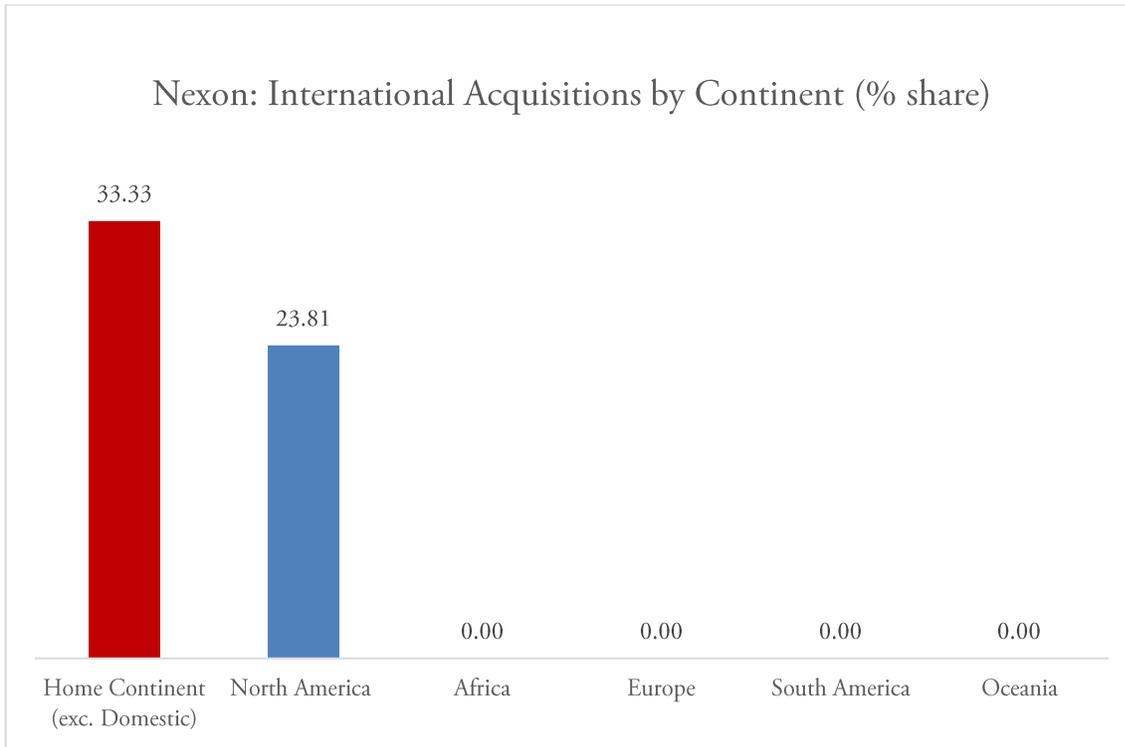


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■ South Korea: 9 ■ US: 5 ■ Japan: 4 ■ China: 1 ■ Thailand: 1 ■ Vietnam: 1

Source: Own elaboration from sources listed in bibliography

Figure 4.4.2b: Nexon’s Acquisitions Divided by Continent



Source: Own elaboration from sources listed in bibliography

While its international acquisitions outnumber its domestic ones, Asia is still the source of most of the companies acquired. When we exclude South Korea from the count, Asian acquisitions account for 33.33% of the total, followed by North America at 23.81% (Fig 4.4.2b). Moreover, most of the acquisition locations, even in Asia, are in relatively mature or developing gaming markets such as Japan as well as China and South Korea which while comparatively less developed, have an established disruptive gaming market. Nexon tried to cater to nascent gaming markets via acquisitions in Vietnam in 2012 (Gloops’ Ho Chi Minh office, shut in 2016) and Thailand (iDigital Connect, rebranded Nexon Thailand in 2016). With the new Thai office, Nexon aims to push forward into the South East Asian market, which has an estimated growth rate of 45%.

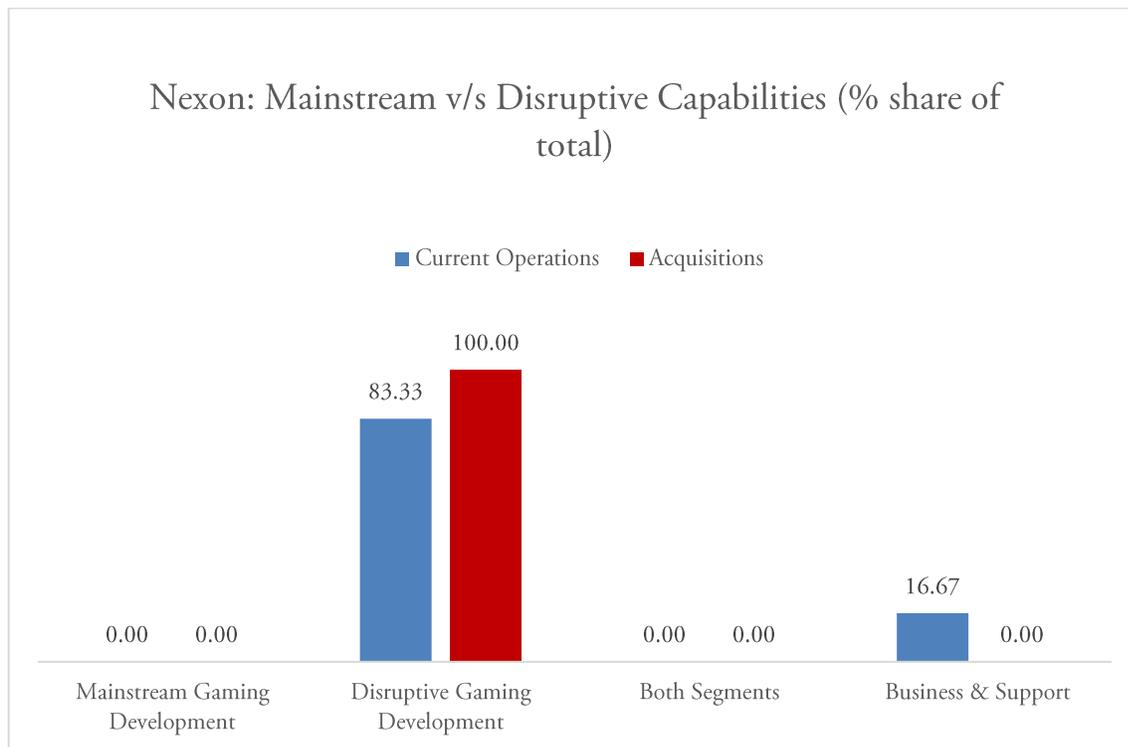
In recent years Nexon has been making a more concentrated effort in acquiring mobile developers, as opposed to online MMORPG ones. South Korean mobile game developer Rushmo, with operations in Seoul and El Segundo in 2009 was Nexon’s first mobile development acquisition

and has since been rebranded Nexon Mobile and Nexon M (in America). It has also acquired developers to work with country-specific mobile platforms such as Japanese developers InBlue who make games for Japan’s GREE and Mobage platforms. Some of its other acquisitions, such as Big Huge Games cater to both online and mobile gaming.

4.4.3.3 Disruptive versus Mainstream Capabilities

As mentioned earlier, Nexon has been a pioneer in disruptive gaming with the first graphical MMORPG and one of the earliest free to play monetization strategies. It has also been on the vanguard of recognizing trends within disruptive gaming – it developed the first dedicated esports arena in the world in 2013, in Seoul. The Nexon Arena hosts competitive matches for its own game, Kart Rider as well as those by other publishers, including Activision Blizzard’s StarCraft, and Riot Games’ League of Legends (owned by another disruptive gaming company, Tencent Games).

Figure 4.4.3: Nexon’s Operations and Acquisitions by Capability



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Source: Own elaboration from sources listed in bibliography

As we can see in Fig 4.4.3 when it comes to acquiring or establishing developmental capabilities, Nexon is firmly entrenched in disruptive gaming. In the last few years, as the acquisition history shows, Nexon has been trying to solidify its presence not only in mobile gaming (as opposed to its original sub-segment of online gaming and MMORPGs) but in nascent gaming markets such as Thailand.

Disruptive Gaming

4.5 Tencent

Tencent, headquartered in Shenzhen, China, is a tech conglomerate with fingers in multiple product pies – social media electronic hardware, online payment services, movies and music, to name only a few. It is also the biggest game company in world today.

Tencent was ranked number one in the world in market research firm Newzoo’s annual ranking of videogame companies by revenue in 2016. Not only does Tencent lead seasoned industry veterans such as Sony, Microsoft and Activision Blizzard, its earnings in 2016 were almost double that of its closest rivals. Tencent made US\$10.201 billion, while the second biggest videogame company in the world, Sony, a gaming leviathan that incorporates not only game development and publishing but also console manufacturing, made only \$7.837 billion in the same year.

If past trends are anything to go by, Tencent’s position can only get stronger – it showed a growth rate of 17% in the last year alone. With strategic acquisitions made in Europe and the United States, it has now cornered 10% of the global videogame market. Minority stakes in multiple gaming and non-gaming tech companies such as Activision Blizzard, Zynga, Groupon, Facebook, and Twitter make it a tech giant in itself.

And yet, most of its games are virtually unknown outside China. Unlike other videogame companies, Tencent does not boast of original IP assets with a dedicated fan following. Instead, it has made its billions adapting popular games to its QQ mobile instant messaging platform – or, as its critics would allege, copying successful games for its domestic Chinese audience. All the same, if there is one company that can represent the power of disruptive gaming, it is Tencent.

4.5.1 Origins

Tencent was formed in 1998 by four college friends in Shenzhen, including “Pony” Ma Huateng, its charismatic CEO who has been at the helm of the company for the last 19 years. Huateng and

his colleagues founded the company in order to create a Chinese version of what was then the most popular instant messaging service in the world – ICQ. The resulting QQ messenger quickly caught on among the Chinese youth and is today the country’s largest instant messaging service with over 850 million active users a month as of 2017.

QQ Messenger formed the foundation for Tencent Games when the company entered the videogame industry with a trial run of games for the platform on 18th August, 2003. From 100 simultaneous users, Tencent reached 620,000 simultaneous gamers in only one year.

In 2004, Tencent went public and also formally launched its gaming operations with 18 proprietary titles available on the QQ platform. However, the growth of rival gaming companies such as NetEase (incidentally, ranked 7th globally in 2016) and Shanda Entertainment, the company began to make gaming a priority and to start importing titles from foreign developers. South Korea, with its established online gaming market made for a logical choice. In 2007, Tencent acquired the licensing rights for a number of games, including a strategic alliance with Samsung Electronics to licence its highly popular *Dungeon & Fighter* game for publishing in the Chinese market.

4.5.1.1 Business Model

As pointed out earlier, Tencent is involved in a wide variety of businesses – one estimation was around 500 different product groups. Tencent Games however, uses a common monetization strategy among disruptive game companies – in-app purchases.

Decades of software piracy means that Chinese consumers are far less likely to pay for games than those in established markets. Thus, instead of charging for the games themselves, Tencent charges for virtual goods gamers can use to enhance the gaming experience, such as virtual clothes and accessories for gamers’ online personas, virtual properties, even virtual pets. A percentage of the revenue from these goods is given to third party game developers where applicable.

While Tencent has a number of proprietary studios in China, such as the TiMi Studio group and the Morefun Studio group, which comprise seven individual studios, the company does not have

instantly recognizable IPs. It is only thanks to its acquisition of Riot Games and Supercell that Tencent has been able to include globally famous titles such as League of Legends and Clash of Clans, respectively.

In terms of innovation, it has been pointed out that Tencent is far from a “first mover”. Instead, it uses templates made successful by other games abroad, adding strategic details and adapting them for Chinese audiences, a process CEO Ma Huateng calls “microinnovation”. However, critics of the company have called this as nothing short of simple copying. Indeed, this accusation along with other less than welcome tactics used to strongarm smaller companies in the licensing and acquisition processes may hamper Tencent’s growth and internationalization process – while such blatant copyright infringement is tolerated in China, it is certainly an obstacle to expanding operations abroad.

4.5.2 Early Internationalization

4.5.2.1 Speed of Internationalization

In keeping with other disruptive gaming firms, Tencent Games has a very rapid internationalization speed. It set up its first international office in Seoul in 2006, a mere two years after formally launching its game operations. However, the choice of South Korea, a market with relatively low market distance contradicts the choice of other disruptors studied in this thesis, both of whom have chosen markets with relatively high distance as the location for their first fully-owned international operation.

4.5.2.2 Openness to Distance

Tencent has an Openness to Distance score of 250, which is the lowest among disruptive firms. The CAGE analysis and scoreboard can be found in Tables 4.5a and 4.5b

Table 4.5a: CAGE Analysis for Tencent

DIMENSION	INDICATOR	HOME (CHINA)	INTERNATIONAL (SOUTH KOREA)
CULTURAL	De facto Language	Modern Standard Mandarin	Korean
	Language family	Sino-Tibetan	Koreanic
	Written Script	Simplified Chinese	Hangul (but also occasionally uses Chinese origin Hanja script)
	Avg. Cultural Dimension Score	51.17	55.17
	Shared Historical Ties	Yes	
	Shared Sociocultural Institutional Membership	No	
ADMINISTRATIVE & POLITICAL	Political system	One Party Socialist State	Unitary Republic
	Shared Colonial Ties	No	
	Shared Institutional Membership & FTAs in 2006	United Nations, WTO, World Bank, G20; China–South Korea FTA launched	
GEOGRAPHIC	Physical Distance (Shenzhen - Seoul)	2,070.12 km	
	Time Distance (Shenzhen - Seoul)		
	Air transport, registered carrier departures worldwide in 2006	1,542,564	223,735
	Electric power consumption (2006, kWh per capita)	2,039	8,040
ECONOMIC	GDP per capita, PPP (2006, constant 2011 international \$)	6,411	26,697
	Household final consumption expenditure per capita (2006, constant 2010 US\$)	1,093.00	10,208.00
	High-technology exports (2006, % of manufactured exports)	31%	32%
	Charges for the use of intellectual property, payments (2006, BoP, current US\$, thousands)	6,634,081.02	25,038,000.00

Source: Own elaboration from sources listed in bibliography

- *Cultural*: South Korea and China are fairly culturally similar. While Korea belongs to a different language family than Mandarin Chinese, it still occasionally uses Chinese origin characters called hanja. The two countries have had cultural and historical ties dating back to millennia but these have cooled in recent times. The cultural dimension score for the two countries are fairly similar, but less so than for South Korea and the US, further moderating the low distance. Thus, cultural distance is scored at 2 for China and South Korea.

- *Administrative and Political:* Politically speaking, the two countries follow very different government systems. China is a one party socialist state while South Korea is a democratic republic. Neither do the two share colonial ties. On the other hand, they have shared memberships in multiple international organizations which had expanded by 2006. Moreover, the same year the two countries launched talks and feasibility studies on the creation of a China-Republic of Korea Free Trade Area, which was concluded in 2015. Thus, with these moderating factors, administrative distance scores 3 points.
- *Geographic:* China and South Korea are both relatively close to each other. While South Korea enjoyed a greater electricity consumption per capita in 2006, China was better connected in terms of air transport. The low distance thus gives the geographic dimension a score of 1.
- *Economic:* In 2006, South Korea was already considered a developed country. On the other hand, China continued to be a developing country. At \$26,697, South Korea's per capita income was four times higher than China's; its household final consumption expenditure per capita was ten times higher and it spent close to 25 million dollars in IP payments as opposed to China's figure of six million. The only indicator in which these two countries were evenly matched was high technology exports which were both near identical for the two countries (31% of all manufactured exports for China and 32% for South Korea). While this moderates the economic distance somewhat, the disparities in every other indicator give this dimension a score of 4.

Table 4.5b: CAGE Analysis Scoreboard for Tencent

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	2	40	80
ADMINISTRATIVE	3	10	30
GEOGRAPHIC	1	20	20
ECONOMIC	4	30	120
TOTAL			250

Source: Own elaboration from sources listed in bibliography

4.5.3 Subsequent Internationalization

As pointed out earlier, Tencent's business model largely involves adaptation of successful games and it has a history of looking abroad to acquire these capabilities. Its reputation for copyright infringement might hamper its internationalization on its own strength which is why it makes sense that virtually all its international operations are acquisitions.

Tencent has multiple minority and majority stakes in multiple international gaming companies, including industry leaders such as Activision Blizzard and other disruptive gaming companies such as Zynga. It has high stakes in Epic Games, based in Cary in the United States and a 49% stake in Singaporean Level Up Games which itself has had success in untapped markets such as Brazil, the Philippines and India.

