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The implication of AI-generated music on the industry's business model



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A report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

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ABSTRACT

This research report explores how AI-generated music is changing the traditional music industry model. The study uses qualitative research to examine how AI technology affects music creation, distribution, and consumption. It uncovers the challenges and opportunities AI-generated music brings to different music industry players. The research gives insights into how music production is evolving in the digital age by analysing user views, legal frameworks, and economic impacts.

Stakeholders can adapt to the changing industry landscape by understanding how AI impacts music. The study shows how AI reshapes music creation and distribution, offering new possibilities for artists and businesses. As technology continues to influence the music industry, grasping the implications of AI-generated music is crucial for staying relevant and innovative in this dynamic environment.

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3	Label Executive/Music Producer	2
4	Collective Management Organisation	1
5	Music Publisher	3

LIST OF ACRONYMS

RQ #	Acronym	Meaning
1	AI	Artificial Intelligence
2	DSP	Digital Service Provider
3	IP	Intellectual Property
4	ML	Machine Learning
5	RQ	Research Question
6	SME	Small and Medium-sized Enterprises
7	US	United States

CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

This qualitative study explores the perceived implication of AI-generated music on the music industry's business model.

1.2 Background of the study

Prior to the emergence of AI-generated music, music creation has predominantly relied on human involvement. Humans have been key in driving the creative process from inception to completion, and as such stakeholders were compensated based on their involvement and their intellectual property ownership. This involvement encompasses individuals responsible for producing sounds, instrumentalists, and vocalists. Although software programs have been utilised in music production, humans have consistently retained control over each stage's creative direction and outcomes (Collins, 2018).

Here is a brief overview of how the traditional music industry works:

a) Artists and songwriters create original music compositions.
b) Record labels sign contracts with the creators of music, who are artists. The record labels provide marketing and distribution resources in exchange for the recording, usually for a large percentage of the royalties.
c) Recorded music is distributed to digital platforms (streaming services, online stores). Distribution companies ensure that music reaches a broad audience through retailers and streaming media partnerships.
d) Music is licensed for various uses, including radio play, TV/film synchronisation, public performances, and streaming.
e) Music is licensed in advertisements, TV shows, films, and video games, providing additional revenue opportunities for artists and rights holders.

f) Royalties from these licenses are collected and distributed to copyright holders as revenue (McAdam et al., 2017).

Traditionally, the person/s making the music or the company commissioning the making of the music will own the music being made. When music has been produced and commercialised, the parties involved in making it will be allocated royalties according to their contributions and the amount of work involved (Collins, 2018).

After the music has been released for public consumption, various commercial opportunities may arise, such as sponsorship and endorsements from brands that would like to associate their products with the musician's image or have access to their fanbase.

The music industry business model rewards people on the bases of music ownership. Musicians and other parties involved in the value creation of the music are rewarded according to royalty splits (Frosini & Turrini, 2020).

However, with the introduction of AI-generated music, the music creation process and the value creation may change. As AI-generated music becomes more sophisticated, it may become increasingly difficult to distinguish between music created by humans and music generated by machines. This could lead to questions about ownership and intellectual property rights (Miranda, 2019).

AI-generated music as the name suggests it is music generated by artificial intelligence (Music Gateway, 2023). This type of music generation falls into a general body of creative AI that is deployed in the creation of various artforms referred to as generative AI (Yang, 2022).

AI-generated music is an emerging technology that simplifies music creation by allowing composers to generate original music using algorithms and machine learning techniques (Dervakos, Filandrianos, & Samou, 2021). It involves feeding large datasets of existing music to machine learning algorithms, which analyse patterns, structures, and styles (avcontentteam, 2023). It can reduce

the time and effort required to compose music and inspire original creative ideas (Choi, Lee, & Lee, 2018).

With AI-generated music, music creation is simplified. Music can be created instantly through various prompts (Schmidhuber, 2018). Generative AI simplifies music creation by helping composers generate musical phrases or patterns. The AI system can generate original melodies and chord progressions based on the input by inputting parameters such as key, tempo, and style. Doing so may help composers overcome writer's block and provide new musical ideas they may not have thought otherwise (Volk, 2019, p. 1552).

Generative AI can also be used to generate variations on existing musical compositions. Composers can input an existing piece of music and allow the AI system to create variations on the melody, harmony, or rhythm. This can provide new ideas for arrangements or remixes (Gao, Hu, Gong, & Zhu, 2020).

Another way generative AI simplifies music creation is by generating entire musical compositions. Composers can input a set of parameters and allow the AI system to develop a full piece of music (Gao et. al, 2020). This can be particularly useful for composers working on tight deadlines or who need to create music quickly for a specific purpose. Therein lies the problem, the creation of the song from beginning to end, except for a few prompts in the beginning, is created by a machine (Dervakos et al., 2021).

1.3 Research problem

This research paper investigates the potential implications of AI-generated music on the traditional business model of the music industry, examining the challenges and opportunities arising from the integration of artificial intelligence in music creation, distribution, and consumption.

1.4 Research objectives

The research explores the potential implication of AI-generated music on the industry's business model with the following sub-research objectives:

a) To understand the implication of AI-generated music on the current copyright legislation, and
b) To understand the challenges and opportunities AI-generated music presents to stakeholders such as artists, record labels, streaming services, and consumers.

1.5 Rationale

Generative AI technology in music creation is an emerging technology with immense potential. Music creation has been a human-intensive process until recently, and AI-generated music is a unique technological breakthrough that simplifies music creation, allowing composers to generate original music using algorithms and machine-learning techniques. By simplifying the music creation process, AI-generated music can reduce the time and effort required to create music, inspire new creative ideas, and help composers overcome writer's block. This study explores the potential of generative AI in music creation and its implication on the music industry business models (Khatchatourov, 2016).

