

# In Search of Kill Zones: Music Streaming and the VC View

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<https://danielbower.com/music-streaming-venture-capital-kill-zones/>

MSc Dissertation

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## **Abstract**

This dissertation contributes to the existing literature on kill zones through the examination of venture investing into music and audio startups in North America and Europe following the entry of Amazon, Apple and Google into the market. In addition, it provides the only example of in-depth interviews (n=4) conducted with venture capitalists on the topic of the kill zone. Through analysis of Crunchbase the data reveals a 32.5% decrease in the number of early stage venture financing rounds into music and audio startups in North America and Europe despite sustained increases in investment in the wider venture financing sector. Through semi-structured interviewing it is also reveals how a venture capitalist's attitude towards the acquisition of one of their portfolio companies will impact their view of the kill zone. This important distinction goes some way to explaining the otherwise inconclusive nature of the existing empirical research into kill zones.

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## 1.0 Introduction

The rise of large technology businesses such as Google, Apple, Facebook and Amazon has prompted scholars from a wide range of disciplines to examine the extent of their economic influence. Of particular significance has been the renewed interest in anti-trust and possible regulatory measures to check their growing power. In the US the recent appointment of legal scholar and highly cited technology critic Lina Khan (see Khan, 2019) to the position of chair of the Federal Trade Commission is considered to be a high-water mark in this regard. Notable too is popular interest in the so-called trustbuster movement as documented by the 2018 New York Attorney General candidate Zephyr Teachout in her 2020 book, 'Break 'Em Up'.

In the European Commission's 2019 report 'Competition Policy for the Digital Era' it was noted that a key challenge for advocates of anti-trust enforcement aimed at large technology companies concerns how regulation impacts innovation (Crémer et al., 2019, pp. 58-59). Defining new data standards and software interoperability guidelines, for example, may foster more competition, but overly complex rules have the potential to slow innovation and reduce consumer welfare indirectly. With this in mind, evidence of the kill zone phenomenon, in which venture capital investment

into nascent startups is limited due to the presence of a large technology platform, comes at an important moment. Should large technology platforms be observed limiting the innovative potential of new startups, their claims to be champions of innovation will need re-examining.

### **1.1 Defining “Big Tech”**

The two short paragraphs above made reference to large technology businesses, large technology platforms, and named four companies: Google, Apple, Facebook and Amazon. A cursory glance through the academic and popular discussion of companies such as these would find more words added to the lexicon. “Big Tech”, digital platforms, multi-sided platforms, and acronyms such as GAFAM (for Google, Apple, Facebook, Amazon and Microsoft) are all prime examples. This research project makes heavy use of the term large digital platform, or, where appropriate, will make use of the same term in a cited work.

So what do we mean by large digital platforms? Each of the businesses described in the section above could be considered a platform. In simple terms platforms facilitate the interaction between one or more groups (Srnicek, 2017, p. 42). However, two features of platforms stand out as far as this dissertation

is concerned. First, platforms are notable for the network effects they benefit from, meaning that, as new customers join the platform the utility the platform provides to existing customers also increases (Evans and Schmalensee, 2016). Second, platforms are known to extract large amounts of customer data that can be used to improve the quality of the platform's services (Zuboff, 2019, p. 69). These two facets then work in concert – more customers creates more value for existing customers and more customers create more data which can be used to improve service delivery which in turn attracts more customers. A cycle that Zuboff (2019, p. 70) refers to as the behavioural value reinvestment cycle.

These two facets are also key drivers of a platform's ability to gain market share (Srnicek, 2017, p. 47). Khan (2019, p. 1081) notes the challenges associated with defining a platform as 'dominant', or in the case of this dissertation 'large' however it is never the less important to distinguish between nascent platforms and those which have amassed significant power. Khan (2019, p. 1082) also argues that market share may be the best method of assessing the power of a platform. Platforms, however are also noted for their economies scope, that is, their ability to enter new markets easily (Shorenstein Center, 2019), and so measuring market share could also prove ineffective. For

the purpose of this dissertation when referring to a large digital platform we are typically referring to a member of the GAFAM group of companies.

However, this designation will also be used when referring to a market specific platform such as Spotify.

## **1.2 The Role of Venture Capital**

Venture capitalists are the other important actor present in this research. The phenomenon of the kill zone concerns the reduction of venture financing into startups given the presence of a large digital platform and so an understanding of the role of venture capital is our next step.

Venture capital is a form of equity financing, meaning that the financier receives shares in the company in return for the cash injection, and therefore becomes a part owner of the business (Gompers and Lerner, 1999, p. 11).

Venture capital firms consist of venture capital investors (VCs) who invest in firms over a series of rounds (Gompers and Lerner, 1999, p. 127). Gompers and Lerner (1999, p. 132) note that venture capital is as a popular funding route for businesses with significant setup costs and high degrees of uncertainty surrounding their outcome. This is enabled by amassing a portfolio of companies and working on the assumption that many will fail,

but that a small number of successful investments will account for the bulk of the returns (Gompers and Lerner, 1999, p. 6). Finally, while venture capitalists typically take board seats rather than operational roles (Gompers and Lerner, 1999, p. 171), the industry is noted for its contribution to innovation, meaning evidence of declining investment would be of significance to an economies dynamism (Prado, 2021b, p. 8).

### **1.3 Aims and Objectives**

Academic examination of the kill zone is relatively new and the focus of the existing literature can be divided in two. First, those who have taken an empirical approach, for example, Kamepali et al. (2021), Koski et al. (2020) and Prado and Bauer (2021), by attempted to quantifiably measure reducing venturing investing. And second, legal scholars, such as Khan (2019) and Hylton (2019), who have framed discussion of the kill zone in the context of the renewed anti-trust debate. Two areas of note are missing from the existing scholarly work. First, examination of the view venture capitalists hold on kill zones, and second, exploration of the effect entry of a large digital platform into a new market has on venture investing. By taking a mixed methods approach this dissertation attempts to examine both of these topics: using venture financing data to examine the entry of Apple, Amazon and Google in



to the music streaming business, and then semi-structured interviews with active venture capitalists. First though we conduct a literature review, starting with the relationship between monopolies and innovation before moving on to a comprehensive review of the current research on kill zones.

## **2.0 Literature Review**

Recent interest in the kill zone phenomenon is unsurprising as it contributes to the long standing debate concerning the relationship between monopolies and innovation. In 'Capitalism, Socialism and Democracy', first published in 1942, Joseph Schumpeter argued that monopolies were central to innovation in an economy under capitalism as they generated the kind of profits necessary to invest the future. By contrast, Kenneth Arrow argued that the market power possessed by monopolies stifled innovation in favour of rent extraction (Arrow, 1962). The literature review of this dissertation will open by reviewing this classic debate between Schumpeter and Arrow, before moving on to look at recent research concerning monopoly power and its relationship with innovation. In the final half we'll conduct a comprehensive review of the relatively small body of work on kill zones before summarising the findings and revealing where opportunities lie for further research.

### **2.1 Schumpeter and Arrow**

One of the earliest examinations of monopolies and innovation appeared in Joseph Schumpeter's 'Capitalism, Socialism and Democracy' (2010). Schumpeter argued that innovation was a driving force of a capitalist

economy, and that an economy without innovation would quickly stagnate (Schumpeter, 2010, p. 74). Schumpeter went on to assert that monopolies were a key ingredient of innovative economies, as only monopolies could yield the returns necessary to invest in innovative research (Schumpeter, 2010, p. 83). Schumpeter's work was provocative as it ran counter to the classical view of economics that prized highly competitive markets and distrusted market concentration (Gilbert, 2006, p. 160).

These arguments gave rise to the notion of Schumpeterian competition, the idea that competition was *for* a market was preferable to competition *in* a market given a monopolist's tendency for innovative behaviour (Stiglitz, 2010 p. ix). Schumpeter exemplifies this idea when he considers retail competition, noting that, 'the competition that matters arises not from additional shops of the same type, but from the department store, the chain store, the mail-order house and the supermarket' (Schumpeter, 2010, p. 75). Schumpeter summarises this form of competition as a perpetual revolution, one that brings about the end of markets and gives birth to new ones in a process of creative destruction (Schumpeter, 2010, p. 73).

In stark contrast to Schumpeter is the work of Kenneth Arrow. Arrow

(1962) argued that monopolists were disincentivised to innovate when compared to companies operating in competitive markets. Central to this argument is the observation that, when faced with the costs of innovation, monopolists would opt for prior levels of monopoly output (Arrow, 1962, p. 621). What is more, Arrow argues that competitive markets are in fact the more likely to produce cost saving innovation as they attempt to capture market share (Arrow, 1962, p. 619). Shapiro (2012) summarises the market dynamics first outlined by Arrow, and subsequently referred to as the replacement effect, as follows:

*“...the secure monopolist’s incentive to achieve a process innovation is less than that of a competitive firm because the monopolist with lower costs will merely replace itself, while the competitive firm will (by assumption) take over the market, in which it previously earned no economic profits (Shapiro, 2012, p. 363).*

In other words, a business with monopoly control has less incentive to invest money in cost saving innovation than a competitor who stands to generate new profits from that innovation.