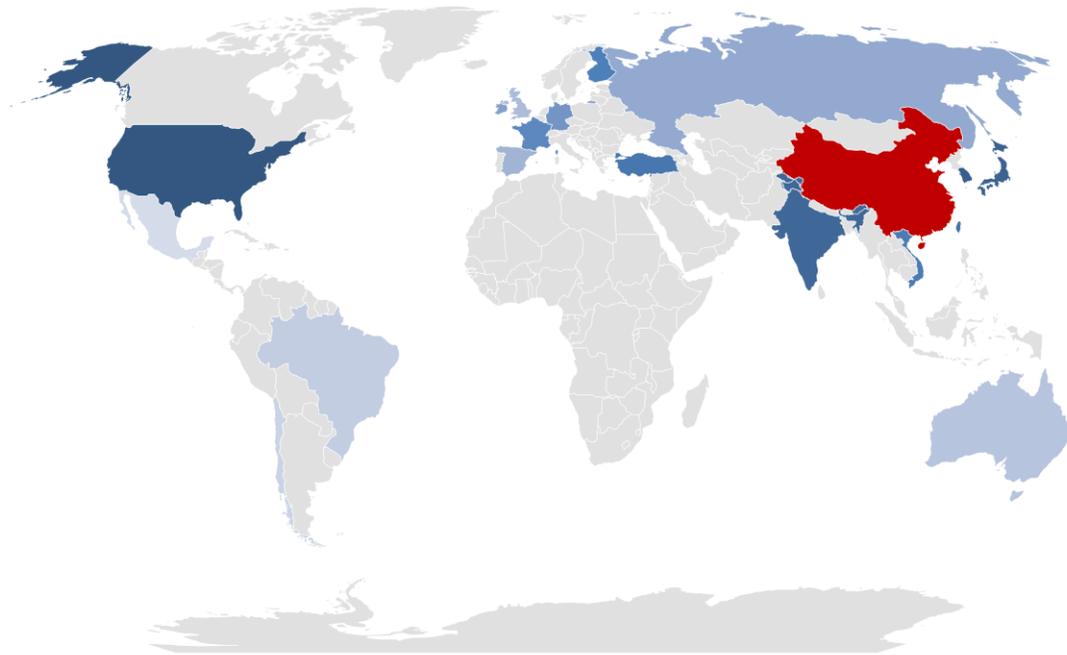
Tencent was even rumoured to have bid for Rovio, developers of the international mobile game sensation *Angry Birds*. Since Tencent has a history of slowly increasing investments in companies before acquiring them completely, these two companies could be next to become part of the company, giving it both competitive advantages to match industry veterans as well as access to nascent markets.

4.5.3.1 Current Operations

A map of Tencent's current operations can be found below.

Figure 4.5.1a: Locations of Tencent's Current Operations

Tencent: Current Operations



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■ China: 17	■ US: 7	■ South Korea: 3	■ Japan: 2	■ India: 1
■ Singapore: 1	■ Taiwan: 1	■ Turkey: 1	■ Vietnam: 1	■ Finland: 1
■ France: 1	■ Germany: 1	■ Ireland: 1	■ Russia: 1	■ Spain: 1
■ UK: 1	■ Australia: 1	■ Brazil: 1	■ Chile: 1	■ Mexico: 1

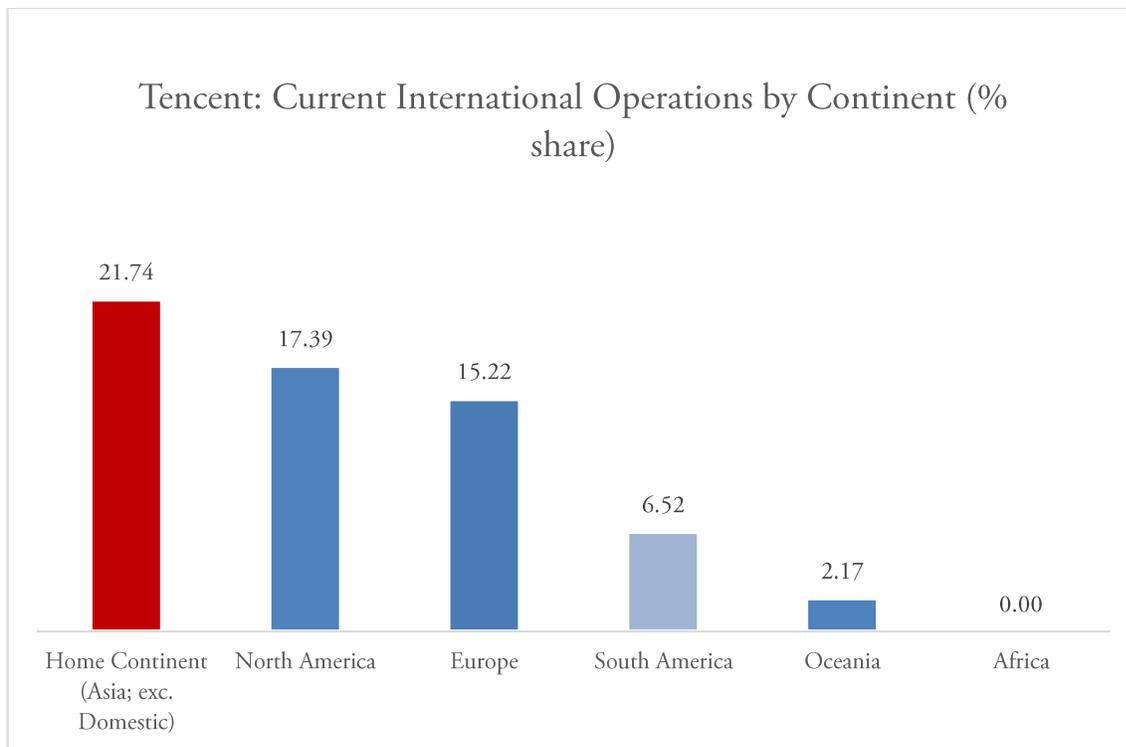
Source: Own elaboration from sources listed in bibliography

As pointed out earlier, Tencent's own greenfield operations are fairly limited and include only two international locations – America and South Korea. Its domestic operations on the other hand count for 43% of total current operations. However, thanks to its strategic acquisitions of

American esports company Riot Games, which has 23 international locations on five continents, as well as Finnish mobile gaming developer Supercell, which has five different international operations. At the same time, since its acquisition of Riot, Tencent has set up greenfield operations in Chile, India and the UK in 2017.

Thus, in terms of current markets, Tencent is largely concentrated in Asia, which accounts for 58.7% of all operations. However, when we exclude domestic operations from this number it is less concentrated on Asia (21.7%), with a somewhat more equal spread with Europe (15.2%) and North America (17.39%). As with most other videogame companies, both mainstream and disruptive, Oceania and Africa barely figure. A visual breakdown of Tencent's current markets by region can be found in Fig 4.5.1b.

Figure 4.5.1b: Tencent's Current Operations Divided by Continent

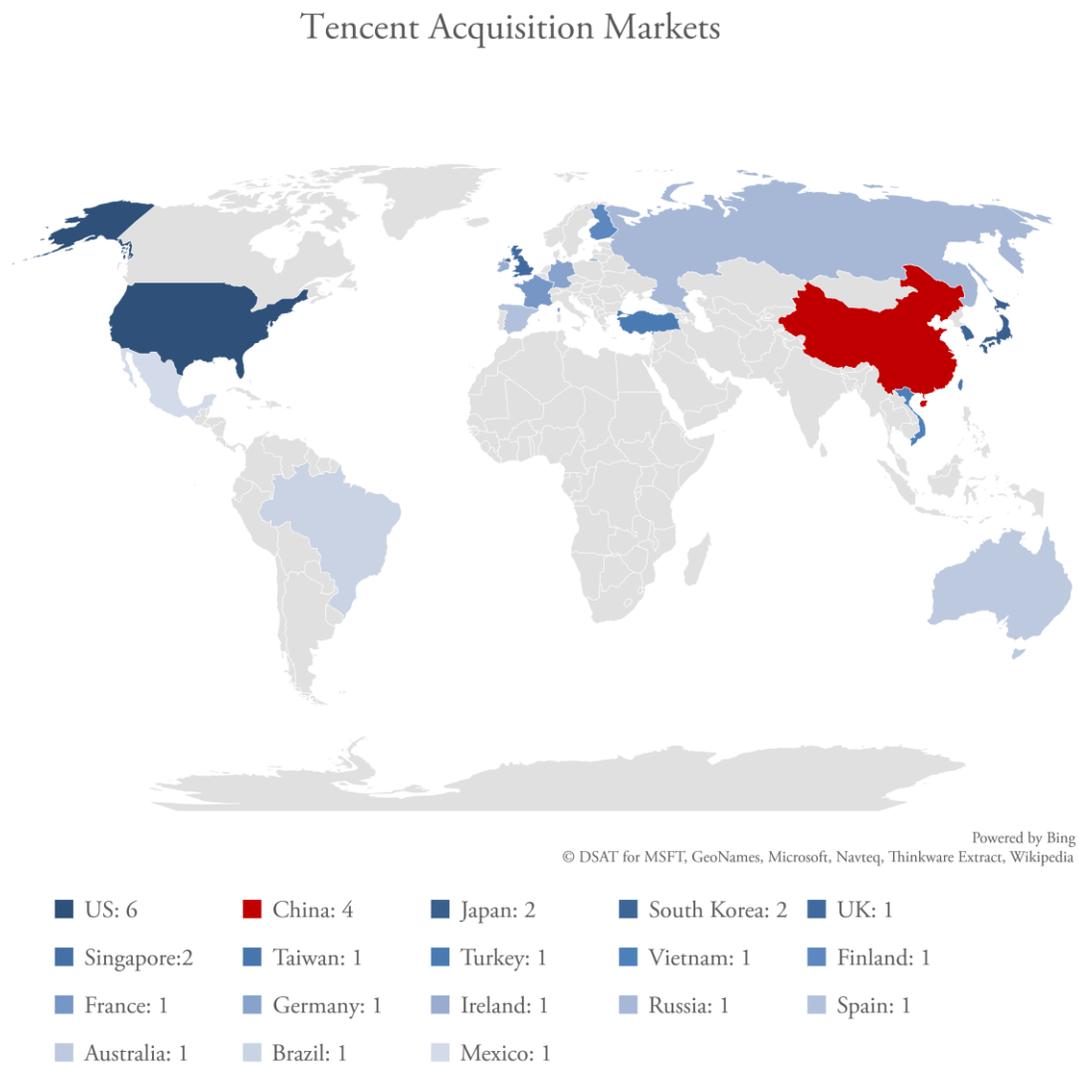


Source: Own elaboration from sources listed in bibliography

4.5.3.2 Acquisition History

Tencent’s acquisition history is short but high profile with strategic acquisitions in the United States and Europe, the first of which was Los Angeles-based ZAM Network in 2011 that provides support services for online MMORPGs. A map of Tencent’s acquisition locations can be found in Fig 4.5.2a, showing that it has access to a geographically wider range of markets thanks to its acquisitions.

Figure 4.5.2a: Locations of Tencent’s Acquisitions



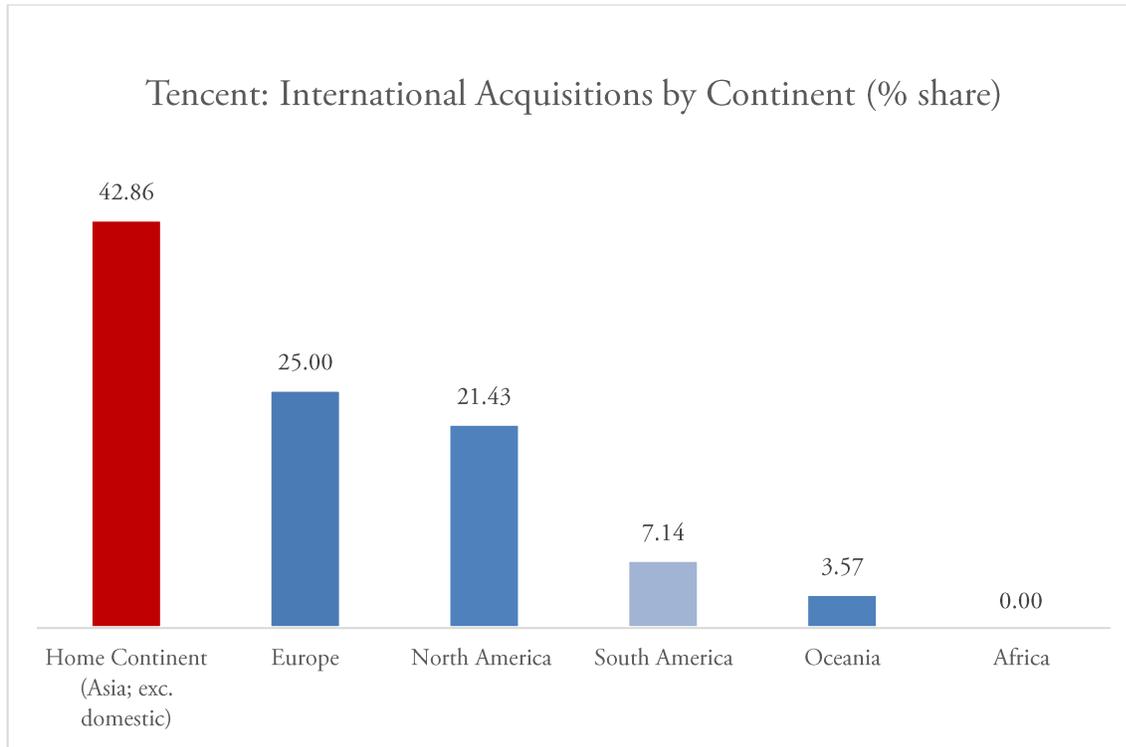
Source: Own elaboration from sources listed in bibliography

As mentioned earlier, Tencent tends to make smaller investments for minority stakes in companies, often gradually increasing the investment until full or controlling ownership can be acquired. Thus, it was not until 2015 that Tencent acquired a new company as part of its global holdings. Riot games, also based in Los Angeles created the wildly popular League of Legends MMORPG that boasts over 100 million monthly gamers. Apart from a large clientele, Tencent also acquired a widespread network of offices aimed at localizing and catering to customers as far apart as Australia and Brazil. Moreover, *League of Legends* has a dynamic competitive audience, allowing Tencent to acquire capabilities in the fast rising esports market as well.

The following year, Tencent made another high-profile investment with a majority 84% stake in Helsinki-based mobile game developer Supercell., previously owned by Japanese tech giant Softbank. Makers of the immensely popular *Clash of Clans* series of games for mobile phones and tablets. *Clash of Clans* was not only one of the top five mobile games in 2016, it generated revenues of \$1.56 million a day, using the freemium, in-app purchase model used by Tencent's own games.

Unlike mainstream incumbents like EA and Ubisoft, Tencent has not rebranded or merged its acquisitions so far. Given the strong IP assets of both Riot Games and Supercell and Tencent's own less than stellar reputation for the same, it makes sense that they function as independent entities while at the same time allowing Tencent to gain competitive advantages and overcome obstacles posed by distance.

A breakdown of these locations by continent (Fig. 4.5.2b) shows that even while excluding domestic acquisitions, the share of Asian acquisitions is higher (42.86%) than European (25%) or North American ones (21.43%).

Figure 4.5.2b: Tencent's Acquisitions Divided by Continent

Source: Own elaboration from sources listed in bibliography

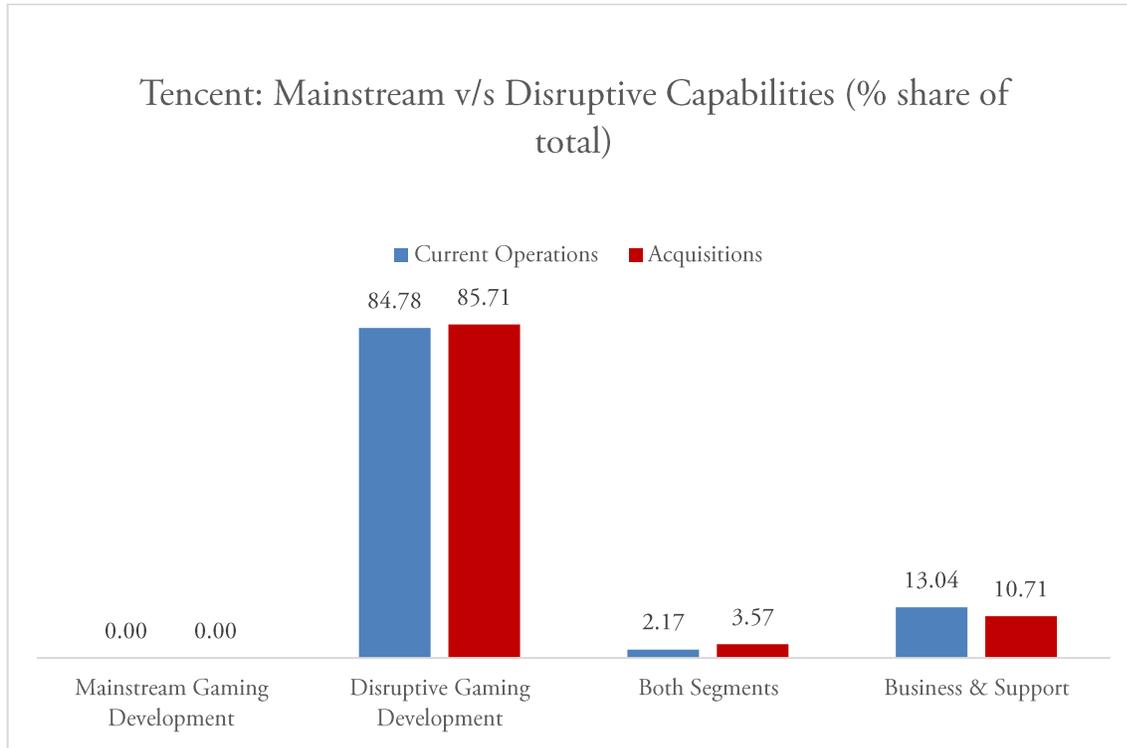
4.5.3.3 Disruptive versus Mainstream Segments

As with most disruptive gaming firms, most operations and acquisitions are focused on development of disruptive games. 84% of current operations and 87% of all historical acquisitions are disruptive game development studios with no mainstream gaming operations. However, a miniscule percentage (2.17% of current operations) is involved in both segments, largely with “midcore” MMORPGs. Fig 4.5.3. shows the breakdown of Tencent’s market segments for disruptive and mainstream gaming.