1.6 Delimitations of the study

The study focuses on exploring the potential of generative AI music technology and its implication on the music industry’s business model. The study is limited to the opinions and experiences of music industry stakeholders, including composers, producers, and music publishers.

1.7 Definition of terms

a) Qualitative study - a research method that explores and describes complex phenomena through in-depth interviews, observations, and analysis of data to understand underlying meanings and themes.
b) AI-generated music - music created with the assistance of algorithms and machine learning techniques using generative AI technology, where the machine generates musical phrases, patterns, and variations on existing music.
c) Music industry - the collection of individuals, organizations, and businesses involved in the creation, production, distribution, and monetization of music.
d) Business model - the plan or strategy for how a company or industry generates revenue and profit.
e) Human-intensive process - a process that involves significant human labour, effort, and time to achieve an outcome.
f) Royalties - a percentage of revenue or earnings paid to the intellectual property owner, such as music, for its use or exploitation.
g) Sync licensing - a license agreement where a musician or music publisher allows their music to be used in media, such as films, television, and video games.
h) Intellectual property rights - legal rights that protect the creator's rights to their artistic, literary, or musical work.
i) Generative AI - a type of artificial intelligence that can generate new and original output, such as music, art, or text, using algorithms and machine learning techniques.
j) Algorithms - a set of instructions or rules followed by a computer or machine to complete a task or solve a problem.
k) Machine learning - a type of artificial intelligence that allows a machine to learn and improve from data without being explicitly programmed.
l) Parameters - input values or constraints used to generate a specific output in a generative AI system.

m) Writer's block - a creative condition where a writer or composer cannot generate new ideas or content.
n) Arrangements - a version of a musical piece that is modified in terms of melody, harmony, or rhythm from its original version.
o) Remixes - a version of a musical piece where the original recording is modified, usually by adding or removing elements, to create a new version.
p) Stakeholders - individuals or organizations that have an interest in or are affected by the outcome of a project, such as artists, record labels, streaming services, and consumers.
q) Disrupt - to change or interrupt the normal course or pattern of an industry or system.
r) Delimitations - the boundaries or limitations of a study, such as the scope, sample size, or research methodology.

1.8 Assumptions

This qualitative research study assumes that generative AI music technology has immense potential and can be a valuable tool for music creation. It also assumes that music industry stakeholders, including composers, producers, and music publishers, will be interested in exploring the potential of generative AI music technology.

In this qualitative research, the following will be assumed:

a) That the participants have some experience with generative AI or are willing to learn about it.
b) The participants have access to the necessary technology to use generative AI for music creation.

1.9 Chapter Outline

Chapter 1: Introduction, Background and context of generative AI in music creation, Statement of the problem, Purpose and objectives of the research, Research questions

Chapter 2: Literature Review, Overview of generative AI in music creation, Comparison with traditional music creation methods, Advantages and limitations of generative AI, Previous studies on generative AI in music creation.

Chapter 3: Methodology, Research design, Participants and sampling, Data collection methods, Data analysis methods.

Chapter 4: Results, Overview of participants, Participants' experiences and perceptions of generative AI in music creation, Comparison of generative AI with traditional music creation methods, Advantages and limitations of using generative AI, Potential implication of generative AI on the music industry

Chapter 5: Discussion, Interpretation of results, Implications of the findings for music creators and the music industry, Limitations of the study, Suggestions for future research

Chapter 6: Conclusion, Summary of the research, Contributions to the field of music creation and generative AI, Final thoughts and recommendations.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The literature review investigates the potential implication of AI-generated music on the music industry's business model. It serves as a comprehensive exploration of existing research related to this topic.

The review is organised according to the sub-objectives outlined below:

a) Background discussion.
b) Challenges and opportunities AI-generated music presents to the stakeholders.
c) Understanding the current copyright legislation in South Africa, the United States of America and Sweden and what it says about AI-generated music.
    - Why review copyright legislation?
    - Why review copyright legislation from Sweden, the United States and South Africa only?
d) What implication does AI-generated music have on the current copyright legislation?
e) How is the current legislation affected by AI-generated music?

2.2 Definition of topic or background discussion

According to the International Federation of the Phonographic Industry (IFPI), The global recorded music industry earned $26.2 billion in 2022, up 9% from 2021. Streaming accounted for 65% of this revenue, with paid subscriptions making up most of that. There were 616.2 million paid streaming subscribers worldwide in 2022, up 16% from 2021. The United States had the most paid streaming subscribers, with 82.2 million. Spotify is the leading streaming

service, with 31% of the global market share. Apple Music is the second-largest service, with 15% of the market share. According to Worldwide music group, US$10.8 Billion of this revenue was distributed to artists and independent labels. A further $9.2 Billion was a payout to Universal Music Group (IFPI, 2023).

The global music industry is an important economic sector, generating substantial revenue and supporting numerous artists, labels, and businesses. In 2022 the recorded music industry earned $26.2 billion worldwide, a 9% increase from the previous year. Streaming accounted for 65% of this revenue, with paid subscriptions being the primary source of income (IFPI, 2023).

The increasing popularity of streaming services drives the music industry's growth. In 2022, there were 616.2 million paid streaming subscribers globally, a 16% increase compared to 2021. The United States had the highest number of paid streaming subscribers, 82.2 million (IFPI, 2023).

Streaming platforms play a crucial role in the music industry, and two major players are Spotify and Apple Music. Spotify leads the market, holding a 31% global market share, while Apple Music is the second-largest service, with a 15% market share (IFPI, 2023).

2.3 Challenges and opportunities of AI-generated music in the music industry

AI-generated music creates both opportunities and challenges to the music industry (Artist, 2022a, p. 15). We have provided some of the challenges and opportunities in the literature that the introduction of AI-generated music may create in the music industry.

Opportunities

Human-to-machine collaboration

AI can serve as a tool for musicians to explore new sounds, experiment with different genres, and enhance their creative process. It can act as a collaborative partner, providing inspiration and generating ideas that human musicians can build upon (Artist, 2022a, p. 15).