## **2.2 Not a Simple Dichotomy**

On a simplistic level, the historical academic debate concerning the source

of innovation within the private sector falls into one of the two camps discussed above. Those who, like Schumpeter, champion the positive impact monopolies have on innovation, and those like Arrow who argue that highly concentrated markets stymie innovation by virtue of the size of their incumbents and their appetite for monopoly rents.

Contemporary research has shown this dichotomy to be too simplistic, however. One study of significance comes from Aghion et al. (2004) who find the ability of new firms to enter into a market, particularly a high-tech one, contributes positively to innovation. They note, 'entry spurs growth in incumbents by inducing those close to the technological frontier to innovate in order to escape entry' (Aghion et al., 2004, p. 274). This line of argument is not a wholesale critique of monopolies, it simply argues that market entry is an important component of dynamic markets as entry encourages incumbent companies to innovate as well. This idea was extended further by Agion et al. (2005) who offered the inverted-U of competition and innovation. Krčál (2014) summarises the inverted-U model as one where, 'the relationship between competition and innovation is first increasing and then decreasing in competition, forming an inverted-U' (Krčál, 2014, p. 8). In other words, competition at first supports innovation but this eventually reaches a maxima

at which point innovation starts to decline as the market becomes even more competitive.

### **2.3 Monopolies actively inhibiting innovation**

Schumpeter, Arrow and the more recent work of Phillipe Agion focus on how a market's concentration impacts innovation. However, research has also shed light on the power of monopolies to actively inhibit innovation. One example of this can occur when a business shuts their own research and development to prevent a threat to their monopoly. Clark (1993) examines the development of magnetic recording devices at Bell Laboratories between 1930 and 1941. Clark argues that, despite having produced what was arguably the best technology in the world at the time, Bell suppressed the release of the innovation for fear of how it would impact their business. Bell's management were concerned that customers would be less likely to adopt the use of a telephone service if they felt their calls could be recorded (Clark, 1993, p. 534).

Similarly, a monopolist may be responsible for limiting innovation through the acquisition of rivals. Cunningham et al. (2020) looked at the acquisitions of firms within the pharmaceutical industry. Their research found evidence of what they term killer acquisitions, in which incumbent firms acquire nascent

competitors and terminate their innovative projects (Cunningham et al., 2020). Such action prevents those new products ever reaching the market and stifles competition and innovation for the benefit of the monopolist.

In a sweeping paper from 2019 Khan posited that platform owners who also compete with the businesses who make use of their platform were creating a conflict of interest that stifled innovation. Khan argued that Apple, Amazon, Google and Facebook had all made use of this strategy to devastating effect. Khan cites Amazon's use of marketplace data and the launch of its own private label brands (Khan, 2019, p. 988); Google's creation of search verticals that compete with website listed in its main search engine (Khan, 2019, p. 999); the data restrictions placed on the social media app Vine by Facebook (Khan, 2019, p. 1002); and Apple's imposition of a 30% commission on customers subscribing to Spotify, a competitor to Apple Music (Khan, 2019, p. 1007).

## **2.4 Digital Platforms and Barriers to Entry**

The need for new companies to enter markets is a theme that runs through each of the models of market concentration and innovation discussed in the

paragraphs above. Whether one subscribes to the Schumpeterian model of innovation, the Arrowian or the inverted-U, all require that startups are able to enter a market in order for the innovation process to occur. Arrow (1962) argued that competitive markets which are open to new entrants foster innovation as a result of the new firms desire to gain market share. And the inverted-U (Agion et al., 2005) argues a similar point until too much competition starts to have a negative impact on innovation. Schumpeter (2010) on the other hand was more cautious about the need for competition, arguing that monopoly profits were the fuel required to invest in research and development. However, this was not to the detriment of all competition. Schumpeter argued that the competition of significance came not from the 'traditional conception of the modus operandi of competition' but 'from the new commodity, the new technology, the new source of supply, the new type of organization' (Schumpeter, 2010, p. 74). A market may be arranged in a way that is highly concentrated, but without the fear of entry from new companies there is no creative destruction, a phenomenon which, for Schumpeter, was the 'essential fact about capitalism' (Schumpeter, 2010, p. 73). Rizzo summarises this point effectively, asserting that, 'Schumpeter highlighted the prospect of new competition and innovation as incessantly playing a key role



in fostering dynamic competition and economic efficiency' (Rizzo, 2021, p. 9).

If we view market entry as a necessary condition for innovation in a capitalist economy, evidence of excessive barriers to entry would be an understandable cause for alarm. The network effects created by digital platforms provide one example of this. Network effects have been demonstrated to create significant barriers to entry: as digital platforms add more customers to their network, the value of the platform grows for each existing customer, and, significantly, grows for each new customer too (Evans and Schmalensee, 2016). By creating additional value for new and existing customers the position of the incumbent platform is entrenched, creating a potentially insurmountable challenge for a nascent competitor.

In addition to the barriers created by network effects, data barriers to entry created by digital platforms are also considered. Digital platforms are able to aggregate large volumes of data from the interactions of their customers for the purpose of improving service delivery (Zuboff, 2019, p. 69). This puts nascent competitors at a significant disadvantage, as during the embryonic phase a businesses is unlikely to be able to call upon such data reserves. A newly incorporated search engine, for example, would be unable to tailor its

results for each customer to the extent that Google, with over two decades worth of search history in its data centres, can.

## **2.5 Into the Kill Zone**

This literature review has thus far looked evolution of the debate concerning monopolies and innovation, rounding on the observation that market entry is a critical component of an innovative economy and that the barriers to entry created by large digital platforms are of particular concern. Another seam of research examines the relationship between large digital platforms and declining venture financing into the markets they operate in – a phenomenon referred to as the kill zone. Freeman and Engel note the importance of venture capital to fund the startup ecosystem and the innovations they produce (Freeman & Engel, 2007, pp. 101-102). Thus, evidence of large digital platforms creating new barriers to entry in the form of reduced financing is of understandable interest.

The second section of this literature review will focus more specifically on the topic of kill zones and provide a synthesis of the major themes found

within the existing literature.<sup>1</sup> It closes with some observations about where gaps in the current research exist.

## **2.6 Locating the Kill Zone**

There are differing views on when a kill zone is said to exist in the included literature. These differences can be categorised in one of three ways. First pertains to the existence of a kill zone prior to an acquisition occurring. This definition, by way of example, appears in Kamepalli et al. (2021), who refer to the kill zone as the prospect of an acquisition by larger platform. The second sees the kill zone established after an acquisition has occurred. Koski et al. (2020) define this scenario as, ‘when the dominant company with large consumer data assets acquires a firm outside of its primary markets, it may generate a kill zone for potential market entrants’ (Koski et al., (2020, p. 5).

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<sup>1</sup> The concept of a kill zone is a relatively recent one and yet to be subject to a systematic review. The goal of this review is to answer our second research question, namely, what is currently known about the phenomenon of kill zones? This review made use of the Google Scholar, ProQuest and JSTOR databases. In each case the terms “kill zone” and “venture capital” were used to form the search query. Duplicates and any results not pertaining the topic were removed. From these three searches a total of 38 results were shortlisted. Following closer inspection, 23 were excluded as they did not meet the inclusion criteria, leaving 15 in the final review. A synthesis of the themes found in these articles follows.

Finally, the third definition concerns the deterring of investment because the large technology platform either directly competes with a nascent startup, or, because their business could be easily replicated. As Prado (2020a, p. 2) puts it, kill zones are, 'created by the unlikely success of directly competing against a big and resourceful digital platform'.

It is also notable that the scholarly work to date focusses entirely on the definitions of the kill zone that focus on acquisition. No work to date has attempted to examine the impact of direct competition with a large technology platform on investment.

## **2.7 Declining Investment**

A consistent theme of the articles concerning kill zones is how their presence impacts the market in which they exist. The existence of kill zone is typified by reduced levels of venture capital investing which has been evidenced in three ways. First, through a decline in the number of venture deals (for example Kamepalli et al., 2021) Second, a decline in the monetary value of venture investing (for example Prado, 2021). Third, a decline in the number of new companies entering the market (for example Koski et al.,

2020).

The empirical evidence for declining venture investing is provided by Kamepalli et al. (2021) and Koski et al. (2020). In Kamepalli et al. (2021, pp. 2-3) the researchers examined a number of acquisitions made by Google and Facebook. The researchers then analysed the total dollars invested and the total number of rounds conducted in the markets of the acquired companies. After each transaction the researchers observed a decline despite sustained levels of investment across the wider software industry. Koski et al. (2020) conducted a similar study but considered the acquisitions of six technology platforms: Amazon, Apple, Facebook, Google, Microsoft, and IBM. They too drew the conclusion that, following an acquisition, there was a decline in the value of investment into those markets (Koski et al., 2020, p. 12).