Tencent has drawn upon the power of untapped markets in true disruptive style. For instance, its latest release, *Honor of Kings* has become its greatest hit so far, thanks to female gamers. Released on mobile platform WeChat, whose users are 54.1% female, the game uses elements of social

gaming, such as the option to invite friends, in addition to violent gameplay, that might explain its success among female gamers.

Figure 4.5.3: Tencent’s Operations and Acquisitions by Capability



Source: Own elaboration from sources listed in bibliography

While Tencent’s focus is definitely in its original segment of mobile and online gaming, it must be noted that its acquisition of Riot Games with its esports capacities signifies a reach out to the “midcore” market of games that while disruptive in nature, can also cater to mainstream audiences.

Disruptive Gaming

4.6 Zynga

Zynga was once the rising superstar of disruptive gaming, particularly in social games. Its runaway success, *Farmville* was the most played game on Facebook for more than two years in a row, gaining, as the company claimed *“more than one million new daily active users a week on average.”*

However, by 2013 Zynga had fallen prey to its own success. From being ranked 13th in Newzoo’s annual list of game companies by revenue, by 2016 it has fallen to 24th out of 25, with a 3% slump in growth at USD 741 million. While the company shows signs of a revival, moving from social games to mobile, it has definitely see a certain fading of its star. Despite this, Zynga’s contribution to the history of disruptive gaming cannot be overlooked. As Dean Takahashi in his history of the company put it:

“Before Zynga, free games were often viewed as low-quality shareware. But now they were something that millions of people could enjoy.” (Takahashi, 2011)

4.6.1 Origins

Zynga was founded in April 2007 in California by Mark Pincus (who would go on to be its CEO), Michael Luxton, Eric Schiermeyer, Steve Schoettler, Andrew Trader and Justin Waldron as Presidio Media LLC. The name was officially changed to Zynga in 2010, named after Pincus’ pet dog.

Pincus had no experience in gaming, having helmed several unsuccessful ventures before. However, he was an early investor in Facebook. Fortuitously, Facebook launched the Facebook Platform in May 2007, allowing third party developers to create applications and games for the social network, in order to draw more users. While Zynga had already tasted success with social games before on rival network MySpace, it hedged its bets on Facebook.

Zynga's first game for Facebook was Zynga Poker in 2007. This was followed in 2009 by the afore mentioned *Farmville*, arguably the most successful social game to date. In the same year, it launched another successful game, a social version of Scrabble called *Words with Friends*. By 2011 Zynga had earned more than \$1.5 billion in revenue. Zynga's Initial Public Offering in 2011 was valued at USD 8.9 billion and some took it as a sign that it could match even mainstream firms eventually.

While Zynga's partnership with Facebook played a role in getting it to the users and consequently the momentum it needed to grow rapidly, this dependence had its consequences. As with most disruptive gaming, Zynga followed a freemium model within-app purchases. In 2010 Facebook launched Facebook credits wherein it took 30% of such purchases. Moreover, Zynga depended on what has been disparagingly called its "spam mechanism" of letting users promote the game to their friends. While previously such requests had the same priority as normal Facebook notifications, by 2010 this changed and such game requests were harder to view on the network. By one estimate, this caused a drop of 26% in *Farmville*'s monthly active users. In 2012, Zynga decided to move into a publisher role with the launch of the Zynga.com platform, collaborating with multiple American and international independent studios to create social games for the website.

However, this strategy did not take off and by 2013 Zynga had laid off 18% of its workforce and closed several domestic and international offices, including Zynga Japan the downfall continued in 2014. Part of the blame was also laid on Zynga's own controversial business strategies and the fact that it chose to pool its resources into browser and social games rather than online.

Zynga had also been accused of making low quality copies of other games and passing them off as its own, such as Slashkey's *Farmtown* which was allegedly the basis for its own *Farmville*. Some compared Zynga's downfall to the 1983 American videogame bust which had been marked by an onslaught of multiple poor-quality game titles.

However, in the last one year Zynga seems to be making a small turnaround. While it still published games on Facebook, 90% of its clientele is now drawn from mobile gaming, with Apple replacing Facebook as its new biggest platform partner

4.6.1.1 Business Model

Zynga is chiefly a developer publishing games by internal studios. It began as a social gaming firm and even though it is focusing more on the mobile market at the moment, most of its games are essentially social games ported to the mobile platform. As of 2017, its principal product categories are social casino games such as *Zynga Poker*; casual games (*Words with Friends*); action strategy (*Dawn of Titans*) and invest/express games, such as Farmville. In the past Zynga has also dabbled in adver gaming, such as its mobile advertising tie up between *Words with Friends* and Honda promoting the new Accord car in 2012.

As with most disruptive gaming firms, Zynga uses a freemium model with microtransactions to draw revenue. The game is free to play but in order to enhance the gaming experience or proceed to higher levels, users must make in-app purchases. Moreover, as a social game developer, Zynga is heavily dependant on acquiring high numbers of users for its games to be profitable.

Unfortunately, Zynga has been accused of using less than wholesome tactics to draw in users and revenue. Co-founder Mark Pincus has himself admitted to using controversial tactics to generate revenue. Zynga focused on attracting a high number of users for short term monetization gains. This led to the company using what has been called “*spam mechanics*”.

One of the most infamous ones was incentivizing players to send requests to their friends on Facebook to add the game themselves. This, as explained above, played a big role in Zynga’s reversal of fortunes when Facebook reduced the ease of access to such requests. Other mechanics included allowing access to game items in return for downloading third party software. This focus on new users also meant that game quality suffered at the cost of short term gains.

Zynga has attempted to address some of these criticisms. It launched Zynga.org, in 2009, a non-profit organization to integrate CSR and other social responsibility campaigns within existing games as well as creating new titles addressing social and environmental issues. Since its launch, the mechanism has allowed players to contribute more than \$25 million to NGOs globally.

While games are its chief product, Zynga has also tried to chart related revenue streams such as its partnership with Hasbro to create merchandise based on its games, as well as physical board game versions of its virtual ones.

4.6.2 Early Internationalization

4.6.2.1 Speed of Internationalization

Zynga was founded in 2007 and by 2009 had made its first international acquisition – South Korean social game developer GoPets Inc for a speed of two years, which is among the lowest of all firms studied but consistent with patterns exhibited by other disruptive firms.

4.6.2.2 Openness to Distance

Zynga has an Openness to Distance score of 300. The 12-year difference between Zynga’s entry in South Korea and Nexon’s in the United States means that multiple economic and administrative indicators had changed to shorten the distance between the two countries. The CAGE analysis and scoreboard for Zynga can be found in Tables 4.6a and 4.6b

Table 4.6a: CAGE Analysis for Zynga

DIMENSION	INDICATOR	HOME (UNITED STATES)	INTERNATIONAL (SOUTH KOREA)
CULTURAL	De facto Language	English	Korean
	Language family	Indo-European	Koreanic
	Written Script	Latin	Hangul (but also occasionally uses Chinese origin Hanja script)
	Avg. Cultural Dimension Score	55.5	55.17
	Shared Historical Ties	Yes; but recent, dating back to Korean War	
	Shared Sociocultural Institutional Membership	No	
ADMINISTRATIVE & POLITICAL	Political system	Unitary Republic	Federal Republic
	Shared Colonial Ties	No, but significant US presence via military alliance in 1953	
	Shared Institutional Membership & FTAs in 2009	United Nations, World Bank, WTO, OECD, G20; KORUS FTA	
GEOGRAPHIC	Physical distance (San Francisco - Seoul)	9,030.72 km	
	Time Difference (San Francisco - Seoul)	Plus 17 hours	

	Air transport, registered carrier departures worldwide in 2009	9,182,363	256,160
	Electric power consumption (2009, kWh per capita)	12,914	8,878
ECONOMIC	GDP per capita, PPP (2009, constant 2011 international \$)	48,558	28,643
	Household final consumption expenditure per capita (2009, constant 2010 US\$)	33,461.00	10,701.00
	High-technology exports (2009, % of manufactured exports)	21%	29%
	Charges for the use of intellectual property, payments (2009, BoP, current US\$, in thousands)	7,355,600.00	31,297,000.00

Source: Own elaboration from sources listed in bibliography

- *Cultural:* Since cultural factors are more constant than political, economic or administrative ones, the cultural difference between the United States and South Korea remains moderately high due to linguistic differences. Again, these are moderated by the two countries' share historical cooperation in the 1950s to yield a score of 3 for this dimension.
- *Administrative and Political:* South Korea and the US became more integrated by 2009. Apart from several intergovernmental organizations that they are both part of, the United States and South Korea signed the United States-Korea Free Trade Agreement, known as the KORUS FTA in 2007. This dimension thus scores 1 point.
- *Geographic:* Again, geographic factors are relatively constant. While the physical distance between Zynga's San Francisco office and Seoul is slightly higher at a little above 9000 km, the massive time difference of 17 hours remains. However, with improved Internet technology, this is less of a problem than it was in 1997. While the United States remains better connected in terms of air transport, the gap in per capita electricity consumption is

somewhat smaller. All in all, the geographic distance is reduced somewhat for a score of 4.

- *Economic*: South Korea’s economy made an impressive recovery from the 1997 crisis and by 2009 not only was it a developed economy, it had made gains in per capita income and more importantly, its high technology exports were higher than that of the United States. On the other hand, its per capita household final consumption expenditure was still significantly lower than that of the United States, as was its expenditure on intellectual property. Accordingly, economic distance continues to be moderately high at 3 points.

Table 4.6b: CAGE Analysis Scoreboard for Zynga

	SCORE	WEIGHT	WEIGHTED SCORE
CULTURAL	3	40	120
ADMINISTRATIVE	1	10	10
GEOGRAPHIC	4	20	80
ECONOMIC	3	30	90
TOTAL			300

Source: Own elaboration from sources listed in bibliography

4.6.3 Subsequent Internationalization

Zynga internationalized fairly rapidly, albeit at an equivalent rate with other disruptive firms studied. With its growing success in the years between 2008 and 2010, the company received sizeable amounts of venture capital such as by Russian firm DST and Japanese telecom veteran Softbank that allowed it to set up greenfields abroad and make strategic acquisitions – Zynga had acquired 14 companies in 12 months during this period.

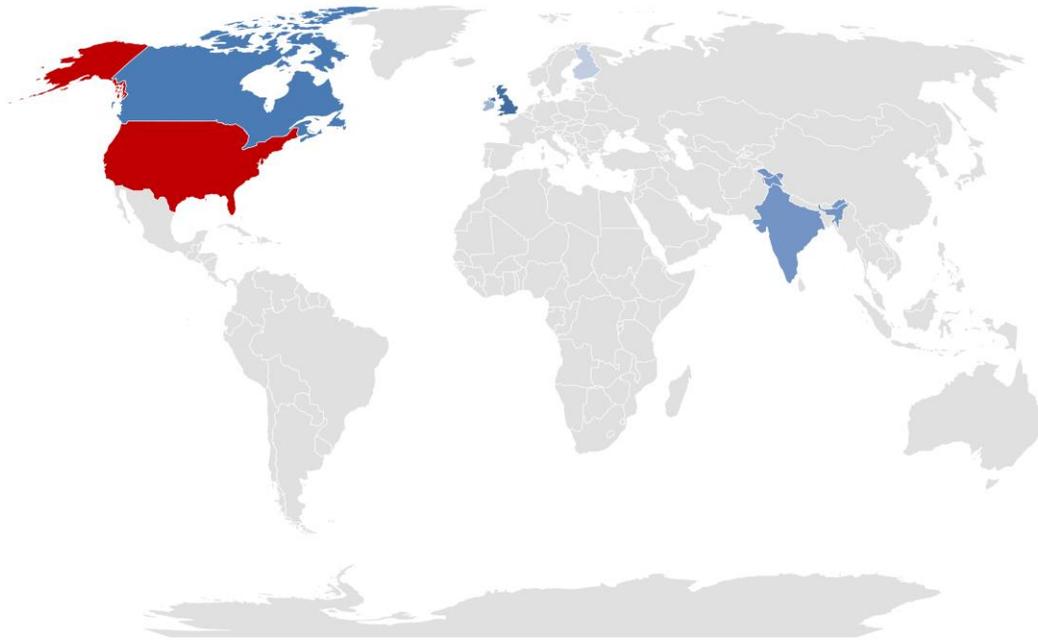
Starting 2010, Zynga had a distinctly Asian focus - XPD Media in China (later renamed Zynga China) was its first acquisition as a publicly listed company, followed by Unoh Inc which was renamed Zynga Japan. Zynga India, also in 2010, was the company's firstly wholly greenfield office outside the United States.

4.6.3.1 Current Operations

Following the closure of several international offices, including those in Japan, China and Germany, Zynga's current operations are far less diverse than they were a few years ago (Fig 4.6.1a). It is the only company studied with a greater share of domestic operations than international ones.

Figure 4.6.1a: Locations of Zynga's Current Operations

Zynga: Current Operations



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■ US: 8 ■ UK: 3 ■ Canada: 2 ■ India: 1 ■ Ireland: 1 ■ Finland: 1

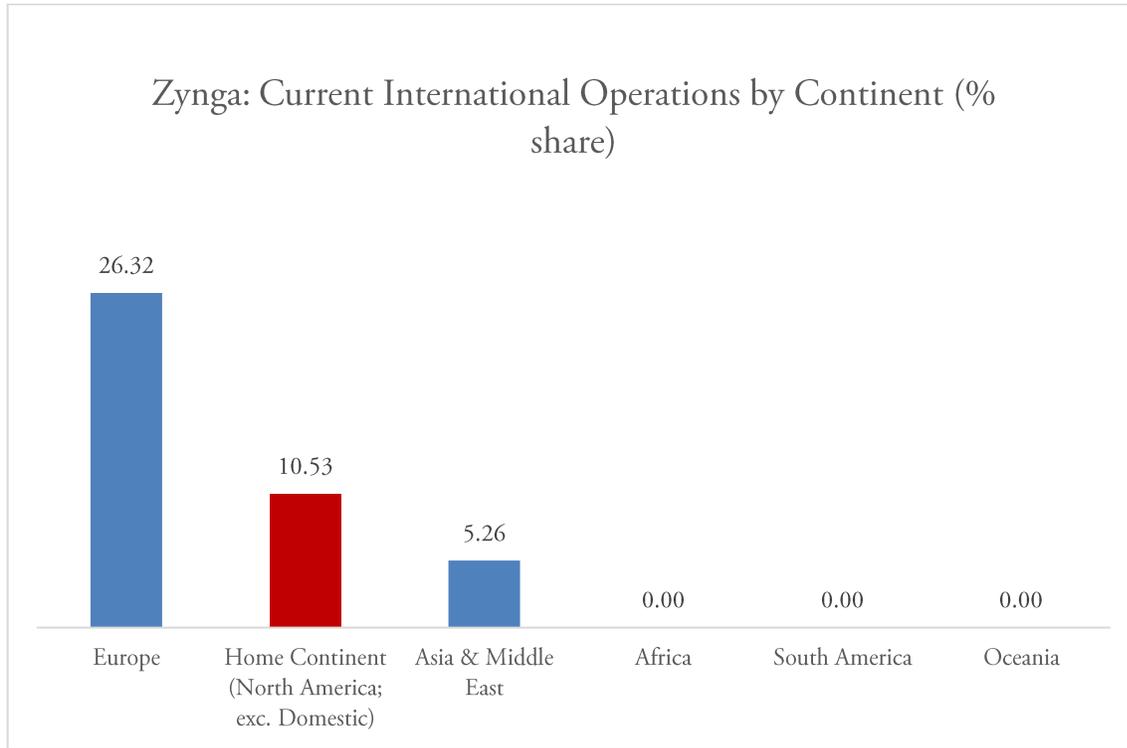
Source: Own elaboration from sources listed in bibliography

The United States continues to be Zynga's biggest market in terms of operations but this is closely followed by Europe thanks to its subsidiary Natural Motion's offices in the UK as well as its own greenfields in Ireland and Finland.