Improved listener experience

AI-powered music recommendation systems can analyse user preferences, behaviours, and habits to curate personalised playlists and discover new music. This enhances the listening experience and helps users find a broader range of artists and genres (Artist, 2022a, p. 15).

Accessibility

AI-generated music has the potential to make music creation more accessible to individuals with limited musical training or physical abilities. It can empower people to express themselves creatively and participate in music production, regardless of their technical expertise (Artist, 2022a, p. 15).

Challenges

Creativity and originality

AI-generated music raises questions about the role of human creativity and the authenticity of machine-generated compositions (Turnbull & Sahin, 2019).

Royalty Distribution

The current music industry revenue model is based on royalties paid to artists and rights holders. AI-generated music may raise questions about how royalties should be distributed. Determining the rightful recipients and ensuring fair compensation for AI-generated works can be complex (Turnbull & Sahin, 2019).

Copyright and Ownership

AI-generated music complicates the lines of authorship and ownership. Traditional copyright laws may face challenges in addressing ownership rights and attributing authorship when an algorithm or AI system creates the music (Artist, 2022a, p. 15).

2.3.1 Proposition 1: AI music integration promotes creativity, accessibility, yet raises concerns about ownership and distribution.

The integration of AI-generated music in the music industry introduces both opportunities, such as enhanced collaboration and improved accessibility, and challenges, including concerns about creativity, royalty distribution, and copyright ownership.

2.4 Understanding the copyright legislation in South Africa, the United States of America and Sweden and what it says about AI-generated music.

2.4.1 Why review copyright legislation?

The copyright legislation provides a framework for what constitutes copyright and how copyright should be treated.

2.4.2 Why review copyright legislation from Sweden, the United States and South Africa only?

According to the IFPI report mentioned in the introduction, digital streaming is the music industry's primary revenue source. The report also highlights substantial growth in the Sub-Saharan region, specifically South Africa, which explains why it is analysed. Additionally, Spotify and Apple Music, based in Sweden and the United States of America, are the dominant digital streaming

platforms in the industry. How is the current legislation affected by AI-generated music?

2.5 What implication does AI-generated music have on the current legislation?

This review explores how AI-generated music impacts the traditional music business, focusing on copyright regulations in Sweden, the United States, and South Africa. We selected these countries because they are home to major global music streaming platforms—Sweden hosts Spotify (with 30.5% global market share), and the United States is the headquarters of Apple Music (with 13.7% global market share) (Duarte, 2023).

Including South Africa is essential due to the research's geographical focus. As the study is conducted in South Africa, understanding the local music dynamics within the broader global context becomes crucial. Examining copyright laws in these influential nations provides valuable insights into how legal frameworks may influence the intricate relationship between AI-generated music and the traditional music industry in South Africa.

From the high-level music industry business model, music labels enter into agreements with music creators to obtain music rights. Musicians then are signed in exchange for these rights. Labels and musicians are rewarded according to their percentages in these copyrights.

2.5.1 How is the current legislation affected by AI-generated music?

South Africa

In South Africa, the Copyright Act of 1978 governs copyright protection. the South African Copyright Act does not explicitly address AI-generated music, since the Act was enacted before the advent of AI-generated works, it does not

provide explicit provisions regarding their copyright status (Copyright Act, 1978, p. 10).

Sweden

The Swedish Copyright Act does not explicitly mention AI-generated music. However, the Act does state that copyright protection shall subsist in original works of authorship, including literary, dramatic, musical, and artistic works. This would suggest that AI-generated music could be protected by copyright if it meets the criteria of originality (Your Europe, 2023).

To be considered original, creation must be the product of the author's intellectual creation. This means that the creation must not be copied from another work and must have some degree of creativity. AI-generated music could meet these criteria if it is not simply a copy of existing music and contains some element of creativity, such as a new melody or arrangement (Your Europe, 2023).

If AI-generated music is protected by copyright, then the copyright owner would have the exclusive right to reproduce, distribute, perform, display, and create derivative music works. This means others could not use the music without the copyright owner's permission (Your Europe, 2023).

United States of America

Under the Copyright Act of 1976 of the United States of America, original creative works, including music, are automatically protected by copyright as soon as they are fixed in a tangible form. The Act grants exclusive rights to the creator, including the right to reproduce, distribute, perform, and create derivative works based on the original work. The act is silent on AI-generated music (Copyright Law of the United States, 2023).

The law in this area is still developing, and future court decisions could clarify the extent to which AI-generated music is protected by copyright (Copyright Law of the United States, 2023).

The absence of specific provisions addressing the copyright ownership of AI-generated music may lead to uncertainty regarding who holds the copyright in AI-generated music.

2.5.2 Proposition 2: AI-generated music challenges ownership, and consequently complicates traditional music industry business models.

AI-generated music makes it difficult to determine who the owner of the music is, and that complicates the traditional business models of the music industry.

2.6 ANALYTICAL FRAMEWORK

2.6.1 Theoretical Framework

The study's conceptual framework is anchored in the Economic Theory of Creative Destruction proposed by economist Joseph Schumpeter. This theory describes the process by which innovations and technologies displace established ones, leading to the creation of new markets and the destruction of old ones. In the music industry context, the introduction of AI-generated music represents a prime example of this phenomenon, as it has the potential to disrupt the traditional business model and market dynamics significantly.

Background on Creative Destruction in Music

The music industry has a long history of undergoing creative destruction because of technological innovations. For example, the shift from vinyl to CDs and later from CDs to digital downloads changed the industry's landscape. This led to the decline of certain market segments but also created new opportunities

and business models. These historical examples highlight the transformative power of technological advancements in reshaping the music industry (Gandelli, 2020).

