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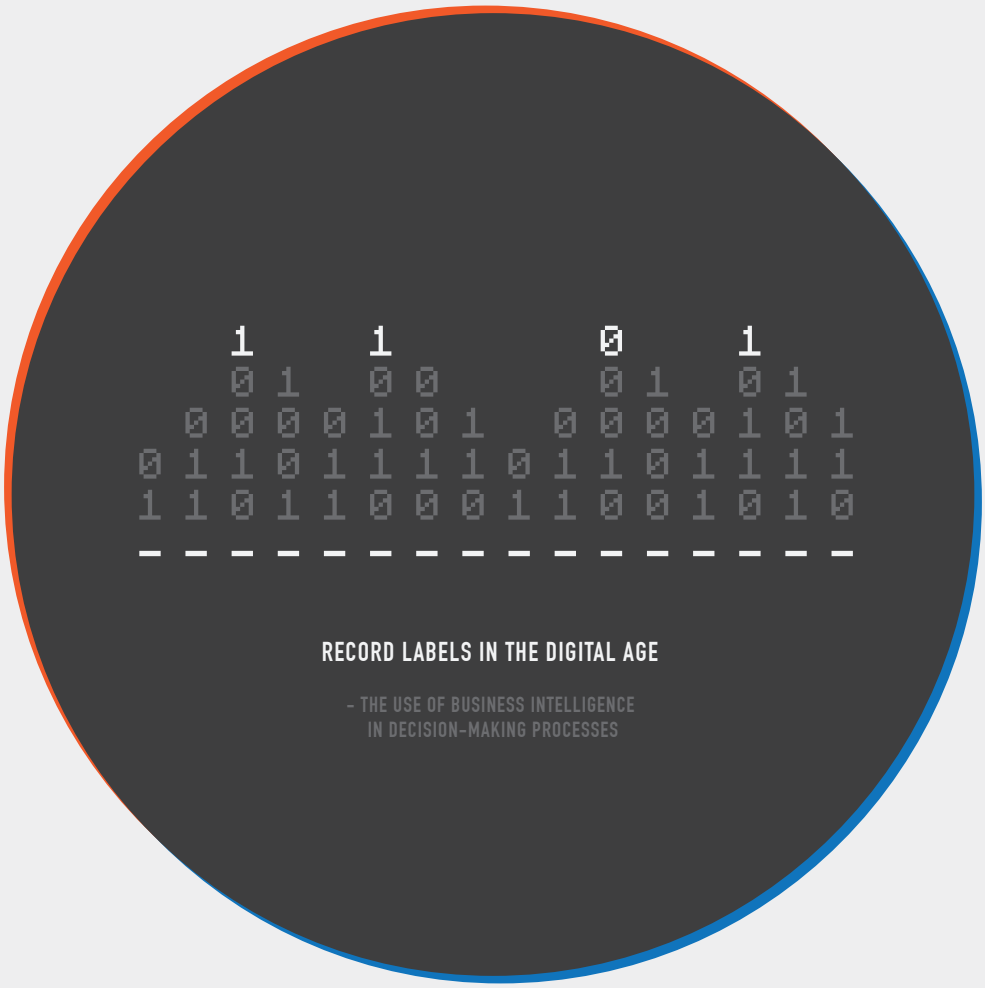

RECORD LABELS IN THE DIGITAL AGE

- THE USE OF BUSINESS INTELLIGENCE IN DECISION-MAKING PROCESSES

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1. Abstract

The aim of this thesis has been to illuminate how business intelligence is used in decision-making processes at a record label, in the process of releasing music from a new act. This was done by first highlighting some characteristics of music as a product that are structuring the record industry. Then, the technological development's effect on the music consumption was explored, showing that music consumption is moving from physical sales to online streaming services today. This has opened for the gathering and exploitation of user generated data regarding music consumption.

It was the initial assumption the BI would be used at the Danish record label Sony Music to help the uncertainty of releasing music from a new act. Through the construction of a conceptual framework based in theories regarding BI and human judgment processes of heuristics, the use of business intelligence used in decision-making processes was analysed.

The research method used for the study is a qualitative abductive method, based on qualitative data, gathered at the case company Sony Music Entertainment Denmark.

The findings were divided into four distinct phases of releasing new music at Sony Music. These phases were constructed according to the collected data from four semi-structured interview at Sony Music, based on the level of uncertainty of each phase, and the structure of the tasks relating to the phase. The four phases were *discovery, negotiation, marketing planning, and evaluation*. The main findings were that the uncertain environment, led to a lack of resources, resulting in in-depth data analysis not being utilized until the record label has signed a contract with the act. Data driven assessments were given on the profitability of the act, but were based on assessment relating to subjective judgement and framing of the project, that may have led to biased results. The late structured use of BI lead to a process where BI was utilized to legitimize and optimize the initial decision made on signing a contract with the act.

An organisational experience that most data is irrelevant, due to market changes, has led to a stop of recording and storing evaluations. The effect of this is that Sony Music does not have a database to match the data gathered for analysis. Last, it was found that the use of BI is constricted to the employees who in everyday tasks are confronted with tools that allow for data analysis. These tools were mainly used in the phase of *marketing planning*. The A&R managers were not forced to use data analysis tools in their daily work, even though the international Sony Music Entertainment provides such tools.

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3. Industry Analysis

When dealing with music and business one must be cautious, since music as a product have some very different properties than other products normally consumed. Music is sound. Sound has different qualities, being experienced live or frozen onto a medium, to then be mediated by a record player, iPod or smartphone etc., moving the "performance" a long distance from the original source and context.

The intention of this section is not to discuss if business is good for music, or how to value good music. The intention is to expose some of the underlying properties of music in order to better understand the structure of the record industry, and the ways in which music can be consumed. However, this will not be an exhaustive analysis of the whole music industry since it will mainly focus on the record industry. The music industry is also composed by publishing and live music.

Music shares some characteristic properties that are common in most industries that produce culture and rely on creativity as their main resource. These properties, which the creative industries have in common, will be discussed in this section. It is the assumption that these properties are affecting the structure of both a given record label, but also the whole industry, therefore affecting the decision making processes internally in the record labels and externally in the industry.

3.1 The transformation of music

In the past, music was as much a social event as an aural one. Technology did not allow one to separate music from its social context. Music was tied to social functions (Byrne, 2012). Music was ephemeral, and often had very specific rules of context. With the rise of recording technology, music could all of a sudden be "frozen" onto a media, first scrolls of wax, later vinyl and CD's and today, music can be totally separated from time and place, being stored digitally in the "cloud" from where music in its binary form can be accessed at all times and put to use in any given social context.

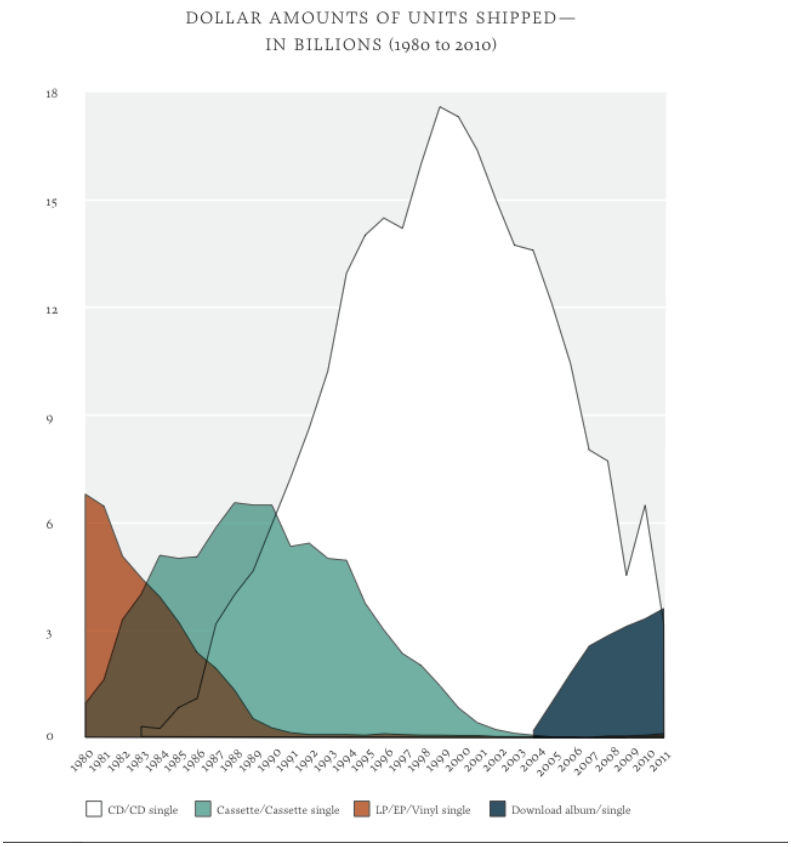
During the sociocultural changes, ignited in the 1960's, the world saw a dismantling of social authorities in both educational, religious and other institutions, change in family patterns, sexuality, relationships between children, women and men, the question of what it means to be a person and a growing emphasis on personal reflection on identity (Hesmondhalgh, 2007). Hesmondhalgh (2007) argues that analysis of cultural industries ought to include different temporalities of change, and that

these changes often are interconnected and not driven solely by one factor. This analysis will to a great extent focus on the technological innovations that affected the ways and means of music consumption. However, it is important to acknowledge that these technological innovations did not originate within the music industry and that these innovations were not the only explanation to why the consumption of music has changed. One obvious change from the 1960s till today is the capitalization of children and teenagers, and this market today is also acknowledged in the music industry with teen boy bands, girl power, Crazy Frog and music compilations such as "Hits for Kids". The reason for focusing on the technological innovations is that these are innovations that have allowed for a change of *how to consume*, and not just a change of *what is consumed*.

Hesmondhalgh (2007) argues that "The Long Downturn" between 1970-1990 made a decline in productivity and profits across most industries, which lead to heavy innovation. This resulted in a shift towards service industries, internationalisation, and organisational innovation and restructuring.

The most influential innovation disrupting the music industry was caused by the internationalisation of organisations and businesses. The result was moving parts of organisations offshore to lower marginal costs. From this emerged the telecommunication industry, particularly because it is the "medium" through which the internationalisation evolved through heavy innovation. This development had lead to new distribution forms for cultural industries today including the music industry: Internet, digitalization, and private information networks. These new technologies forced the cultural industries to "expand" in terms of filling up the capacity created by the telecommunication industry (Hesmondhalgh, 2007).

During this period of time, music consumption shifted from vinyl to CD's. The CD was introduced to the commercial market in 1982 and is a result of collaboration between Sony who developed the disc and Phillips who developed the laser/optical reader, independently in the mid-to-late 1970s. It was an unusual partnership since the usual standard was a sole company developing one format/medium wanting to capitalize and exert control over it (Byrne, 2012). The commercial success of the CD made an unprecedented growth in music sales. This marked an important shift in the perception of music consumption. With the CD, the record industry entered an age, where they were hardly in the business of selling music, but rather in the business of selling objects (Byrne, 2012).



Byrne, 2012 pp. 209

This figure proposed by Byrne (2012) shows how music consumption evolved in the US over the years, shifting between the different mediums (vinyl, cassette, CD and download). The intention of displaying this figure is not to discuss the exact sales numbers, but to show the economical and structural effects of the introduction of the CD. If one compares the dollars amount of units shipped across the different media, it seems to be the case that rather than a record industry crippled by internet piracy and falling sales, the record industry is stabilizing around the same demand as vinyl and cassettes could muster in time of their prime. The result of the "CD-era" is a record industry with an inflated structure, a mismatch in economies of scale, leading to inflated expenses that cannot be recovered by sales. The technological disruption of the music industry, made possible by the telecommunications industry and the digitalisation of music, gave birth to the phenomenon: *Internet piracy*. It is the illegal copying and sharing of copyrighted material. One might argue that the music industry got affected more severely than the other cultural industries such as movie, TV, publishing etc. This is not completely true, but it is more evident since internet piracy hit the music industry before any of the other industries, leaving the music industry defenceless while other industries had time to prepare new business models and letting the technologies needed evolve, before piracy hit them. The technology means of copying music comes from the development of software to "rip" CD's which is obtained by transforming the music on the CD's, by file compression, to MP3, AAC or other audio compression formats. These files are small compared to the audio file sizes on the CD. Then, these could be distributed easily throughout the Internet, mainly facilitated by the spreading of flat

rate high-speed Internet (Hesmondhalgh, 2007). The issue most evident has been file sharing via P2P networks, and the legal issues of prosecution and the reputational hit incurred by million dollar lawsuits aimed at common people who downloaded a single CD for own consumption. Today, CD's are still sold, but sales are dropping (Byrne, 2012). In 2009 Virgin Megastore (CD retailer) closed and Wal-Mart announced that they are cutting their record selection by half in April 2014. Today the music industry in general, but particularly the record industry, is still settling after the highly disruptive technological changes made by the digitization of music and the unlimited possibilities of distribution.

The digitalisation has been the biggest innovation for the cultural industries. Unlike the time radio, video or photography was embedded into a certain medium; digitalisation makes different media speaking "the same language" through binary codes (Hesmondhalgh, 2007). CD as a medium for music has been substituted with digital music players, first the MP3 player and now smartphones. Portable music devices has been around since the Walkman, but the difference between the Walkman/Discman and smartphones, is that today the music is freed from a specific medium and can be stored easily on a given device or streamed through the cloud. Byrne (2012) makes a precise observation:

> "Throughout the history of recorded music, we have tended to value convenience over quality every time." (Byrne, 2012, pp. 124)

This marks another important shift in consumption of music. From selling music as "object" the trend is now turning towards downloads and especially streaming, which can be described as a service more than a product. The new possibilities of music consumption, driven both by technological innovation and the need for personal reflection of ones own identity, facilitate the possibility of self-realization through cultural consumption. The digitalisation facilitates online offerings that have increased the expectations of availability and choices for the consumer. This is most notable in the "unbundling" of the music album as a whole entity into sales and streaming of singles and EP's (Bustinza et al., 2013). Portable music players are used to aestheticize urban space by which we soundtrack our lives, and allow for a number of ways for people to personalize their music consumption beyond old media such as radio and music television (Byrne, 2012). The other shift in music consumption has been towards live music once again, closing the circle of the transformation of music:

> "A century of technological innovation and the digitization of music has inadvertently had the effect of emphasizing its social function. [...] The technology is useful and convenient, but it has, in the end, reduced its own value and increased the value of the things it has never been able to capture or reproduce." (Byrne, 2012, pp. 136-137)

Today, numbers indicate that especially streaming services such as Spotify, Deezer, Pandora, Beats and Soundcloud, are making up a bigger percentage of the annual earnings of record labels. While the music streaming business grew 33% in the first quarter to an estimated $171 million, music download sales fell 13% to an estimated $473 million in the US (Adegoke & Pham, 2014). According to IFPI (International Federation of Phonographic Industry) more than 28 million users paid for a music streaming subscription in 2013 worldwide. This has to be compared to the 8 million who paid for a streaming service in 2011. This has generated revenue of $1.1 billion dollars, estimated by IFPI making it a 51% increase in revenue compared to the year before (Morgan, 2014). The hope is that more people in the future will convert into premium (paid) streaming customers. Streaming services on average pay about 75% of their revenue to content providers, meaning artists, labels and publishers - intellectual property rights owners. Adding a 50-50 split in revenue for advertising (generated by non-paying customers) one projection is predicting a compound annual growth rate of the music business of 17%, driven by the new streaming services (Morgan, 2014). This optimistic view can to some extend be countered by the fact that only 2% of the population of America is paying for a music streaming subscription service (Resnikoff, 2014).

Compared to digital download, music streaming excels in two ways. It makes copying obsolete since one can access almost all new music released by the major record labels at all times, and it deletes the user's decision whether to buy a single or album, since payment is at a flat rate. It also introduces other types of revenue, such as advertisement, for people using free streaming services. Some has retracted their music in protest to the royalty rates offered by streaming services, or deliberately chosen to delay release on streaming services or not releasing at all. This can either be construed, as the artist opposing this new way of consumption, or it can be a strategic matter of deliberately choosing other digital distribution channels.

Has streaming made it easier for the artist to reach the end consumer? The answer is both yes and no. There have never been more opportunities for reaching an audience (Byrne, 2012). Where the recording industry once focused on broadcasters, such as radio, for promotional efforts to spread

information about the music (Caves, 2000) the picture today is more complex. While record labels and radio once held up an artificial scarcity of music, moving the market through their function as gatekeepers, the problem today is that there is simply too much music available due to countless digital download services, streaming services, online radio, TV and social media especially.