## **2.8 The Threat of Acquisition**

As already noted above, by one definition, a kill zone is said to exist when there is the prospect of an acquisition by a large technology platform. This definition leads Koski (2020) and Kamepalli et al. (2021) to point out that the notion runs counter to standard micro economic logic, given that the prospect

of acquisition is generally considered to be a factor that would motivate investment in a given market (see Phillips and Zhdanov, 2013).

Kamepalli et al. (2021, p. 3) attempt to explain this contradictory idea with a theoretical model that sees early adopters hesitant to use new digital platforms because of the threat of a quick acquisition. Moving platforms incurs switching costs, and so to adopt a new service, only to see it acquired, would be irrational. Finally, given that early adopters bring other users to the service, their absence will result in sub-optimal acquisition prices and thus lower levels of investment overall (Kamepalli et al., 2021, p. 4).

Lambert (2020) provides a simpler explanation for this scenario. They argue that a large platform's access to data means it can spot potential competitors early and thus force a transaction at a price that is less appealing for investors (Lambert, 2020, p. 10).

## **2.9 The Venture Capitalist View**

Quotes from venture capitalists are a common feature of the literature on the topic of kill zones. This is unsurprising given that their decisions to invest or not invest is a key metric defining the kill zone. Also of significance is that

the term's origin appears to have come from a venture capitalist while speaking at an antitrust conference in 2018. Albert Wegner of Union Square Ventures told the audience that one of his business partners was: 'only investing in things that are not in the Facebook, Amazon, Apple, Google kill zone (Wegner, 2018).' In the months following that conference more venture capitalists have made further remarks, see The Economist, 'Into the Danger Zone' (2018) and Rizzo (2021) for an overview.

Despite finding quotes from venture capitalists regularly in the press, the researcher could not find any scholarly work that involved the collection of data directly from them, be that in the form of questionnaires, interviews or otherwise.

## **2.10 Kill Zone Sceptics**

A range of scholars have question the existence of kill zones in the first place. Varian (2021) cites the scale of aggregate venture investing in the US as evidence of this as well as the size of the research and development (R&D) budgets of the GAFAM group (Varian, 2021 p. 3). Kennedy (2020) as part of a 'Monopoly Myths' series for the Information Technology and Innovation

Foundation (ITIF) offers similar reasoning. The researcher notes that Hal Varian is currently employed as Google's Chief Economist. In addition, the ITIF lists Amazon, Apple, Google and Microsoft as financial supports of their work. With this in mind, the reliability of these sources must be viewed with some caution.

Hylton (2019) in an examination of antitrust and digital platforms for the Nebraska Law Review concludes that, 'the platform monopolies that have appeared have resulted because of economies of scale, not from anticompetitive practices' (Hylton, 2019, p. 296). In reference to kill zones specifically, the author argues that the replication and integration of a competitive product into a platform's offering doesn't necessarily limit a consumer's access to that innovation (Hylton, 2019, p. 280). Moreover, and in the case of the App Store at least, the billions of apps available today suggest that entrepreneurs are not put off by the prospect of this behaviour occurring.

Two empirical examinations also cast doubt on the post-acquisition kill zone. Ahmad et al, (2020) created a model that shows what they describe as an Innovation Arms Race. Under the assumptions of the model, the acquisition of an innovative startup by a platform must be met by an expansion of R&D and



merger and acquisition (M&A) activity by that platform's rivals (Ahmad et al., 2020). Prado and Bauer (2021) conducted a study using 11 acquisitions conducted by the GAFAM group. They found no evidence of kill zones in the markets analysed, and, what is more, noted that their analysis showed, 'a persistent positive impact of the startup acquisitions made by digital platforms on the appetite of venture capitalists to also invest in startups of such industries' (Prado and Bauer, 2021, p. 20).

## **2.11 Literature Review Summary**

This review has shown how the historical debate concerning the impact monopolies have on innovation has evolved overtime. First, we noted the Schumpeterian view that regards monopolies as central to innovation, and then the Arrowian view that questions the incentives for monopolies to innovate when there are rents to be extracted. Finally, the inverted U-shape appears to offer a balance of the two argument, proposing that innovation first increases and then decreases with competition. We have seen evidence of monopolists actively inhibiting innovation through their actions, and finally, we have noted the network effects created by platform businesses, and how

the barriers they create can make market entry challenging.

Turning to the kill zone specifically we have seen a lack of conclusively from the empirical research into the phenomenon. Four papers in total examine kill zones in this way and two provide evidence in support of the existence of kill zones and two provide evidence to the contrary.

We have also noted some definitional complexity when it comes to kill zones. Of the 15 papers reviewed, three different definitions are used, sometimes simultaneously. Unpacking this further has also revealed a notable omission from the existing research. No research has yet to address the issue of declining investment in a market because of the presence of a large technology platform – referred to as the third definition of the kill zone in an earlier paragraph. Instead, the empirical work to date has focussed on kill zones related to the acquisition or potential acquisition of an innovative startup. One explanation for this may be that without an event, such as an acquisition, to centre empirical analysis around, it is challenging to build a reasonable research question and hypothesis. Here the case of music streaming platforms could prove useful. In a little over a year between the summer of 2015 and October 2016 Apple, Google (via its YouTube subsidiary)

and Amazon all launched competing music streaming services (see Apple, 2015; Leske, 2015 and Seifert, 2016). This relatively tight time line could provide an opportunity to examine this aspect of the kill zone in more detail. In addition, and remembering that the experiences of the venture capital community are also a notable gap in the current literature, there is an opportunity to supplement empirical analysis of music streaming with the experiences of venture capitalists.

### 3.0 Methodology

This chapter will first outline the research questions formulated from the literature review conducted in the previous chapter. It will explain how those questions will be addressed using a mixture of quantitative and qualitative research methods.

First, on the subject of music streaming and the possibility of observing changes to the rate of financing for music streaming startups we form two questions:

- i. What levels of venture investing existed within music startups before and after the entry of Amazon, Apple and Google?
- ii. How do the changes observed within the music market compare with the levels of investment in the wider venture financing market?

Second, on the subject of the experiences of venture capitalists of kill zones:

- iii. What views do venture capitalists have on kill zones?
- iv. What views do venture capitalists have on investing in music startups?

A mixed methods sequential design is required to fully answer these questions. Quantitative analysis of venture financing data is best suited to

answering the first two questions, whereas the third and fourth questions require a qualitative approach, specifically semi-structured interviews. The remainder of this chapter is divided along these lines. First addressing the quantitative approach taken, and then the how the task of interviewing venture capitalists will be conducted.

### **3.1 Venture Financing Data**

A first consideration is how data for the empirical analysis will be sourced. Data for the Kamepalli et al. (2021) paper is provided by Pitchbook, Koski et al. (2020) use data from Crunchbase and Prado and Bauer (2021) makes use of data from CB Insights. Pitchbook, Crunchbase and CB Insights are all privately operated financial data companies that charge for access to their data sets. This project made use of Crunchbase data as it was the most readily available to the researcher.

A further consideration is the geography of the data being analysed. It is noted that, at the time of writing, YouTube Music is not available in China (YouTube, n.d.) and that Amazon Music Unlimited is not available in China or India (Amazon, n.d.). In addition, Spotify, the largest independent music

streaming service is not available in China either (Spotify, 2021). Given the substantial size of these markets it was decided that this research focus on companies receiving venture financing in North America and Europe so to not distort the analysis. To achieve this, we made use of the geographic data Crunchbase makes available alongside each company's entry.

Crunchbase makes use of 744 industry categories to classify each company within its database (Crunchbase, 2021a). This dissertation made use of the music and audio category to form its initial data set. Furthermore, and as this research is focussed on nascent rather than more established startups, we segmented the data again by only including early stage financing rounds. Crunchbase enables this through its funding type classification of which there are 21 categories (Crunchbase, 2021b). We define early stage as funding rounds categorised as either Angel, Pre-seed, Seed or Series A according to Crunchbase. Finally, the researcher decided to limit empirical analysis to the nine years including and between 2010 and 2018. A more detailed explanation of this decision is included in section 3.2 below. With this data set to hand we can then group each funding round by year and plot on time series chart (see Figure 1.).

The second research question for the empirical portion of this research project requires that we compare the music and audio data with information from the wider venture financing industry. Here we make use of Crunchbase data again, also segmented by our early stage definition. However, in this instance, we include all 744 industry categories to provide a whole market view. Again the data is restricted to North America and Europe and to the years including and between 2010 and 2018 (see Figure 2.).