Of its once fairly expansive Asian operations, only Zynga India remains. It however continues to play an important role in the company, managing its *Farmville* games and creating localized

content for Indian users. All the same, the bulk of Zynga’s geographic diversification is owed to various acquisitions rather than greenfield projects.

Figure 4.6.1b: Zynga’s Current Operations Divided by Continent



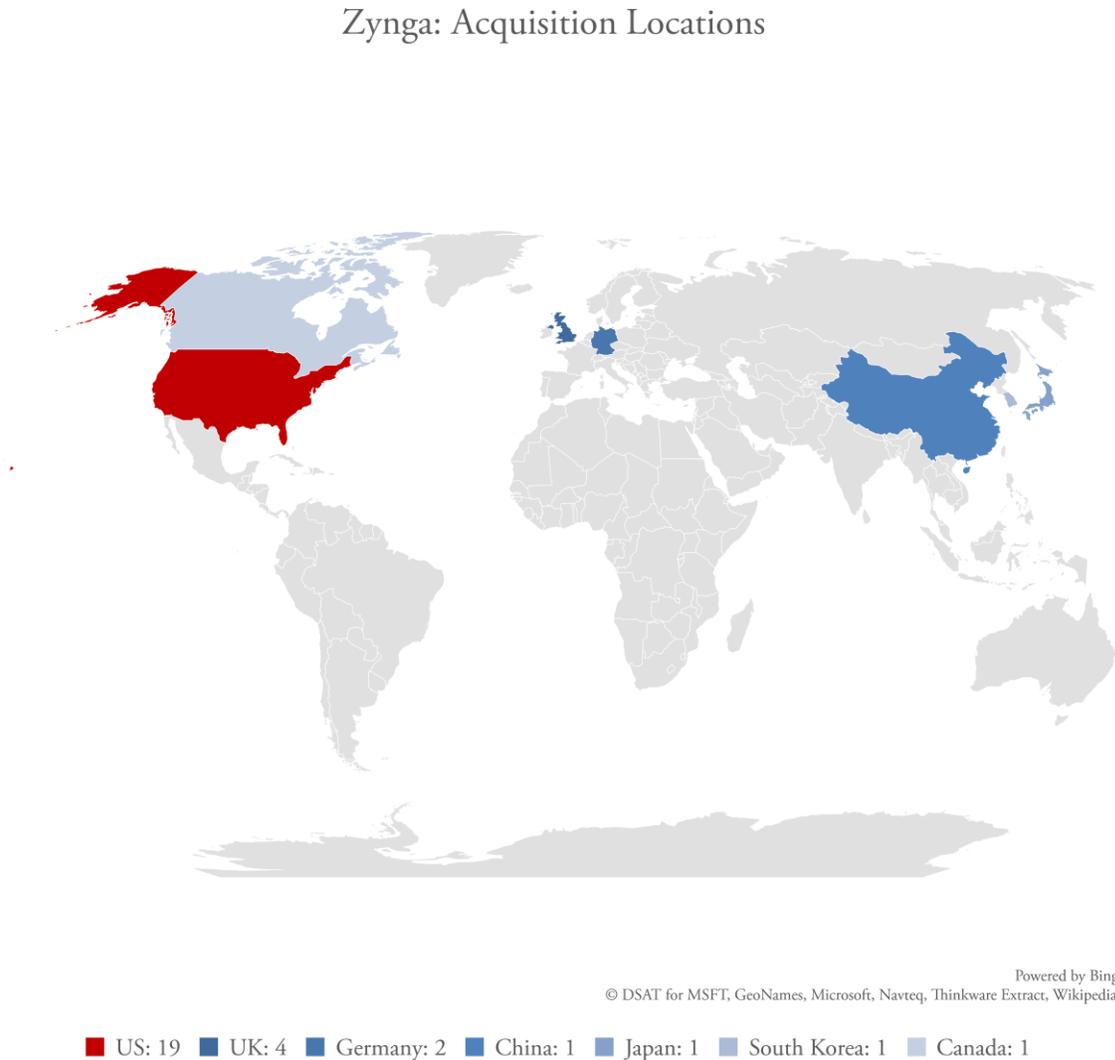
Source: Own elaboration from sources listed in bibliography

Excluding domestic operations, Europe forms the biggest market for Zynga at the moment with 26.32% of all operations.

4.6.3.2 Acquisition History

While Zynga made a number of high profile purchases in its early days, most of these have been either shut down or merged into existing Zynga offices. A map of Zynga’s acquisition locations can be found below:

Figure 4.6.2a: Locations of Zynga's Acquisitions



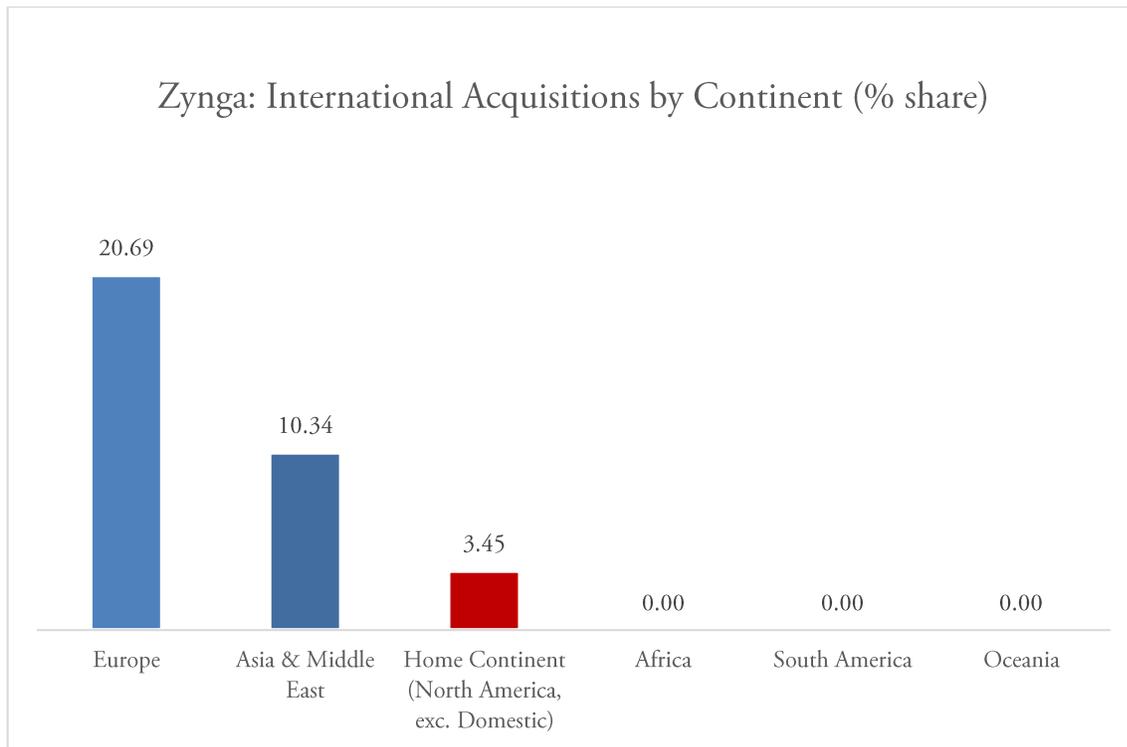
Source: Own elaboration from sources listed in bibliography

Zynga's first acquisition was social game developer Yoville in 2008, which was later sold to Big Viking Games in 2014. The following year Zynga acquired Seoul-based GoPets Inc that ran an online social network dedicated to raiding and maintaining virtual pets called *Pet Society*. GoPets was closed in 2009 to make way for Zynga's own version called *Petville*. As pointed out earlier, the bulk of Zynga's acquisitions were made during the height of its success in 2010 and 2011. However, a large number of these, such as OMGPop and Game Doctors have been shut down.

Zynga’s most high-profile acquisition was made in 2014 after their slowdown, with UK-based game technology firm Natural Motion, which also has offices in Oxford, London and San Francisco and operations mobile game development studio Boss Alien, in Brighton.

As with its current operations, Zynga’s acquisition history demonstrates a marked focus on the United States – domestic acquisitions account for 63.3% of the total.

Figure 4.6.2b: Zynga’s Acquisitions Divided by Continent



Source: Own elaboration from sources listed in bibliography

Despite the East Asian focus in its early years, Zynga’s biggest international acquisition market is Europe. In a reversal of its current operations, its second biggest is Asia and the Middle East. Excluding US acquisitions makes North America its smallest market to date, while South America, Africa and Oceania do not figure in the list at all (Fig 4.6.2b).

4.6.3.3 Disruptive versus Mainstream Capabilities

Zynga is principally a disruptive company and its current operations and acquisitions both reflect that.

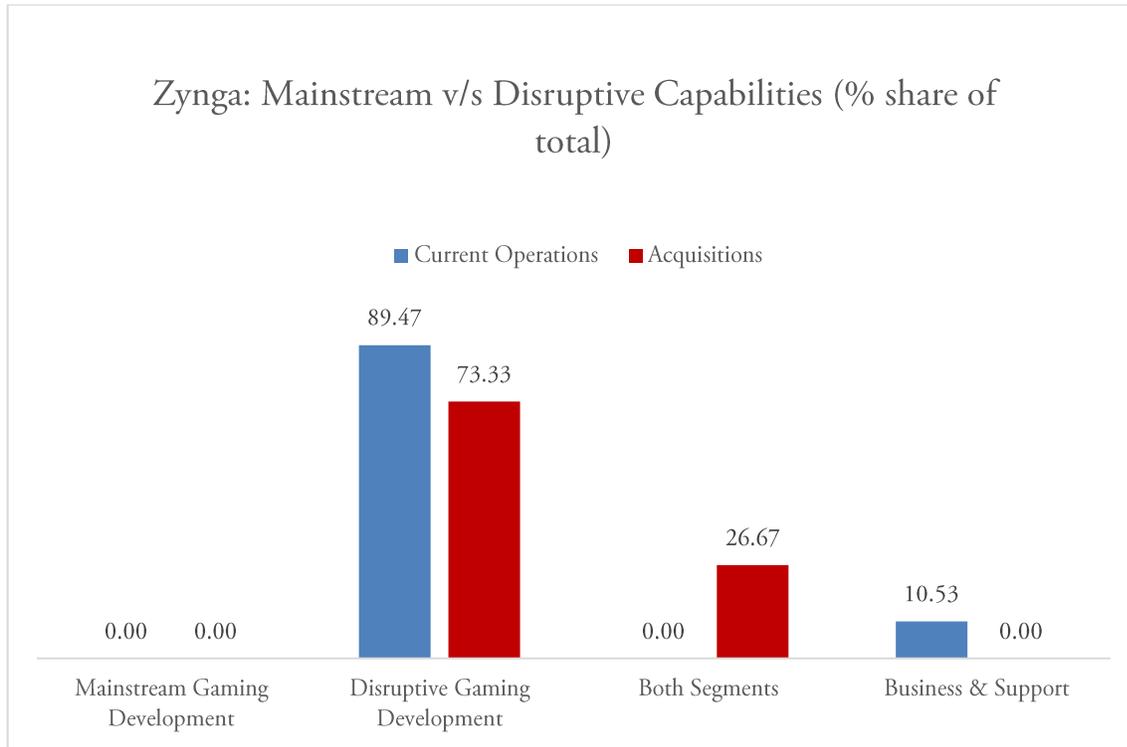
However, it has not shied away from acquiring firms that have competences in both segments. While Natural Motion and its Brighton operation Boss Alien are largely disruptive, its proprietary technology can be applied to mainstream gaming as well. Furthermore, Page 44 Studios (acquired in 2011 and shut a few months later) was chiefly a mainstream developer having produced titles for EA, Activision and Sony.

Upon acquisition, it was put to work on Zynga's first 3D mobile game, *Party Place* – 3D competences being more common in mainstream gaming. Similarly, Buzz Monkey Software (now Zynga Eugene) had developed a *Tomb Raider* game for Eidos prior to acquisition by Zynga in 2012.

Zynga has attempted to straddle both mainstream and disruptive gaming markets by moving into the midcore gaming segment – mobile games for mainstream gamers. A Bit Lucky Games and November Software (both acquired in 2012) were reflective of this strategy, which was conceived following the slump in social gaming.

As Fig 4.6.3 shows, most of its acquisitions and operations are disruptive, with a small amount of mainstream capability deriving from the above mentioned developers..

Figure 4.6.3: Zynga’s Operations and Acquisitions by Capability



Source: Own elaboration from sources listed in bibliography

At the same time, it is certain that disruptive gaming remains its core segment. As pointed out earlier, the majority of Zynga’s clientele today is on mobile and it is actively pursuing untapped markets and segments, such as its strategy to draw female gamers in India. Considering Tencent and other mobile gaming firms’ own success with them, a further exploration of untapped female casual game market might just be what Zynga needs to capture its early success.

Chapter V

Results and Analysis

Having taken a closer look at the internationalization of both disruptive and mainstream gaming companies, we can now draw a more holistic picture using pattern matching to see how far our initial propositions made in the literature review are supported by data.

Figure X depicts the year of founding, year of internationalization, place of founding and location of first international venture for each firm.

Table 5.1 Summary of Firms' Early Internationalization Strategies

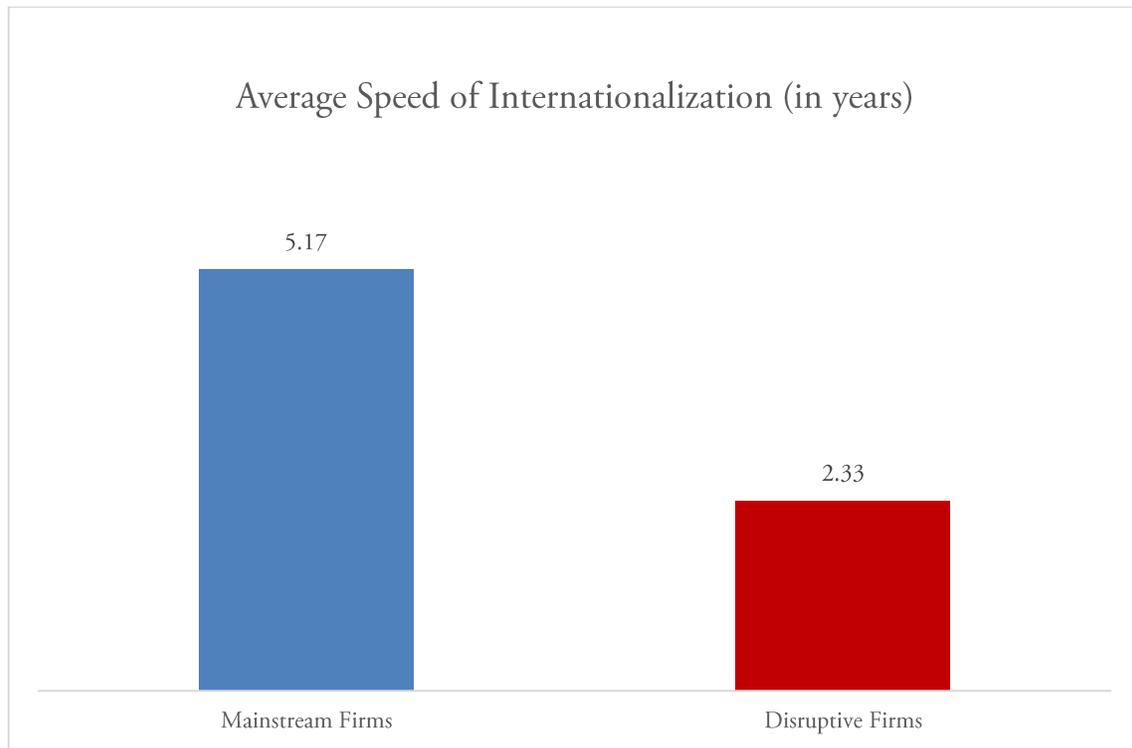
Source:	MAINSTREAM			DISRUPTIVE			Own
	EA	Square Enix	Ubisoft	Nexon	Tencent	Zynga	
Founding Year of Company	1982	1983	1986	1994	2004	2007	
Founding Year of First International Venture	1986	1989 (Square) 1990 (Enix)	1991	1997	2006	2009	
Founding Location (HQ)	US	Japan	France	South Korea	China	US	
First venture location	UK	US	US	US	South Korea	South Korea	

elaboration from sources listed in bibliography

5.1 Speed of Internationalization

I begin with testing the patterns of speed of internationalization. As per the first proposition, P1, we expect that - *Disruptive firms will internationalize faster than mainstream firms*. Below we see the patterns found in the actual data

Figure 5.1a Comparison of Internationalization Speeds for Mainstream and Disruptive Companies



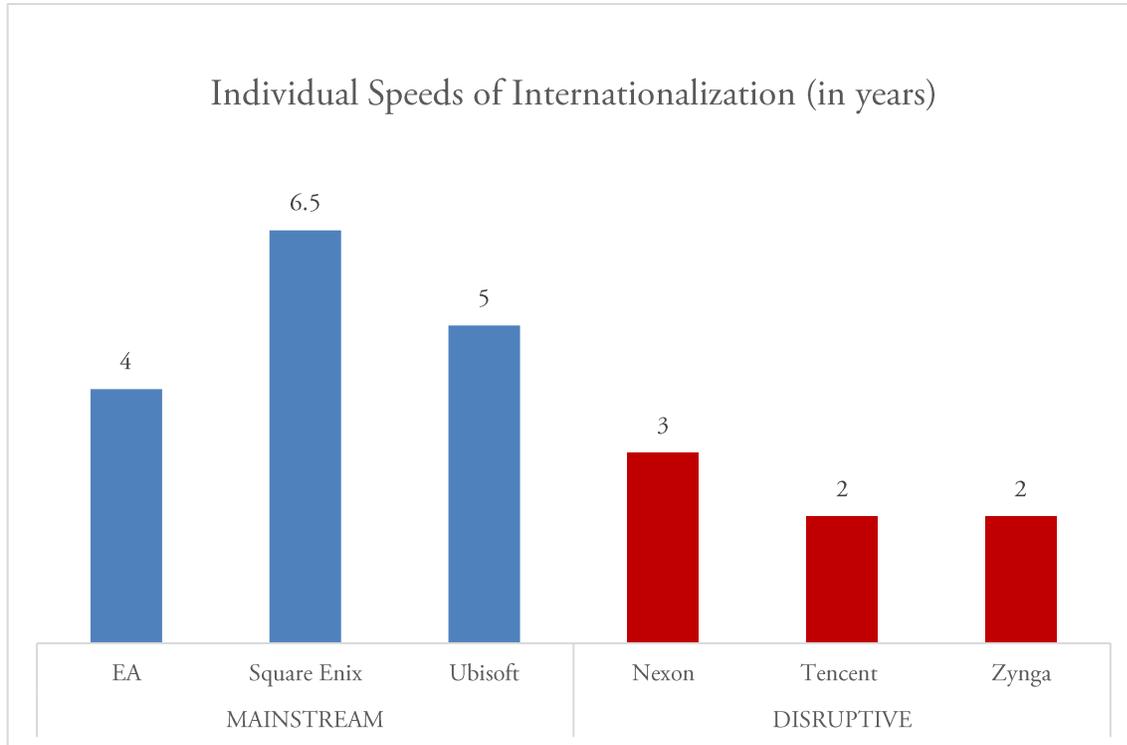
Source: Own elaboration from data collected

On an average (Fig 5.1a), disruptive firms inaugurate their first international operation a little over two years from their date of establishment. For mainstream companies, this figure is almost seven years.