Today, a record contract can be adjusted to suit the artists' needs better. The more autonomy the artist wishes to maintain, the less capital the record label is investing (Byrne, 2012). The digitalisation of music has made it more important than ever, who owns the rights to the music. Earlier, the record label used to make agreements with artist of having the exploitation rights of the artist music for a couple of years. Because of streaming and the zero cost of distribution and storage, the exploitation of intellectual property right can extend for more than just a couple of years today, and because making a new album in itself is a promotional effort which generate spill over revenue to earlier albums, artist might be generating more and more revenue from streaming over the years. On one hand the record labels are becoming more concerned with creating and exploiting intellectual property rights (Hesmondhalgh, 2007). On the other hand, it becomes even more crucial for artists to hold on to their rights of their recordings and song writing, if they want to collect the revenue generated by streaming services like Spotify and Pandora (Byrne, 2012). From the perspective of especially the major labels that are part of entertainment conglomerates, it is the hope that their huge repertoire of already recorded music can be utilized through streaming. Since content creation, at least beforehand, was a given sunk cost in creating a public good that can be reproduced over and over again across media and market, the aim is the pursuit of rents across these media conglomerates (Caves, 2000), or at least across the growing repertoire of the major record labels that have been merging, reducing them from six in 1993 to only three today. Many of the intellectual property rights within their catalogues were acquired at a time when distribution prices were high, probably causing a lower price to acquire the right, since it was the record label who undertook the risk of owning the right completely. Technology has made it possible for major record labels to create rent not possible for smaller record labels. On the other hand, (almost) free distribution has made it possible for niche market and worldwide distribution of niche music.

3.2 Characteristic properties of creative products

To enhance the understanding of how work is structured in the record industry, some general properties for the creative industries are highlighted. These are some inherent properties of creative products that make them different from other categories of products. The on-going argument is that music, as a creative product/process, also possesses some of these characteristic properties that affect decision-making processes in the record industry.

Most artists or musicians dream of sharing their work with an audience - whether it is a family member, friends, or 30,000 spectators at a stadium sized concert (Byrne, 2012). At the same, the technological development the last century has lowered the entry barrier to the music industry significantly, and maybe this barrier completely disintegrated with the possibility of free digital distribution facilitated by the availability of high-speed Internet connections. Add to this, all the musicians who play just for fun and the fact that you do not even have to have music skills to sell records. Neither musicians nor music are scarce resources (Caves, 2000). This results in a staggering amount of songs available. This can be labelled as an overproduction, practically skewing the normal system of supply and demand. The Echo Nest company - a music intelligence platform - states that they have registered more than 35,500,000 songs by more than 2,700,000 artists (the.echonest.com, 13/5/14). On top of that Pitchfork.com - one of the biggest music media in the world - published around 1,300 reviews last years. Even more playlist, which can be followed on streaming services, downloaded on webpage etc., are created every year as well. This leads to what can be termed as "lack of discovery", because the amount of music is so abundant, and an average human only have a limited time available to listen to, yet, discover new music (Another Cultural Landslide, 2014).

While there is an abundance of resources for the making of music, the demand is highly uncertain. The *nobody knows* principle is a temporal principle, which means that the market's future evaluation of the artist's work is highly uncertain. It is impossible to predict the exact demand for an upcoming artist.

The *nobody knows* principle affects the planning and budgeting and furthermore it makes music a volatile investment. The *nobody knows* principle is close connected to the *infinite variety* property. This property that no two creative pieces of work/projects are identical as well as no two records or record deals are identical. They all have different input and output, making economical comparison

challenging at best and also makes it difficult to pinpoint reasons for budgetary overruns or miscalculations (Caves, 2000). This diverts the money toward more secure opportunities, towards other industries. Internally in record labels it drives money and resources towards artists that have already proved to be good business for the record company, instead of towards new upcoming artists (Caves, 2000). The *nobody knows* principle results in 80% albums and 85% singles released fail to cover their costs.

> "For the album the talent scout can meaningfully say only that he likes it and that it falls within recognized and saleable genres [...] The vagueness of the justification is not a remediable problem, simply a given." (Caves, 2000, pp. 316)

The success-rate of a second album based on a successful debut is not high either. This means that the remaining 20% of albums and 15% of singles have to cover the losses while making profit for the record labels as well. This result in a high turnover of artists in the record industry and the success of new performers varies from year to year. However the power balance between the major label has been somehow stable from 1990-2000, indicating that the *nobody knows* principle is proving a difficult challenge throughout the record industry (Caves, 2000). Due to the *nobody knows* principle it is important to acknowledge contingency and chance since the cultural industries are based on the consumers aesthetic and sometimes irrational experiences, which makes the reception highly unpredictable. It is this dimension of the cultural industries that results in change, that might be the result of sudden and unexpected cultural phenomenon rather than be outcomes of structural economic patterns (Hesmondhalgh, 2007).

In the music industry, content creation is a sunk cost in creating a *public good*. Public goods are recognized by heavy productions costs, but the ability reproduced cheap an infinite amount of times across media and market (Caves, 2000). To a record label, these are the costs of music production, studio rent, additional musicians, and advance salary for artists etc. Today, these sunk costs are not necessarily those of the record company. Many musicians are their own producers, and technology have made it possible to reproduce sounds of instruments that once had to be played by a professional musician. The assumption of the study is that the record industry, to some extent, is still structured around the fact that music production is expensive and has a highly uncertain demand. Furthermore, a given record label has a maximum capacity of how many artists to actively

produce and promote. The main advantage of the record labels is that they have more capital to invest in the music proposed by an artist, while having the expertise and knowledge needed to produce and promote records effectively. Still, signing an act is a risky investment. At the same time keeping in mind that the amount of music available today makes it even more difficult to not only get discovered by the record label, by most importantly by the wider audience.

> " [...] while distribution is moving online relatively quickly, getting the word out still requires some traditional marketing effort and muscle - and money." (Byrne, 2012, pp. 246)

The standard contract proposed by the record label to the artists is the royalty contract, which is based on sales revenue. Contracts reflect the uncertainty of success and the inability of the artist to offer more than his or her talent and time. The uncertainty of the public's reception of the artist's/group's album and the uncertainty of which promotional efforts the record label will undergo is evaluated upon the character of the music and the initial interest of the public. The effects of the contracts is that the record label holds the right to any master tapes produced by an artist/band in a certain period of time, and holds the right to distribute the music, in return paying royalties based on sales to the artist/group. Royalty rates falls between 11-13% however as low as 9% for independent labels. For superstars it is more likely 16-20%. These rates are then deducted the production and distribution costs of LP's and CD's meaning that the costs of unsold copies also is deducted the artist's royalty earnings (Caves, 2000). Payment of musicians was usually done in advance. This would function like a loan that the record label would recuperate through the sales and royalties. This resulted in many bands ending up in debt to the record company due to overestimation of the market demand, and because the record label would be having an incentive to overproduce to be able to meet demand if the artist would be selling a lot. The risk of loss would be covered by the artists alone (Hesmondhalgh, 2007).

The standard royalty based contract still prevails but due to the technological and societal development of the last decade it is now possible for musicians to choose other means of reaching an audience. The musician David Byrne (2012) line up some changes that have challenged the standard royalty contract. Recording expenses is approaching zero because anyone can record an album on their laptop or even on a tablet. Today, the needed funding can be collected on sites such as Kickstarter and ArtistShare. These are crowdfunding sites aiming to realize project that investors

either do not wish to fund, or entrepreneurs (also musicians) to maintain control over the project proposed. Through crowdfunding, friends and family, and even fans sitting on the other side of the globe can fund a music-project.
Manufacturing and distribution costs are approaching zero as well. This is mostly due to the possibility of selling and distributing music digitally, relieving music of the shipping costs of physical products. This is not necessarily free since digital gatekeepers like Amazon or iTunes take as much as 30% of the sales revenue, but it eliminates the risk of over producing CD's which usually indebted the aspiring artists. Today, artist no longer get big advances either, adjusting the expectation of predicted sales, and touring is now considered a source of income where it was once considered a marketing expenditure (Byrne, 2012).

The *art for art's sake* property is the quality in music that makes people play and make music even though they do not earn any money while doing so. It is the concern that art and music has an inherent value more important than the pursuit of economic gain, in fact this inherent value is sometimes opposed to the idea of economic gain. It is also the property that describes how cultural products are produced by and evaluated on the ground of aesthetics and tastes. According to Caves (2000) this property controls not only the taste of a given artist but the work allocated to a given project. If the artist is creatively motivated by a project he or she will likely put an enormous work effort into the project even though the end pay probably will not justify such a work effort. *Art for art's sake* also invokes a problem for an artist to commit to a specific character for future work, and cannot make a plan for the quantitative production. (Caves, 2000) This further complicates long term planning revolving artists. This property also reveals a contradiction in goal between the musician/artist and the record label. The *infinite variety* property overlaps the *art for art's sake* property that delivers an infinite number of opportunities of incurring costs in the pursuit of aesthetic gains. This creates a situation where the bureaucratic structures of an organisation are trying to control/reduce costs that are controlled by the artist, who has a strong incentive to increase those (Caves, 2000).

This seemingly dichotomy is a very debated topic within the creative industry. While creativity often is perceived as "thinking out of the box", presenting unconventional solutions, realisation of vision and pursuing aesthetics when it comes to art, the structures of an organisation are based on

rationality and bureaucracy in order to maintain the organisation and planning, budgeting and secure capital to pay its employees.

> "A business firm or nearly any purposive organization adopts a hierarchical decision structure in which a top coordinator sets tasks and incentives, gathers and analyses information on activities and performance, and distributes rewards. Such an organization is rational in the sense that it can explain why it did what it did." (Caves, 2000, pp. 315)

The discussion of creativity and bureaucracy could fill out this entire study, but the intention is to explain how this dichotomy is structuring the labour within an organisation whose output is relying on creativity. The diverse skills of expertise are defining positions and categories in the cultural industries and these fields of labour are divided. Roughly a record label can be divided into the humdrum labour and creative labour (Hesmondhalgh, 2007). Humdrum tasks include finance, HR, management other positions that are bureaucratic in nature. Creative tasks are those performed by the artists, A&R, some marketing staff. The position of A&R is especially interesting. A&R is an abbreviation meaning artist and repertoire, and it is the person(s) responsible for picking and signing new artists. The A&R position is enveloped by myths and stories.

> *"The power and the decision has sat with the A&R man, who is someone who gets up late in the day, listens to lots of music, goes to clubs, spends his time with artists and has a knack of knowing what would sell."* (Gapper, 2008)

The power of the A&R is under attack from the wanted transparency and the wish for a rational organisation to explain the internal work processes. The question emerging is, on what basis the decisions of signings artists is made, whether A&R personnel is the best solution? While some speculate in the A&R leaching of record labels to live their dream of devotion to music (Gapper, 2008), another study shows that experts within the music industry are better at predicting hits than computer models (Seifert & Hadida, 2013).

In 1993 the six largest record companies distributed 80% of all records. The scale advantages by the largest firms are those of PR and distribution. Big companies mostly concentrate on promotion and

distribution on a large international scale while minor companies, such as independent labels function as gatekeepers. In the 1960's the big record labels started divest into smaller labels with own brand identity, but maintaining their market advantage due to scale of distribution and marketing (Caves, 2000). National offices of the big record labels also function as gatekeepers towards international distribution. During the internationalisation from 1970s most record labels have become a part of big entertainment conglomerates. At first this meant that more commercial bureaucracy was enforced. This has since been abandoned and now conglomerates tend to break up bigger organisational structures in favour of smaller organisations with autonomous units. According to Byrne (2012), the merger and acquisition policy inferred by conglomerates ended up purging the industry of competent workers. This includes creative management and A&R whom all were let go due to cut of expenses. Then, people without much experience in the music industry was hired to optimize efficiency and produce more hits. According to Byrne (2012), they did not succeed. In 2012 the six biggest record labels are reduced to three. These are called the "major labels". These are Universal Music Group, Sony Music Entertainment and Warner Music Group. These three major labels constitutes a market share of 88,5% according to Nielsen SoundScan (http://en.wikipedia.org/wiki/Music_industry#2012, 15/5/14). It is important to note that all of the three major labels are part of entertainment conglomerates. This picture is of course simplified, because the market share is based on sales, including distribution of records to which independent labels own the copyrights. The aim of this report is not to examine this further, but to stress that bigger corporations often own the record labels, which further implicates decision making processes internally. The internationalisation has imposed a more lean management style and in general imposes transparency within the organisation and the demand of meeting certain economic goals.

3.3 Summary

The intention of this chapter was to expose some of the underlying properties of music in order to better understand the structure of the record industry, and the ways for music to be consumed.

Through the *nobody knows*, *infinite variety* and *art for arts' sake* properties it is clear that the demand in the recorded music market is highly uncertain, have many agendas to tend to and that the market moves by change, that might be the result of sudden and unexpected cultural phenomenon rather than be outcomes of structural economic patterns (Hesmondhalgh, 2007). Furthermore music is produced by and evaluated on the ground of aesthetics and tastes, rather than rational features such as price and demand. The low entry barrier to market and lack of discovery leads to a market

with an endless supply making competition for attention even fiercer. Meanwhile the consumption has shifted towards digital downloads and streaming services.

While data analysis is used successfully to uncover customer preferences, the above mentioned characteristic properties of music are making it difficult for analysts to successfully predict whether a new upcoming act will be successful or not because of the highly uncertain demand within the music industry (Brevik & Presthus, 2010). It is the hope that the new market of music streaming will allow new data to emerge, that can unveil new insights through data analysis, that may lead to better decision making when signing new acts at a record label.

4. Methodology

4.1 Research objective

After the technological disruption of the music market that occurred around the millennium, the industry has begun focusing on the possibilities of the technologic development instead of fighting it with copy protection and law suits. The technological development is allowing digital distribution of music, at a costs approaching zero. Digital distribution includes both download sales and music streaming. Both models allows record labels, and companies facilitating these, to track and accumulate vast amounts of personal data regarding consumer, purchase behaviour and listening behaviour. Social media has given consumers an outlet for creating a vast amount of contextual data that is structured by the users, using hashtags and geo-tagging. The aim of this study is to uncover the use of data analysis - business intelligence - in the record industry, and how business intelligence is used in decision-making processes. The record industry suffers from having an abundance of raw materials, namely musicians, an infinite of possibilities of musical output, and a highly competitive market characterised by highly uncertain demand. In the record industry, it is the hope that the massive generation of both user data and contextual data can help record labels making better decisions, on which music to produce and how to market the music. At the same time, many industry piers are not excited about the concept of a computerized algorithm calculating the future of music consumptions. The perception is still that the gut feeling and instinct of the A&R professional cannot be replaced (Sisario, 2014).

> "This is art and not computer science." (Sisario, 2014)

Not much study has been done in the area of music industry and the use business intelligence, so the aim of this study is to provide insights through an in-depth case study. This knowledge can then serve as the base of future study within the topic.

4.2 Research philosophy

Research philosophy is concerned with knowledge creation. The research philosophy of this thesis have implications for the exploration and result regarding the relationship between business intelligence and the decision-making processes at Sony Music Entertainment Denmark. This section shortly describes different research philosophies, and the implications for the chosen research philosophy are elaborated on later on.

Positivistic research philosophy is concerned with one objective reality in which there exist laws that can be investigated independently (Van de Ven, 2007). The positivistic research philosophy is predominantly found in the natural sciences where the main assumption is that the universe is constructed by universal laws. Opposed to the positivistic research philosophy is what Van de Ven (2007) labels relativism. This is a term consisting of interpretivism, constructivism, hermeneutics and postmodernism, that all are different but share the view that reality is socially constructed and subjective. This implicates that the researcher, is constructing a reality through this/hers belief systems, through which the research subject is interpreted and understood. Miles & Huberman (1994) states that the lines between different science philosophies has become blurred and the use of methodology is a matter of strategy to reach academic goals, secure generality and academic validity. The next section will discuss my personal implications and why I have "chosen" a hermeneutic interpretive research philosophy.

4.3 Personal motivation and experience

My personal motivation for conducting this study within the music industry is closely linked to my professional and academic background. I have personally played music both as an amateur and a professional most of my life, and worked both at a record label and as the coordinator and booking manager of a small music festival. In 2012 I finished my bachelor degree in Musicology from Copenhagen University. The studies are under the department of human studies at Copenhagen University, having a general hermeneutic science philosophy. The reality of the Musicology department, at least at Copenhagen University, is that scientifically, music covers different fields of science such as ethnology, anthropology, semiotics, sociology and aesthetics. I mostly conducted music-sociological studies, studying music as socially constructed phenomenon and performed by its social context, power of tastes, institutions, articulation and discourse. From my time at Copenhagen Business School the studies have been revolving creative business processes, resulting in mainly a hermeneutic science philosophy.

This thesis will be based on a hermeneutic research philosophy trying to illuminate the decision-making processes at stake when a record label release music by a new act. The interpretational analysis is based on theoretical framework describing ways business intelligence is created, obtained and used in decision-making process. The new types of business intelligence, that are the centre of this research is brought forth by both technological and societal changes the past century.

I am as a person both bound; through work in the music industry and my bachelor education in musicology, by my assumptions based on experiences and former studies. Through this research I try both to challenge and reinforce these assumptions. My preconceptions coming from my master's studies, namely Management of Creative Business Processes at Copenhagen Business School, are evident in construction of the research question. This thesis is in many ways an exploration of the issues occurring when datafication and rational data analysis is imposed on concept as music. It is the need for bureaucratic transparency and comparability imposing on the creative and irrational nature of music. These are key issues when managing creative business processes. My personal motivation for conducting this study is to highlight some changes in the music industry that is occurring currently to gain a better understanding of the changes and possibilities facilitated by the use of business intelligence in decision-making processes of a record label.