In any given year, the number of funding rounds conducted by the entire venture financing industry is significantly higher than the number of music and audio rounds. For example, in 2013 there were 249 music and audio rounds with a total value of US\$182,039,106. However there were 10,439 rounds across all markets with a total value of over US\$14 billion. These large differences make visual comparison between the two data sets challenging as changes in the smaller data set are dwarfed by the changes in the larger one. To counter act this we use a statistical technique called normalisation. The Federal Reserve Bank of Dallas (n.d.) explains that normalisation makes statistical comparison easier by:

*...indexing data to a common starting point. In effect, the variables in question must be set equal to each other and then examined over time for differences. Indexed data*

*are handy because they allow an observer to quickly determine rates of growth by looking at a chart's vertical axis.*

The final task then was to normalise our two data sets and produce two charts to display the output. The first compares normalised music and audio rounds to normalised rounds in the wider venture financing industry (see Figure 3.). The second compared normalised total dollars invested in music and audio to the wider industry (see Figure 4.).

### **3.2 The Moment of Market Entry**

The Federal Bank of Dallas (n.d.) notes the need for a common starting point when normalising data. A key challenge for this dissertation is to determine what this starting point should be. Kamepalli et al. (2021) also make use of normalisation in their paper examining the kill zone phenomenon. In their paper this starting point equates to the year a business was acquired by either Google or Facebook, allowing the authors to then look at levels of investment in the years prior to, and after the acquisition took place. This dissertation concerns the entry of Apple, Google and Amazon into the music streaming market rather than their acquisition of a nascent startup meaning a comparable moment is not forthcoming. One option would be to use the launch of these services as outlined in Table 1 below.



<b>Launch Date</b>	<b>Company</b>	<b>Music Streaming Service</b>
June 30th 2015	Apple, Inc.	Apple Music
October 28th 2015	Alphabet, Inc.	YouTube Music
October 12th 2016	Amazon, Inc.	Amazon Music Unlimited

*Table 1. Timeline showing the launch of music streaming services*

As you can see from Table 1 the three music streaming services all launched in the space of 16 months from June 30<sup>th</sup> 2015 to October 12<sup>th</sup> 2016. Apple Music launched first on June 30<sup>th</sup> 2015 (Apple, 2015). YouTube Music launched four month later on October 28<sup>th</sup> 2015 (Leske, 2015). Amazon Music Unlimited launched a little under a year after that on October 12<sup>th</sup> 2016 (Seifert, 2016). We could normalise the data over this 16 months time period, however the downside of this approach is that it would make subsequent analysis of the individual venture rounds more complex. A further approach would be to centre analysis around 2016 as this is the year when all three streaming services were operational. A final consideration is to pick the year when the technology press first reported rumours of these services launching. In early 2013 a well regarded technology analyst announced they expected Apple to launch a Spotify competitor that year (Bell, 2013). Shortly after that, the Wall Street Journal and Bloomberg, two influential business newspapers, both reported that Google was also planning its own streaming service

(Heath, 2013). We argue that a venture capitalist's investment decisions are impacted by such rumours, and so a final approach would be to normalise from 2014, the first full year after these rumours initially surfaced. This project made use of the latter approach and start the normalisation process from 2014. Then, following the framework provided by Kamepalli et al. (2021), we included venture financing data from the four years before and after 2014 in order to observe changes in the market.

### **3.3 Semi-structured Interviews**

Semi-structured interviews are those that are more conversational in tone and, unlike structured interviews, do not follow a predetermined set of questions (Longhurst, 2010). Semi-structured interviews are a sound choice when looking to better understand the views individuals have on a specific subject (Longhurst, 2010). Surveys can also yield relevant data, however they are less effective when looking to yield information with a greater depth (Driscoll, 2011, p. 163). Focus groups can yield similarly high quality data, however they come with other ethical challenges, such as how comfortable participants might be revealing their opinions in a group setting (Longhurst, 2010, p. 134). Interviews are also noted as being useful when supplementing

other forms of data collection (Johnson and Rowlands, 2012, p. 100).

Combining the venture financing data discussed in the previous section with the views of individuals responsible for making investment decisions should make for a solid analytical framework.

The interviews were conducted using a semi-structured approach. Semi-structured interviews help the researcher by ensuring all questions are answered, while at the same time providing the flexibility to probe into topics of conversation that arise unexpectedly (Morse, 2012, p. 197). Aberbach and Rockman advocate the use of a semi-structured approach when conducting elite interviews (Aberbach and Rockman, 2002, p. 676). A simple definition of what qualifies an interview as elite is not straight forward, however, and for the purpose of this research, McDowell's classification of 'highly skilled, professionally competent, and class-specific' aligns with the venture capitalists interviewed (McDowell, 1998, p. 2135). Aberbach and Rockman (2002, p. 674) also argue that semi-structured interviews enable the researcher to understand the context and detail of elite responses better than a more structured approach. The same paper also suggests the use of open-ended questions to compliment the semi-structure approach (Aberbach and Rockman, 2002, p. 674) as this enable the participant sufficiently articulate

their views. Consequently, open ended questions were included in the final question set (see Appendix 1).

The nature of elite interviewing is discussed in other papers. Harvey (2012) argues that providing elite participants with a high degree of flexibility is important. For example, the researcher could provide the participant with the option to conduct the interview over the telephone (Harvey, 2012, p. 436). Due to the limitations placed on the researcher by the COVID-19 pandemic interviews were conducted entirely over video call, however the need for flexibility proposed by Harvey did result in the other design features.

Participants were offered the opportunity to conduct the interview outside of typical working hours and they were offered the option to provide consent during the interview rather than signing the printed version (see Appendix 2).

The researcher also notes the work of Smith (2006) who discusses the issues that arise from considering one group of participants as elite. Flexibility when it comes to interview scheduling, for example, is a design feature that would presumably benefit all interview participants, not just those with a degree of societally proscribed power.

### **3.4 Participant Recruitment**

Beauhurst, a data platform for high growth companies, tracks 327 venture capital funds in operation throughout the UK (Skingle, 2019). Given this relatively small number the researcher employed three different sourcing techniques in order to maximise the number of potential participants.

First, the researcher used opportunity sampling by drawing on their own professional network of contacts. An opening email was sent to each potential participant to gauge how receptive they were to the research topic. Those who expressed an interest were then sent an information sheet which provided a comprehensive overview of what was required of participants and the researcher's obligations to them (see Appendix 3).

Second, the researcher made use of a snowballing technique. Salganik and Heckathorn advocate the use of a snowballing technique when trying to source interview candidates from hard-to-reach groups (Salganik and Heckathorn, 2004). With this in mind, at the end of each interview the participant was asked if they could introduce the researcher to another venture capitalist who might be interested in contributing to the project.

Finally, potential participants were approached directly using a publicly

available email address. As with the those in the researchers own network there were first sent an introductory email first, and then a further email with the information sheet if they expressed positive interest.

### **3.5 Participants**

The three recruitment methods sourced four participants for the project. The interviews were conducted over a period of three weeks in June and July 2021. Three of the participants came from the researcher's own network of professional contacts, the fourth participant responded to an unsolicited email sent to a publicly available email address. A table of participants appears below along with demographic data captured. The participant's name has been changed to protect their identify while the demographic data is accurate. How long the participants have been venture capitalist and the geographies they invest in was provided during the interview. Their title at their fund was sourced from Crunchbase.

Name	Years a VC	Position at Firm	Investment Region
Alex	15	Managing Partner	Europe and North America
Chris	12	Managing Partner	West Europe
James	14	Managing Director	Netherlands, Nordics and UK
Andrew	4	Investment Manager	UK

*Table 2. List of interview participants*

### 3.6 Ethical Considerations

Ethical of approval for the project was provided by REMAS, King's College London's ethics approval system (see Appendix 4). Each of the four participants opted to provide verbal consent for their participation in the project. As part of their consent they agreed for the interview to be recorded and understood that the data would be stored inline with EU General Data Protection Regulations (GDPR).

### 3.7 Thematic Analysis

Braun and Clarke (2012) define thematic analysis as, 'a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set' (Braun and Clarke, 2012, p. 57). In this case the data are transcriptions of the interviews conducted with the four

participants introduced above. Interviews were transcribed and coded by the researcher shortly after they were finished. Each transcript was then re-checked for accuracy (see Appendix 5). Thematic analysis was chosen because it is well suited to establishing the commonalities that exist between the experiences of interview participants (Braun and Clarke, 2006, p. 57). Given the research questions at hand concerns the views of the venture capitalists being interviewed, it is a method of analysis that is well suited to produce high quality answers. The same paper also notes that thematic analysis is a sensible choice for researchers who are relatively new to the process of coding interviews and establishing themes. (Braun and Clarke, 2006, p. 58).

Using the codes produced from the interviews the researcher established a set of themes and sub-themes. Byrne (2021) notes that the creation of themes is an active process that requires the researcher to aggregate, collapse and discard the interview codes available to them. Themes do not reside in the codes, they are formed from them (Byrne, 2021). Finally, the researcher produced a thematic map to show the relationship between themes and sub-themes, and how the themes link to each other (see Figure 5.).