AI in Music Creation

AI is being used more and more to create music by employing various techniques such as machine learning algorithms, deep learning, and neural networks. Notable projects like Magenta and AIVA have demonstrated the potential of AI to produce high-quality music and inspire new creative ideas. These advancements in AI-generated music underscore its potential to transform traditional music creation and composition modes (Sharma, 2023).

Implications for the Music Industry's Business Model

Introducing AI-generated music has far-reaching implications for the traditional music industry's business model. It can potentially change how music is produced, distributed, and consumed, leading to efficiency gains and new creative possibilities. However, it also poses challenges related to revenue distribution, copyright ownership, and the determination of originality, thereby necessitating a re-evaluation of existing business models and revenue streams.

Market Dynamics

The absence of specific provisions addressing the copyright ownership of AI-generated music may lead to uncertainty regarding who holds the copyright in AI-generated music (Turnbull & Sahin, 2019).

From the high-level music industry business model, music labels enter into agreements with music creators to obtain music rights. Musicians then are signed in exchange for these rights. Labels and musicians are rewarded according to their percentages in these copyrights (Turnbull & Sahin, 2019).

AI-generated music makes it difficult to determine who the creator of the music is, and that complicates the traditional business models of the music industry (Turnbull & Sahin, 2019).

In utilising AI-generated music on digital platforms, TV, and other media, the primary beneficiaries will likely be the digital platforms themselves. By employing AI technology to create music tailored to user preferences, these platforms stand to generate content without the necessity of compensating musicians for their contributions. This dynamic shift in market forces underscores the transformative potential of AI-generated music within the industry (Neu, 2023).

Challenges and Opportunities

The emergence of AI-generated music is creating both opportunities and challenges for the traditional music industry. Although it may result in job losses and changes in revenue streams, it also provides a chance for traditional musicians to collaborate with AI technology and create new forms of artistic expression and musical experiences. This presents an opportunity for the industry to embrace innovation and adapt to the changing landscape (Turnbull & Sahin, 2019).

Adaptation and Resilience

To succeed in the music industry in the era of AI-generated music, businesses may need to adapt and innovate. This involves embracing new technologies, exploring alternative sources of revenue, and reimagining their creative processes. By utilising AI tools, artists, record labels, and other stakeholders can enhance their creative output and reach new audiences. This will help them remain resilient in the face of technological change (Neu, 2023).

Policy Implications

Policy recommendations and regulatory frameworks are essential to facilitate a smooth transition and ensure fairness in the evolving music landscape. It may include updating copyright legislation to account for AI-generated works and establishing fair compensation mechanisms for all music creation and distribution stakeholders. Such policies are crucial to ensuring a balanced and equitable transition in the industry (Your Europe, 2023).

Conceptual Framework

The conceptual framework for this research revolves around stakeholder perspectives on the implications of AI-generated music on the traditional business model.

2.7 Conclusion of Literature Review

This literature review discusses the potential impact of AI-generated music on the traditional business model of the music industry. The review covers various topics, including the challenges and opportunities presented by AI-generated music, copyright legislation in South Africa, the United States, and Sweden, and the impact of AI-generated music on existing laws. Furthermore, an analytical framework based on the Economic Theory of Creative Destruction is used to analyse the findings.

The music industry worldwide is valued at $26.2 billion as of 2022. The industry is majorly dependent on digital streaming for revenue, and platforms such as Spotify and Apple Music are the leading players in the market. The growing demand for streaming services is evident from the fact that there are about 616.2 million paid subscribers globally. It highlights the importance of the distribution model of streaming services in the music industry.

AI-generated music presents opportunities for human-machine collaboration, enhancing listener experience and accessibility. However, it raises concerns

regarding creativity, copyright ownership and royalty distribution, challenging the traditional business model.

The music industry has become increasingly reliant on digital streaming, particularly in the Sub-Saharan region, resulting in substantial growth. Therefore, exploring copyright legislation in South Africa, the United States, and Sweden is justified. Understanding the legal frameworks in these countries is valuable to gain insights into the evolving relationship between AI-generated music and the traditional music industry.

The absence of explicit provisions for AI-generated music in copyright law creates uncertainty about ownership, challenging traditional business models and making it difficult to determine rightful copyright owners.

The theoretical framework, anchored in the Economic Theory of Creative Destruction, contextualises the transformative impact of AI-generated music on the traditional business model. Historical examples demonstrate how technological advancements have historically reshaped the industry.

AI-generated music has the potential to significantly change the music industry landscape. This innovation creates both opportunities and obstacles while challenging existing models. Integrating AI in music creation demands re-evaluation of business models, adaptation to new technologies, and the development of fair policies to ensure a balanced transition. In conclusion, the music industry must be prepared to embrace this new technology and adapt accordingly.

2.7.1 Proposition 1: AI music integration promotes creativity, accessibility, yet raises concerns about ownership and distribution.

The integration of AI-generated music in the music industry introduces both opportunities, such as enhanced collaboration and improved accessibility, and

challenges, including concerns about creativity, royalty distribution, and copyright ownership.

2.7.2 Proposition 2: AI-generated music challenges ownership, complicating traditional music industry business models.

AI-generated music makes it difficult to determine who the owner of the music is, and that complicates the traditional business models of the music industry.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Research approach

In this study, the researcher has chosen a qualitative research approach. Qualitative research is appropriate for this topic as it allowed the researcher to gain in-depth insights, understand the experiences and perspectives of stakeholders in the music industry, and explore the complex and subtle aspects of the phenomenon under investigation (Mazzola et.al, 2011).

Qualitative research enabled the researcher to gather rich and detailed data using interviews. This approach allowed the researcher to capture the subjective experiences and perceptions of critical stakeholders in the music industry regarding AI-generated music (Mazzola et.al, 2011).

The researcher was able to explore the implication of AI-generated music on various aspects, such as artist-producer relationships, audience preferences, and music industry dynamics.