4.4 Research question

How is business intelligence used in decision-making processes at a record label, in the process of releasing music from a new act?

The research question poses two inherent assumptions. First assumption is, that record labels do already use business intelligence in their decision-making processes. This business intelligence might both be tacit, embedded in the organisation's staff's expertise used for subjective judgement, or it might be accumulated from external sources and stored with means of technology. The record label signs acts to ensure future profits. This is an activity that requires use of business intelligence since they do not hire own staff members to form bands and perform music. Secondly, the assumption is that business intelligence, brought forth by datafication, both more accurate data on music consumption and contextual data, is helpful in decision-making process when releasing music by a new act. This assumption will be researched and challenged throughout this report.

4.5 Qualitative research

For this study I have chosen a qualitative **approach**. The strength of qualitative method is that qualitative data is a source of rich descriptions and explanations of processes in local contest. Qualitative data help the researcher to get beyond initial conceptions and to generate or revise the conceptual framework (Miles & Huberman, 1994). Since the research question focuses on how business intelligence is used within the organisation to help decision-making processes, qualitative data that explain these processes, even latent ones, are preferable.

The aim of this study is to explore the use of business intelligence in decision-making processes when record labels release music by new acts. This includes understanding how business intelligence is gathered and exploited within the organisation and how this helps the above-mentioned decision-making processes. This leaves two levels of analysis. First, the level that regards the nature of business intelligence itself and the problems and possibilities it imposes. This regards the quality of data, the technology related, incomplete data sets, and data inconsistencies. Second, the level that is the use of business intelligence to help decisions making processes. This regards, the internal dissemination of business intelligence, organisational structure and the analytical skills required to make sense of the data, and the human judgement based on the business intelligence.

The aim of this thesis is not to investigate whether the use of business intelligence, brought forth by new means of consuming music and the increasing datafication of society is leads to financial gain, or to tell if firms that more successfully use these types of business intelligence in their decision making processes are more successful than those that do not. These are researches that might be done, with the input of this study, but these research questions are outside the scope of a master's thesis.

The use of business intelligence in the creative industries, including the record industry, is a subject in which not much research has been published. Many of the technologies and social changes making new kinds of business intelligence available are fairly new. This results in this study being highly exploratory. This study is not a deductive study in the sense that it proposes a hypothesis to be confirmed or invalidated. It is strictly not inductive either, since the results provided, will be

contextual and also affected by the academic choices and reasoning made throughout this study. The findings of thesis will inevitably be the result of the research design, the interpretative research philosophy and the predispositions of the author.

This thesis will follow abductive reasoning. Formally, abductive reasoning allows the researcher to modify the conceptual framework on the base of the data collected. Abductive reasoning is the interchanging relationship between the researcher and the informants who jointly constructs categories and concepts (Jensen, 2002). The method does not circumvent the problems of inference by both researcher and informants, but aims to make the reasoning throughout this thesis transparent, to be used for further studies in the future. In qualitative research the research undergoes a number of abductive interactions that in the end ideally form into an idea or theory (Jensen, 2002).

4.6 Case study

To accommodate the chosen qualitative approach, I have chosen to make a case study. The case study gives the best possibilities to collect rich descriptive data, to be interpreted through analysis. Another strength is the close proximity to the subject studied and the possibility to understand latent, underlying, or non-obvious. This means that the specific case is embedded in its context (Miles & Huberman, 1994). The case company chosen for this study is Sony Music Entertainment Denmark in Copenhagen. Sony Music Entertainment Denmark has been chosen for two reasons. As a former employee at the company, it strengthens the possibility to get the best interviews and therefor collect the best quality data. This raises questions of my capability to detach myself from my old role in the company, which was not in any way related to the area of this study. There is the problem of the informants still perceive me in my old role, polluting the quality of the data collected. Furthermore, I personally have some assumptions about the company and the record music industry, from my time working there. This also affects which informants have been chosen to interview for the study. However, it is my firm conviction that I get a higher quality of data from Sony Music Entertainment Denmark, that I would have access to at another similar record company. The second reason for choosing Sony Music Entertainment Denmark is that the company has an appropriate size. A smaller record label might be using business intelligence to strengthen decision-making processes, but due to their organisational size they might lack the formality of work processes related, technology needed, or the analytical skills required. This is a personal assumption that could be explored further in another study.

4.7 Data collection and synthesis

The method of data collection chosen is the semi-structured interview. The semi-structured interview is build upon the same questions to be asked different informants within the case company. This creates comparability across the interviews. The semi-structured nature of the interview refers to the possibility to explore answers of the informant further. The strength of the interview as a source of data is that it provides explanatory data that can be synthesised and analysed. It is data collected in close proximity of the subject studied. The cautions are that data of interviews is limited to what can be uttered, recorded and understood. This limitation hold true for both the interviewer and the informant. Another aspect is, what at first is a descriptive statement from the informant, quickly can become interpretative and explanatory. These distinctions are important to make when using the data collected during interviews (Miles & Huberman 1994).

I have chosen to conduct four interviews with the appropriate managers at Sony Music Entertainment Denmark. An interview with the Digital Business director, who is head of the digital channels of Sony Music Entertainment Denmark, will be conducted. Since this study explores the use of business intelligence especially brought forth by the digitalisation, this interview is pivotal to the case study. Then two interviews are conducted with two different A&R managers, who differ in tenure and age. This is to explore the difference in use of business intelligence (if any) that might be caused by tenure or age. Last, I will conduct an interview with Direct to Consumer Manager, since he is in charge of data analysis concerning the use of social media.

The interviews are conducted and recorded in Danish. The matter of language has been under scrutiny since this study originally was set to take place in Finland. However, the quality of the data will suffer from the language barrier and important information may be lost. The interviews are transcribed, still in Danish, carefully read, and then coded. Important quotations will be translated to English and stated directly in the thesis text, with referral to the time at the recorded interview. The coding of the interview is to reduce the amount of raw data and organize it into conceptual categories (Miles & Huberman, 1994). The categories are strictly referring to the conceptual framework of the research design and also the research question. Codes are usually attached to chunks of data that can vary in size e.g. words, phrases, sentences or whole paragraphs. They can take form of a straightforward category label or a more complex one such as a metaphor. The coding is performed to analyse and draw conclusions, by the patterns made by the codes. The analysis of the coding is done to highlight relations between statements, that might seem unrelated,

in order to relate these through the codes, which are derived from the research design and research question (Miles & Huberman, 1994).

4.8 Validity

Triangulation is the means of validating the finding by getting confirmation of the result or at least not any contradictions (Miles & Huberman, 1994). This data is triangulated between the conceptual framework, and the data collected from the interviews, and relevant articles. The triangulation also hopes to correct any bias that might occur. The study is conducted by one person, which might lead to a myopic state of mind. Last, it must be noted that the results of this thesis are based on a case study. The findings are contextually bound to Sony Music Entertainment Denmark, but it is the hope that the finding will offer insights that might be further explored in a broader industry perspective later on.

4.9 Delimitation

This study has some limitations due to the choice of abductive method, the conceptual framework and the settings of the case study. These choices combined results in a study where the knowledge generated is highly contextual. The conclusions drawn in this thesis need to be considered contextual as well, but it is the hope that the results can build a foundation for further studies in other record companies. The conceptual framework does not include the analysis of content creation, or the input of the artist/act. Content creation both by Sony Music Entertainment Denmark and the act is pivotal for the selling and distribution of music. However, how content creation affect the use of business intelligence at Sony Music Entertainment Denmark is outside the scope of this study, and would be a subject to pursue through further studies.

Choosing to focus on the record industry, and namely Sony Music Entertainment Denmark, exclude other parts of the record industry such as the live music industry and publishing industry. Furthermore, Sony Music Entertainment Denmark is doing business in the Danish market, which might be viewed as rather small and may have distinctive local features. Sony Music Entertainment Denmark is a part of global record label Sony Music Entertainment that is owned by Sony Corporation of America (http://www.sonymusic.dk/om-sony-music/). These are external factors that might affect the decision-making processes of Sony Music Entertainment Denmark. A simple example is the economic goals set by Sony Music Entertainment affects decisions made in Sony

Music Entertainment Denmark. It might also affect the business intelligence obtained by Sony Music Entertainment Denmark. These are all relations that might affect the results of this study, but also relations outside the scope of this thesis due to the research design chosen.

5. Literature Review

5.1 Music and data

While the digitalisation of music is considered a disruptive technology, that to some extend has paralysed industry leaders, the same digitalisation opens up for better data mining and the collecting of data regarding listening patterns and a deeper understanding of preferences (Brevik & Presthus, 2010). Record labels today are already familiar with data analysis and successfully deploy analysis to uncover customer preferences and sorting out loyal and disloyal customers to maximize their profit (Brevik & Presthus, 2010). Before the digitalisation one of the main issues was decoding the behaviour of consumers after purchase. The record labels would have access to sales data, however, these data would not allow for analysis of listening patterns nor identifying the end consumer. Back then, listening patterns were private, and the only way to decode them was by studying how the consumers associated with songs, artists and genres publicly. This do not account for the concept of "guilty pleasure" which describes music that people listen to, but that they would not admit to listen to avoid social embarrassment. Current research shows that 15% of CD, cassette and vinyl was purchased without the intention of actually playing the music (Jonze, 2014) There was no or little data on what happened to the CD'/vinyl/cassette/download after it was sold to the consumer (Shubber, 2014). Today, the streaming services offer more granular data that goes beyond a point of purchase.

It can be argued that conspicuous music consumption is still polluting the statistical measurements of the data generated by streaming services. However, a song streamed is still consumed and generates royalties or at least a social statement and therefor free PR on social media. And the songs will still have to be "listened to", compared to buying a CD or vinyl to never pull it down from the shelf. Now, consumer characteristics can be linked directly to the listening patterns and preferences of the consumers, making new insights available for the record labels that were not possible earlier on. Furthermore, social media network sites offer data on social interactions with the music and the artists. It is through these channels that many hope to discover new artists. Platforms are developed to collect information across different information channels such as the above mentioned. The company Next Big Sound collect data across platforms such as Spotify, Pandora, LastFM, Vevo, Twitter, Facebook, and analyse data to gain insights that they visualize to sell to record labels at a flat fee (Strategic Direction, 2013). Most of the data collected is available to the record label in real

time. This means that A&R now have a vast amount of data to analyse and while looking for the next big thing, making their work more than educated guesswork (Strategic Direction, 2013).

In an age where more precise granular data becomes available, the hope is that better insights and business analytics will lead to superior decision-making that will lead to better firm performance. The information is collected across different platforms and therefore has different possibilities and restraints for this information. The transformation from data to relevant information is explored through the concept of business intelligence. The aim of better use of business analytics and the new sources of data is to research how this may lead better decision-making processes. In order to do so it is first establish what the properties of ”business intelligence” are.

5.2 Business Intelligence

Business Intelligence (BI) as a concept constitutes a rather broad term concerning the process of gathering information relating to a business and the market in which it functions. The combination of constant technological innovation and increasing competitiveness distorts the task of information management. Information management demands decision-making processes that are built upon reliable and timely information both gathered from internal and external sources (Zdraveski & Zdraveski, 2011).

BI may be viewed as the technical means of gathering, storing, analysing and providing access to data to help organisations make better business decisions. This includes data mining techniques aimed to change raw data into information. Data mining is the utilisation of mathematical and statistical applications that process and analyse data. The leading methods of data mining include regression analysis, segmentation classification, neural networks, cluster analysis, and affinity analysis (Zdraveski & Zdraveski, 2011). The technical means need to be in order to make sound statistical analysis and to facilitate the gathering and generation of data.

The managerial approach to BI focuses on the process of how data from internal and external sources are integrated within the organisation to secure sound decision-making. It is the process in which a transformation from data to information to *intelligence* occurs. While raw data reflects the operations/transactions in which the data is created, information has been filtered and has been attributed a certain level of context. Finally, intelligence marks the highest level of information as a

result of complete understanding of the actions, contexts and choices. It is through the mining of data, and analysis of information that business intelligence exists revealing strategic business dimensions of the business intelligence, when used in understanding with the information environment from which the data occur, and the process of contextualizing it (Zdraveski & Zdraveski, 2011).

Both the managerial and the technical view of business intelligence rely on an objective and positive view that sound use of business intelligence, based on accurate and usable information, in order to make strategic decisions, lead to an intelligent company – a company that use business intelligence to make faster and smarter decisions than its competitors (Zdraveski & Zdraveski, 2011). Both approaches rely on business intelligence applications to make the intelligence understandable, without the user necessarily understanding the transformation from data to intelligence. These applications often visualise the intelligence, have a user interface that is of non-technical quality, and guides the user via graphics and design. Most applications are based on automation through timely notifications based on filtering of data. This is to secure use of business intelligence system across all departments of organisations and to secure that the information needed is available to create timely answers to business questions (Zdraveski & Zdraveski, 2011).

5.2.1 Timely and accurate business intelligence

Most of the described data analysis tools are tools based on statistic methods. These tools are based on samples of populations, and the results are then applied in a much bigger scale. For the results to be meaningful, the sample must be representative of the entire population of interest. This of course depends on the organisations' database size and ability to collect, store and retrieve data. The aim of this section is not to describe how statistics are conducted according to good practice, but to emphasize problems that might occur when data sets lack quality or are incomplete. While the technological means of data analysis can compensate for the lack of human statistical knowledge, the same cannot be said about the lacking of data quality or incompleteness. When converting results from sample to population, inconsistencies will become severe if not leading to wrong conclusions, and wrong conclusions based on data analysis will lead to poor decision-making or decision-making based on wrongful terms.

Data is frozen in time – a screenshot taken at a specific point in time (Drake & Drozdenko, 2002). An effective metaphor describing this is the distinction between a data stream and a data lake. The

stream is constantly flowing, filling up the lake. The lake becomes the accumulation of data from the stream, while the stream represents the real time data flow. The data's time of creation is important, especially when it is a part of a model with possibly millions of data sets. This is why the term "timely" business intelligence must be considered important, because one might end up with data that is not longer significant due to contextual changes (Zdraveski & Zdraveski, 2011). This will lead to decision-making based on terms that do no longer exist. Another issue is that data mining and analysis can be a time consuming task resulting in too many resources spend compared to the perceived benefits. This may lead to superior decision-making processes but to poor firm performance.

In the highly volatile record industry created by the *nobody knows, the infinite variety* and *art for art's sake*, it is easy to argue that the aim of using timely and accurate BI is to override the *nobody knows* property. The *infinite variety* and *art for art's sake* is what complicates this process. The contingency of the *infinite variety* makes it difficult to structure and compare data of music. For how is that done when no work is identical? And how is data collected when the input and output of a record project can vary in infinite ways while the *art for art's sake* makes the market evaluation of the project both a matter of profit, aesthetics and tastes. This moves the market in unexpected ways that might be the result of sudden and unexpected cultural phenomenon rather than be outcomes of structural economic patterns (Caves, 2000). These problems have both a technical and a managerial dimension.

Both timely and accurate BI is dependent on the **data quality**. The term data quality is rendered in different articles and labelled differently. Kwon, Lee & Shin (2014) propose two variables of data quality: data consistency and data completeness. Data consistency is concerned with keeping data uniform moving across the networks, being shared by different applications and systems, both internally of an organisation and externally between companies. Data completeness refers to the degrees that all the data necessary for current and future business activities are available. These are key terms for a business to attain long-term competitiveness. Data inconsistency or incompleteness can become an issue due to intentional or accidental faults such as flawed system design, data input errors, and data operator's subjective judgment, leading to severe distrust in the use of data. Errors can be almost impossible to correct if done. Incompleteness of data makes decision-making less effective and demands more caution in interpreting the outcome of processed data (Kwon, Lee & Shin, 2014). Shankaranarayanan, Even & Watts (2006) propose a multi-dimensional construct:

accuracy, relevancy, representation and accessibility. Accuracy describes to which extent the data is error free, correct, and reliable. Relevancy expresses how applicable and useful the data is for the relating task. Representation is the presentation of data in such a way, that it is easy to understand and often expressed in graphical displays of the data. Accessibility indicates if the data is secure and cost-effective to access and use.

Furthermore a distinction is made between intrinsic and contextual assessment of data itself. Intrinsic factors are based on the data elements themselves and are independent of the context in which they are used. This includes accuracy, representation and accessibility of the data. Contextual factors are the decision task of which the data is used, the timing of use, and characteristics of the individual user. It is the relevancy of the data. Completeness of the data is contextual factor, not a universal one.