## **4.0 Results**

Result from data collection are divided along the same lines as the methodology. First, a review of the result of the empirical work which focused on venture financing data. Second, a review of the results of the thematic analysis carried out on the transcripts of interviews conducted with venture capitalists.

### **4.1 Venture Financing Data**

From start 2010 to the end of 2014 there was a sustained increase in both the number of financing rounds and the total dollars invested in music and audio startups in North America and Europe. The number of rounds increased by 255% and the dollars invested by 559%.

<b>Year</b>	<b>No. Music Rounds</b>	<b>Total US\$ Invested (‘000)</b>
2010	86	\$44,141
2011	135	\$123,208
2012	180	\$142,837
2013	249	\$182,039
2014	305	\$290,958
2015	284	\$232,197
2016	237	\$178,383
2017	211	\$323,474
2018	206	\$197,178

*Table 3. Music and audio venture financing (2010 - 2018) Source: Crunchbase*

From 2014 however, we begin to see a steady decline in the number of music rounds, and by 2018 this number has fallen by a total of 32.5%. The amount of dollars invested has also fallen when compared with 2014, from \$290M to \$197M, a decrease of 32.2%. However the trend over this period is less clear, given the low point of \$178M in 2016 and high point of \$323M in 2017.

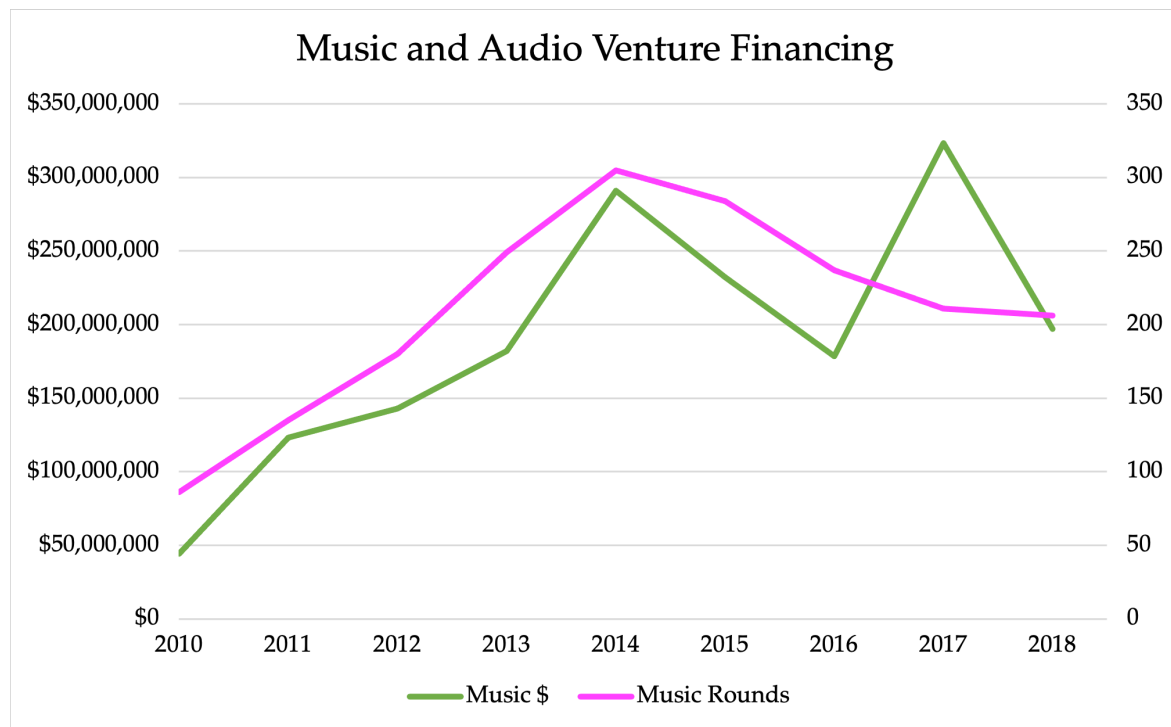


Figure 1. Music venture financing (2010 - 2018)

By comparison, the entire venture financing industry has seen steady increases in both the number rounds and the total dollars invested over the entire period observed.

Year	No. Rounds	Total US\$ Invested ('000)
2010	3,527	\$5,738,555
2011	5,151	\$8,139,911
2012	7,256	\$9,295,264
2013	10,439	\$14,457,142
2014	12,611	\$17,389,118
2015	13,967	\$22,418,686
2016	13,631	\$24,602,001
2017	14,285	\$25,856,617
2018	15,787	\$34,065,296

Table 4. All venture financing (2010 - 2018) Source: Crunchbase

Between 2010 and 2018 there was a 493.6% increase in total dollars invested and an increase of 347.6% in the number of rounds.

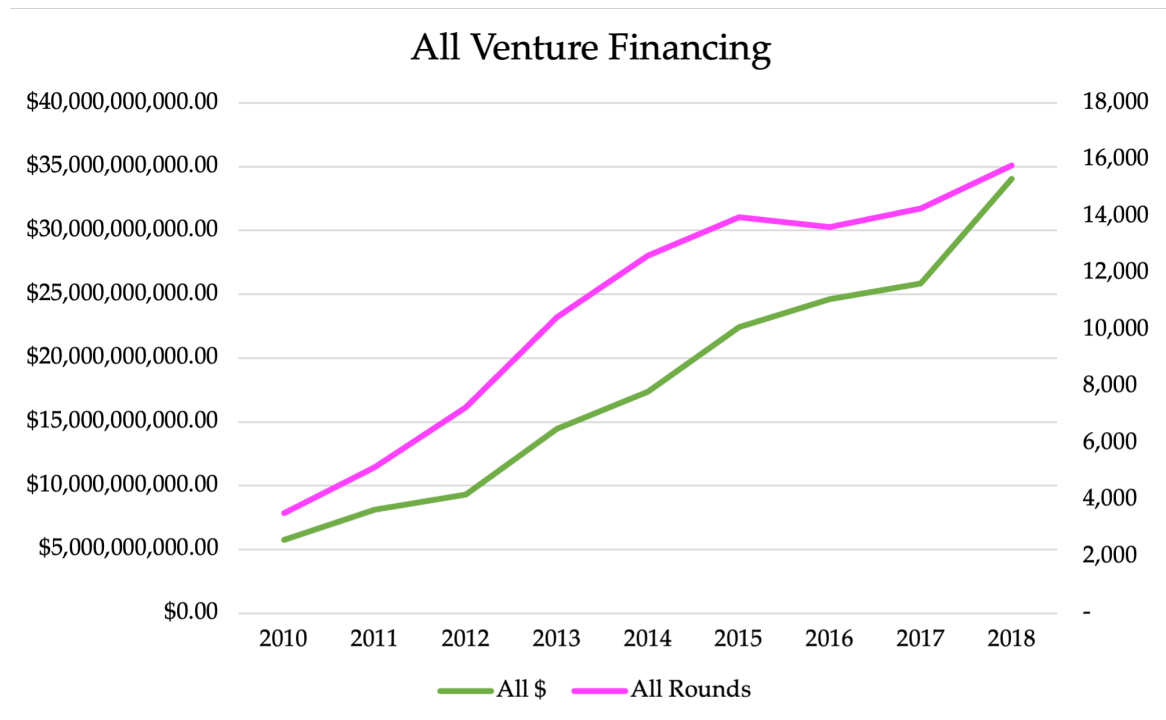
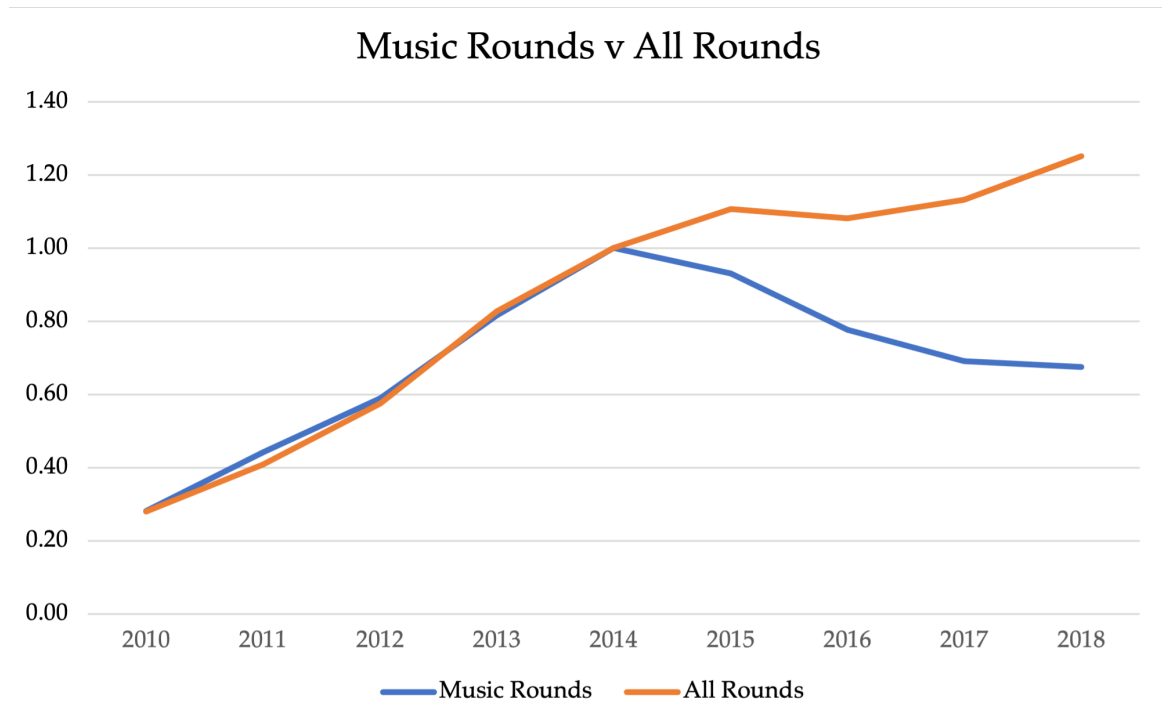