Fig 5.1b shows the speed of internationalization of all six firms studied. While Square Enix does have a slower speed of internationalization compared to other mainstream firms, this is not drastically so and as we can see, disruptive firms have a much shorter speed of internationalization by far. The fastest speed of internationalization for disruptive firms is two years (Nexon and

Zynga). In contrast, even the fastest internationalization speed of a mainstream firm is four years (EA), which is slower than the slowest speed of a disruptive firm (Tencent, with a speed of three years).

Figure 5.1b Individual Internationalization Speeds for Mainstream and Disruptive Companies Studied



Source: Own elaboration from data collected

Therefore, the pattern found provides support for P1, the proposition that disruptive firms internationalize faster than mainstream ones.

5.1.1 Alternative Interpretation Criteria

As explored in the literature review, most stages models proffer a cautious approach to internationalization in the face of low or absent market knowledge. However, as we can see in the next section, market distance for mainstream companies was actually lower than for disruptive

ones. Thus, their slower speeds of internationalization cannot entirely be explained by lower levels of market knowledge.

Internationalization is an expensive strategy and perhaps the slower speed can be explained by lack of funds which necessitates budgeting for longer periods before the firm is in a position to move abroad. However, mainstream firms by their very nature have greater access to funds than disruptive ones. Upon internationalization, EA had already been an industry name, having been spared the 80s industry slump. Ubisoft had been Similarly both Square and nix were part of conglomerates and benefited from their resources. Barring Tencent, all of these firms, to this day have higher revenues than disruptive ones.

Another explanation could be that these firms prefer other entry modes for internationalization and move faster when it comes to JVs or alliances. As we have also seen in the stages models, firms in this case usually begin with smaller operations which may or may not be fully owned. However, if we consider models that propose internationalization as a way to exploit unique advantages, then the former is not entirely applicable, especially to videogames. For instance, let us take the Eclectic Paradigm (Dunning, 1980, 1991, 1998) which states that it is the establishment of wholly-owned ventures that give video game firms the best chance to exploit their O-advantages (which would be substantial considering the significant role of IP assets in videogames) via internalising operations and thereby reducing transaction costs (Coase, 1995; Williamson, 1979), , which would again be higher for videogames and their unique IPs. Thus, wholly owned greenfields or acquisitions would be a far more logical step for videogame companies, especially mainstream ones with their high budget AAA franchises. Thus, in any case disruptive firms are faster than mainstream firms in exploiting these capabilities via international ventures.

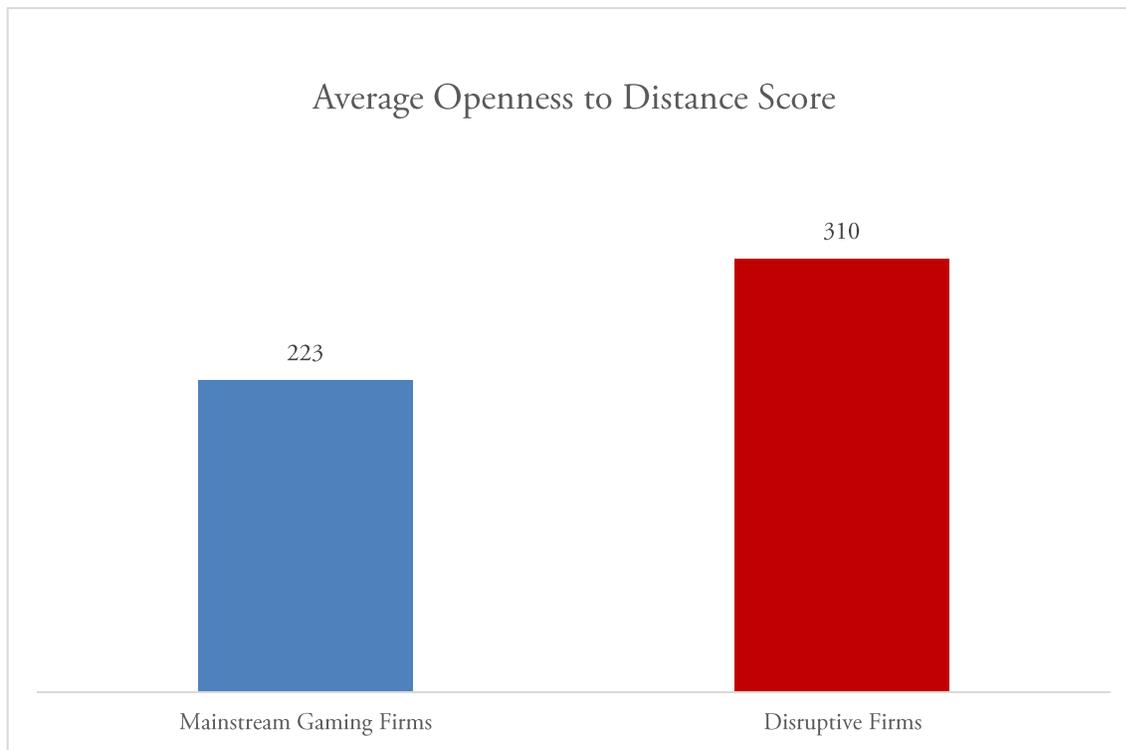
Therefore, the alternative criteria do not sufficiently explain the pattern found and this **provides support for P1**, the proposition that disruptive firms internationalize faster than mainstream ones.

5.2 Openness to Distance

Next, I test the pattern of the second proposition, P2 – *Disruptive firms will tend to make their first international venture in more distant markets as compared to mainstream firms*. As elaborated in the chapter on methodology, I gauge this with the Openness to Distance score calculated by analyzing distance between the firm’s founding location and the location of its first venture on multiple cultural, administrative, political, geographic and economic dimensions.

Fig 5.2a shows the Openness to Distance scores of all firms studied. On an average, disruptive firms have a higher Openness to Distance score than mainstream firms do.

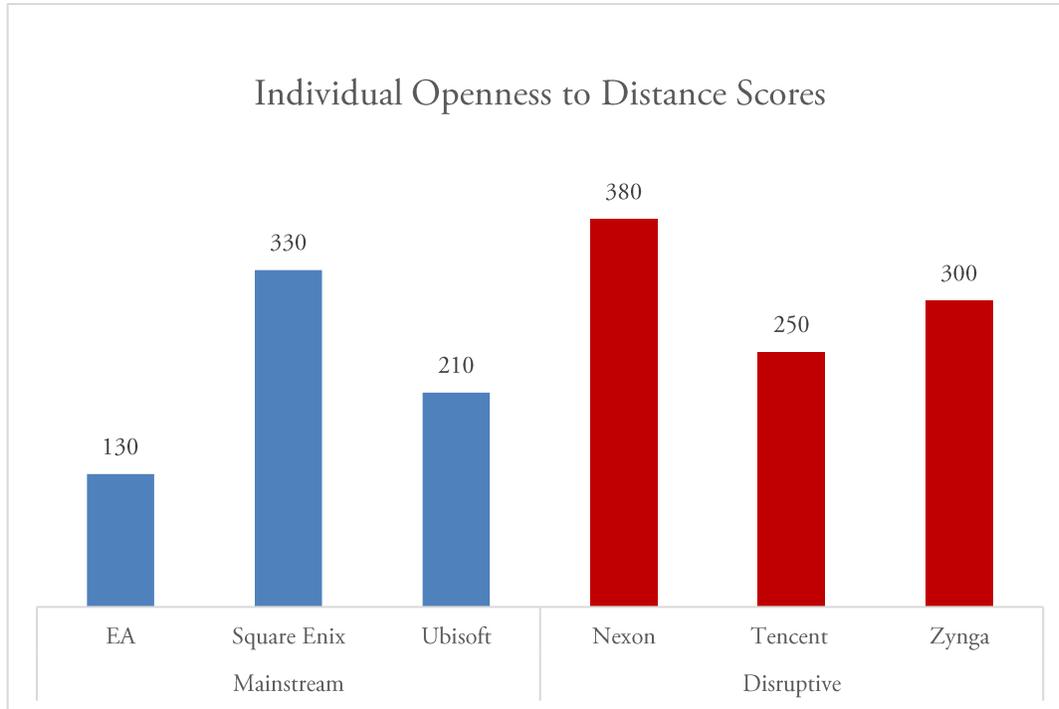
Figure 5.2a Comparison of Openness to Distance scores for Mainstream and Disruptive Companies



Source: Own elaboration from data collected

Fig 5.2b shows the individual scores for all six companies studied. While one mainstream firm, Square Enix, has almost as high a score as some other disruptive firms, the lowest score among the latter (Tencent) is still higher than the lowest score among mainstream firms (Electronic Arts).

Figure 5.2b Individual Openness to Distance scores for Mainstream and Disruptive Companies Studied



Source: Own elaboration from data collected

5.2.1 Alternative Interpretation Criteria:

The propensity for mainstream gaming firms to choose low distance markets might be a result of the era in which they were found. The lower levels of market information found in the late 80s and early 90s, wherein most of these firms internationalized might explain why they choose familiar markets. For instance, EA internationalized as far back as 1986. However, we note that Nexon, which internationalized only a few years after Ubisoft and Square Enix has nevertheless the highest distance score. More importantly, cultural distance, which is of the greatest significance in video games is not easily changed by the passage of a few years.

We could consider the nascent nature of the videogame industry when mainstream firms internationalized that might have spurred firms to “play safe”. However, disruptive gaming markets were equally, if not more, untapped than mainstream ones. Besides, all three mainstream firms internationalized after 1985 when the videogame industry had not only peaked but had face a slump and was on the rise again with more sophisticated development teams and a recognition of videogames as a media product on par with Hollywood, as explained in the history of the industry in Chapter II.

Lastly, we could explain the difference by proposing that mainstream firms choose established centres of gaming. However, despite the fact that Japan was a pioneering videogame hub and that Japanese game makers had been importing their games to the States and Europe since the late 1970s; even here, both EA and Ubisoft chose culturally and geographically closer markets.

Thus, alternative explanations do not explain the pattern and I **find support for P2**, the proposition that disruptive firms are more open to distance.

5.3 Other Industry Insights

Apart from the results of the pattern matching analysis above, the case studies of each of the six firms provided other significant information on the videogame industry as a whole.

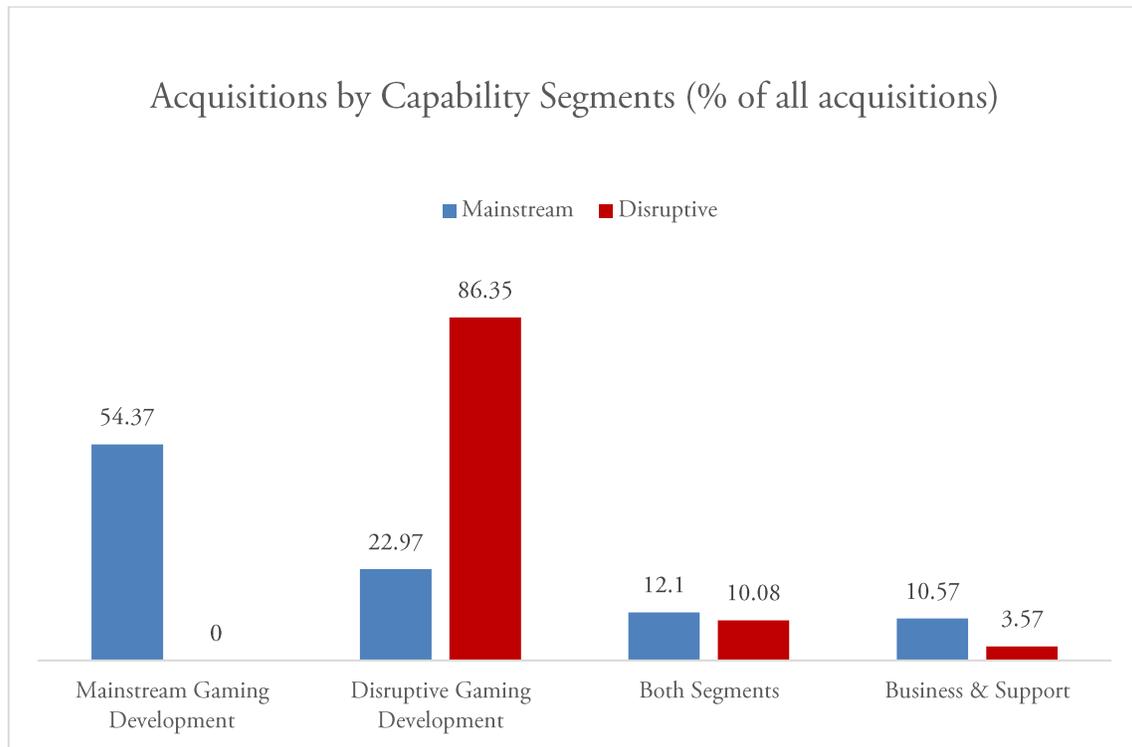
5.3.1 Acquisition of Disruptive Capabilities

The rapid growth of disruptive firms has often been remarked upon. For instance, in the videogame industry, mobile gaming has gone from practically non-existent at the beginning of the millennium to overtaking PC and console sales in 2016. By 2020, mobile and other casual games are expected to account for almost half of all video game sales (McDonald, 2017).

This study finds a clear indication of the coming dominance of disruptive gaming (Fig 5.3). Every mainstream gaming firm studied has started to delve into the disruptive gaming market, acquiring small scale, independent developers and setting up separate business units dedicated to disruptive gaming, with a marked emphasis on mobile games. Many of these acquisitions include developers who are capable of working with both mainstream and disruptive segments. While no disruptive

firm in the sample has made acquisitions of purely mainstream developers, they have done so for developers with dual capabilities, suggesting that the “midcore” segment that is midway between mainstream and disruptive may have a basis in reality after all. With many mainstream gaming companies publishing mobile and browser titles, the line between what is mainstream and what is disruptive is already starting to blur.