Data completeness is in both views contextual. What data to use for a given analysis, is for the data-analyst to decide. The distinction between data consistency and the multi-dimensional construct including accuracy, relevancy, representation and accessibility is, I would argue, the distinction between the data itself and how this data is processed. While data consistency is describing some inherent features of data, it is the process of conforming data that in the end makes data consistent across platforms and firms. Accuracy, representation and accessibility are concerning the data itself, and are not contextual to a certain extend. Accuracy is debatable, since the same level of accuracy is not needed for every task. Representation can be both strengthening the use of data but also be used to misrepresent or confuse users of data. Accessibility is concerning the process of accessing and retrieving data, which can both be contributed to inherent and contextual factors. For the sake of clarity, this study will not use the distinction between inherent and contextual factors, since this distinction is too ambiguous. The contextual factors of data quality are considered inevitable, and should always be considered when handling data and data analysis for the purpose of decision-making.

In order to assess how business intelligence is used to make better decisions, it is argued that the concept of data quality, namely the concepts of **accuracy, representation, accessibility, relevancy** and **data consistency**, are relevant concepts, since problems in data quality may lead to wrongful decisions or a reluctance to use data for certain decision-making processes.

5.2.2 The concept of *Big Data*

Organisational information systems, social media services and IT devices are increasingly and continuously generating very large amounts of structured and unstructured data. Structured data is often in databases securing relatable analysis results. Unstructured data is also known as "big data". Businesses are increasingly facing challenges in managing and capitalizing both structured and unstructured data to their advantage (Kwon, Lee & Shin, 2014). Kwon, Lee & Shin (2014) propose a distinction between internal and external data. Internal data is created within the organisation: regarding employees, products and services, the production line, management decisions, customer profiles and transaction records, and corporate resources. External data is obtained from sources over which a firm has little or no control. This includes additional customer information, the market, competitors, macroeconomics, and those of the firm's natural environment. External data is more difficult to handle since it is not necessarily structured in a way that makes it relatable to the internal data.

Big data, as a concept, is often external data. Examples of data normally considered as big data sources are social media data like Facebook and Twitter, credit card transactional data, mobile pinging and web searches (Harford, 2014). Big data mostly differs in the way the analysis is conducted. Usually, data mining and analysis are depending on data that is relatable – structured in a relatable manner. As mentioned earlier, most data mining is the utilisation of mathematical and statistical applications that process and analyse data. This often includes making a sample of a population to which mathematical and statistical applications that process and analyse data. With big data, due to the large scale of data, the sample is all the data. The data analysed is so vast in amount that it will be overriding the statistical bias that might occur when dealing with a sample of a population. Big data as a concept and a business tool is highly debated, and is not constituted as an academic term. It is argued that the problems of sample bias and data quality issues does not get better by using a vast amount of data but the problems get worse (Harford, 2014). Big data is more concerned with correlations in data sets, correlations that do not necessarily arise from conscious hypothesis. Critics say that a world of correlations, with no clear picture of what cause these correlations, prevents us from understanding the underlying mechanisms of what is described by the data, and therefore prevent any explanation of why a correlation might break down over time (Harford, 2014). One of the most interesting examples is the Google Flu Trends, where Google where able to predict the pattern of an outbreak of the flu, through Google search terms patterns. The development of the outbreak could be monitored almost in real time, and was in that matter

way superior to the normal information gathering of the governmental efforts. However, after four seasons of flu outbreaks monitored by the Google Flu Trends, the model lost its ability to predict the outbreak, without knowing what linked to outbreak of the flu with the correlating search terms (Harford, 2014). These circumstances can and will definitely lead to ineffective decision-making, if not used critically.

Keeping data consistency might be difficult using unstructured data and it is difficult to prove the relevance of external data (Kwon, Lee & Shin, 2014). Internal data is used both for business operations and for strategic decision-making. External data is intended to enhance the effectiveness in strategic decision-making. (Kwon, Lee & Shin, 2014). Reviewing "big data" through the lens of data quality, complications arise. Using external data it is difficult to assess to which extend the data is accurate or relevant. The accessibility is usually high, but it comes with the price of inconsistency with internal data resources.

In order to investigate the different kind data used in different decision-making process a distinction is made in the analysis between **external** and **internal data** rather than structured and unstructured data. This is because structured data can be from external sources, making the need for assessing the data quality necessary, as well as being aware of any data inconsistency comparing with internal data.

5.2.3 Strategic use of BI

There is a difference in using BI at a **strategic level** and an **operational level**. Arguably, this is because the decision made at the strategic level differs from the decisions made on an operational level. The operational level is mostly dealing with everyday decision making. Database marketing is the operationalization of the strategic decision of using data driven decision-making. This is already evident in the record industry where targeted marketing of loyal customers is already deployed. In a rapidly changing market, where long term planning might seem static, but still is a mechanism to cope with change, stresses the need for strategic planning. This also it true when dealing with data driven decision making and it is argued that it is also important when dealing with business intelligence from sources outside the organisation. This includes a formalized strategy of the intention behind data driven music business. It is a matter of constituting a reason and a goal for what they are doing and also how they are doing it. When plans are formalized and put on paper and distributed throughout the organisation, it can utilize inputs from the employees (Drake & Drozdenko, 2002). The plans need a certain level of formalization to help the data quality issues,

when people across areas of expertise need to interact with data both in operational and strategic decision-making. The structure of data gathering is decided by the organisation in order for them to reach their goals using the data. This can be the assessment of which data to collect and monitor and how to record the data in question (Drake & Drozdenko, 2002). Although a data source might be large, and the analysis technology may be sophisticated, the intelligence is only valuable to the organisation if it helps achieve the objectives set by the organisation (Drake & Drozdenko, 2002).

5.3 Decision-making

It has already been established how the record industry is a highly uncertain industry. The *nobody knows, infinite variety* and *art for art's sake* property has made the use of BI more needed than ever, and today the technology is coming along, delivering data on music consumption not previously possible.

> "It is a prime example of a disruptive environment, where enabling technologies and consumer preferences change rapidly and continually." (Seifert & Hadida, 2013 pp. 26)

BI deals with the process of making meaning of a large amount of data. That is the aim of data analysis – to transform data into contextual business intelligence that then can be used for a competitive advantage. The aim of this study is to examine how business intelligence is used in decision-making processes in order to achieve that goal.

Many people are under the assumption that decision-making is a rational process. However, rational choice would rely on two principles: dominance and invariance. Dominance describe that if prospect A is at least as good as prospect B in every respect and better than B in just one respects, then A should be preferred to B. Invariance requires that the preference order between prospects should not depend of the manner on which they are described. However, the requirement of invariance and dominance is not satisfied when dealing with subjective decision-making (Kahneman & Tversky, 1984). It is argued that decisions made around the creation and production of music is highly subjective since music is evaluated on the base of tastes and aesthetics. Prospects are characterized by the possible outcomes and the probabilities of these outcomes. These, however, can be framed or described in different ways. Humans are risk averse when the prospect is gains and tilt towards risk seeking choices when the prospect is loosing, by reframing the decision and the problem. These qualities may alter a decision even though the outcomes and probabilities are the same – but reframed (Kahneman & Tversky, 1984). The solution to circumvent the problem of invariance and dominance is to develop a method to present equivalent versions of problems into the same representation. This is very difficult even in simple problems, and almost impossible in complex problems (Kahneman & Tversky, 1984). Here the possibility of using BI becomes interesting, since it can be used as a tool for presenting knowledge in a uniform representation, namely numbers. These numbers are inputs in decision-making processes, and to assume that a record label solely rely on numbers for decision-making, would be assuming that the company has

developed a model where all the input of data is analysed and then makes up a answer in the binary form of yes or no. If such a model existed, this study would have no purpose.

Seifert & Hadida (2013) made a study in which they compared the predictive power of a linear regression model and industry expert judges. The task was to predict the entry chart position of a given song; both made by new artists as well as established artists. The study makes two important arguments. First, while the mechanical forecasting models (linear) process information in a consistent, systematic and logical way, human judges are better at identifying new prediction variables and also subjectively assess parameters that are difficult to objectify such as ethical, moral and aesthetic judgement. Human judges, however, can be biased, affected by organisational policy and inconsistency. Group expertise eliminates some of the bias and inconsistency (Seifert & Hadida, 2013). Second, the study explores the relationship between forecasting models and human judgment based on the structure of the task. Forecasting the success of a new artist is described as a "ill-structured" task, due to the substantial amount of uncertainty about market performance and evaluation. Conversely, the success of artists with an established, historical track record might be easier to predict thus it is described as a "well-structured task". The argument is that the more a task is structured, the better the predictive power of a data model (Seifert & Hadida, 2013).

This study aims to explore the use of BI in a record label, in order to make better decisions when signing a new act. The decisions occurring during the process of signing a new act probably both have ill-structured tasks, and more structured tasks. It is assumed that the structure of the task affects the decision-making process relating and the quality of a given decision. While the article argues that humans are better at predicting outcomes of ill-structured tasks it is argued that the experts should compliment their decisions with "scientific evidence", which I choose to translate into BI.

> "[...] our results provide an encouragement to A&R managers to move away from predictions based exclusively on ''gut feeling'' and to complement their judgment with the scientific evidence provided by linear models in order to reach optimal decisions in selecting artists to sign." (Seifert & Hadida, 2013, pp 34-35)

The use of linear models is out-dated and unsophisticated, and the study use undergraduate students to develop these models. Due to the development in data available and the rapid moving market, the result might be polluted, but the tendency is clear. The music industry is moving towards more and

better data analysis, to help managers and A&R make better decisions. The decision made may be binary in nature (yes/no) or present as a choice between possibilities. Assessing possibilities invokes the process of assessing probabilities for different outcomes, values and quantities. In order to examine the decision-making processes and the use of BI, the nature of the decision must be described.

Kahneman and Tversky explore how humans reduce complexity by following heuristic rules when assessing probabilities, values or quantities.

5.4 Heuristics and biases

Dealing with everyday uncertainty, many decisions made are based on beliefs of the likelihood of uncertain events. How do people assess probability of an uncertain event or the value of an uncertain quantity? People base the decisions on heuristic principles to reduce complex tasks of assessing probabilities and predicting values. These heuristics is quite useful in everyday life, because it allow individual to make fast assessments that can be accurate enough for decision-making. However, heuristics may lead to severe and systematic errors, namely *biases*. Heuristic judgments are all based on data of limited validity, which are then processed according to the heuristic rules. These rules are based on **representativeness, availability** and **anchoring and adjustment** (Kahneman & Tversky, 1974). The use of BI aims to counter personal biases, and by offering an alternative to human judgement of probability, value or quantity. As established earlier, BI is based on data analysis, subjected to rules of statistics to ensure sounds and unbiased results.

Unintentional biases as a result of heuristics are not confined to persons without prior knowledge of basic statistics. The resulting biases occur even when people are being rewarded for coming up with the most accurate answer; hence it is not attributable to motivational efforts either. The use of heuristics is documented even in cases of experienced researches that are prone to the same biases when thinking intuitively. Even persons with experience in statistics, who avoid elementary errors, experience that their intuitive judgement is liable to the same biases when dealing with more complex and intricate problems (Kahneman & Tversky, 1974). This raise an important notion that even persons used to the rules of statistic and the use of data are to be aware of the danger of biases due to heuristic and intuitive reasoning.

The use of heuristics is a way to simplify complexity, and it is a process that happens unintentionally. The next sections will explain the different biases and how they each may lead to systematic biases. It is important to note, that the heuristics are working systematically, the

processes can be coherent, and that is why they may lead to systematic biases, no matter how effective they may be at processing knowledge.

5.4.1 Representativeness

What is the probability that object A belongs to class B? Or what is the probability that event A originates from process B? Or what is the probability of process B creating event A? When answering such a question people often rely on the representativeness heuristic, when probabilities are evaluated by the degree that A is representative of B, **or people tend to predict the outcome that is most representative of the input.** This approach, however, leads to errors in judging probabilities since representativeness is not influenced by several factors hat should affect the judgement of probability (Kahneman & Tversky, 1974). For one, this includes *insensitivity to prior probability* of outcomes, meaning the base line frequency of the outcomes. In estimating the probability of object A belonging to class B or class C, the base line frequency of class B and C should be considered before the similarity between A and B and C. When a description is accompanying a probability assessment the base line frequency is effectively ignored, even though this description might be totally uninformative. When A is described in ways similarly to B, one would ignore that the base line frequency of C may be many times higher than for B, and thus wrongfully assess that the probability of object A belonging to class B is greater than the probability of object A belonging to class C (Kahneman & Tversky, 1974). *Insensitivity to sample size* is concerned with the problem that people tend to believe that a small sample size will most likely have the same properties as the population. This is not true, since statistically a smaller sample size will be more sensitive to exceptional outcomes (Kahneman & Tversky, 1974). *Misconceptions of chance* is the bias where people tend to expect that a sequence of event generated by a random process will represent the essential characteristics of that process even when the sequence is short. An easy example is that people think that every other toss with a coin should be heads and the others tails. This leads to the false presumption that after e.g. four tails in a row, then heads is due. This is labelled the *gambler's fallacy* and this would assume that chance would be a self-correcting process, but when dealing with a long sequence, deviations are diluted. Misconception of chance is not limited to inexperienced professionals or naïve subjects. It has been proved, that even experienced research psychologists believe that samples of small numbers are highly representative of the populations they are drawn from. They expect that a valid hypothesis about a population will be represented in a sample, with no or little regard for this sample size. This leads to an

overestimation of the results of small samples and the replicability of the results. This bias leads to an over interpretation of findings (Kahneman & Tversky, 1974). *Insensitivity to predictability* is concerned with the problem of overestimating the predictability of a certain outcome. Such a prediction is often made up by representativeness, and often driven by description that is very favourable. However, the positive description of the described prediction has nothing to do with the accuracy of the prediction (Kahneman & Tversky, 1974).

Illusion of validity is the unwarranted confidence produced by a good fit between the predicted outcome and the input information. An example is that people feel more confident in predicting an outcome based on an input of pattern. This pose a statistical problem concerning correlations since patterns are often observed when inputs that are redundant or correlating, polluting the result. In statistics result are often of higher accuracy when they are independent of each other. This leads to a situation where accuracy decreases when using redundant or correlating inputs, which at the same time are boosting confidence in the result (Kahneman & Tversky, 1974). *Misconception of regression* is the notion of regression toward the mean. When a variable is extreme the next observation will regress towards the mean. This phenomenon is highly documented, and the issue is that people develop wrong intuitions about this phenomenon. First, people do not expect regression towards the mean in many contexts where is it bound to occur. Second, when people recognize it, they tend to invent incorrect causal explanations for them. This leads to an expectation of an output to be as extreme as the input due to representativeness (Kahneman & Tversky, 1974).

5.4.2 Availability

The availability heuristic is concerned with situations where individual assess the frequency of a class or the probability of an event by the ease of with which instances or occurrences can be brought to mind. Availability heuristic can be an effective tool assessing class or frequency since larger classes are usually recalled faster and easier than smaller and less frequent classes. The reliance on availability, however, may lead to systematic biases because availability is affected by other factors than frequency and probability (Kahneman & Tversky, 1974).

Biases due to the irretrievability of instances occur when the size of a class is judged by the availability of its instances. A class where the instances are easily retrieved will be judged as more numerous than a class where instances are more difficult to retrieve. These judgements will be based on the salience and familiarity of the instances. At the same time recent occurrences may be retrieved with more ease than earlier occurrences (Kahneman & Tversky, 1974). *Biases due to the*

effectiveness of a search set are due to the circumstance that different tasks produce different search sets. These search sets are the properties of how instances and occurrences are searched for and retrieved. The bias is produced when frequency is assessed based on the search set, rather than objective probability (Kahneman & Tversky, 1974).

Biases of imaginability occur when one has to assess the frequency of a class and its instances are not stored in memory but can be produced according to a given rule. Then several instances are created and frequency and probabilities are evaluated by the ease with which the relevant instances can be constructed. The problem is that ease of constructing instances does not necessarily reflect their actual frequency, which may lead to biases (Kahneman & Tversky, 1974). *Illusory correlation* is a phenomenon of perceiving relationships between variables (e.g. behaviours), when no such relationship exists. The illusory correlation effect is extremely resistant to contradictory data. The availability heuristic accounts for illusory correlation effect since the judgement of how frequently two events co-occur can be based on the strength of the associative bond between them. This can be seen in the way stereotypes offer this associative bond, leading to false correlations between variables (Kahneman & Tversky, 1974).

5.4.3 Anchoring and adjustment

When people make estimates they usually start from an initial value and adjust this value to give a final answer. The initial value may be a part of the formulated problem or may be the result of a partial computation. The difference in starting point leads to different estimates of same problems, resulting in estimates that are biased toward the initial value; that is the phenomenon labelled *anchoring*. *Insufficient adjustment* occurs when an estimate is insufficiently adjusted from the initial value. The resulting anchoring not only occurs when the starting when an initial value is given as input, it also occurs when the estimate is made on the base of an incomplete computation.