As AI-generated music is a relatively new and evolving phenomenon, a qualitative approach allowed the researcher to explore and generate new insights. The researcher uncovered unexpected findings, identified emerging trends, and helped the researcher understand the underlying mechanisms that shape the impact of AI-generated music in the music industry (Collins, 2008).

By adopting a qualitative research approach, the researcher delved into the complex aspects of the music industry and its business model, explored the potential implications of AI-generated music, and gained valuable insights that can inform industry practices, policy decisions, and future research endeavours.

3.2 Research design

For this study on exploring the potential implications of AI-generated music on the music industry's business model, the researcher conducted case studies and distributed surveys to participants within the music industry, including artists, producers, managers, and label executives. The survey and expert interviews included the following:

- Questions that capture their awareness of AI-generated music,
- Their perceptions of its potential impact, and
- Their willingness to adopt or incorporate it into their practices.

The case study approach is a valuable research method that allows researchers to understand a specific phenomenon within its context. By examining real-world cases, researchers identified challenges, opportunities, and potential risks associated with AI-generated music. They also uncovered stakeholders' strategies and practices to navigate these changes. This contextual understanding is crucial for developing informed policies, guidelines, and recommendations for the music industry as it embraces AI technology. By capturing diverse viewpoints, case studies were able to uncover nuanced and detailed information about the impact of AI-generated music on different aspects of the business model, such as creativity, production, distribution, and consumption (Indu et al., 2020).

Surveys provide a structured and efficient way to collect data from many participants within the music industry. The disadvantage of the survey is that they typically provide brief and structured responses, limiting participants' ability to express complex perspectives. Essential details and insights may have been missed compared to more in-depth methods like interviews or observations. Surveys need more opportunities for participants to seek clarification on questions or seek further elaboration. They often need more contextual information surrounding participants' responses. This can make it challenging to

fully understand the factors influencing their perceptions or behaviours (Schlegel, 2015).

3.3 Data collection methods

To gather the necessary data to answer our research questions on the potential implication of AI-generated music on the music industry's business model, we employed the following data collection methods:

3.3.1 Questionnaires

The researcher designed and distributed questionnaires to participants within the music industry, including artists, producers, managers, and label executives. The questionnaires consisted of structured questions that capture their awareness of AI-generated music, their perceptions of its potential impact, and their willingness to adopt or incorporate it into their practices (Schlegel, 2015).

Questionnaires provided a systematic and standardised approach to collecting data from many participants within the music industry. By analysing the questionnaire responses, the researcher could quantify and identify common themes, trends, and patterns regarding the impact of AI-generated music. This method allowed the researcher to gather substantial data from different respondents, contributing to a comprehensive understanding of the research topic (Schlegel, 2015).

3.4 Population and sample

3.4.1 Population

The population for this research consisted of individuals and entities within the music industry. This included artists, producers, managers, label executives, and other stakeholders involved in creating, distributing, and consuming music.

The population also encompassed record labels and related organizations operating within the music industry.

The selected population aligned with the research objective of understanding the potential impact of AI-generated music on the music industry's business model. Including a diverse range of individuals and entities within the music industry ensured a comprehensive exploration of the topic, considering various perspectives, experiences, and roles in the industry.

3.4.2 Sample and sampling method

The sample for this research was determined based on a purposive sampling strategy, specifically targeting individuals and entities within the music industry who had knowledge, experience, or involvement in AI-generated music. The desired sample consisted of diverse participants, including artists, producers, managers, label executives, intellectual property lawyers, and representatives of the music collection agencies that collected royalties on behalf of musicians (Etikan et al., 2016).

The sample was composed of a music/intellectual property lawyer, 5 award-winning music producers, 5 upcoming music producers, 1 person from the music collection agency, and 2 label executives.

3.4.3 Sampling Method

Purposive sampling was appropriate for this research as it allowed for the intentional selection of participants who possessed relevant knowledge and expertise in music. By targeting individuals and entities actively involved in the music industry, insights were obtained from those who were likely to have firsthand experience and informed perspectives on the research topic. Snowball sampling enabled the identification of additional participants through referrals from initial contacts, enhancing the diversity of the sample. The sample size was determined based on data saturation, aiming to reach a point where new

information and insights became minimal, ensuring comprehensive coverage of the research topic. The specific number of interviews or questionnaire respondents was determined based on the iterative nature of qualitative research and the need for an in-depth exploration of participants' experiences and perspectives (Etikan et al., 2016).

By employing a purposive sampling strategy, the researcher gathered data from diverse participants within the music industry, including various roles, perspectives, and experiences. This approach enabled the researcher to explore the potential impact of AI-generated music on the music industry's business model from multiple vantage points, contributing to a comprehensive understanding of the research topic perspectives (Etikan et al., 2016).

3.5 The research instrument

The research instrument used for data collection was a structured questionnaire. The questionnaire captured the necessary information related to the research questions and objectives. It consisted primarily of open-ended questions addressing different aspects of AI-generated music and its potential implications on the music industry's business model (Anais Brasileiros de Dermatologia, 2014, p. 123).

The questionnaire was divided into sections covering the following areas:

- Assessing the participants' awareness and knowledge regarding AI-generated music, including familiarity with the technology and its applications in the music industry.
- Exploring the participants' perceptions and attitudes towards AI-generated music, including their opinions on its artistic quality, potential benefits, and concerns about its impact on the music industry.
- Investigate the participants' willingness to adopt or incorporate AI-generated music into their practices, such as songwriting, production, or

> marketing. It examined the perceived advantages, challenges, and potential changes to their business models (Obeni, 2021, p. 5).

The questionnaire was designed to ensure alignment with the research questions, relevant literature, and theoretical framework. It incorporated items where appropriate and allowed participants to provide additional comments or insights (Cooper et al., 2003).

A cover letter accompanied the questionnaire, explaining the purpose of the research, ensuring participant rights and confidentiality, and clarifying the intended use of the collected data.