Figure 5.3 Comparison of Acquisitions by Capabilities for Mainstream and Disruptive Firms



Source: Own elaboration from data collected

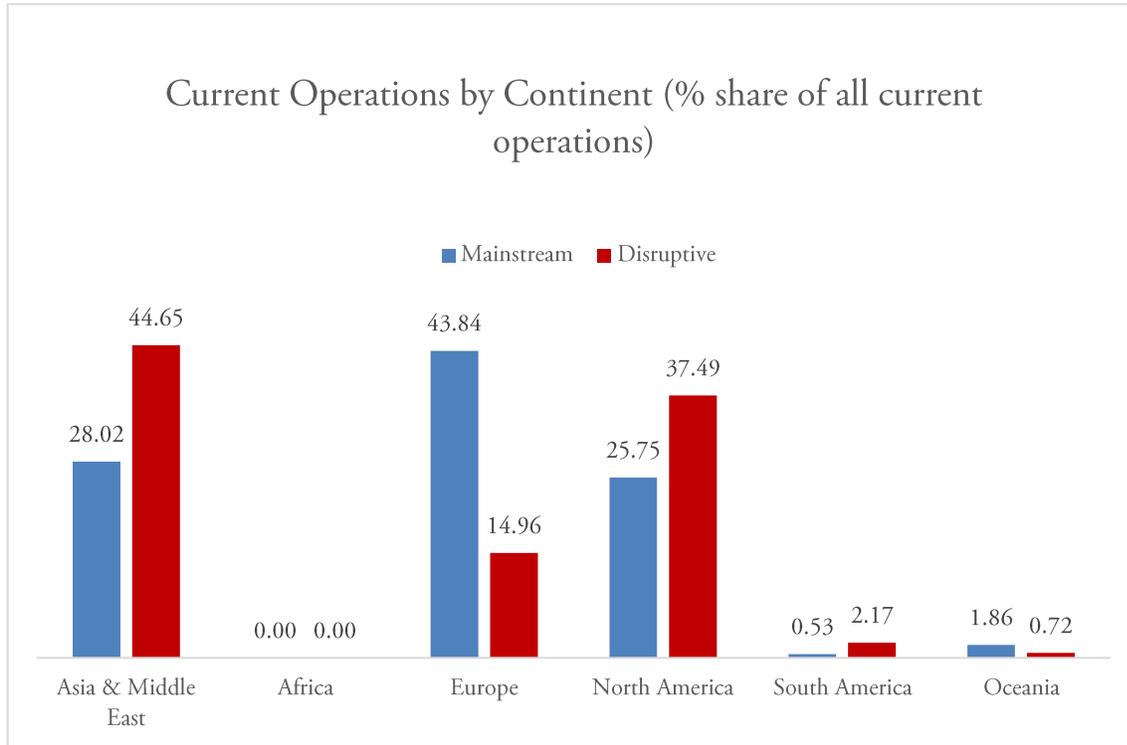
5.3.2 Changing International Markets

In terms of markets, the study finds that Asia is steadily growing in importance, not merely as a consumer market but also as a source of building competences, particularly in disruptive gaming.

The majority (close to 45%) of current operations of disruptive firms are located in Asia and the Middle East. It is also the second biggest market for mainstream firms after Europe, which

commands a similar position for mainstream companies as Asia and the Middle East does for disruptive ones.

Figure 5.3 Comparison of Current Operations and Acquisition History by Continent for Mainstream and Disruptive Firms



Source: Own elaboration from data collected

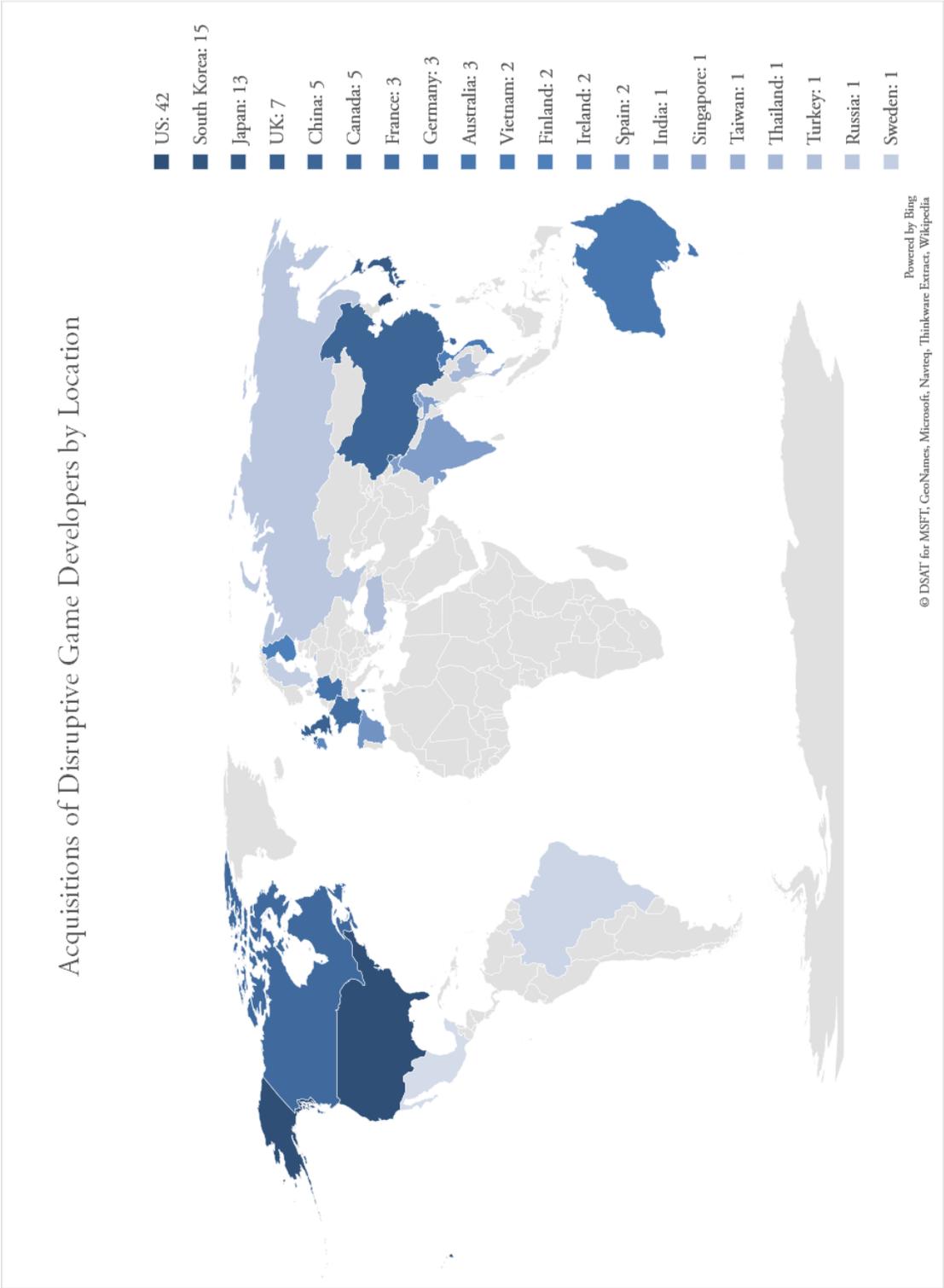
Asia’s importance might be accounted in part due to the fact that most high ranking disruptive gaming firms are Asian. Not only in this study but in the global ranking of videogame firms by revenue almost all disruptive firms listed are Asian, including those not studied in this thesis, such as Netease, DeNa, Netmarble, Mixi and NCSoft. Moreover, as explained in greater detail in the industry chapter, both academic research and industry reports have pointed to Asia as the biggest growth markets for disruptive gaming.

Asia’s emergence as a potential source for acquiring disruptive capabilities can also be demonstrated by a breakdown of disruptive acquisition locations of all firms. While the United States far outstrips other countries when it comes to providing capability building acquisitions, the next biggest source of disruptive capability building is South Korea (Fig X). While a large

part of these were domestic acquisitions by Nexon, EA, Tencent and Zynga all made acquisitions in this country. All in all, at 35% of the total, Asia is the second biggest destination for disruptive acquisitions.

There are also hints of the emergence of South America and Oceania, particularly as potential markets and sources of disruptive capability, in particular Australia. Perhaps once the Asian markets have reached maturity the way Europe and North America did before, these will be the next goldmines waiting to be tapped.

Figure 5.5 Location of Disruptive Acquisitions for All Firms



Source: Own elaboration from data collected

Conclusion

This study attempted to analyse two of the most significant trends in business today – disruption and internationalization.

The academic literature suggests that disruptive firms' success lies in their obligation to seek out untapped markets. Being unable to enter, at least initially, the familiar, strong markets mainstream firms dominate, they search new territories. In today's globalized world, this will more often than not mean international markets, often in new and emerging economies that have been ignored.

This study expected two distinct patterns of internationalization. One, that disruptive firms will internationalize faster and two, that they will be less reluctant to enter high distance and unfamiliar markets than mainstream ones. The results find that both patterns suggested in the literature hold. The disruptive firms studied here commenced their first international ventures much earlier than mainstream firms in every case. Moreover, in general, they seemed to be far more accepting of market distance, setting up or acquiring their first ventures in countries with significant differences from their domestic markets. The qualitative nature of the study allowed each firm's internationalization strategy to be placed in the context of the year in which it ventured abroad as well as in reference to cultural, economic, geographic and administrative barriers, thus providing a richer and more relevant view of the obstacles to be overcome when moving into new markets.

Further, the study clarified the often-misunderstood term, disruptive innovation. By contrasting firms producing cheap, low-tech casual games with mainstream developers who spend millions of dollars on blockbuster AAA games, this study has highlighted that disruptive innovation is not about ground-breaking technology or novel business models. More often than not, it is about venturing into places unknown, to cater to customers and markets that have been overlooked.

In addition, the study revealed insights for both disruptive innovation and internationalization at the industry level for videogames. In terms of international locations, the growing presence of Asia as the next big videogame market cannot be ignored, particularly in conjunction with disruptive gaming capabilities. More significantly, there is a blurring of the lines between mainstream and disruptive firms. This study found that mainstream videogame firms are

increasingly entering the disruptive segment and building up the capabilities to do so with strategic acquisitions, both internationally and domestically. Thus, while disruptive firms might be able to exploit internationalization more quickly, mainstream firms are not bereft of the advantages of international expansion either.

Limitations

While every attempt has been made to reduce any limitations in the study, nevertheless, some elements must be sacrificed for others. The multiple case study approach allows us to examine internationalization strategies in great detail, taking into account differing contexts of time, location and individual contexts of the firms themselves. At the same time, this means a necessary reduction in the generalizability of the results. While this thesis has attempted to use a diverse selection of firms to ensure as much generalizability as possible with a limited sample, it is beyond its scope to conclude whether this pattern is applicable to all disruptive firms, even within the same industry.

Moreover, qualitative analysis is, at its heart, more subjective than objective. To reduce such bias, this study uses secondary data in lieu of interviews that can have a wide range of interpretation. However, drawbacks remain. For instance, while multiple indicators and a comprehensive scoreboard framework were used to calculate market distance, the fact remains that it is easier to be objectively sure of the difference between the numbers 11 and 1 than between a country that speaks an Indo-European language with a Latin script and a Sino-Tibetan one with a Chinese script.

Finally, while I believe that in the context of both disruptive innovation and videogames, wholly owned operations i.e. greenfields and acquisitions provide a more relevant picture of the aims and advantages of internationalization by allowing firms to better understand and serve the markets and acquire pertinent capabilities, it is not prudent to completely exclude the idea that other forms of international investment, such as joint ventures or minority stakes might not serve the same means of reaching untapped markets and acquiring new competences. Again, the limited scope of

a master's thesis does not permit an exploration of all the various entry modes in internationalization.

Future Avenues for Research

Disruptive innovation remains a fascinating and relevant field of study, whose surface has been barely scratched. While this thesis provides a rarely explored look at disruption in the context of international business, there are many more areas of research within the subject that merit further investigation.

To begin with, a more quantitative approach to disruptive innovation has been long overdue. With the growing trends in disruption, finding a large enough sample of disruptive firms to perform a quantitative analysis should become increasingly easier in the future.

Moreover, while my study looks at disruption in the context of an industry that has not been included in many academic works on the subject so far, the body of research would benefit from studying other industries in the context of disruptive innovation. Christensen and Raynor list several such industries in their book but I would recommend low technology industries, to disentangle the notion of disruptive innovation as a purely technological phenomenon and to provide greater generalizability of the theory across industries.

The link between disruptive innovation and reverse innovation is another potentially fruitful avenue of research. In this study, the most significant disruptive firm, Tencent, was from an emerging economy. This study found that companies acquired developers in emerging locations such as Thailand, Vietnam and India. Indeed, reverse innovation with its low-cost approach might have more in common with disruptive innovation than commonly imagined. A study of emerging economies as potential sources of disruptive innovation is a potentially significant research question

As pointed out earlier, my study takes into account only wholly owned operations. A more comprehensive look at internationalization taking into account other forms of entry mode such as strategic alliances and minority stakes would provide a more enriched picture.

Conclusion

In conclusion, I would like to assert that if this thesis can offer any clues to the success of disruptive gaming, it is this – their embracing of international markets, moving speedily and bravely into unknown regions is perhaps a significant strategy. Then again, in business as in life, change is the only constant. Mainstream gaming firms' increasing openness to disruptive gaming, not just in the design of the games themselves but also in business models, such as microtransactions and increased power to developers, will go a long way in strengthening not just them but an industry that has always adapted to changing conditions to its great success.

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Annexes

Annex 0: Summary of Data Collected

	MAINSTREAM FIRMS			DISRUPTIVE FIRMS		
	EA	Square Enix	Ubisoft	Nexon	Tencent	Zynga
SPEED & DISTANCE						
Years between founding and first international venture	4	6.5	5	3	2	2
Founding Year	1982	1983	1986	1994	2004	2007
Internationalization Year	1986	1990, 1989	1991	1997	2006	2009
Founding location	US	Japan	France	South Korea	China	US
First venture location	UK	US	US	US	South Korea	South Korea
Openness to Distance Score	150.00	320.00	210.00	300.00	210.00	270.00
CURRENT OPERATIONS						
Domestic operations, %	26.00	39.13	20.63	43.33	36.96	57.89
International operations, %	74.00	60.87	79.37	56.67	63.04	42.11
International operations on home continent (excluding domestic), %	18.00	13.04	44.44	26.67	21.74	10.53
Current Markets						
Asia & Middle East, %	16.00	52.17	15.87	70.00	58.70	5.26
Africa, %	0.00	0.00	0.00	0.00	0.00	0.00
Europe, %	36.00	30.43	65.08	3.33	15.22	26.32
North America, %	44.00	17.39	15.87	26.67	17.39	68.42
South America, %	0.00	0.00	1.59	0.00	6.52	0.00
Oceania, %	4.00	0.00	1.59	0.00	2.17	0.00
Current Segments						
Mainstream Gaming Development, %	42.00	43.48	44.44	0.00	0.00	0.00
Disruptive Gaming Development, %	26.00	26.09	9.52	83.33	84.78	89.47
Both Segments, %	0.00	13.04	7.94	0.00	2.17	0.00
Business & Support, %	32.00	17.39	38.10	16.67	13.04	10.53

	ACQUISITION HISTORY					
Domestic acquisitions, %	52.08	33.33	15.63	42.86	14.29	63.33
International acquisitions, %	47.92	66.67	84.38	57.14	71.43	36.67
International acquisitions on home continent (excluding domestic), %	14.58	14.29	34.38	33.33	28.57	3.33

Acquisition Markets

Asia & Middle East, %	8.33	47.62	9.38	76.19	42.86	10.00
Africa, %	0.00	0.00	0.00	0.00	0.00	0.00
Europe, %	18.75	33.33	50.00	0.00	25.00	20.00
North America, %	66.67	19.05	37.50	23.81	21.43	70.00
South America, %	0.00	0.00	3.13	0.00	7.14	0.00
Oceania, %	6.25	0.00	0.00	0.00	3.57	0.00

Acquisition Segments

Mainstream Gaming Development, %	56.25	38.10	68.75	0.00	0.00	0.00
Disruptive Gaming Development, %	43.75	9.52	15.63	100.00	85.71	73.33
Both Segments, %	0.00	23.81	12.50	0.00	3.57	26.67
Business & Support, %	0.00	28.57	3.13	0.00	10.71	0.00

Annex 1a: Electronic Arts Current Operations

Name	City	Country	Continent	Function
EA Popcap China	Shanghai	China	Asia	Disruptive Gaming
EA China	Shanghai	China	Asia	Mainstream Gaming
EA Hyderabad	Hyderabad	India	Asia	Business
Slingshot Games	Hyderabad	India	Asia	Disruptive Gaming
EA Japan	Tokyo	Japan	Asia	Business
EA Singapore	Singapore	Singapore	Asia	Business
EA Seoul	Seoul	South Korea	Asia	Business
Spearhead Studio	Seoul	South Korea	Asia	Disruptive Gaming
Tracktwenty studio	Helsinki	Finland	Europe	Disruptive Gaming
EA France	Lyon	France	Europe	Business
EA Cologne	Cologne	Germany	Europe	Business
EA Mobile Cologne	Cologne	Germany	Europe	Disruptive Gaming
EA Cologne Development	Cologne	Germany	Europe	Mainstream Gaming
EA Galway	Galway	Ireland	Europe	Business
EA Romania	Bucharest	Romania	Europe	Mainstream Gaming
EA Madrid	Madrid	Spain	Europe	Business
EA Localization studio	Madrid	Spain	Europe	Mainstream Gaming
EA Stockholm Business	Stockholm	Sweden	Europe	Business
Ghost Games	Gothenburg	Sweden	Europe	Mainstream Gaming
EA DICE	Stockholm	Sweden	Europe	Mainstream Gaming
Publishing Nordics	Stockholm	Sweden	Europe	Mainstream Gaming
Frostbite Stockholm	Stockholm	Sweden	Europe	Mainstream Gaming