Biases in the evaluation of conjunctive and disjunctive events describe how one is prone to overestimate the probability of conjunctive events and to underestimate the probability of disjunctive event. The over estimation of conjunctive events is best described by having a series of events all with the success rate of 0.75. This is a good probability rate by itself, but when having three conjunctive events of 0.75, the actual probability is actually (0.75 x 0.75 x 0.75) around 0.42. The over estimation is due to the anchoring of the starting point of the event which is 0.75 in this case. In real life this may lead to an over optimism in the evaluation of the likelihood that a plan or project will succeed or that the project will be completed in time. The underestimation of

disjunctive events can be described with a complex system made up many different components. These components all have very small probability of failing, but if just one fails, so does the whole system. The underestimation of failure is also explained by the anchoring of the initial probability that is very low, even though the probability of the system failing may actually be quite high.

5.5 Conceptual Framework

In order to study how BI is used in decision-making processes, at a record label, when signing a new act, the different kinds of decisions made in these processes must be explicated. Sharma, Mithas & Kankanhalli (2014) impose two sides of the problem. How does the use of BI influence organisational decision-making process? And how is the use of BI influenced by organisational decision-making processes. These two perspectives describe the symbiotic connection between organisational decision-making and organisational use of BI. A decision is made at the end of deliberation, and signals the commitment of specific and complementary resources to a chosen course of action (Sharma, Mithas & Kankanhalli, 2014). Through analysis of the interviews made at Sony Music, I will explore the different decision-making processes occurring when signing a new act. These phases will be structured due to the organisational structure of the decision-making process. This includes determining who decides what and how, and is it decided at a **strategic level** or at an **operational level**. The decision-making process will lead to a decision after deliberation and human judgement. Decision-making processes like resources allocation processes and resource orchestration processes need to be better understood in order to understand how organisations can benefit and create value from the use of BI (Sharma, Mithas & Kankanhalli, 2014). The phase (or task)[1] can be either **ill-structured** or **well-structured** based on the level of uncertainty of the decision outcomes. This means if it is to some extend decided what form the outcome will take beforehand. The outcome of marketing plan may be uncertain when assessing the success of the effort undertaken, however, the structure of the task dictates that the outcome at least will be a marketing plan. The other way around, the task of discovering a new music may not end with the record label signing the act. The task and decision-making processes has no outcome, and the outcome, thus being described as an ill-structured phase. With in a chronological order, the different distinctive phases of decision-making, starting with discovering a new artist and ending with the evaluation of the performance of the artist after release, will be subjected to analysis. The chronological "end-phase" construction is chosen, because the next step for the record label to make would be the assessment of releasing more music with the given act, thus not being a new act anymore.

When the phases of decision-making processes are determined, two themes will be explored. When is BI used to make decisions and when is human judgment used in order to make decisions? The use

[1] The distinction of phase is the description of a task carried out through time

of BI, or the choice of not using BI, will be explored through a distinction between the **technical** and **managerial** dimension of BI. The use of BI assumes an analytical process driven by data. This means gathering data about a specific problem and analysing that data. This study will mainly focus on the managerial dimension of turning raw data into BI, but it will be taken into account which technical measures has been taken by Sony Music Denmark, since the technical means of handling and storing data affects the next concepts which are concerned with **data quality** and **data consistency** also. Issues with data quality and data consistency may lead to erroneous or ineffective decision-making. Since BI depends on gathering data and analysis of the data the quality of that data and the consistency of that data is crucial in order to obtain valid insights. Therefore it is argued that it will effect the decision of when and how to use BI in decision-making process at Sony Music. Data quality it concerned with the **accuracy**, **relevancy**, **representation**, **accessibility** of the data, while the aspect **data consistency** is the inherent features of the data making it uniform across platforms. The concepts of data quality are crucial factors in the transformation of raw data in to BI since these are concept affecting the understanding of the causes behind statistical patterns, trends and relationships that are critical in order to undertake actions that generate value. (Sharma, Mithas & Kankanhalli, 2014). Problems with data consistency often arise from data analysis both concerned with **internal** and **external data**. The aim of data analysis is to generate insights that into strategic and operational decisions that can create value. The data needs to be interpreted. This includes a process of human judgement of the data driven insights thus it is important to explore how human judgement is connected and affecting the decision-making processes.

In human decision-making people rely on heuristics to assess and estimate values and quantities when making decision where outcomes are uncertain. The concepts chosen to explore the human sense making are the **heuristics – representativeness, availability and anchoring and adjustment** (Kahnemann & Tversky, 1974). The use of human judgement is detected when people refer to decisions based on their intuition or their experience. Furthermore, the literature regarding heuristics claim that some biases occur even when persons are presented with data disputing the initial assumption produces by heuristic thinking. This opens for the discussion of how data may be used as a tool for correcting biased assessments, or maybe disregarded, since it is deemed to be incorrect.

When it is determined how human sense making and BI are used in the different decision-making phases the analysis of the relationship between the two concepts, or the mix of them, used to make

decisions and what are the relating issues, based on the concepts of **heuristics** and **data quality** and **data consistency.**

The findings of the analysis will then be discussed in comparison to the literature and research already done in the area concerned with the use of BI for better decision-making.

6. Case company: Sony Music Entertainment Denmark

Sony Music Entertainment is the second largest record label in the world, with branches across the globe. One of these branches is Sony Music Entertainment Denmark (here after Sony Music) (http://www.sonymusic.dk/om-sony-music/, 28/8/2014). To adequately describe Sony Music, it is necessary to give a short description of the Danish record industry. IFPI Danmark is the Danish branch of the worldwide organisation IFPI and its members are accounted for 95% of the turnover in the Danish record industry. According to IFPI Danmark, the Danish market has seen a decline from an annual turnover of 535 mil. DKR. to 408 mil. DKR in 2012. In the bigger picture, the turnover at its highest in 2000 was 1.151.585.000 DRK (http://www.ifpi.dk/?q=content/n%C3%B8gletal, 28/8/2014). However, the decline has stopped, and the industry experienced a growth in turnover at 5,2% compared to 2012, ending the year at a 429 mil. DKR. turnover. This has been helped by a constant growth in the turnover of digital sales and streaming – from 123 to 278 mil. DKR. from 2009 to 2013. The transformation from a market driven by physical sales to digital sales and streaming is obvious. Steaming accounted for almost 40% of the turnover in the industry, presenting a growth of more than 300% from 2011 to 2013 (IFPI Danmark, 2014). Comparing Sony Music to the two other major record labels present at the Danish market, Sony Music has seen a drop in market share from 2009 till 2013; however, from 2012 to 2013 Sony Music saw a growth in market share once more.

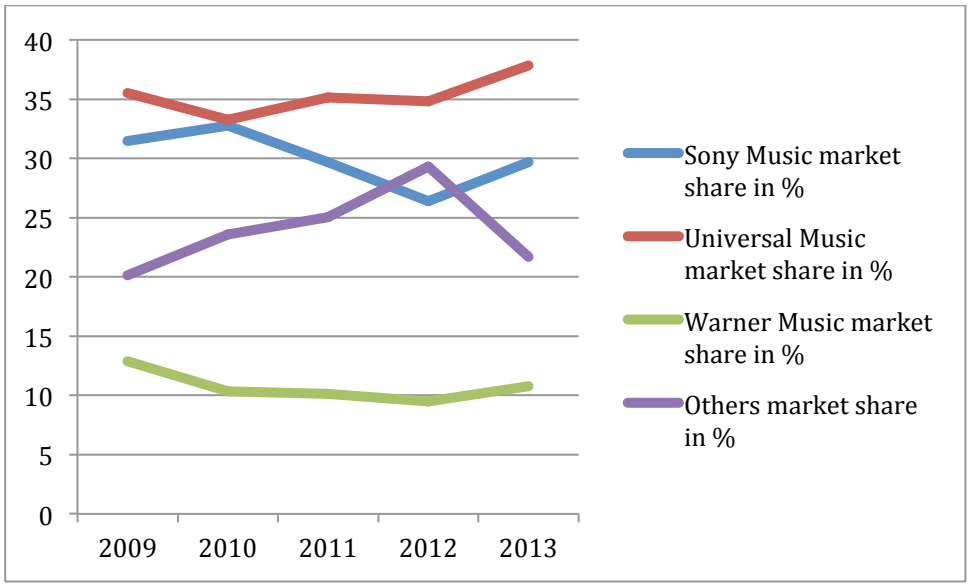


Figure 1

Looking at profit before taxes, Sony Music is presenting huge deficits in all years except 2011. The ability to turn a profit has been poor, but across the three companies the earnings before taxes have unstable and declining. These findings indicate that Sony Music is a representative major label that has issues with profitability, like other major record labels.

Sony Music market and sell both Danish and International releases. Sony Music produces the Danish music also. Sony Music has several sub labels, both Danish and International. The Danish ones are Disco:Wax, Mermaid Records, Genlyd and Sounds of Copenhagen. Sony Music owns shares in these record labels and distributes the records as well. This study will only be within the main label Sony Music. Sony Music has 35 Danish artists signed at the record label, at the moments, and those artists represent a broad spectre of different music styles and genres (http://www.sonymusic.dk/region/denmark/, 24/9/2014). As of the moment, Sony Music also distributes and market 24 International artists, resulting in a grand total of 59 artists to manage. During the period between May and September 2014 alone the record label has released more than 20 records of various types. This amount of releases has occurred during the summer time, which is usually low on new releases because of the summer holidays.

According to the Sony Music webpage the organisation currently employ 39 employees, both staff directly concerned with the production and marketing of music and administrative staff. These employees are divided into nine departments. The structure at Sony Music is a flat hierarchy, with the department Management in the top.

The Management department consists of the Managing Director and the General Manager/Financial Director. The Managing Director is mostly concerned with the artistic vision and strategy of the company, attending meetings with the A&R group discussing and evaluating on new music to release. The General Manager/Financial Director is in charge of the administrative and economic issues of the company. In that sense the Management department construct is a classic division between the creative tasks and the humdrum administrative tasks in a creative organisation.

The A&R department is concerned with finding new music, signing contracts with new acts, making the music ready for release, and in general being the link between the act and the rest of the

record label. They decide with the Managing Director, which acts to sign, and also develop the vision of the acts in collaboration with the act.

The Administrative department is concerned with administrative work throughout the office. This includes the reception through which all phone calls are directed, all formal inquires from outside is made, and who sorts through both the official mail and email stream.

The Business Affairs department is the legal advisors of the company. They provide legal advise on general issues and also specific copyright issues. They also tend legal matters regarding financial issues with creditors and debtors.

The Commercial department is concerned with the sales of music. This includes coordinating the sales, managing the sales, managing the catalogue of both new and prior music releases. The department also develop new business opportunities – such as product endorsements or compilation albums concepts. The decisions made are; how to sell the product on the different sales channels. In this department are the Product Managers also. The Product Managers are concerned with the content creation surrounding the product. This may be the right content to post on Facebook, the construction of the narrative around the artist, the music videos etc. These decisions are made in collaboration with both the A&R managers and the communications managers.

The Marketing and Communication department consist of Communications managers, Radio & TV promotion managers, and the Senior Communication & Project Manager. This department focus on promoting the content already decided upon. This means promotional efforts regarding TV, Radio print, and Facebook. However, it is the Direct to Consumer Manger in the Digital department who is in charge of the Facebook pages of the bands, but the main Facebook page of Sony Music is controlled in the Marketing and Communication department.

The Digital department is concerned with the digital platforms from which the music of Sony Music is distributed. The decisions made in this department are which platforms to engage with, and make sure that all content is the same across the platforms. The Digital department also makes inputs on where to digitally distribute music. The Direct to Consumer Manager is concerned with the

communication and co-creation of product through Facebook. It is also the Digital department that is in charge of the Sony Music Web shop.

The Finance Department consist of a Royalty Manager and a Financial Controller. The Royalty Manager ensures that every person or company entitled to royalty funds based on the streaming and sales of Sony Music get the entitled money. The Financial Controller ensures that the budgets are correct and followed and is concerned with controlling expenditures and that they are correctly reported.

The IS&T department consist only of one manager who is responsible for the IT systems. He has to ensure IT equipment throughout the organisation and make sure that everybody is connected to the intranet and the databases used by Sony Music.

These are the settings of which the following analysis is carried out.

7. Analysis

7.1 Discovery

The phase of discovery is the phase where new music is discovered outside of Sony Music. The decisions made in this process are regarding whether or not to engage further with an act, with the interest of starting a contractual negotiation process. This process is highly uncertain and ill-structured, however, the two interviewed A&R manager's had different approaches towards the process and tools to deal with the task. The discovery phase is strictly residing in the A&R department, and mostly is concerned with the three A&R managers. Every Monday the three A&R managers at Sony Music have a listening meeting, where they have an hour of listening what music has come into their possession. After that, they have a formal A&R meeting with the managing director Henrik Daldorph, so if something interesting occurs they can discuss it right away, and give each other feedback. This is the formal, and somewhat structured work process of the discovery phase. Preceding the A&R meetings is the process of actual discovery. This phase has no formal structure.

"It is almost impossible to name the typical way of discovery"
(Interview, Kjærgaard, 4:00)

There are numerous ways and possibilities for the music to reach the A&R manager. These are labelled *modes of discovery*. It is possible for bands interested to get their music to the A&R managers by submitting it by email. The music is then divided and distributed among the A&R managers who listen to all the music that comes through this channel. This can be described as one of the more "old-school" modes of discovery. Another mode of discovery alike is the A&R manager going to live concerts and festivals. This mode of discovery has the advantage that gatekeepers[2] have already curated the music. Some festivals and venues are better than others. René Cambony argues that Roskilde Rising (stage at Roskilde Festival) and Vesterbro Festival are good examples festivals where talent may be spotted. He is on the committee of making the music program for Vesterbro Festival, giving him an opportunity to see the live performance of an interesting band. Networking is a mode of discovery where the A&R manager receives inputs from

[2] Gatekeepers are tastemakers or industry affiliates who affect the public reception of the music e.g. a radio host.

his network within the music industry. René Cambony describes the process of signing Fallulah (female Danish singer):

"I can give you an example with the case of Fallulah. That was a producer who had produced two songs of hers, paid for by her, and he thought that she was really good, and told that to me. So I got three songs by her and was listening to them, a got caught by it straight away, but I had to listen to it a lot of times and then it grew on me, and then I started realising that there were some different in her musical expression. One of the songs was very pop and another that sounded very indie. And I liked the indie approach that she had to the music, because that was more original and still melodic, and therefor still would engage people." (Interview, Cambony, 4:12)

The network mode of discovery has the advantage of having a gatekeeper curate the music and singer(s). New modes of discovery are all concerned with the use of the Internet. Mostly, the Internet and digital music allows for the A&R manager to find and listen to the music of a specific act at anytime of the day. Facebook and other social media such as Soundcloud are sources for listening and finding new music. Most music blog's and also Soundcloud are connected to Facebook. Through Facebook most discovery happens through the newsfeed. For A&R manager Mads Kjærgaard, who uses Facebook the most for discovering new music, this means what he can see on his personal news feed in Facebook, or the stream of information delivered through the "ticker" which is the news stream of his networks doing on Facebook. If he sees something that interests him:

"I will engage if I feel that I want to hear more" (Interview, Kjærgaard, 4:22)

Facebook is also an expression of curated content. It is dependent on the personal network of the A&R manager and dependent on the algorithm curating the content in the newsfeed.

The individual A&R manager then assesses the music found through the different modes of discovery before it is presented to the others in the group and before discussing the music with the Directing Manager. In order to understand how decisions are made regarding whether to engage with a band of not, the process of assessment of the music needs to be examined.

The main technologies used for discovering the music is the internal email system regarding the demos, Facebook, Soundcloud and music blogs on the Internet. The email technology is a substitution for the old process of delivering a physical demo (tape or CD) and as a technology it enables a one-way communication between the artists and the A&R managers. Facebook, Soundcloud and music blogs represent a more exploratory mode of discovering new music. Facebook and Soundcloud are social media platforms while music blogs are gatekeepers because the curate music and present it on their blog. The technologies comparable to human networking, and in fact resemble this process a lot. Social networks enable persons to communicate online disregarding geographical and temporal constraints. As a tool for discovering music it does present the same constraint as analogue networking, that you do not know what you do not know. If a producer, who does not reside in the network of the A&R manager, finds a great song, band or a singer, this information will not be passed on to the A&R manager, preventing him from discovering the act. The strength of Facebook as a social media is that it allow you to see the activity of you friends, extending you network to the friends of your friends. This process may be opening up for new discoveries, but the connections may be informal, while analogue network may reside on trust in the judgements of the network. It is argued that the size of the Danish market is too small for good music to go undetected.

> "I rely on myself, that I will discover the music if it is out there, or that people will turn to us if they have something good. I have a hard time recalling any stories about any music that was really good and never got a chance. Our country is too small for that to happen. The network of the industry is too tight for something good to go undetected."
>
> (Interview, Cambony, 17:14)

The strength of the online tools is the *availability* of information, here being the music and the surrounding information about the artist or band.

How do the A&R assess the music, and the information regarding the act? The two A&R managers refer to different processes of assessment. A distinction between assessments based on human judgement solely and decision including data is made. First is the use of personal taste as the lever for the taste of the market.