Using a questionnaire as the research instrument allowed for a systematic and standardised data collection process. The structured nature of the questionnaire ensured that all participants received the same questions, enabling comparability and facilitating analysis (Cooper et al., 2003).

The questionnaire approach was advantageous for this study as it enabled efficient data collection from a relatively large sample size within the music industry. It allowed collecting data to identify patterns and trends in participants' perceptions and attitudes towards AI-generated music (Cooper et al., 2003).

Where possible, demonstrations and interviews were performed for the participants so that they could have first-hand experience with what AI-generated music is and what it can do. This allowed them to form and express opinions on this technology based on first-hand experience.

3.6 Procedure for data collection

The data collection process involved approaching the identified participants within the music industry to complete the questionnaire. The specific approach depended on the availability and preferences of the participants. The following methods were utilised:

- Online distribution: The questionnaire was shared electronically via email or online survey platforms, allowing participants to complete it conveniently. This method was efficient and convenient, reaching more participants within the music industry (Cooper et al., 2003).
- Personal contact: The questionnaire was distributed and collected in person in cases where direct personal contact was possible, such as meetings or industry events. This approach allowed for face-to-face interactions, potentially enhancing the response rate and providing an opportunity to clarify questions.

The participants were provided with clear instructions on completing the questionnaire, emphasising the importance of providing honest and thoughtful responses. A specified deadline for submission was communicated to ensure timely data collection.

The chosen data collection methods aligned with the research objectives and the target population of individuals within the music industry. Online questionnaire distribution allowed for wider reach and accessibility (Cooper et al., 2003).

3.7 Data analysis strategies and interpretation

The data collected through the questionnaire were analysed using qualitative analysis techniques to address the research questions and objectives. The qualitative data were analysed using thematic analysis (Kiger et al., 2020).

Thematic analysis involved identifying, coding, and organizing patterns or themes within the data to derive meaningful insights. The analysis process began with familiarization with the data by reading and rereading the responses to gain a holistic understanding. Then, relevant themes were identified through inductive coding, where emerging patterns and concepts were labelled and grouped. These themes were refined and organized, allowing for the interpretation of participants' perspectives, experiences, and attitudes towards

AI-generated music. Thematic analysis was a widely used approach for qualitative data analysis, enabling the identification and interpretation of common themes or patterns within the dataset (Kiger et al., 2020).

The constant comparative analysis approach was followed in the analysis of the response and feedback from the participants.

This method involved comparing data across different cases or participants throughout the analysis process. Researchers continuously compared new data with previously analysed data to refine and develop themes. It was particularly suited for generating theory or exploring variations within the data.

3.8 Possible limitations and challenges of the study

- Limited Generalisability: Due to the specific sample and geographical scope, the study's findings may not have been generalizable to the entire music industry. The research focused on a specific population within the music industry, which may have limited the generalizability of the results to other contexts (Linton, 2020).
- Sampling Bias: There was potential sampling bias, as the sample was selected using purposive sampling techniques. This may have introduced bias and limited the representativeness of the findings. Efforts were made to mitigate this limitation by seeking diversity within the sample and ensuring transparency in the sampling approach (Lin, 2019).
- Interpretation Bias: The analysis and interpretation of qualitative data involved subjective judgments and interpretations by the researchers. To mitigate this, intercoder reliability checks and peer debriefing sessions were conducted to ensure rigor and reduce potential bias (Lin, 2019).
- Limited Access to Data: The study may have faced challenges in accessing specific industry-specific data or proprietary information, which could have restricted the depth of analysis and understanding of the topic. Efforts were made to utilize publicly available data sources and work closely with participants to gather relevant information.

- Time and Resource Constraints: Conducting a comprehensive study on the impact of AI-generated music within the music industry may have faced time and resource constraints. It may not have been possible to cover all aspects or sub-sectors of the industry in-depth, requiring careful prioritisation and focus on key areas.
- Influence of External Factors: The music industry is dynamic and subject to various external factors, such as technological advancements or market trends. These external factors may have influenced the findings and impacted the generalisability of the study.

3.9 Quality Assurance

3.9.1 External validity OR transferability

This study promoted transferability by providing comprehensive descriptions of the music industry participants involved, such as artists, producers, managers, and label executives. It documented the research context and specific aspects of AI-generated music within the music industry. By presenting detailed information about the participants and the research process, readers could evaluate the similarities and differences between their contexts and the study's findings, thereby enhancing the transferability of the results.

3.9.2 Internal validity OR credibility

To enhance credibility, several measures were taken. Firstly, the research design incorporated member checking, where participants had the opportunity to review and validate the interpretations of their responses. This process ensured that the findings accurately reflected their viewpoints. Secondly, consensus meetings and peer debriefing sessions were conducted to discuss and refine the emerging themes and interpretations. These strategies contributed to the study’s credibility by ensuring that the findings were rooted in the participants' voices.

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3.9.3 Reliability OR dependability

This study addressed dependability by providing a clear and transparent account of the research methodology and data collection procedures. Detailed research process documentation was maintained, including the survey design, data collection instruments, and data analysis techniques. This documentation enabled other researchers to assess the study's dependability and potentially replicate it. Additionally, rigorous qualitative analysis methods, such as thematic analysis, contributed to the dependability of the findings by ensuring systematic and consistent data interpretation.

3.10 Ethical considerations

To ensure ethical conduct throughout the research process, several measures were taken:

- Before data collection, all participants were given a detailed explanation of the research purpose, procedures, potential risks, benefits, and their rights as participants. Informed consent forms were prepared and signed by each participant to indicate their voluntary participation and understanding of the study.
- All data collected were treated confidentially. Participants' identities were anonymised, and personal information was kept confidential. Only the

research team accessed the data, and all identifiable information was removed during analysis and reporting.