EA Geneva (Intl HQ)	Geneva	Switzerland	Europe	Business
EA Guildford	Guildford	UK	Europe	Business
Criterion Games	Guildford	UK	Europe	Mainstream Gaming
Ghost Games Guildford	Guildford	UK	Europe	Mainstream Gaming
EA Vancouver Business	Vancouver	Canada	North America	Business
Red Crow Mobile Charlottetown	Charlottetown	Canada	North America	Disruptive Gaming
Red Crow Mobile Kitchener	Kitchener	Canada	North America	Disruptive Gaming
Bioware Edmonton	Edmonton	Canada	North America	Mainstream Gaming
Bioware Montreal	Montreal	Canada	North America	Mainstream Gaming
Motive Studios	Montreal	Canada	North America	Mainstream Gaming
Frostbite Montreal	Montreal	Canada	North America	Mainstream Gaming
EA Vancouver	Vancouver	Canada	North America	Mainstream Gaming
Frostbite Vancouver	Vancouver	Canada	North America	Mainstream Gaming
EA Austin	Austin	US	North America	Business
EA Baton Rouge	Baton Rouge	US	North America	Business
EA Worldwide HQ	Redwood Shores	US	North America	Business
EA Mobile Redcrow	Austin	US	North America	Disruptive Gaming
EA LA Mobile	Los Angeles	US	North America	Disruptive Gaming
EA Mobile	Redwood Shores	US	North America	Disruptive Gaming
Capital Games	Sacramento	US	North America	Disruptive Gaming
EA Popcap	Seattle	US	North America	Disruptive Gaming
Bioware Austin	Austin	US	North America	Mainstream Gaming
DICE LA	Los Angeles	US	North America	Mainstream Gaming
EA Tiburon	Orlando	US	North America	Mainstream Gaming
EA Redwood Shores	Redwood Shores	US	North America	Mainstream Gaming

EA Maxis	Redwood Shores	US	North America	Mainstream Gaming
EA Sydney	Sydney	Australia	Oceania	Business
Firemonkeys Studio	Melbourne	Australia	Oceania	Disruptive Gaming

Annex 1b: Electronic Arts Acquisition History

Year	Name	Country	Continent	Function	Status
1987	Batteries Included	Canada	North America	Mainstream Gaming	Defunct
1991	Distinctive Software Inc. (renamed EA Canada)	Canada	North America	Mainstream Gaming	Functional
1992	Origin Systems	US	North America	Mainstream Gaming	Defunct
1995	Bullfrog Productions	UK	Europe	Mainstream Gaming	Merged
1996	Manley & Associates (renamed EA Seattle)	US	North America	Mainstream Gaming	Defunct
1997	Maxis (renamed EA Maxis)	US	North America	Mainstream Gaming	Merged
1998	Burst Studios (renamed EA Pacific)	US	North America	Mainstream Gaming	Functional
1998	Tiburon Entertainment (renamed EA Tiburon)	US	North America	Mainstream Gaming	Functional
1998	Westwood Studios (renamed EA Pacific)	US	North America	Mainstream Gaming	Merged
1999	Kesmai	US	North America	Mainstream Gaming	Merged
1999	PlayNation	US	North America	Mainstream Gaming	Merged
2000	DreamWorks Interactive	US	North America	Mainstream Gaming	Merged
2001	Pogo.com	US	North America	Disruptive Gaming	Functional
2002	Black Box Games (renamed EA Black Box)	Canada	North America	Mainstream Gaming	Defunct
2003	Studio 33	UK	Europe	Mainstream Gaming	Merged
2004	Criterion Software (renamed EA UK/ Guildford)	UK	Europe	Mainstream Gaming	Functional
2004	NuFX (renamed EA Chicago)	US	North America	Mainstream Gaming	Defunct
2005	JAMDAT Mobile	US	North America	Disruptive Gaming	Functional

	(renamed EA Mobile)				
2005	Hypnotix	US	North America	Mainstream Gaming	Merged
2006	Phenomic Game Development (renamed EA Phenomic)	Germany	Europe	Mainstream Gaming	Functional
2006	Digital Illusions (renamed EA Digital Illusions CE AB and now EA DICE)	Sweden	Europe	Mainstream Gaming	Defunct
2006	Headgate Studios (renamed EA Salt Lake)	US	North America	Mainstream Gaming	Defunct
2006	Mythic Entertainment (renamed EA Mythic)	US	North America	Mainstream Gaming	Defunct
2007	Pandemic Brisbane	Australia	Oceania	Mainstream Gaming	Merged
2007	BioWare Edmonton	Canada	North America	Mainstream Gaming	Merged
2007	Super Computer International	US	North America	Disruptive Gaming	Defunct
2007	VG Holding Corp.	US	North America	Disruptive Gaming	Functional
2007	Pandemic Studios LA	US	North America	Mainstream Gaming	Functional
2007	BioWare Austin (renamed EA Austin)	US	North America	Mainstream Gaming	Defunct
2007	SlingShot Media	US	North America	Mainstream Gaming	Merged
2008	Hands-On Mobile Korea (renamed EA Mobile Korea, part of EA Seoul)	South Korea	Asia	Disruptive Gaming	Merged
2008	J2MSoft (renamed EA Seoul)	South Korea	Asia	Disruptive Gaming	Functional
2008	ThreeSF	US	North America	Disruptive Gaming	Merged
2009	BioWare Montreal	Canada	North America	Disruptive Gaming	Functional

2009	Playfish	UK	Europe	Mainstream Gaming	Defunct
2010	IronMonkey Studios (merged with Firemint)	Australia	Oceania	Disruptive Gaming	Defunct
2010	J2Play (renamed EA Kitchener)	Canada	North America	Disruptive Gaming	Functional
2010	Chillingo	UK	Europe	Disruptive Gaming	Functional
2011	Firemint (merged with IronMonkey)	Australia	Oceania	Disruptive Gaming	Functional
2011	Bight Games (renamed EA Charlottetown)	Canada	North America	Disruptive Gaming	Defunct
2011	PopCap Shanghai (merged with EA China)	China	Asia	Disruptive Gaming	Functional
2011	PopCap Dublin	Ireland	Europe	Disruptive Gaming	Merged
2011	PopCap Seoul	South Korea	Asia	Disruptive Gaming	Functional
2011	KlickNation (renamed BioWare Sacramento)	US	North America	Disruptive Gaming	Functional
2011	Mobile Post Production	US	North America	Disruptive Gaming	Functional
2011	PopCap Games	US	North America	Disruptive Gaming	Functional
2011	PopCap Games San Francisco	US	North America	Disruptive Gaming	Functional
2012	ESN (merged with EA Stockholm)	Sweden	Europe	Disruptive Gaming	Merged

Annex 2a: Square Enix Current Operations

Name	City	Country	Continent	Function
Square Enix China	Beijing	China	Asia	Disruptive Gaming
Huang Long Co.	Beijing	China	Asia	Disruptive Gaming
Eidos Shanghai	Shanghai	China	Asia	Mainstream Gaming
Square Enix Mobile Studios Co Ltd	Sapporo	Japan	Asia	Disruptive Gaming
PlayOnline	Tokyo	Japan	Asia	Disruptive Gaming
Smile Lab Co.Ltd	Tokyo	Japan	Asia	Disruptive Gaming
Hippos Lab	Tokyo	Japan	Asia	Disruptive Gaming
Taito Corporation	Tokyo	Japan	Asia	Mainstream and Disruptive Gaming
Square Enix Business Support	Tokyo	Japan	Asia	Mainstream and Disruptive Gaming
Square Co.	Tokyo	Japan	Asia	Mainstream Gaming
Tokyo RPG Factory	Tokyo	Japan	Asia	Mainstream Gaming
Studio Istolia	Tokyo	Japan	Asia	Mainstream Gaming
Square Enix France	Paris	France	Europe	Business
Square Enix GmbH	Hamburg	Germany	Europe	Business
Square Enix Europe	London	UK	Europe	Business
Square Enix Collective	London	UK	Europe	Mainstream and Disruptive Gaming

Eidos Interactive Corp	London	UK	Europe	Mainstream Gaming
Beautiful Game Studios	London	UK	Europe	Mainstream Gaming
Square Enix London	London	UK	Europe	Mainstream Gaming
Eidos Montreal	Montreal	Canada	North America	Mainstream Gaming
Square Enix Montreal	Montreal	Canada	North America	Mainstream Gaming
Square Enix Inc	El Segundo	US	North America	Business
Crystal Dynamics Inc	Redwood City	US	North America	Mainstream Gaming

Annex 2b: Square Enix Acquisition History

Year	Name	Country	Continent	Function	Status
2003	Square Enix of Europe Holdings Ltd (formerly Square Europe Ltd. (1998-2003); Square Enix Ltd. (2003-2009))	UK	Europe	Business	Functional
2003	Square Electronic Arts LLC (renamed Square Enix Inc)	US	North America	Business	Functional
2003	Square Co.	Japan	Asia	Mainstream Gaming	Functional
2004	PlayOnline	Japan	Asia	Disruptive Gaming	Functional
2004	UI Evolution Inc.	US	North America	Disruptive Gaming	Defunct
2006	Beijing Taixin Cultural Amusement Co. Ltd.	China	Asia	Business	Defunct
2006	Taito Korea Corporation	South Korea	Asia	Business	Defunct
2006	Taito Art Corporation	Japan	Asia	Mainstream & Disruptive Gaming	Defunct
2006	Taito Tech Corporation	Japan	Asia	Mainstream & Disruptive Gaming	Defunct
2006	Effort Co. Ltd.	Japan	Asia	Mainstream & Disruptive Gaming	Defunct
2006	Baltec	Japan	Asia	Mainstream & Disruptive Gaming	Defunct
2006	Taito Corporation	Japan	Asia	Mainstream & Disruptive Gaming	Functional
2009	Square Enix London	UK	Europe	Business	Functional
2009	Eidos SaRL (renamed Square Enix France)	France	Europe	Business	Functional
2009	Eidos Shanghai	China	Asia	Mainstream Gaming	Functional
2009	IO Interactive AVS	Denmark	Europe	Mainstream Gaming	Demerged

2009	Eidos Hungary	Hungary	Europe	Mainstream Gaming	Defunct
2009	Eidos Interactive Corp	UK	Europe	Mainstream Gaming	Functional
2009	Beautiful Game Studios	UK	Europe	Mainstream Gaming	Functional
2009	Eidos Montreal	Canada	North America	Mainstream Gaming	Functional
2009	Crystal Dynamics Inc	US	North America	Mainstream Gaming	Functional

Annex 3a: Ubisoft Current Operations

Name	City	Country	Continent	Function
Ubisoft Chengdu	Chengdu	China	Asia	Mainstream Gaming
Ubisoft Hong Kong	Hong Kong	China	Asia	Business
Ubisoft Shanghai	Shanghai	China	Asia	Mainstream Gaming
Ubisoft Pune	Pune	India	Asia	Mainstream Gaming
Ubisoft Osaka	Osaka	Japan	Asia	Mainstream Gaming
Ubisoft Tokyo	Tokyo	Japan	Asia	Business
Ubisoft Philippines	Biñan City	Philippines	Asia	Mainstream Gaming
Ubisoft Singapore	Singapore	Singapore	Asia	Mainstream Gaming
Ubisoft Seoul	Seoul	South Korea	Asia	Mainstream Gaming
Ubisoft Abu Dhabi	Abu Dhabi	UAE	Asia	Disruptive Gaming
Ubisoft Austria	Vienna	Austria	Europe	Business
Ubisoft Belgium	Antwerp	Belgium	Europe	Business
Ubisoft Sofia	Sofia	Bulgaria	Europe	Mainstream Gaming
Ubisoft Nordics	Copenhagen	Denmark	Europe	Business
RedLynx	Helsinki	Finland	Europe	Mainstream & Disruptive Gaming
Ubisoft Annecy	Annecy	France	Europe	Mainstream Gaming
Ubisoft Bordeaux	Bordeaux	France	Europe	Mainstream Gaming
Ivory Tower	Lyon	France	Europe	Mainstream Gaming
Ubisoft Montpellier	Montpellier	France	Europe	Mainstream & Disruptive Gaming
Ubisoft International HQ	Paris	France	Europe	Business
Ubisoft Worldwide Studios HQ	Paris	France	Europe	Business
Ubisoft EMEA HQ	Paris	France	Europe	Business
Ubisoft France	Paris	France	Europe	Business

Ubisoft Mobile HQ	Paris	France	Europe	Disruptive Gaming
Owlient	Paris	France	Europe	Disruptive Gaming
Ubisoft Paris	Paris	France	Europe	Mainstream Gaming
Nadeo	Paris	France	Europe	Mainstream Gaming
Ubisoft Rennes	Rennes	France	Europe	Business
Ubisoft Germany	Dusseldorf	Germany	Europe	Business
Blue Byte	Dusseldorf	Germany	Europe	Mainstream Gaming
Blue Byte Mainz	Mainz	Germany	Europe	Mainstream Gaming
Ubisoft Italy	Buccinasco	Italy	Europe	Business
Ubisoft Milan	Milan	Italy	Europe	Mainstream & Disruptive Gaming
Ubisoft Netherlands	De Meern	Netherlands	Europe	Business
Ubisoft Poland	Warsaw	Poland	Europe	Business
Ubisoft Bucharest	Bucharest	Romania	Europe	Mainstream Gaming
Ubisoft Craiova	Craiova	Romania	Europe	Mainstream Gaming
Ubisoft Moscow	Moscow	Russia	Europe	Business
Ubisoft Belgrade	Belgrade	Serbia	Europe	Mainstream Gaming
Ubisoft Barcelona Mobile	Barcelona	Spain	Europe	Disruptive Gaming
Ubisoft Barcelona	Barcelona	Spain	Europe	Mainstream Gaming
Ubisoft Madrid	Madrid	Spain	Europe	Business
Ubisoft Malmö	Malmö	Sweden	Europe	Mainstream & Disruptive Gaming
Ubisoft Stockholm	Stockholm	Sweden	Europe	Mainstream Gaming
Ubisoft Switzerland	Lausanne	Switzerland	Europe	Business
Ubisoft United Kingdom	Guildford	UK	Europe	Business
Ubisoft Leamington	Leamington	UK	Europe	Mainstream & Disruptive Gaming
Future Games of London	London	UK	Europe	Disruptive Gaming

EMEA Consumer Relationship Centre	Newcastle	UK	Europe	Business
Ubisoft Reflections	Newcastle	UK	Europe	Mainstream Gaming
Ubisoft Kiev	Kiev	Ukraine	Europe	Mainstream Gaming
Ubisoft Halifax	Halifax	Canada	North America	Disruptive Gaming
Ubisoft Canada	Montreal	Canada	North America	Business
Ubisoft Montreal	Montreal	Canada	North America	Mainstream Gaming
Hybride Technologies	Piedmont	Canada	North America	Mainstream Gaming
Ubisoft Quebec City	Quebec City	Canada	North America	Mainstream Gaming
Ubisoft Toronto	Toronto	Canada	North America	Mainstream Gaming
Ubisoft Mexico City	Mexico City	Mexico	North America	Business
Red Storm	Cary	US	North America	Mainstream Gaming
NCSA Headquarters	San Francisco	US	North America	Business
Ubisoft San Francisco	San Francisco	US	North America	Mainstream Gaming
Ubisoft Sydney	Sydney	Australia	Oceania	Business
Ubisoft Sao Paulo	Sao Paulo	Brazil	South America	Business

Annex 3b: Ubisoft Acquisition History

Year	Name	Country	Continent	Function	Status
2000	Game Busters (renamed Ubisoft Austria)	Austria	Europe	Business	Functional
2001	Blue Byte Studios (renamed Ubisoft Blue Byte)	Germany	Europe	Mainstream Gaming	Functional
2001	Game Studios	US	North America	Mainstream & Disruptive Gaming	Defunct
2001	Strategic Simulations	US	North America	Mainstream Gaming	Merged
2002	Red Storm Entertainment (renamed Ubisoft Red Storm)	US	North America	Mainstream Gaming	Functional
2002	Sinister Games	US	North America	Mainstream Gaming	Merged
2003	3DO	US	North America	Mainstream Gaming	Merged
2004	Tiwak	France	Europe	Mainstream Gaming	Functional
2004	Wolfpack Studios	US	North America	Mainstream Gaming	Defunct
2005	Microids Canada Inc.	Canada	North America	Mainstream Gaming	Merged
2006	Crytek	Germany	Europe	Mainstream Gaming	Merged
2006	Reflections Interactive Ltd (renamed Ubisoft Reflections)	UK	Europe	Mainstream Gaming	Functional
2007	Digital Kids (renamed Ubisoft Nagoya/Osaka)	Japan	Asia	Mainstream Gaming	Functional
2007	Ivory Tower	France	Europe	Mainstream Gaming	Merged
2007	Sunflowers Interactive Entertainment Software GmbH	Germany	Europe	Mainstream Gaming	Functional
2008	Ubisoft Pune (formerly Gameloft Pune)	India	Asia	Mainstream & Disruptive Gaming	Functional