"If I think something is good, then there is probably a lot of people who think it is good." (Interview, Cambony, 5:20)

Good music has to contain different qualities at the same time according to the A&R manager. It has to capture the attention of the A&R manager. This means that the music should be melodic. It should be original also. It should include great vocal performances. The matter of production or the band playing "tight" (musically) is an issue that can be addressed later on in the studio.
This way assessing music invokes the representativeness heuristic. When the A&R manager listens to the music of an act and the outcome is that he likes the music. He assess that when the market listen to the music, it will evaluate the music as good as well, thus the A&R manger's taste is assessed as being representative of the taste of the market. This may lead to the bias that the base-line frequency of sales successes in the music market is rather low. One can argue that huge amount of failure is a given for the record industry, but one could also argue that this process of assessment leads to systematic bias across the industry that leads to the low base-line frequency as a result. One observation is that the use of personal taste as a tool for assessment is the quest for something original that seems to invoke the concept of *gambler's fallacy*. That when a band or artist does not experience success, chance is that someone will recognize the music, that by rules of chance, his assessment of the music will be representative of somebody else's assessment.

"I have just made a rock band named Lovespeed. I think they have the most amazing singer, the best I have heard in many years coming from Denmark, it really affects me emotionally and it gives me the chills. The record has just been released, and it doesn't seem to be picked up by anyone. But I wouldn't be surprised that at some point somebody is feeling the same way about it as I do. And that person might be working on a TV-show, or a movie, and then we might get back in business.
(Interview, Cambony, 32:24)

The A&R managers, in general, do not include others in this assessment process, except the other A&R mangers, when they have their weekly listening meetings. This is often because the music is not representative of the final product. It is difficult to get opinions from people who are not A&R managers when the music is still a demo with poor sounds quality. The demo does not reflect the vision of the A&R manager. The listening meetings can also be described as a tool for uncovering

biases as the result of their personal judgement, since it will then be the collective judgement of the group. The meetings are at least an acknowledgement of the need of having more than one person's judgement, when deciding whether to pursuit the opportunity of negotiating a contract with the act.

Another aspect related to the heuristics of representativeness is the *illusion of validity.* The illusion made is that good music sells. If the A&R manager base the decision of engage with an act based on the personal assessment of what is good music and that good music sells, then all the music they would release would be selling. This observation is obvious, but it is still interesting, since the subjective evaluation of music in market tells that it is not an objective assessment. The conviction at Sony Music is that their role in the market is to secure quality. The competitive advantage both in terms of a market where everybody can make and distribute music, and in terms of differentiating Sony Music from the rest of the Danish record labels.

> "We take pride in thorough A&R work here at Sony. We are responsible for the first input in the value chain. It is our legitimisation within the market. The structure of the market is flat and the amount of music is huge, everybody can produce at home in his or her bedroom. Everybody can play music and everybody can distribute it. […] We, at Sony Music, are offering a service to the artist. We collaborate with the artist and give them feedback in order to make the music as good as possible, so we believe it can be differentiated and claim a spot in a saturated market."
> (Interview, Kjærgaard, 12:14)

The personal assessment, stated earlier, included the parameter of *originality*. Originality is a concept difficult to grasp. It usually imposes some element of novel and authenticity.

> "They have [Anthony&Jasmine][3] always been directly comparable with something else, then it is not that original." (Interview, Cambony, 30:56)

Human judgement of originality may invoke the heuristic of *availability*. Originality only exists if it is not directly comparable to something. The heuristic of *availability* is efficient is the way that the A&R manager can quickly assess if the music is too familiar. On the other hand, the heuristic may

[3] The winners of the Danish version of X-Factor.

lead to bias due to irretrievability of instances. This judgement is based on the familiarity and salience of instances alike that can be brought to mind. So when the A&R manager is actively looking for music that is original, and by that, not directly comparable, it will become inherently difficult to retrieve comparable instances from own memory.

"I like to find something else than the rest of it, but that is still good."
(Interview, Cambony, 31:43)

"When I listen to as much music as I do, the music really has to stand out to stand out. So when something is capturing my attention, then that animates me. "
(Interview, Cambony, 29:28)

The demand for originality divides the process of the two A&R managers interviewed. While one do not like to turn to foreign artist for clues impending trends, the other use the foreign hit list as data input for signing an act.

"One can make hit singles quickly which are signed at Sony because there is a trend in the market. Now it is this kind of music that is hot. We can see that this kind of music is breaking at BBC1 at the top ten. We at Sony, of course, have to seek exploiting this opportunity in the market. This kind of decision is more strategic. This signing may not be sustainable over time, but in the short run we might get a commercial success."
(Interview, Kjærgaard, 15:22)

Even though this process contains the input of sales data from the hit list, the decisions if a band fit into a trend, the assessment of the music is still based on the above-described heuristics. The demand for originality, however, does not apply. This is deliberately not original in the sense described earlier. The decision of signing an act in the pursuit of short-term profit apparently happens at the expense of quality – since quality music is the music that prevails in a long-term perspective according to the same A&R manager. The issue at stake seems to be the window of time from picking up on a trend to be able to release music while it is still a trend. The task of finding an act fitting a certain trend seems to be a "better" structured task. There is, based on foreign sales data, a pre-decided concept that the band must be compatible with. So the outcome of

the task is either to find such an act or not. However, the process of whether a band is compatible with a certain trend is often based on the assessment of music *genre*. The implications of this kind of assessment will be explored later on.

A more data driven analytical approach of discovering artists is confined to bigger markets like UK or the US, according to Mads Kjærgaard. He may use Soundcloud and the number of followers of an act, to compare to other similar acts. This process is labelled benchmarking and the properties of that particular process will be discussed later on. Acts with many followers on Facebook and Soundcloud are interesting since they are getting attention for people, which means that the market is responding to them to some extend. The issue, of using follower or likes as a measurement tools, is that computer generated profiles may very well inflate these numbers. Or the people who likes or follow may not reside in Denmark, thus not be in the target audience. This is mainly a problem of *data accuracy*, but one of the more obvious problems that can be prevented by analysing the numbers. The A&R managers do not use data from streaming services since this would require the music already being released. This kind of data is not deemed relevant for this phase.

Relevance is one of the key issues when assessing the music or the different inputs the A&R manager may be faced with. René Cambony labels this unknown factor as "zeitgeist". Some music might work today but he describes that it would not have worked three years ago. It is attributed to larger societal changes - e.g. the Internet and technological inventions. The meaning of the music changes over time. It is a gut feeling telling him that it works **now**.

> "It is difficult to tell what defines an era when you are standing in the midst of it. That's why it is all about the hunch." (Interview, Cambony, 19:18)

The gut feeling, or intuition, as an assessment tool has been explored through out this section. The heuristics of *representativeness* and *availability* were observed as assessment tools. This may be due to the unstructured nature of this phase. When the A&R manger had a structured task of finding an act within a certain genre to exploit a trend in the market, this assessment is based on sales data from the UK or US market. In general it is the perception that quality music prevails in a long-term perspective while the pursuit of trends is a short-term exploitation. Technologies such as Facebook and Soundcloud are enabling the networking possibilities of the A&R manager, but the data tools

provided by the services are not exploited in terms of the decision-making process of further engaging with an act. The reason why seems to be an assessment that the market in Denmark is too small, but also a choice that to some extend seem deliberate:

> "In Denmark it is about the music and the artist. We do not look at the numbers that much - then it will be too much about the numbers and not about the music."
> (Interview, Kjærgaard, 31:57)

It is also seems to be a matter of the A&R manager not wanting the music to be reduced to number and analytics.

> "To me it is about feeling and sensing, to be able to listen and decide if the music is something special. You can't describe it. You can't write a book about it. It is a feeling. Then you can go be analytic and try to analyse the music, but then you lose some of the thing that makes... yeah, why is music good sometimes? It is hard to explain"
> (Interview, Kjærgaard, 32:15)

When the A&R manager decides that the music is of a certain quality worthy to engage with, he makes contact to the band and the next phase labelled *negotiations* begin.

7.2 Negotiations

The phase of *negotiation* is a semi-structured phase, where, after negotiations with the act and deliberations internally at Sony Music, it is decided whether or not to sign a contract with the act, and what terms constitutes the contract. The phase is uncertain because the outcomes are difficult to assess. This phase mainly resides in the A&R department, but include inputs from more organisational staff from other departments. The process begins with inviting the act to an informal meeting. The A&R manager starts a dialogue with the act, and listens to more music by the artist or band. For some time it is a possibility just to exchange ideas about the music in an informal manner. If they can agree upon a joint vision for the music and a direction for the project, then they will sit down and negotiate a contract. The negotiation of the vision and direction is the ill-structured part of this phase, while the actual contractual negotiations are based on well-structured decisions processes. The contractual negotiations is regarding with the final product. The music product may be a track, an EP or an album. This has to be decided with the act. Based on the expected output budgets, recording budgets based on the need of the music envisioned, marketing budgets are made. They make a monetary assessment balancing the cost of the project with expected sales, matching economic input with economic output. This information is the base of the contractual offer made by Sony Music to the act. Before signing the finished contract informal assessments are made by other departments within Sony Music. This does not mean passing on the music necessarily. As described earlier, the music may still be a demo (poor sounds quality), and not be representing the vision of the band and A&R manager. Usually the A&R manger briefs the product management and promotion staff about the artist. This includes telling them which kind of artist they are, what the lyrics are about, how the act looks like, and what the act's personal story is. Then the departments provide inputs, if the press will go for the story, or how to turn this act into a good story. The digital manager provides an input if the digital platforms are ideal for this kind of artist. It is an economic estimate based on type of artist and genre. In the end the decision to sign the act is made. This decision of course also is made by the act.

"The artist is choosing us as much as we are choosing the artist"
(Interview, Kjærgaard, 4:53)

The *negotiations* phase will be divided into two: the ill-structured part of finding a common vision for the product, and the more well-structured part of negotiating the contractual terms of the collaboration between the act and Sony Music.
When the A&R manager(s) has decided to engage in informal discussions with the artist, so begins the process of creating the vision, the final product and defining the act.

> "What are their competencies? What are they good at? Where do they want to go with the music? What is the vision? What is the goal? What are the expectations regarding the music? How should we position artist? How should the artist be positioned and differentiated within the market?" (Interview, Kjærgaard, 1:31)

This process is a collaboration process between the A&R manager and the act. The ideal situation is that the act has already an idea of how to answering the questions above. This is also an assessment of the act's will. But cases of the opposite have occurred:

> "The worst that can happen is to have someone who made a great melody but who don't have a clue about what the band should be named or what to do with the it. Then we will have to invent the band, and that never works." (Interview, Cambony, 12:18)

Sometimes the act delivers music that is already made, meaning that they have had production done on the own expense before engaging with the record label. In order to facilitate the contractual terms a process of "defining" the artist begins.
Defining the artist is a process of matching the music and visions to the different possible products that Sony Music can produce. It is also the base of the marketing planning made for the act through the concept of benchmarking. This is a process that has some interesting qualities to it, and these will be explored later on.

> "What is the essence of this artist? Does it make sense for me to benchmark this artist against some big English artists or should I benchmark against a trend in southern Europe? So first we define the artist and to be able to benchmark against similar artists and their ways of working. And that is of course something we do a lot. It may be somewhat a more strategic marketing tool." (Interview, Kjærgaard, 18:57)

The definition of the artist is related to market and genre. If the act is singing in English the competition is not just other Danish acts, but every act that sing in English. If the act is a pop artist singing in English, then the competition is who is no. 1 on Billboard[4]. While the pop artist sings in Danish it is competing only on the Danish market. The assessment on the music being able to compete in the market was based on the concept of originality but also genre. Music that has similar traits is deemed to be within the same genre, and is a mechanism of identifying the market and competition. The term "genre" is highly debated. Wikipedia states "A **music genre** is a conventional category that identifies pieces of music as belonging to a shared tradition or set of conventions." (http://en.wikipedia.org/wiki/Music_genre, 12/9/2014). Genre is a structuring mechanism. When the A&R manager assesses the genre and the possibilities of the music it is a mechanism that may be invoked subconsciously in the discovery phase. But it is not a sorting mechanism that is expressed until the A&R manager and the act is negotiating the vision for the project.

The assessment of music genre is a way to cope with the uncertainty of the market evaluation and displays the use of representativeness heuristic. First, it is based on the assumption that if the music is similar to some other music within the same genre, then the outcomes may be similar as well. This is not said explicitly by any of the two interviewed A&R managers but is based on the reasoning in the last quote containing the phrase "So first we define the artist and to be able to benchmark against similar artists and their ways of working". This kind of assessment seems to be devoid of any use of data. It is a purely subjective judgement if the music of an act is believed to belong to a certain genre. It is also contributed to the acts own definition of the music. Even if the A&R manager can sense a market opportunity, but the act does not feel comfortable with the opportunity this is not further pursued. Sometimes, the record label may use the direction of the vision as a competitive advantage over other record labels trying to engage with the same act. When Fallulah was invited to a meeting at Sony Music the other record labels were interested in the potential of her mainstream pop songs. René Cambony was interested in her other material, which had an "indie" sound to it. He contributed her signing to Sony Music to her being more interested in producing those songs rather than the mainstream pop songs. What is interesting is that the term "indie" refers to music made by independent record labels, as opposing the major record labels.

[4] American sales list

One data input used by Mads Kjærgaard who uses social media to review the music in a given social context.

> "If you find an artist within a context, then the expectation would be that the artist would be successful on the same context." (Interview, Kjærgaard, 10:06)

This is a process of evaluating the music within the social context in which the music originates. This is a more data driven decision making in order to establish genre, since it is a way to observe how the social context evaluates and labels the music. The data is loosely gathered to see how a social platform react or describe the music. The problem of this process is that the data is not necessarily *representative* for the social community as a whole. The advantage is that this kind of data is highly *accessible* and cheap (if not free). It could be argued that the *illusory correlation* bias may occur, but it cannot be established that this is the case. The A&R manager is aware that the success of the music in its native social context is not directly transferable to a larger audience.

The process of negotiating the actual contractual obligations is a structured task. Basically there is a budget that dictates the structure of the contract in order to make the project profitable. Many record releases are not profitable before the third release. Another aspect is the development of the music in collaboration with the artist is a timely affair. It may take several albums before a given artist claims his or her spot in the market. It may take 5 to 7 years to get there, and it may or may not be the intention from the beginning. Other costs incurred are those of recording, producing, marketing, manufacturing. Expenditures are based on previous experiences of what a given situation costs. The assessment is based on data stored in their internal reports and budgets.
The expected sales are an interesting assessment. Before any contract is signed the A&R manager inquire the other staff to deliver their inputs on the project. The A&R-manager usually describes the project and the different agreements with the band on the direction of the project. The assessment that the newly included staff have to base their assessment on is a description of the project and not the music it self, because the music is not finished yet in accordance with the vision of the A&R manager. The reason is that the music is not good enough yet, and therefor will give a bad impression:

> "It is not that good right now, but it will be." (Interview, Cambony, 16:09)

Based on the description, the employee, in this case the Digital Business Director will give an estimate on sales and streams based on the historical data of *similar* acts.

> "I get an inquiry saying, we are thinking of signing this artist, and they outline the artist features. We are at the stage of signing or not signing the artist.
> (Interview, Westi, 14:28)

The sales and streaming data used is deemed of good quality, and is accessible through their own sales system SAMIS. The A&R manager reaching out to other employees have the advantage of gaining inputs from expert in their respective area of work. Two problems occur within this process of work. First, the description of the band is a subjective assessment based on heuristics rather than data. So, in this case, the digital business director may do a correct and satisfying data analysis and a right assessment that will still be biased by the initial assumption that this analysis is comparable to other acts in the same music genre. The second problem is that the assessment is made on a subjective description of the project and the music. This invokes the heuristic of *anchoring*. This is not a process where an initial value is stated, but is a process where the initial input that is the base of the assessment is framed by the A&R-manager. This may lead to insufficient adjustment, in the sense that most music does not become profitable, so the estimate given by the digital business director may be too optimistic. This seems to be the case since the digital director cannot recall ever making an analysis with a negative outcome:

> "I have never experienced that we made an analysis on an artist that we believe in musically speaking because of the talent and who is believed to have commercial potential, and then the analysis stated that this is not going to be successful."
> (Interview, Westi, 25:13)

This means that the initial use of heuristics as the base of analysis of good quality data, still will lead to biased decisions. If this was not the case, more projects should be rejected do to analysis in accordance with the general rate of successes and failures on the market.

In the end of the negotiation phase a contract is signed or not. This both depend on the record label and the act. The design of this study prevents me from exploring the intentions and deliberations of the act. After signing the contract two phases will start. This is the phase of product development and the phase of marketing planning. These phases exists in parallel temporality. The phase of product development will not be examined in this study since these processes are concerned with content creation of the artist. The main decision residing with the record label is to assemble a team to assist the act in the production of the already agreed upon musical product whether this will be a full-length album, a digital EP or an exclusive vinyl. The actual inputs for the creation of the music lies outside the scope of the study.