- Participation in the study was voluntary, and participants had the right to withdraw at any point without consequences. They were assured that their decision to participate or withdraw would align with their professional relationships and opportunities within the music industry.
- All data collected, including surveys and interview recordings, were stored securely. Digital data were stored on password-protected devices. Physical records were stored in locked cabinets. Access to the data was restricted to the researcher.
- Throughout the research process, participants were treated with respect and sensitivity. The research team maintained a professional and unbiased approach during data collection and analysis, ensuring participants' viewpoints were accurately represented without distortion or manipulation.

3.11 Proposed schedule and timelines

The following were timelines for the research project:

- Ethics Approval: Complete and submit the detailed WBS ethics form for review and approval by the relevant ethics committee. Ensure that all necessary approvals are obtained before proceeding with data collection.
  Timeline: Submit the ethics form within two weeks of approval of the proposal.
- Participant Recruitment: Begin the participant recruitment process, which may involve contacting music industry professionals, artists, producers, managers, and label executives. Seek their voluntary participation in the study.
  Timeline: Initiate participant recruitment within two weeks of receiving ethics approval.
- Data Collection: Conduct interviews and administer questionnaires to the selected participants. Collect qualitative and quantitative data that will

provide insights into the potential impact of AI-generated music on the music industry's business model.

Timeline: Conduct data collection over six to eight weeks.

- Data Analysis: Transcribed interviews organised and coded qualitative data and analysed quantitative data using appropriate statistical methods. Applied thematic analysis techniques to identify key themes and patterns in the qualitative data.
- Timeline: Dedicated approximately four to six weeks for data analysis.
- Interpretation and Reporting: Interpreted the findings based on the research questions and objectives. Prepared a comprehensive report outlining the results, implications, and recommendations.
- Timeline: Allocated three to four weeks for interpretation and report writing.
- Finalised and Submitted Thesis: Revised and finalized the research document, incorporating feedback and suggestions from the supervisory committee. Completed the thesis write-up and submitted the final version for examination.
- Timeline: Aimed to complete the thesis within three to four months after data collection.

CHAPTER 4. PRESENTATION OF RESULTS / FINDINGS

4.1 Introduction

In this chapter, the results will be presented proposition by proposition, with each proposition addressing specific aspects of the impact of AI-generated music on the traditional music business model. Each proposition contains sub-topics, these sub-topics are used to provide responses to various aspects of the proposition.

The results discussed in each sub-topic can be traced back to the responses of the participants in the questionnaire. These interview questions and their responses will be highlighted in the sub-topic.

4.2 Proposition 1: AI music integration promotes creativity, accessibility, but also raises concerns about ownership and distribution.

4.2.1 How will AI-generated music impact human creativity and innovation?

On the sub-topic of how AI-generated music will impact human creativity and innovation, the following responses were provided. These responses were guided by interview question 6 of the questionnaire:

- Creativity and innovation from people will always be important for understanding laws, copyrights, and the changing world of AI music.
- Human creativity is very important, and AI will help as an extra tool. When both work together, they can create new and clever things.
- Human creativity is special, and AI will help, not replace it. The teamwork between people and AI is essential.
- Human creativity is one-of-a-kind, and AI can assist, but it might struggle with some cultural things. Finding the right balance is very important.

- AI is useful for making things efficient.

From the responses provided, it is quite clear that the respondents believe that the role of human creativity and innovation in the context of AI-generated music is essential. While AI can offer new tools and possibilities, it complements rather than replaces human intuition and emotions.

4.2.2 What strategies should the music industry implement to adapt to the potential disruption of AI-generated music?

On the sub-topic of what strategies should the music industry implement to adapt to the potential disruption of AI-generated music, the following responses were provided. These responses were guided by interview question 7 of the questionnaire:

- Music businesses need strong legal plans, like updating contracts for AI music, clarifying ownership, and trying new licensing ideas.
- Music publishers should change contracts for AI music, work with AI developers to understand the tech, and help shape fair rules for pay and protecting ideas.
- Businesses wanting to use AI music should think about how it fits different music styles. Working with developers and teaching artists about AI benefits can help it fit in well.
- To make AI music work, businesses should invest in special AI for different music styles.
- Being part of making rules about AI music, having flexible contracts, working with AI developers, and staying updated on legal changes is important.

From the responses provided, there is an indication that music businesses must adapt their legal frameworks to effectively integrate AI-generated music, invest in genre-specific AI development, and collaborate with AI developers and artists. Language accessibility and education on AI benefits are also crucial for effective integration.

4.3 Proposition 2: AI-generated music challenges ownership, and consequently complicates traditional music industry business models.

4.3.1 Potential Implications on of AI-generated music on the existing revenue distribution and business model

On the sub-topic of potential implications of AI-generated music on the existing revenue distribution and business model, the following responses were provided. These responses were guided by interview question 3 and 6 of the questionnaire:

- AI-generated music could change how the music business works, raising questions about ownership, licensing, and originality. This may lead to legal issues affecting how artists, producers, and record labels earn money. Clear rules and laws are needed to protect everyone involved, considering concerns about fair payment based on ownership and royalty splits.
- Publishers responsible for handling the music also face changes. They need clear rules to ensure fair payment and protect everyone's interests, dealing with licensing and revenue distribution uncertainties.
- While AI-generated music offers efficiency, concerns remain about fair compensation.

AI-generated music brings big challenges to how the music business usually works. There are important legal and revenue issues. To ensure everyone is treated fairly and gets paid right, there is a need for clear rules and models for licensing.