2008	Ubisoft Osaka	Japan	Asia	Mainstream Gaming	Functional
2008	Massive Entertainment (renamed Ubisoft Massive)	Sweden	Europe	Mainstream Gaming	Functional
2008	Hybride Technologies	Canada	North America	Mainstream Gaming	Functional
2009	Nadeo	France	Europe	Mainstream Gaming	Defunct
2009	Action Pants Inc (renamed Ubisoft Vancouver)	Canada	North America	Mainstream Gaming	Defunct
2009	Southlogic Studios	Brazil	South America	Mainstream Gaming	Functional
2010	Quazal Technologies	Canada	North America	Mainstream & Disruptive Gaming	Merged
2011	Redlynx Oy	Finland	Europe	Mainstream & Disruptive Gaming	Functional
2011	Owlient	France	Europe	Disruptive Gaming	Functional
2013	Related Designs Software GmbH (renamed BlueByte Mainz)	Germany	Europe	Mainstream Gaming	Functional
2013	Digital Chocolate SL (renamed Ubisoft Barcelona Mobile)	Spain	Europe	Disruptive Gaming	Functional
2013	Future Games of London	UK	Europe	Disruptive Gaming	Functional
2015	Longtail studios (renamed Ubisoft Halifax)	Canada	North America	Mainstream Gaming	Functional
2016	Ketchapp SARL	France	Europe	Disruptive Gaming	Merged
2017	Ubisoft Leamington (formerly Freestyle Games)	UK	Europe	Mainstream Gaming	Functional
2017	Growtopia	US	North America	Disruptive Gaming	Merged

Annex 4a: Nexon Current Operations

Name	City	Country	Continent	Function
Lexian Software Development (Shanghai) Co., Ltd	Shanghai	China	Asia	Disruptive Gaming
Nexon Japan Co	Tokyo	Japan	Asia	Business
Gloops, Inc.	Tokyo	Japan	Asia	Disruptive Gaming
InBlue	Tokyo	Japan	Asia	Disruptive Gaming
NDOORS Japan	Tokyo	Japan	Asia	Disruptive Gaming
Wellgames	Tokyo	Japan	Asia	Disruptive Gaming
Nexon Communications	Busan	South Korea	Asia	Business
Nexon Networks Corporation (formerly Nexon SD Corp)	Jeju-si	South Korea	Asia	Business
Neople	Jeju-si	South Korea	Asia	Disruptive Gaming
Nexon GT (formerly Game Hi)	Seongnam-si	South Korea	Asia	Disruptive Gaming
Nexon Korea Corporation	Seongnam-si	South Korea	Asia	Disruptive Gaming
Thingsoft	Seongnam-si	South Korea	Asia	Disruptive Gaming

Boolean Games	Seongnam-si	South Korea	Asia	Disruptive Gaming
Neon Studio	Seongnam-si	South Korea	Asia	Disruptive Gaming
JC Entertainment	Seoul	South Korea	Asia	Disruptive Gaming
NDOORS Corporation	Seoul	South Korea	Asia	Disruptive Gaming
Nexon Mobile (formerly Rushmo Co., Ltd)	Seoul	South Korea	Asia	Disruptive Gaming
Shaiya Online	Seoul	South Korea	Asia	Disruptive Gaming
NSC	Seoul	South Korea	Asia	Disruptive Gaming
Nexon Taiwan	Taipei	Taiwan	Asia	Disruptive Gaming
Nexon Thailand (formerly iDigital Connect)	Bangkok	Thailand	Asia	Disruptive Gaming
Nexon Europe GmbH	Berlin	Germany	Europe	Business
NDOORS Interactive	El Segundo	US	North America	Disruptive Gaming
Nexon Mobile America (formerly Rushmo America)	El Segundo	US	North America	Disruptive Gaming
NEXON M	Emeryville	US	North America	Disruptive Gaming

Fantage	Fort Lee	US	North America	Disruptive Gaming
Nexon America (formerly NX Games Inc)	Irvine	US	North America	Business
gloops International, Inc.	San Francisco	US	North America	Disruptive Gaming
KRU Interactive (formerly Nexon Inc)	Santa Clara	US	North America	Disruptive Gaming
Big Huge Games (formerly SecretNewCo)	Timonium	US	North America	Disruptive Gaming

Annex 4b: Nexon Acquisition History

Year	Name	Country	Continent	Function	Status
2004	Wizet (merged with Nexon Korea)	South Korea	Asia	Disruptive Gaming	Merged
2008	Neople	South Korea	Asia	Disruptive Gaming	Functional
2009	Rushmo Co., Ltd (renamed Nexon Mobile)	South Korea	Asia	Disruptive Gaming	Functional
2009	Rushmo America (renamed Nexon M)	US	North America	Disruptive Gaming	Functional
2009	Fantage	US	North America	Disruptive Gaming	Functional
2010	NDOORS Japan	Japan	Asia	Disruptive Gaming	Functional
2010	NDOORS Corporation	South Korea	Asia	Disruptive Gaming	Functional
2010	NDOORS Interactive	US	North America	Disruptive Gaming	Functional
2011	Game Hi (renamed Nexon GT)	South Korea	Asia	Disruptive Gaming	Functional
2012	Lexian Software Development	China	Asia	Disruptive Gaming	Functional
2012	Gloops, Inc.	Japan	Asia	Disruptive Gaming	Functional
2012	InBlue	Japan	Asia	Disruptive Gaming	Functional

2012	Shaiya Online	South Korea	Asia	Disruptive Gaming	Functional
2012	Gloops	Vietnam	Asia	Disruptive Gaming	Defunct
2012	gloops International, Inc.	US	North America	Disruptive Gaming	Functional
2013	Thingsoft	South Korea	Asia	Disruptive Gaming	Functional
2013	Big Huge Games	US	North America	Disruptive Gaming	Functional
2015	Boolean Games	South Korea	Asia	Disruptive Gaming	Functional
2016	Wellgames	Japan	Asia	Disruptive Gaming	Functional
2016	NSC	South Korea	Asia	Disruptive Gaming	Functional
2016	iDigital Connect(renamed Nexon Thailand)	Thailand	Asia	Disruptive Gaming	Functional

Annex 5a: Tencent Current Operations

Name	City	Country	Continent	Ownership	Function
Riot Games Sydney	Sydney	Australia	Oceania	Acquisition	Disruptive Gaming
Riot Games Sao Paulo	Sao Paulo	Brazil	South America	Acquisition	Disruptive Gaming
Riot Games Santiago	Santiago	Chile	South America	Acquisition	Disruptive Gaming
Supercell Beijing	Beijing	China	Asia	Acquisition	Business
Riot Games Hong Kong	Hong Kong	China	Asia	Acquisition	Disruptive Gaming
Riot Games Shanghai	Shanghai	China	Asia	Acquisition	Disruptive Gaming
Supercell Shanghai	Shanghai	China	Asia	Acquisition	Business
Supercell HQ	Helsinki	Finland	Europe	Acquisition	Disruptive Gaming
Riot Games Paris	Paris	France	Europe	Acquisition	Disruptive Gaming
Riot Games Berlin	Berlin	Germany	Europe	Acquisition	Disruptive Gaming
Riot Games New Delhi	Delhi	India	Asia	Acquisition	Disruptive Gaming
Riot Games Dublin	Dublin	Ireland	Europe	Acquisition	Disruptive Gaming

Riot Games Tokyo	Tokyo	Japan	Asia	Acquisition	Disruptive Gaming
Supercell Tokyo	Tokyo	Japan	Asia	Acquisition	Business
Riot Games Mexico City	Mexico City	Mexico	South America	Acquisition	Disruptive Gaming
Riot Games Moscow	Moscow	Russia	Europe	Acquisition	Disruptive Gaming
Riot Games Singapore	Singapore	Singapore	Asia	Acquisition	Disruptive Gaming
Riot Games Seoul	Seoul	South Korea	Asia	Acquisition	Disruptive Gaming
Supercell Seoul	Seoul	South Korea	Asia	Acquisition	Business
Riot Games Barcelona	Barcelona	Spain	Europe	Acquisition	Disruptive Gaming
Riot Games Taipei	Taipei	Taiwan	Asia	Acquisition	Disruptive Gaming
Riot Games Istanbul	Istanbul	Turkey	Asia	Acquisition	Disruptive Gaming
Riot Games London	London	UK	Europe	Acquisition	Disruptive Gaming
ZAM Network	Los Angeles	US	North America	Acquisition	Mainstream & Disruptive Gaming
Riot Games Los Angeles	Los Angeles	US	North America	Acquisition	Disruptive Gaming

Riot Games St Louis	Louis	US	North America	Acquisition	Disruptive Gaming
Riot Games New York	New York City	US	North America	Acquisition	Disruptive Gaming
Radiant Entertainment (renamed Riot Games SF)	San Francisco	US	North America	Acquisition	Disruptive Gaming
Supercell San Francisco	San Francisco	US	North America	Acquisition	Business
Riot Games Ho Chi Minh City	Ho Chi Minh City	Vietnam	Asia	Acquisition	Disruptive Gaming
Morefun Cube Devil Studio Beijing	Beijing	China	Asia	Greenfield	Disruptive Gaming
Morefun Cube Magician Studio	Beijing	China	Asia	Greenfield	Disruptive Gaming
Wolong Studios	Chengdu	China	Asia	Greenfield	Disruptive Gaming
QQ Game Department	Guangzhou	China	Asia	Greenfield	Disruptive Gaming
Tencent Interactive	Guangzhou	China	Asia	Greenfield	Business
Aurora Borealis Studio	Shanghai	China	Asia	Greenfield	Disruptive Gaming
Morefun Cube Mirror Studio	Shanghai	China	Asia	Greenfield	Disruptive Gaming
TiMi Studio Group	Shanghai	China	Asia	Greenfield	Disruptive Gaming

Jade Studio	Shenzhen	China	Asia	Greenfield	Disruptive Gaming
Lightspeed Studios	Shenzhen	China	Asia	Greenfield	Disruptive Gaming
Morefun Cube Devil Studio Shenzhen	Shenzhen	China	Asia	Greenfield	Disruptive Gaming
Morefun Cube Magic Flute Studio	Shenzhen	China	Asia	Greenfield	Disruptive Gaming
Quantum Studios	Shenzhen	China	Asia	Greenfield	Disruptive Gaming
Tencent Korea	Seoul	South Korea	Asia	Greenfield	Disruptive Gaming
Stomp Games (formerly Tencent Boston)	Concord	US	North America	Greenfield	Disruptive Gaming
Tencent America	Palo Alto	US	North America	Greenfield	Disruptive Gaming

Annex 5b: Tencent Acquisition History

Year	Name	Country	Continent	Ownership	Function	Status
2011	ZAM Network	US	North America	Acquisition	Mainstream & Disruptive Gaming	Functional
2015	Riot Games Hong Kong	China	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Shanghai	China	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Tokyo	Japan	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Singapore	Singapore	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Seoul	South Korea	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Taipei	Taiwan	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Istanbul	Turkey	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Ho Chi Minh City	Vietnam	Asia	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Berlin	Germany	Europe	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Dublin	Ireland	Europe	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Moscow	Russia	Europe	Acquisition	Disruptive Gaming	Functional

2015	Riot Games Barcelona	Spain	Europe	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Brighton	UK	Europe	Acquisition	Disruptive Gaming	Defunct
2015	Riot Games Los Angeles	US	North America	Acquisition	Disruptive Gaming	Functional
2015	Riot Games St Louis	US	North America	Acquisition	Disruptive Gaming	Functional
2015	Riot Games New York	US	North America	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Sydney	Australia	Oceania	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Sao Paulo	Brazil	South America	Acquisition	Disruptive Gaming	Functional
2015	Riot Games Mexico City	Mexico	South America	Acquisition	Disruptive Gaming	Functional
2016	Supercell Beijing	China	Asia	Acquisition	Business	Functional
2016	Supercell Shanghai	China	Asia	Acquisition	Business	Functional
2016	Supercell Tokyo	Japan	Asia	Acquisition	Disruptive Gaming	Functional
2016	Supercell Seoul	South Korea	Asia	Acquisition	Disruptive Gaming	Functional
2016	Supercell HQ	Finland	Europe	Acquisition	Disruptive Gaming	Functional

2016	Riot Games Paris	France	Europe	Acquisition	Disruptive Gaming	Functional
2016	Supercell San Francisco	US	North America	Acquisition	Business	Functional
2016	Radiant Entertainme nt (renamed Riot Games SF)	US	North America	Acquisition	Disruptive Gaming	Functional

Annex 6a: Zynga Current Operations

Name	City	Country	Continent	Function
Zynga India	Bangalore	India	Asia	Disruptive Gaming
Zynga Finland	Helsinki	Finland	Europe	Disruptive Gaming
Zynga Ireland	Dublin	Ireland	Europe	Disruptive Gaming
Boss Alien	Brighton	UK	Europe	Disruptive Gaming
Natural Motion London	London	UK	Europe	Mainstream & Disruptive Gaming
Natural Motion Oxford	Oxford	UK	Europe	Mainstream & Disruptive Gaming
Zynga Canada	Toronto	Canada	North America	Disruptive Gaming
Zynga Victoria	Victoria	Canada	North America	Disruptive Gaming
Zynga ATX	Austin	US	North America	Business
Zynga Austin	Austin	US	North America	Disruptive Gaming
Zindagi Games	Camarillo	US	North America	Disruptive Gaming
Zynga Chicago	Chicago	US	North America	Disruptive Gaming

Zynga Eugene	Eugene	US	North America	Disruptive Gaming
Zynga Los Angeles	Los Angeles	US	North America	Disruptive Gaming
Zynga with Friends	McKinney	US	North America	Disruptive Gaming
Zynga New York	New York City	US	North America	Disruptive Gaming
Zynga San Diego	San Diego	US	North America	Disruptive Gaming
Natural Motion San Francisco	San Francisco	US	North America	Mainstream & Disruptive Gaming
Zynga HQ	San Francisco	US	North America	Business

Annex 6b: Zynga Acquisition History

Year	Name	Country	Continent	Function	Status
2008	Yoville	US	North America	Disruptive Gaming	Defunct
2009	GoPets Ltd.	South Korea	Asia	Disruptive Gaming	Defunct
2009	MyMiniLife	US	North America	Disruptive Gaming	Defunct
2010	Dextrose (renamed Zynga Germany)	Germany	Europe	Disruptive Gaming	Defunct
2010	Bonfire Studios (renamed Zynga Dallas)	US	North America	Disruptive Gaming	Defunct
2010	Challenge Online Games Inc (renamed Zynga Austin)	US	North America	Disruptive Gaming	Functional
2010	Conduit Labs (renamed Zynga Boston)	US	North America	Disruptive Gaming	Defunct
2010	Newtoy Inc (renamed Zynga with Friends)	US	North America	Disruptive Gaming	Functional
2010	Unoh Inc (renamed Zynga Japan)	Japan	Asia	Disruptive Gaming	Defunct
2010	XPD Media Inc (renamed Zynga China)	China	Asia	Disruptive Gaming	Defunct
2011	Astro Ape Studios	US	North America	Disruptive Gaming	Merged
2011	DNA Games Inc	US	North America	Disruptive Gaming	Merged
2011	Five Mobile Inc (renamed Zynga Canada)	Canada	North America	Disruptive Gaming	Functional

2011	Game Doctors	Germany	Europe	Disruptive Gaming	Defunct
2011	Hiplogic Inc	US	North America	Disruptive Gaming	Merged
2011	Page44 Studios LLC	US	North America	Mainstream & Disruptive Gaming	Defunct
2011	Wonderland Software (renamed Zynga UK)	UK	Europe	Disruptive Gaming	Defunct
2012	Buzz Monkey Software (renamed Zynga Eugene)	US	North America	Mainstream & Disruptive Gaming	Functional
2012	November Software LLC	US	North America	Mainstream & Disruptive Gaming	Defunct
2012	Omgpop	US	North America	Disruptive Gaming	Defunct
2012	Serious Business Games	US	North America	Disruptive Gaming	Merged
2012	A Bit Lucky	US	North America	Mainstream & Disruptive Gaming	Merged
2013	Spooky Cool Labs (renamed Zynga Chicago)	US	North America	Disruptive Gaming	Functional
2014	Boss Alien	UK	Europe	Disruptive Gaming	Functional
2014	Natural Motion London	UK	Europe	Mainstream & Disruptive Gaming	Functional
2014	Natural Motion San Francisco	US	North America	Mainstream & Disruptive Gaming	Functional
2014	Natural Motion Oxford	UK	Europe	Mainstream & Disruptive Gaming	Functional
2015	Rising Tide Games Inc	US	North America	Disruptive Gaming	Merged

2016	Zindagi Games (renamed Zynga Camarillo)	US	North America	Mainstream & Disruptive Gaming	Functional
2017	Harpan LLC	US	North America	Disruptive Gaming	Merged