The phase of *negotiation* is concerned with the defining the artist by defining market and genre, and on the base of these inputs creating a contract that reflects the assessed profits and expenditures. Defining the artist due to market, and genre, means to assess the competition of the music. Defining the genre is a process based on the *representativeness* heuristic, and aims to reduce the uncertainty of market evaluation of the music, by making a sorting mechanism for assessing possible profit outcomes. The assessment of profit outcomes based genre, relies on the project description given by the A&R manager to the given employee making the assessment based on data analysis of previous sales, downloads and streaming numbers. The project description is a process of framing the problem, and invokes the *anchoring* heuristic, which seems to lead a biased optimistic data analysis, since no project ever has been rejected. The uncertain and ill-strucutred task of defining the act and the market for the music invokes the use of heuristics, while the more structured task of constructing a contract involves cost estimations, and data analyses regarding the profit outcomes – however, these may be biased by the initial use of heuristic assessment framing the data analyses.

7. 3 Marketing planning

The phase of marketing planning is the phase where the marketing strategy is planned and executed. The process is concerned with "how to market the music" to the right audience. Unlike earlier phases, marketing planning involves the collaboration between several departments of Sony Music. It includes product managers from Marketing and Communication, Digital, Commercial and A&R. The marketing planning phase is a structured phase. The outcome will be a marketing plan and a record release. Many of the processes described in this phase are embedded work processes that are repeated, with room for customisation, when releasing new music. What is uncertain is the success of the marketing plan.

The marketing channels of Sony Music have been moving from old media such as radio, TV and print, towards social media and streaming services, but TV and radio still play a crucial part in getting the audience to know a new act. This analysis will not contain marketing made in print or journalistic effort or reviews in magazines. This is because these types of media do not deliver any measurable media inputs for further data analysis or they are mostly is concerned with the content creation, which is outside the scope of this study.

The decisions made in the marketing planning are which audience to target, how to target this audience, which marketing channels to use, and also how the music should be released. The latter refers to different release strategies depending on the vision stated in the negotiated contract. The marketing plan depends on the marketing resources allocated. The size of the investment is based on the assessment of predicted sales, and this is also stated in the negotiated contract. The assessment of making a marketing investment is done by structural analytical work is usually based on the already existing fan base of the act, which is mainly Facebook generated data. A given analysis will not be done until **after** the contract is signed. The assessment is based on the input and possible outputs from the different marketing channels. A distinction is made between data that is and is not generated from marketing channels. The analysis is constructed by analysing each channel and then outlines some general process across the channels.

7.3.1 Tools for Marketing Planning

First, however, an analysis of data input for the *marketing planning* that are tools used for the decisions regarding the rest of the channel, is made.

7.3.1.1 Segment Bible

A segment bible has been developed by Sony Music in order to map different types of consumer behaviour. This segment bible was made in collaboration with a research agency, which have processed the data that has been created on the base of the analyst's guidelines. It is based on cases originating in the Danish market. The different Danish artists of Sony Music represent certain audiences that are linked by their interest for a given artist. Representatives from that certain audience has then been interviewed in order to map their behaviour. An illustration of consumer behaviour:

> "Hipster exerts a certain kind of behaviour. They are often first movers and have a wish to be the communicator, but the music has to be credible, and you can not just package the product in a cheap way, because it needs to be credible in order for them to communicate the product to others." (Interview, Mariager, 13:23)

This kind of information is coded within the "hipster" segment. The segment bible then states on which channels this audience can be reached and how. In this case the product have to be exclusive in order for the hipster to deem it credible and buy it. The segment bible also states which companies and brands the certain kind of audience relate to. It has not been possible to give a more complete picture of the segment bible since Sony Music regard this information as confidential.

Sony Music buys customer data that is not digital. These data analyses are made by analytical agencies, which make "DNA profiles" on artists. This analysis brings forth information on the fans of a given artist. It describes how the fans are conducting themselves, who are the heavy users and what are their personal traits, and who are the people who enjoy the music but mostly just listen to the songs on the radio.

> "This kind of information is turned into a "digital bible" also when we have some bigger artists and a budget that can legitimize this kind of more in depth analytical approach." (Interview, Westi, 3:58)

When Sony Music orders an analysis from a research agency, they construct an inquiry, which the agency turns into a question that can be answered by their analysis method. Then the resulting data

is compared to the segment bible, so they can identify a given profile of the target customer, and see how this customer acts within a given channel. This is a comparison of the analysis result and an assessment of which segment(s) the act should target based on audience preferences.
This kind of analysis is strictly on case level. The use of this kind of customer analysis is restricted to acts with a certain potential or acts that have already proven themselves to be profitable.
It can be difficult to analyse on how this data analysis is done outside of Sony Music. Research agencies are usually known for using data of good quality and correctly construct representative groups for analysis.

7.3.1.2 Sales data system SAMIS and the Sony Music international social media tool

Sony Music has an internal sales system to monitor daily sales. This system both monitors digital and physical sales. This creates a database of historic sales data that can be explored and used for data analysis purposes. Daily sales reports are disseminated through out the organisation everyday.
This data is assumed to be accurate. The sales input and possible use of data is different from physical sales and digital sales. Physical sales usually come from retailers and also Sony Music's own web shop. This data can reveal consumption pattern on a geographical scale. The digital sales come with better quality of user data since the purchase on iTunes is linked to a certain person. iTunes also provides reports on consumption trends. This data is also deemed to be accurate, but it may be difficult to assess if it is 100% reliable since the user forms maybe be wrongfully filled out or not completed.

Sony Music International is providing a tool for analysis of social media data across different platforms. However, this tool has not been incorporated in Denmark to full and regular use. It is a platform that syncs data from the different social platform, sales channels such as Spotify, Facebook, YouTube and Twitter, Instagram and Soundcloud. The platform compares data across all Sony Music International's acts and then suggests which artists to benchmark up against based on similarity in the results of the data analysis. Since this tool is not used to full extent it has been difficult to established how it is used for decision making at Sony Music in Denmark. One example was given where the A&R manager would define a period of time and the application would graphically present the milestones of a given act and follow how this affected the numbers across the platforms. In this way they would plan goals for marketing based on the historic data of similar

acts across the organisation not alone in Denmark, but worldwide. The properties of social media data will be discussed later in this section.

7.3.2 Marketing Channels

The marketing channels will now be analysed. This are both used to push a product or advertisement, and at the same time delivers some feedback data in various forms.

7.3.2.1 Streaming services

Sony Music uses several streaming channels in Denmark to reach their target audience. The big players on the Danish streaming market are especially Spotify and Wimp. Other hybrids occur when TDC[5] deliver their own streaming service as a bundled perk with the aim of selling cable TV or mobile phone subscriptions. Profits from streaming services make up 70% of the total income of Sony Music. The streaming services, along other strictly digital channels such as iTunes, deliver a tool for analysis and gathering data concerning a given artist signed at Sony Music. This makes the data highly accessible.

> "Often it is within the portals own interest to make these tools in order for us to have a better cooperation. This way we know that Mads Langer[6] has to be released on this service because we can see that the target audience, that we know is listening to him, is present at that service. This way the services usually make analysis tool available." (Interview, Westi, 3:13)

The tools allow analysis aimed at marketing a given artist to the channel where the target market is present. The streaming services provide data concerned with the amount of streams, when is the music streamed, and who is streaming the music. The personal information is geographical information, age and sex. The level of customer information is restricted to the level of information given by the service subscriber. This leads to concerns regarding the *accuracy* of the data.

> "There are scenarios that sign-on's from Spotify can be misleading. The customer is asked to give information about sex or area of residence, but fail to do so. So the results

[5] Danish Telecommunications company
[6] Danish musician

of a customer analysis may be biased because the answer is not representative."
(Interview, Westi, 21:35)

The streaming services allow for real-time monitoring of Sony Music acts. The streaming numbers are like monitoring stock prices and the fluctuations are big on a day-by-day scale. This allows for real time monitoring of targeted marketing, and is concerned with the concept of *data accessibility*.

As stated earlier the use of in-depth data analysis concerning an act is a marketing investment decision based on the projected success of a given act. The introduction of the streaming services may allow for more in depth data regarding actual customer behaviour, but is still a novel work process. The Digital Business Director states his concern when having to assess this "new" kind of data.

"Since a lot of project are not profitable on the first or second release, you can not invest that many resources in acquiring an analysis at the cost of 200.000 kr. on a band that has just been signed, where the potential might be to have a turnover of 100.000 kr. The point of breaking even is now more difficult to reach because of the streaming services. While sales of CD's quickly made a picture of the profitability of an artist, this process might take more than a year when assessing the streaming numbers."
(Interview, Westi, 7:05)

This is an issue concerned with the *relevancy* of the data. It cannot be established yet which amount of streams is a criterion for success and how to use the more in-depth data for decision-making purposes without having to allocate too many resources. The argument is that it is cheaper to make an assessment of the act's potential by releasing music and then start the process by a structured data driven assessment. Another argument is that the Nordic countries have been market leaders concerning music streaming for the lasts couple of years. Many formal work processes of Sony Music are dependent on the tools and insights delivered by the international organisation. The hope is that the analysis of streaming generated data will pick up now that these services are being marketed and used in bigger markets such as the UK and the US market.

"It is still in the early days, a low level, in the music business when comparing the use of data analysis to other industries." (Interview, Westi, 6:40)

7.3.2.2 Social media

The structured use of social media at Sony Music is confined to Facebook. Twitter and Instagram data is deemed to be of poor quality and not accurate enough. Facebook is used to brand acts, to effectively market to consumer and to find new consumers. The product managers from the Commercial department, and the promotional managers from the Marketing and Communication department create the content for Facebook. Then it is the Direct to Consumer manager who communicates this content.

Sony Music uses a Danish social media-marketing tool named Komfo. The main purpose of the tool is advertising. This is used to boost posts made on the Sony Music Facebook page. This is a marketing cost. The tool is also used to make Facebook apps in order to make competitions, participation forms, and polls. This creates traffic on the fan page and creates awareness on the artist and the Sony Music Facebook page. The tool is used to schedule posts across more than 30 Facebook pages of artists, in order to keep an overview. Then they can calculate, when the best time to make a certain kind of post is. This use of Facebook is to create awareness of a given act, but it also allow for Sony Music to gain data and insights on the persons who chose to interact with the advertising. One way of doing this is make competitions regarding the acts, which generate interaction data in return. This process is also used in order to identify and reach out to new "fans" of the act. In order to enter a competition the user would have to like the Facebook page of the act but will sometimes be required to give up more personal information in order to participate. This can be geographic or demographic data such as age and sex. In order to identify new fans, is to analyse on the interests of the already known fans – people who "like" the fan page or have entered a competition, and target the artist to users on Facebook with similar interest. Interests are in this case "likes" of different pages. This kind of data is also used to analyse consumer behaviour of the fans, since it tells what the fans affiliate them with on Facebook. This kind of comparative analysis is done with the inbuilt analysis tool *Insights*. *Insights* deliver "insights" on the fan base of a given act's Facebook page administered by Sony Music. The setup is that the band usually controls the Facebook page alongside with the Direct to Consumer Manager. The data delivered by insights are geographical data, sex and age.

"This kind of data we use a lot. Especially for the marketing of a product, made by the artist, then it is super important to know, who to target the campaigns towards."
(Interview, Mariager, 7:43)

Another use of Facebook is co-creating product in collaboration with the consumer. Usually this concerns more established acts with an already established fan base. But newly signed acts usually come with a fan base, from which they can perform analysis regarding consumer behaviour. This kind of co creation is often the development of more exclusive products for the "hard-core" fans such as signed albums, vinyl, merchandise and other products that will not be available in stores. These products are sold through the Sony Music Web Shop. This is another way to collect more precise data on these hard-core fans. The data concerning geographical and demographic characteristics of the consumer, whether it is from the web shop or from Facebook is deemed to be accurate.

7.3.2.3 Radio

Even with the digital streaming services being popular, mass media radio still is very important in order to create awareness of a new artist. At Sony Music they have two employees who are concerned with radio promotion within the Marketing and Communications department. In Denmark it is only DR P3, according to A&R manager René Cambony that plays new music where there is an audience that subsequently will buy the music. Commercial radio stations does not play music by unestablished artists since they are depended on commercial revenue, and therefor can not afford not giving the audience what they want. This limits the choice of where to promote new music, but it is still important in creating awareness of a new artist. The data used to assess the performance on radio can monitored through the Airplay Chart (hitlisten.nu). This information is deemed to be accurate and valid.

7.3.2.4 TV

TV is used for advertising primarily, either as bought airtime or personal interviews in evening shows. One of the more successful and effective uses of the media is to get a song affiliated with a recurring TV-show.

7.3.3 Strategic marketing

The process of seizing the opportunity to get the Fallulah song affiliated with a prime time TV show illustrates one of the major changes registered by Sony Music. It is the need for being flexible in the marketing effort. Sony Music has registered a change in consumption towards streaming. This shift results in a longer period of time before the initial investment of the product is recuperated, since streaming royalty payments are smaller than those of sold CD's or digital downloads.

> "While sales of CD's quickly made a picture of the profitability of an artist, this process might take more than a year when assessing the streaming numbers."
> (Interview, Westi, 7:30)

As discussed earlier this problem is concerned with the *relevancy* and *consistency* of the data. The employees at Sony Music have issues with assessing the data in comparison to the historical sales data. Another aspect is that the market is constantly changing. The historical data has lost its relevancy because it is not comparable to the market today, and it is not consistent with the data generated by the streaming services.

> "Those acts who were ones big, are maybe not going to be big on the market today."
> (Interview, Westi, 4:45)

Another issue addressed by the Digital Business Director, is that the use of data analysis, in general and in terms of the marketing planning, is not used much through out the organisation.

> "What we need for it to become interesting is that the other departments takes the analyses and apply it to the long term strategies when developing an artist or on a long term basis can sense that something is happening here and maybe the marketing plan needs to be changed according to that." (Interview, Westi, 26:08)

This is a problem of operationalizing the strategic insights that the data create. On the strategic level of Sony Music insights seems to be incorporated to some extend, as a reaction to the general changes of consumer behaviour in the record industry. Given the level of formal collaboration, streaming services may draft reports with key findings. Sony Music engages in strategic analysis of

the customers' use of streaming services. One example is the making of playlists. Playlist in streaming services controlled or curated by Sony Music have become a tool for marketing new artist. These playlist may have more than 100.000 followers, which makes the playlist an effective tool for pushing a new artist amongst popular established artist. Another strategic decision is how to market and when to market on the different marketing channels. Mainly the issue when dealing with new acts is that the consumer does not know about the act yet.

Another perspective is the resource allocated. The act may not have been granted many resources for marketing expenses. The traditional advertisement like print, TV and radio, are more expensive than pushing an artist on social media or through a streaming playlist. Which channel to market through depends on where the target audience is. This will be explored in the next section regarding benchmarking. Another strategic decision is when to release the songs and the album. In the streaming market it is about sustain momentum more than earlier when the album release it self gave more momentum. So if the target audience is mostly using streaming services then the release schedule will reflect the need to sustain momentum with more releases of smaller size before releasing the main EP or full-length album

These strategic decisions are based on data driven analysis that is generated outside the organisation. This is a way for Sony Music to circumvent the issue of not having the capability to navigate through the constantly moving market. These decisions are not concerned with acts but mainly with the use of marketing channels.

7.3.4 Benchmarking

As stated earlier most processes regarding the release of music from a new act is based on the concept of defining the artist and thereafter defining the target audience. This process is labelled benchmarking. According to Wikipedia "Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other companies" (http://en.wikipedia.org/wiki/Benchmarking, 23/9/2014). In the record industry it is the process of benchmarking an act against the market leader within the same genre or with a similar target audience.

Benchmarking is an interesting process since it incorporates both data driven decision-making and human judgement, and it is an important process because the marketing planning is based on the assessment of whom the target audience is. Earlier it was described, that during the *discovery* phase

the aim was to find some music that could be differentiated within the market, and had the trait *originality*.

> "What is the essence of this artist? Does it make sense for me to benchmark this artist against some big English artists or should I benchmark against a trend in southern Europe? So first we define the artist and to be able to benchmark against similar artists and their ways of working. And that is of course something we do a lot. It may be somewhat a more strategic marketing tool." (Interview, Kjærgaard, 18:57)

Another benchmarking tool is assessment of the genre. In the analysis of the *negotiation phase* it was described how genre is a sorting mechanism to deal with the uncertainty of the market evaluation of the music. What it is interesting is that these assessments were based on human judgement of the music, while benchmarking is trying to match a given act with a similar act, and then analyse on the data regarding the already establish act to benchmark best practice for the new artist. This includes stating the target audience based by human judgement, to then do data driven analysis based on this decision. What is interesting is the idea that one can state a target audience based on these decisions, while the knowledge that genre is not a great tool for comparing audience behaviour.

> "Both DAD and Kashmir are playing rock music but the fan's behaviour is very different." (Interview, Mariager, 22:18)

> "It is not that often that two bands are alike, but if we can detect that the bands address the same targeted audience, girls 13-17 years old the OneDirection segment, and there are some finding associated, they respond to videos more than texts [...] then we have insights and data, where we can identify how to most effectively reach that audience." (Interview, Mariager, 21:30)

The assessment of the real audience seems to be uncovered if the new act have gained success or that they develop insights about a certain act over time in the process of marketing planning.