Figure 2. All venture financing (2010 - 2018)

As discussed in the methodology, the differences between the music and the entire venture financing market are easier to observe when the data is normalised given the large absolute differences.



*Figure 3. Normalised music rounds vs. all rounds*

Looking at number of rounds (Figure 3) first we can see how closely music rounds and all rounds track from 2010 to 2014. Between 2014 and 2018 however, there is a 32.5% decrease in music rounds compared to a 25% increase in rounds across the entire industry.

Turning to dollars invested (Figure 4) we see a similar pattern. At first the dollars invested into music follows a similar trajectory to the wider industry. Then, from 2014 onwards, the lines diverge. By the end of 2018 there has been

a 32% decline in music funding, compared to a 96% rise in the wider venture financing market.

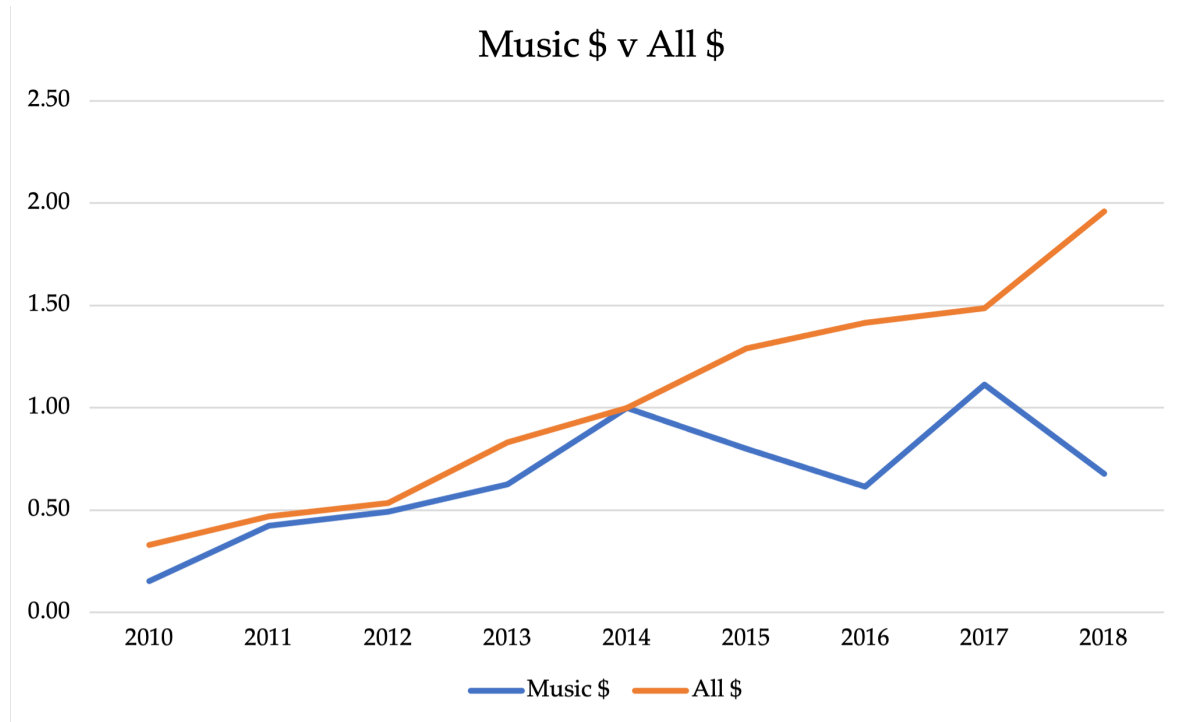


Figure 4. Normalised music dollars invested vs. all dollars invested

## 4.2 Summary Statistics

Summary statistics for all of the data analysed can be found in Appendix 6.

The researcher notes that the inter-quartile range method of outlier detection was used to reveal any potential outliers within the data set (see Chaudhary, 2019). None of the values exceeded the thresholds set by the upper and lower boundaries.

## 4.3 Interview Data and Themes

Following transcription the four interviews yielded 148 codes which were synthesised into seven themes and five sub-themes. These are presented on the thematic map (Figure 5) below.

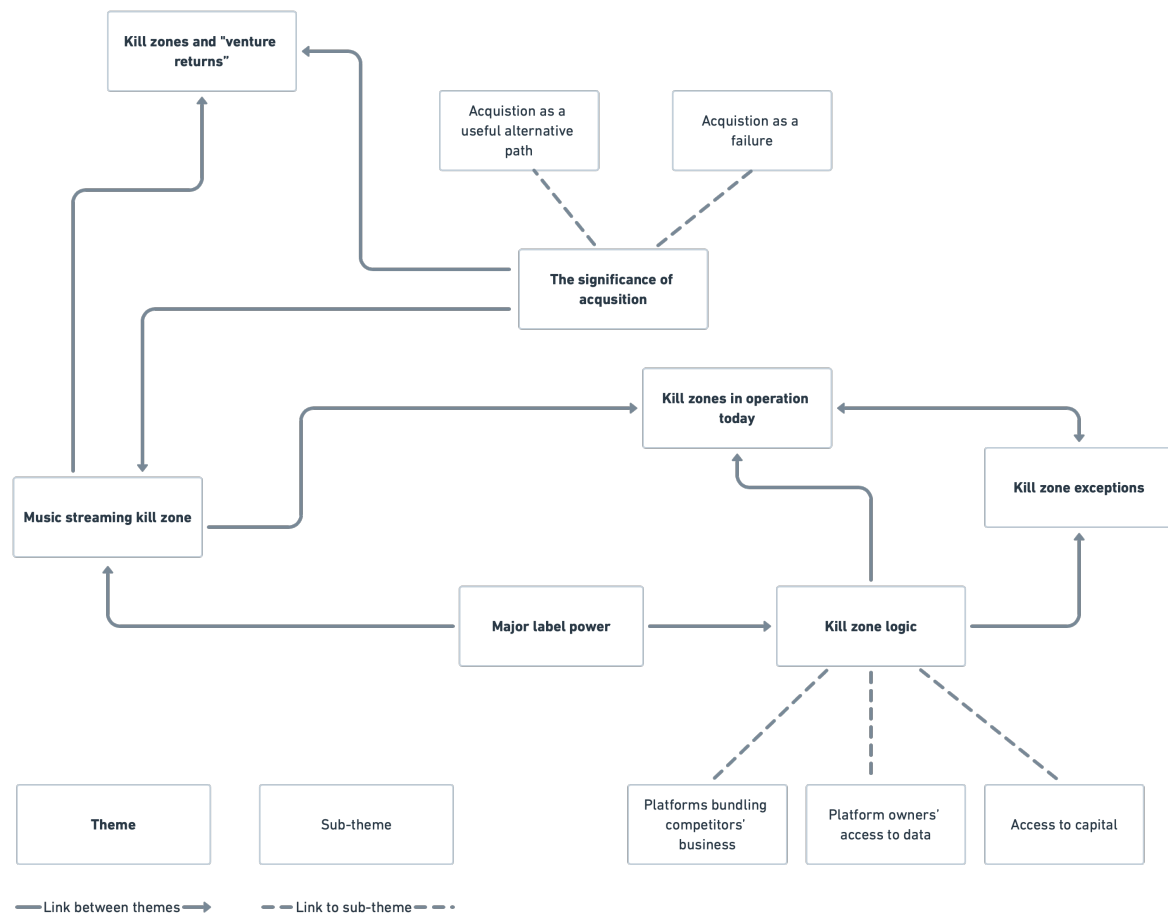


Figure 5. Thematic map created using codes from the four interviews

### 4.3.1 Theme 1: Kill Zone Logic

All of the participants offered reasoning for why kill zones may exist. Two sub-themes were identified from this data. The first, concerning the access to capital large technology platforms have. The second, concerning a platform

owners access to platform data.

#### **4.3.3.1 Sub-theme 1a: Access to Resources**

Access to cash and technical talent was a common explanation for the existence of kill zones from the interview participants. Referring to the GAFAM group of companies Chris said, ‘the amount of resources they have at their disposal and the quality of talent they have ... makes it much much harder.’ Notably this concern stretched beyond the GAFAM group too, James commented:

*The thing that scared us more than anything was Revolut ... because they can effectively raise money for free ... they already have the subscribers ... and they can bundle it for free ... even if they bundle it into their pay for account ... it's a distorted competitive market because the winners get so much money now because the capital is so cheap.*

#### **4.3.3.2 Sub-theme 1b: Platform Owners' Access to Data**

Along with access to cash and talent creating kill zones was the access a platform owner had to data produced by those making use of the platform. When discussing Apple and Google's dominance of mobile operating systems Alex said, ‘Facebook bought Onavo to see what was happening with apps ... Google and Apple don't need to buy ... they have the freaking app stores ... they see everything.’ This concern also included access to an application



programming interface (API) which was limited to the platform owner. Chris referenced concern from the CEO of Tile, a competitor to Apple's Airtags product, that the Apple product had access to data from the iPhone's operating system that Tile did not (see Clover, 2021). Chris later added, 'so when the next thing like Tile comes along people are gonna be even more loathed to invest in it because I know what's gonna happen.'

#### **4.3.3.3 Sub-theme 1c: Platforms Bundling Competitors' Businesses**

Bundling refers to the process of a business combining the offering of another business to form a new package of services that are offered to customers (see Bakos and Brynjolfsson, 1999). A platform owner bundling the offering of a competitor who makes use of their platform was a third and final theme concerning the logic governing kill zones.

Referring to the music streaming and thus linking to theme six below, Chris commented:

*So it was becoming a sort of bundled freebie rather than a distinctive product ... maybe the interesting point here is that it was almost seen as a sort of an extra reason to buy a piece of hardware or be on a mobile network rather than a product in itself ... and when you get to that stage you really don't want to be competing with that.*

Alex noted how a platform's ability to bundle worked in concert with their

access to platform data to spot potential competitors. He posited:

*Where you're building on someone else's platform and it's very clear that they could absorb what you're doing into the platform ... they could be like ... oh that's a neat thing you invented over there ... we could buy you for very little money or we could just roll this out ourselves ... which would you prefer?*

#### **4.3.2 Theme 2: Kill Zones and “Venture Returns”**

An important distinction between the four participants concerns their view of the kill zone and what one participant described as ‘venture returns’ (Chris). Here our participants attitude towards the kill zone relates to their firm’s need for significant financial gain from the investments they make. Typically the result of an initial public offering (IPO) where the company’s shares can be first sold to the general public. James, a venture capitalist with 14 years experience, commented:

*The more you're unicorn hunting [searching for companies with the potential to be worth over US\$1 billion] the less that you need to be in that zone where they might take you out at low ... inverted commas ... valuations.*

Similarly, Andrew, a venture capitalist with four years experience, told the researcher:

*Accel [a venture capital firm] has just raised three billion dollars ... you need these billion dollar companies in order to make the numbers up ... because you won't be able to deliver your fund. That [the kill zone] then becomes a negative at that point ...*

Then, referring to his own firm, and their comfort with lower multiple returns on investment he added:

*Look at us ... were a much smaller fund ... we had an exit which was ... a big success ... it was 15 times [the value of their initial investment] ... but at the end of the day ... we didn't get that much money into it ... which was disappointing ... because it was effectively kill zoned ... they were plucked out by a west coast company and subsumed within the company ... everyone walked away with millions of millions of pounds ... but it wasn't billions.*

By contrast, Chris, a venture capitalist with 12 years experience, explained how his firms strategy required firms to become market leaders and eventually IPO:

*So we're always looking for can this company be the leader or one of you know hopefully the global leaders at least the regional winner in an emerging space. Because you know ... that's how you get venture returns generally.*

#### **4.3.3 Theme 3: The Significance of Acquisition**

The attitude of the participants towards the kill zone observed in theme two is linked to theme three, the significance of acquisition. This theme can be broken down into two sub-themes. The first, in which acquisition is viewed as a failure because the company has failed to hold an IPO, and the second in which it is viewed as a useful alternative path. Exemplifying the first sub-theme, Chris, while commenting on Facebook's acquisition of Instagram remarked:

*I know people who invested in Instagram in the round just before [the acquisition by Facebook] in which it was valued at 400 million or something and they were really pissed off ... they thought there was way way more potential here ... and because it wasn't an exciting return at all for them.<sup>2</sup>*

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<sup>2</sup> Instagram was purchased for US\$1 billion (BBC, 2012).

By contrast, Andrew, highlighting the benefit of acquisition said:

*In the UK I would almost think that this is a huge benefit that there are loads of businesses that could pick these things up if things are not quite going to plan or we haven't got the strength to further invest and put growth capital into this billion dollar company.*

#### **4.3.4 Theme 4: Kill Zones in Operation**

A fourth theme concerns the markets that exhibit signs of the kill zone.

Three of the four participants pointed to markets that they believed were either within the kill zone currently or had been in the past. Search engines and social networks were the most commonly cited. Commenting on the latter Chris said:

*I think it's been very hard to start new social networks in the last decade just because ... Facebook has dominated in social and LinkedIn in kind of business and there is such a strong network effect there that it's very very hard to kind of ... get the critical mass without ... them you know adding whatever you are doing as a feature.*

#### **4.3.5 Theme 5: Kill Zone Exceptions**

Linking directly to theme four was theme five, kill zone exceptions. Here participants offered examples of companies that, they argued, countered the notion that a market was within a kill zone. Andrew commented, 'is Snapchat [a mobile social media messaging application] not the very data point to prove that they [Facebook] can't just kill everyone and dominate that market?'

#### **4.3.6 Theme 6: Music Streaming Kill Zone**

Two of the four participants said they were not currently investing in music technology startups and believed it to be within a kill zone. Alex remarked that, 'where we [his venture capital firm] have wound up today is we haven't look at anything in music for years ... it's not worth it ... way too much headache and heartache'. Notably, those same participants both expected Apple and Google to launch competing streaming services.

Reflecting on his firms thinking during the time Chris noted:

*I think there were rumours around Apple starting streaming for a long time ... I don't know if I expected Amazon to enter it ... but was probably obvious that Apple and Google would and with hindsight it's obvious that Amazon would.*

Andrew was less concerned by the presence of Apple and Google.

However, he noted that, with regards to one music investment they had looked at recently, the end goal would be selling to 'Spotify or one of these guys [the GAFAM group of companies] as the exit route' which reinforces the differing views towards acquisition elicited in theme three.

#### **4.3.7 Theme 7: Major Record Label Power**

Two participants noted the power of the three major record labels and the impact that may have had on investment into music streaming. Alex noted that the concentration within the record label market may also have impacted

investor confidence in music streaming, he said:

*...people really have no concept of how much power the [major record] labels have ... until you've encountered them ... they are basically ruthless ... to very much the same degree as tech.*

## 5.0 Discussion

### 5.1 Investment in Music Startups and the Launch of Apple, Amazon and Google

Research question one asked what levels of venture investing existed within music startups before and after the entry of Amazon, Apple and Google into the music streaming market. As noted in the previous section, in the years preceding the launch of Amazon, Apple and Google, investment in North American and European music startups, in terms of both the number of rounds and total dollars invested, increased steadily. However, from 2014 (the year in which rumours of Apple and Google entering the market were first published) the investment climate changed. The number of rounds in music startups declined steadily, and the total dollars invested became more erratic. Amazon, Apple and Google then launched their music streaming services between June 2015 and October 2016 and in the years following this the number of investment rounds continued their downward trend. The total dollars invested in music startups was also below 2014 levels, however we also noted a low point in 2016 and a subsequent high point 2017.

Research question two – how changes in music startup investment compares with the wider venture financing market – is more significant

however as it reveals if the changes observed within the music sector were simply part of a broader trend. Data from analysed from Crunchbase reveals that the wider venture financing sector grew steadily in terms of both rounds and dollars invested over the entire ten year period. Significantly it does not experience the changes observed in music from 2014 onwards. By normalising the two data sets (see Figures 3 and 4) we can see this deviation more clearly; while the number of rounds and dollars invested in the wider market continues to climb, there is a downward trend in the music sector. It is notable that the downward trend appears one year prior to Apple's launch in 2015. While it is not conclusive, this supports the notion that venture capitalists may have been considering the launch of Apple, Amazon and Google prior to their services being publicly available. Indeed, this idea was further supported by two of the four interview participants.