"If you have an artist like MØ, where you really believe in the potential, then you can make the analysis. If you have a band where you want to find out how the market reacts to the music, then you must make and release the music, and then you can get the feedback data, and evaluate if the music was something that people actually want, and if you they indeed do want it, who was it who wanted it, and then acquire an analysis regarding that." (Interview, Westi, 7:40)

It is possible that the longer period longer period of time for recuperating the initial investment, and the long time used making an artist successful may be contributed to an accumulation of data regarding the artist, while building an act's fan base, that in the end allows for Sony Music to produce a superior product that also will be targeted the right audience. This is an issue concerned with the lack *accessible* data from the beginning of the whole process, and resource allocation. It is also in issue that the grounds for these assessments are residing with product managers in Commercial department and the A&R department and not the Digital department, which is mostly concerned and experienced with the use of data analysis.

"I am in charge of which tools to use on the different platforms, based on insights, to reach the target audience in the best way possible to get the best result [...] sometimes you have some insights from data and you have some experience how to reach a certain audience [...] we have these platforms, we have these tools, we have the possibility to adapt the message so we can reach the right target audience, then I just need the content and for the product managers to define the target audience."
(Interview, Mariager, 20:08)

In the *marketing planning* phase, the main findings are that most data generated is externally generated data from streaming services and social media. The shift in consumption from physical sales and digital sales towards streaming has made the historical internal sales data available at Sony Music's internal sales system SAMIS irrelevant as a tool for assessment. Furthermore there are some concerns regarding the accuracy of the data, from both social media and streaming services. With social media as Facebook irregularities can quickly be unearthed by using the tool Insight. With the streaming service Spotify, this is not the case.

Another key finding is that the new consumption patterns caused by the streaming services have resulted in a longer period of time before an initial investment in an act can be recuperated. This makes the need of the marketing planning to be more flexible and open towards changes. This also creates a need for more data driven analysis throughout Sony Music, in order to seize opportunities and create changes when the initial marketing plan is not successful. This especially becomes a crucial point when it is the perception that it is cheaper to make release music with a new act, and then after analyse on the reception of the music. The longer period longer period of time for recuperating the initial investment, and the long time used making an artist successful may be contributed to an accumulation of data regarding the artist, while building an act's fan base, that in the end allows for Sony Music to produce a superior product that also will be targeted the right audience. In this matter data analysis is used to optimize the decisions already made earlier in the *negotiation* and *discovery* phase.

7.4 Evaluation

After releasing the music based on the decisions made in the marketing planning, an evaluation is done. However, there is no structured way of evaluating the performance of a given act, and evaluation mostly occurs in the different department separately. The evaluation leads towards the decision if Sony Music should continue the collaboration with an act after the first release. The evaluation made by the A&R managers is two fold. There is the evaluation of sales and streaming numbers. This kind of evaluation is based on accurate and accessible data, since this is the same data that is used for paying royalties to the implicated parts. The other evaluation is how the audience received the music or if it was played on the radio.

> "We have some project, where the EP's do not sell much. But we can see that the receptions from the market gatekeepers and tastemakers are good. This means that we do something right. It may not be ready for mass market or the market might not be there yet" (Interview, Kjærgaard, 28:16)

When asked to outline to evaluation mechanisms, one regarding a good evaluation result, and one with a poor result the answer was not the same for the two outcomes:

Positive outcome:

> "That because we were able to release it there, and the narrative around was perfect in terms of that, and the single was communicating this to the audience, and that we followed up with this activity and this story in the media and so on." (Interview, Kjærgaard, 37:36)

Negative outcome:

> "How can we optimize? Was there some part of the value chain not good enough, or was I not good enough? Was the music not good enough? The single chosen was maybe not the right one." (Interview, Kjærgaard, 37:57)

This leads to the result that the evaluation will be highly affected by the subjective experience of the A&R manager. The success of the act is contributed to the content creation and communication of the music. The failure questions the quality of the music. Another mode of evaluation is to conclude that the market is not ready or right for the music just yet.

> "I have just made a rock band named Lovespeed. I think they have the most amazing singer, the best I have heard in many years coming from Denmark, it really affects me emotionally and it gives me the chills. The record has just been released, and it doesn't seem to be picked up by anyone. But I wouldn't be surprised, that at some point somebody is feeling the same way about it as I do. And that person might be working on a TV-show, or a movie, and then we might get back in business.
> (Interview, Cambony, 32:24)

These stories are invoking the heuristic of *availability*, and the salience and familiarity of instances. Those stories of acts that did not sell much for a long time, but then suddenly became successful are easier to remember than all the acts that did not make much of themselves. This also affects the use of data for evaluation purposes.

> "Marie Key as an example, with who we have released two records with her band, and an album as a solo artist. I think, that if I had made an in-depth analysis on the three first albums and said no to go forth, we would have missed a huge success, because the fourth album became a huge success" (Interview, Westi, 23:38)

Even if these evaluation parameters are structured and used in every evaluation the evaluation will still be based on subjective experience of the process, since statements above all are evaluation of processes grounded in human judgement on a case to case level, since no evaluations are stored for later use. This is a problem throughout the Sony Music. This is also evident by the evaluation process of social media campaigns. For social media campaign, the CTR (click-through-rate) and the amount of likes are evaluated. These numbers are compared to older campaigns. If it is not satisfying, then they discuss what they could have done differently. The evaluation is done with the product manager, in order for them to gain insight on how to create campaigns in the future. These cases may be labelled best practice or be somewhat not so successful campaigns These cases are

then send out to the rest of the organisation in hope that they will learn from the experience. These cases are of course saved, but not stored in a system so that the data actually can be used as an evaluation tool for the next campaign. This means that the success of a campaign is evaluated on the subjective judgment rather than an average CTR or amount of likes. The lack of accumulated data makes the Direct to Consumer Manager to rely on his experience. This will probably invoke the heuristic of *availability*, biasing the success criteria of a campaign performance due to the retrievability of instances.
The lack of storing evaluation data is contributed to the fast moving market that has made the historical sales data obsolete and also makes the user data generated on Facebook irrelevant.

> "The data is moving all the time because the behaviour on social media is changing all the time. What we did two years ago can not necessarily be used two years after, because the market is too different." (Interview, Mariager, 25:14)

Even though the evaluation process at Sony Music works at a "case by case" level, there is a database on an international scale, due to the bigger budgets of international artists. The biggest issues of sharing relevant information across the organisation are that the record industry used to be driven by human judgement, and the “gut feeling”. The hope is that this will change over time.

> "It is about the company culture and some changed that needs to happen, before it is possible to - when you are used to base decisions on 90% gut feeling to suddenly looking at analyses, it is just process that takes time." (Interview, Westi, 27:33)

The process of evaluating acts at Sony Music is an ill structured task, with no formal structure or success criteria. The evaluations done by the different departments are not stored in a systematic way, due to the assessment that the data will not be relevant in the future due to market changes. This may invoke the *availability* heuristic, which may lead to bias the to the retrievability of instance based on salience or familiarity. If the reception of the market gatekeepers or the radio has been good, while sales have been poor, this is contributed to the market not being ready for the music, which does not lack quality.

8. Discussion

Through analysis of four phases from the discovery of a new act, to the evaluation of the release, several interesting findings regarding the use of BI in decision-making has been found. The *discovery* phase mostly rely on human judgment and heuristics. BI is mostly restrained to the use of social media and online possibilities for listening to the music at any time of the day. According to Seifert & Hadida (2013) record industry expert are better to assess the ill-structured task of predicting success for music made by new acts, than linear predictive modelling.

> "Based on the proficiency of experts to utilize contextual knowledge, we also conjecture that the optimal model-judge combination shifts towards a heavier reliance on human judgment when tasks are ill-structured. In contrast, well-structured tasks can be described fairly accurately in terms of linear relationships between informational cues and require proportionally less con- textual knowledge to generate forecasts."
> (Seifert & Hadida, 2013 pp. 25)

The use of heuristics is the process of human judgement that is better at identifying new prediction variables and also subjectively assesses parameters that are difficult to objectify such as ethical, moral and aesthetic judgement (Seifert & Hadida, 2013).

Another aspect of the article is that group expertise eliminates some of the bias and inconsistency of human judgement. The group expertise becomes more important when the task is ill constructed and the environment unstable in the model-judge constellation. This is directly related to the findings at Sony Music where the weekly listening meetings are the A&R managers chance to discuss their findings and give each other feedback. However, Seifert & Hadida (2013) explicitly encourage the A&R manager to move towards more data driven decision-making:

> "[...] our results provide an encouragement to A&R managers to move away from predictions based exclusively on ''gut feeling'' and to complement their judgment with the scientific evidence provided by linear models in order to reach optimal decisions in selecting artists to sign." (Seifert & Hadida, 2013 pp. 34-35)

Another perspective outlined in the *discovery* phase, and that collides with the statement above, is the distinction short-term and long-term prospects of a given act. The perception is that Sony Music can exploit trend in the market for capitalisation, but that signing acts based on that market trends are a short-term commitment. Their strategy is to commit to an act that can stand the test of time, which is to be able to withstand changing trends in music.

Before the final contract is signed, estimates on the projects possibilities and profitability are made based on the project description and vision of the A&R manager. In this process it seems that the BI is used rather to legitimize the decisions. This may not be intentional. The problem is that the data analysis is relying on a heuristic assessment that is biasing the data analysis. It is also a problem that lies within the A&R managers and the departments that are concerned with BI in their daily work process. While the A&R manager states:

> "In Denmark it is about the music and the artist. We do not look at the numbers that much - then it will be too much about the numbers and not about the music."
> (Interview, Kjærgaard, 31:57)

The Digital Director states:

> "From a product or marketing perspective, there is a demand within the "house" for tools and data to justify the decisions made. This also applies when meeting an artist to be able to say - hey, we actually did some research, this is your target audience for this track or album." (Interview, Westi, 30:53)

These statements show that the perception and value of the use of BI differs across the departments at Sony Music. The A&R manager's statement can be contributed to the *art for art's sake* property posed by Caves (2000). However, here it is the A&R manager that has the perception that music has an inherent value more important than the pursuit of economic gain. Another factor may be the issue of *data relevancy* that seems to be an issue throughout the organisation. The believe is that new music can not arise from old data:

> "*What sounded cool ten years ago may sound dull today."*
> (Brevik, Eivind & Presthus, 2010, pp. 4)

However, the use of BI is very evident in the work of Sony Music, and one reason why *data relevance* seems to be an issue is because no data is stored in a consistent way for analysis. The other issue is that consumption has changed from first physical sale, to download and now to streaming. This has moved the data gathering toward external sources. It has also resulted in the experience of historical sales data becoming invalid due to the ever-changing market. This has lead to a problem of data inconsistency across the platforms. Kwon, Lee & Shin (2014) states that data inconsistency or incompleteness can become an issue due to intentional or accidental faults such as flawed system design, data input errors, and data operator's subjective judgment, leading to severe distrust in the use of data.

The A&R managers, and others at Sony Music assess the music based on genre. Through the genre the target audience is defined. This use of heuristic may be contributed to the low resources allocated to the data analysis before the contract is signed. The problem of this sorting of events is that Sony Music will be committed to the act, even if the BI gathered and used later on states a more negative view of the act. In this matter the data analysis becomes a tool for legitimizing decisions that were based on heuristic judgement in the first place. Another point of view is that the longer framework of time for recuperating the initial investment of producing the music and marketing costs, makes the use of BI even more important in order to optimize the decision that was already made. This leads to my argument that Sony Music tends to use heuristics to deal with very uncertain decisions, while BI is used for the more certain decisions, or to better the already made decisions. In this case it means that business analytics are used to create value from decision processes that are based on expertise and human judgment rather than driven by BI. Due to the relative small music market in Denmark, the funds available for data analysis seems to be a key issue. It is mainly the digital department who is concerned with the everyday use of BI. This is contributed to the technologies that are naturally implicated in their everyday work such as Facebook *Insights*, or streaming services. There reference frame of work processes are different from those of the A&R manger who still is concerned with the work processes of listening to music and assessing music on a subjective scale:

> " […] despite the data-driven nature of analytics-based sense making, pre-existing frames of reference carried by analysts and managers have an important influence on what data elements are selected to describe the phenomena and what patterns and

> relationships connecting the data elements are inferred from the data. Those insights are then used by managers and analysts to weave a narrative making sense of the world and then to construct action repertoires that make those interpretations explicit. Importantly, those frames of reference are embedded in the cognitions of analysts and managers and operate in a sub-conscious manner." (Sharma, Mithas & Kankanhalli 2014, pp. 435)

According to Sharma, Mithas & Kankanhalli (2014) it is widespread assumption that organisations can function as before but capture value from business analytics. That it is the technological advances alone that will drive better analytics, and not structural and processual changes. This view contributes to the understanding of why the use BI at Sony Music mostly in constricted to the departments who are using tools that are provide data analysis driven insights.

It is not surprising that the use of heuristics for handling uncertainty is evident at Sony Music. Kahneman & Tversky (1974) states that the use of heuristics is useful in everyday life, because it allow humans to quickly assess complex problems. What is surprising is that the discovery and decision of signing a band or not, is based on subjective assessments, and then data analysis that confirms those assessments. The signing of a new act is a long-term investment, thus it would make sense to further explore ways of increasing the use of BI to handle uncertainty.

One thing not described in the data collected was the intentional use of big data. This is contributed to the still novel use of BI in the record industry and also to the small market of music in Denmark. It can be questioned if the use of big data will be profitable in such a small market, unless tools will be developed at Sony Music Entertainment on an international scale.

The biggest complication resulting from the construction of the thesis is the notion of content creation. It is unknown to which extend the content creation affects the use of BI and decision-making processes at Sony Music. More research needs to be done in this area and throughout other creative industries where content creation is central for the company success. I am still aware that the complications of my own assumptions may affect the results of this study. The end notion will be that through the process of conducting this study one main assumption got challenged; that the use of BI was to minimize uncertainty of the music market driven by the *nobody knows* property. This seems not to be the case, yet.

9. Conclusion

The aim of this thesis has been to illuminate how is business intelligence used in decision-making processes at a record label, in the process of releasing music from a new act. First an industry analysis showed that the characteristics of music as a product, namely of *nobody knows* and *art for art's* resulted of in a uncertain market, with a uncertain market evaluations of the music.

It was the initial assumption the BI would be used to help the uncertainty of signing a new act. Through the conceptual framework based in theories regarding BI and human judgment processes based in the use of heuristics, the use of business intelligence used in decision-making processes was analysed. The findings were divided into the four distinct phases of *discovery, negotiation, marketing planning* and *evaluation.*

The main findings were that the uncertain environment, led to a lack of resources, resulting in depth data analysis not being utilized until the record label has signed a contract with the act. Data driven assessments were given on the profitability of the act, but were based on assessment relating to subjective judgement and framing of the project, that lead to biased results. The late structured use of BI lead to a process where BI was utilized to legitimize and optimize the initial decision made on signing a contract with the act.

An organisational experience that most data is irrelevant, due to market changes, has led to a stop in recording evaluations. The effect of this is that Sony Music does not have a database to match the data gathered for analysis. Last, it was found that the use of BI is constricted to the employees who in everyday tasks are confronted with tools that allow for data analysis. These tools were mainly used in the phase of *marketing planning*. The A&R managers were not forced to use data analysis tools in their daily work, even though the international Sony Music Entertainment provides such tools. They still rely on their expertise and mostly their network. This follows the discussion point that new technologies and possibilities for use of data analytics, does not create results, if the managerial and work processes are not changed accordingly. It was also found that the A&R manager perceived music as "music" – and not numbers, describing the property *art for art's sake*. Literature suggests that the A&R managers should base more of their decision making on data driven analysis, while their use of expertise in human judgement was better at identifying new prediction variables and also subjectively assesses parameters that are difficult to objectify such as ethical, moral and aesthetic judgement.

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Figures

Figure 1 is based on following numbers from the database "Navne & Numre Erhverv" and the "Musik Selskaber 2013" report by IFPI Danmark.

	2009	2010	2011	2012	2013
Industry turnover (IFPI) in mill.	535	467	420	408	429
Sony Music turnover	168,415	153,021	124,742	107,627	127,424
Universal turnover	189,936	155,361	147,649	142,086	162,3
Warner turnover	68,92	48,406	42,524	38,725	46,213
Others turnover	107,729	110,212	105,085	119,562	93,063
	2009	2010	2011	2012	2013
Sony Music market share in %	31,48	32,77	29,70	26,38	29,70
Universal Music market share in %	35,50	33,27	35,15	34,83	37,83
Warner Music market share in %	12,88	10,37	10,12	9,49	10,77
Others market share in %	20,14	23,60	25,02	29,30	21,69
	100	100	100	100	100

Interview on included CD

Lasse Westi, Digital Business Director, 10/6/2014
Christoffer Mariager, Direct to Consumer Manager, 11/6/2014
Mads Kjærgaard, A&R Manager, 12/6/2014
René Cambony, A&R Manager, 13/6/2014