This downward trend may well be a sign that the sector is experiencing the effects of a kill zone. It is not possible to derive any causation from the data presented in this research project. That is to say, it is not possible to assert that the entry of Apple, Amazon and Google resulted in a decline in investment into the music sector. There is however there is a clear correlation. Investment in music startups was tracking with investment across the wider industry but



from 2014 onwards this changed. Significantly the number of rounds declined steadily, down 32% by the end of 2018. Evidence of this nature aligns with the work of Kamepalli et al. (2021) and Koski (2020) who found that, following and acquisition by a large technology platform venture activity in that market declined. We argue that the entry of Apple, Amazon and Google into the music streaming market is analogous to acquisition and that their entry should be viewed as a contributing factor to the subsequent decline in venture rounds.

## **5.2 The Views of Venture Capitalists on Music Streaming**

Turning to the view of venture capitalists, research question four asks what views they have of investing in music streaming. A key theme here concerns whether music is within a venture financing kill zone or not. Two participants argued that it was and that the presence of Apple, Google and Amazon contributed to this. A further participant was unconcerned by their presence when it came to investment decisions, and noted that the benefit they brought to the sector was as a potential buyer for companies they considered investing in.

The power of the record labels was also established as a theme. It was

noted that the three major record labels have a significant influence over music streaming in particular, and that this should be considered as a contributing factor to investor decision making. This is an important revelation, the so called 'big three' music labels rose following the sale of EMI's assets in 2013 (see Wueller 2013) shortly before the decline in investment documented above. However, like the entry of Apple, Amazon and Google, it cannot be viewed as the sole reason, merely another potentially contributing factor that is worthy of further analysis.

### **5.3 What is The Kill Zone?**

A review of the existing literature on the topic of kill zones established some definitional complexity regarding the kill zone term. In attempting to answer the third research question posed by this project, namely, what views do venture capitalists have on kill zones, we added another definitional consideration. Interview themes two and three expose a division between venture capitalists and their attitude towards the kill zone. Participants who were looking to invest in startups that could escape the threat of acquisition by a large technology platforms and eventually IPO were most concerned about the kill zone. By contrast, participants who saw acquisition as a useful

alternative path, or were less concerned with significant returns on their investment, saw the kill zone contributing positively. This marks a important deviation from the existing literature on the topic of kill zones. It recognises that the aspirations of venture capitalists and their firms will impact how they view the kill zone, and, that any discussion of the topic should be clear on who they are referring to when using the term venture capitalist. As James commented, 'if you're a VC that's at the aggressive end of VC ... and I mean you're backing things early and you need them to be big wins ... then the company getting bought for a couple of hundred million dollars ... that's a fail'. This finding may offer some explanation for the inconclusive empirical research carried out by scholars of the kill zone to date. If some venture capitalists are motivated by the kinds of returns that demand their investments remain independent companies, and others are comfortable with the kind of returns offered by acquisition; it is then unsurprising that finding consistent empirical evidence in support of, or contrary to the kill zone, is not forthcoming. Indeed, the notion of 'venture returns' and the need for an investment to remain independent also explains some of the concern posed by scholars that fear of acquisition runs counter to the standard economic theory outlined by Phillips and Zhdanov (2013). Put another way, if your investment

strategy demands that the companies you invest in remain independent, fear of acquisition by a large technology platform is logical.

Complementing themes two and three is theme one and its three sub-themes. Theme one concerns the logic governing the kill zone, that is, why a venture capitalist would avoid investing in startups that compete with a large digital platform. None of the rationales found in the three sub-themes represent something novel in the literature concerning the power of large digital platforms. Access to resources, access to data and the bundling of competitive services are all noted in the papers covered in the literature review. However, the inclusion of a well resourced startup as possible contributor to the kill zone is novel, albeit limited to the experience of a single participant.

#### **5.4 Kill Zone Exceptions**

An unexpected result of the interview process was theme five, kill zone exceptions, a bi-product of theme four, kill zones in operation today. The latter theme formed when interview participants shared their opinions on the markets that they believed showed signs of being within a kill zone. However, in response to this each participant also noted potential exceptions, a topic

that is missing from the existing literature. For example, social media is regularly cited sector within the kill zone (see Koski et al., 2020 and Kamepalli et al., 2021) and yet explanations for the success of social app Snapchat and more recently TikTok are not forthcoming.

## **6.0 Conclusion**

This dissertation opened with swift overview of the debate concerning the monopolies and innovation, rounding on the observation that, irrespective of ones view of a monopolies contribution to innovation, market entry was an important factor of an innovation economy. The kill zone phenomenon contributes to this long standing debate as it provides evidence of a further barrier to entry innovative startups may face when operating in a market that includes (or has the potential to include) a large digital platform.

This research project has contributed to the academic discourse concerning kill zones through the empirical examination of venture financing in the music and audio market and by conducting in-depth interviews with four venture capitalists who are actively investing in North America and Europe. The key findings from this project follow.

### **6.1 Key Findings**

The four research questions outlined in the methodology, the subsequent data collection and analysis have produced two key findings. The first concerns how a venture capitalist's view of the kill zone is effected by their attitude towards acquisition, the second concerns the changing nature of

venture financing into North American and European music startups.

### **6.1.1 A Venture Capitalist's Attitude Towards Acquisition will Impact Their View of the Kill Zone**

Analysis of the four interviews conducted reveals an important theme. A venture capitalist who views the acquisition of one of their investments as a failure (because it prevents the company remaining independent or conducting an IPO) may view the phenomenon of the kill zone negatively. By contrast the a venture capitalist who views the acquisition of one of their investments positively may have a similarly positive regard for the kill zone. This is an important distinction as it helps understand why the flow of venture capital into a market may not be uniquely disrupted by the presence of a large digital platform or the acquisition of a nascent competitor by one. Furthermore, it provides one explanation as to why there is there is no academic consensus on the existence of kill zones.

### **6.1.2 Declining Early Stage Investment Round in North American and European Music Startups**

The data collected for this project shows a sustained decrease in the number of early stage venture financing rounds for music startups in North America from 2014 onwards. Importantly, this decline runs counter to the

sustained increase in early stage rounds experienced within the wider venture financing market. The music and audio category reached a high point of 305 early stage rounds in 2014, falling to 206 by the end of 2018, a decline of 32.5%. By contrast, market wide early stage venture rounds grew by 25% over the same period.

We argue that this correlates with the rumours from 2013 in the business press that Apple and Google would soon launch their own music streaming services. News of their soon to be launched services would impact the investment decisions of venture capitalists – an idea further supported by two interview participants.

## **6.2 Limitations and Areas for Future Research**

The researcher would like to note two limitations of this project.

### **6.2.1 Data Quality**

As mentioned during the methodology, three different sources of venture financing data have been used by scholars examining the kill zone: Pitchbook, CB Insights and Crunchbase. This project made use of Crunchbase as it was the most readily available. The use of third party data sources is limited by the data collection and classification decisions made by the third party. As Bowker



and Star (2000) explain, the decision to include or exclude data from classification decisions is an important one, and, as far as this research project is concerned, could have important consequences for the accuracy of the results observed. For example, in 2017 HowStuffWorks, an online publishing business, completed a US\$15 million Series A round of financing (Crunchbase, 2021c). Crunchbase includes the category 'Podcast' alongside the company's record meaning it was included in the 'Music and Audio' parent category and thus included in this research. Whether this is a fair classification is not for this researcher to decide, however it does raise an important question and should be noted by anyone reviewing the results observed here.

### **6.2.2 Number of Interview Participants**

Four participants were interviewed for this project, below the target of six the researcher set themselves. The methodology outlines the strategies employed to find participants outside of the researcher's own network, specifically un-solicited emails and snowballing. Unfortunately, these strategies yielded only a single participant. Furthermore, the time constraints placed on the researcher prevented them from sending more unsolicited emails or using their own network to search for new participants.

### **6.3 Areas for Future Research**

The researcher highlights two avenues for future research based on the output of this project. First, the approach taken to the empirical work could be replicated using other data sources, namely Pitchbook and CB Insights. This would build on the work of this project by further verifying the accuracy of the results observed here.

In the above literature review of the existing scholarly work on kill zones it was noted that the focus of the empirical work to date has been on the effects of acquisition on venture financing. To that end, this research is novel in that it has attempted to examine the impact on venture financing when a large digital platform enters a market with their own service. Researchers should consider examining other markets that have experienced similar events in order to build on the work started here.

Finally, the important contributions made the venture capitalists interviewed for this project demonstrate that more work should be done in this domain. Investment decisions are a function of the lived experience of investors and so further examination of their attitude towards the kill zone will further our understanding of the phenomenon. As well as a greater number of interview participants, researchers should consider the use of

anonymous questionnaires to provide a quantitative lens on the subject too.

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