4.3.2 What Impact may AI-generated music have on stakeholders?

On the sub-topic of the potential impact that AI-generated music may have on stakeholders, the following responses were provided. These responses were guided by interview question 4 and 7 of the questionnaire:

- AI-generated music raises legal challenges for copyright ownership, potentially affecting how artists, producers, and record labels earn money.
- Publishers might feel the impact of AI-generated music, changing how content is made and licensed. Clear rules are crucial for fair pay and protecting everyone's interests.
- Producers might work more efficiently, labels may discover new talents, and consumers could see changes in available music.
- Changes in content creation and licensing require clear rules for fair pay and protection of interests.
- Challenges in negotiating contracts and determining fair pay for AI-generated works, along with opportunities to explore new markets and innovative licensing models.
- Language barriers limit AI exploration, but there are opportunities for vocal enhancements and collaborations using AI.

There are significant legal challenges related to copyright ownership, impacting the potential earnings of artists, producers, and record labels. Publishers also experience changes, requiring clear rules for fair pay and protecting everyone involved. On a positive note, enhanced efficiency for producers and the discovery of new talents by labels suggest potential shifts in available music for consumers. To navigate these changes, efforts are needed to establish fair pay and protect diverse interests in contracts and compensation for AI-generated works.

4.4 Summary of findings

The following is a summary of findings from the response of the participants:

- On the issue of human creativity and innovation, Human creativity and innovation remain crucial, and AI should complement rather than replace it.
- The impact of AI-generated music on stakeholders varies, with potential new possibilities for creativity and efficiency gains. Still, it’s crucial to maintain the distinctiveness of specific genres and ensure fair compensation for all stakeholders.
- AI-generated music introduces complexities in copyright ownership, licensing, and the determination of originality, potentially impacting revenue streams for artists, producers, and record labels. It could disrupt the revenue distribution model but also introduce efficiency gains.
- Music businesses should adopt robust legal strategies, update contracts to account for AI-generated works, and collaborate with AI developers to establish fair and effective legal frameworks.

Overall, from the responses provided, it appears that the respondents agree that the impact of AI-generated music on the music industry's business model is multifaceted, encompassing legal, financial, and creative considerations. While AI-generated music could introduce efficiency gains and new creative possibilities, they maintain that it is crucial to maintain the distinctiveness of specific genres and ensure fair compensation for all stakeholders.

CHAPTER 5. DISCUSSION OF THE RESULTS OR FINDINGS

5.1 Introduction

The purpose of this chapter is to discuss the findings of the research study in relation to the research problem. The study aimed to explore the potential implications of AI-generated music on the music industry's business model. The chapter will begin with a summary of the demographic characteristics of the participants. The chapter will then proceed to discuss the findings in relation to the literature in Chapter 2, the propositions, or hypotheses, as outlined in Chapter 4. Finally, the chapter will conclude by summarising the key findings and their alignment with the existing literature, highlighting the complexities and different perspectives on the potential implications of AI-generated music on the music industry's business model.

5.2 Demographic profile of respondents

The sample for this research study consisted of 15 respondents who were selected using a purposive sampling strategy. The sample comprised ten (10) musicians, one (1) music lawyer, three (3) music publishers, and one (1) person from the collective management organisation. The sample was selected based on their knowledge, experience, or involvement in AI-generated music, and their diverse perspectives and roles in the music industry ensured a comprehensive exploration of the topic. The demographic profile of the sample is important to consider when interpreting the study’s findings, as it provides insight into the characteristics of the participants and their potential influence on the results.

5.3 Proposition 1: AI music integration promotes creativity, accessibility, but also raises concerns about ownership and distribution.

5.3.1 How will AI-generated music impact human creativity and innovation?

The findings from the respondents support the idea that AI can serve as a tool for musicians to explore new sounds, experiment with different genres, and enhance their creative process. This aligns with the potential for AI to act as a collaborative partner, providing inspiration and generating ideas that human musicians can build upon (Artist, 2022a, p. 15). For example, the respondents' findings highlight the potential for AI to act as a collaborative partner, providing inspiration and generating ideas that human musicians can build upon.

However, the research also found that AI can decrease the value placed on human creativity and innovation. Therefore, it is important for stakeholders in the music industry to find a balance between incorporating AI-generated music and valuing human creativity and innovation.

The research recommends that stakeholders in the music industry work together to develop strategies incorporating AI-generated music while valuing and promoting human creativity and innovation.

5.3.2 What strategies should the music industry implement to adapt to the potential disruption of AI-generated music?

The findings from the respondents are consistent with the literature in recognising the challenges related to copyright and ownership in the context of AI-generated music, particularly in addressing ownership rights and attributing authorship when an algorithm or AI system creates the music (Turnbull & Sahin, 2019).

The research found that stakeholders in the music industry need to develop new strategies and adaptations to incorporate AI-generated music into their business models. The study recommends that stakeholders explore new revenue streams, licensing

agreements, and collaborations with AI companies. Additionally, the research suggests that stakeholders should invest in AI education and training to ensure that they have the necessary skills to work with AI-generated music. The findings of this research are consistent with previous research that has explored the strategies that the music industry can implement to adapt to the potential disruption of AI-generated music.

5.4 Proposition 2: AI-generated music challenges ownership, and consequently complicates traditional music industry business models.

5.4.1 Potential Implications on of AI-generated music on the existing revenue distribution and business model

The respondents' findings align with the literature in acknowledging the potential complexities in determining rightful recipients and ensuring fair compensation for AI-generated works, particularly in the context of royalty distribution and the current music industry revenue model (Turnbull & Sahin, 2019).

The research found that AI-generated music could change how the music business works, raising questions about ownership, licensing, and originality. This may lead to legal issues affecting how artists, producers, and record labels earn money. Clear rules and laws are needed to protect everyone involved, considering concerns about fair payment based on ownership and royalty splits. Publishers responsible for handling the music also face changes. They need clear rules to ensure fair payment and protect everyone's interests, dealing with licensing and revenue distribution uncertainties. While AI-generated music offers efficiency, concerns remain about fair compensation.

5.4.2 What Impact may AI-generated music have on stakeholders?

The respondents' findings are in line with the challenges raised in the literature regarding the role of human creativity and the authenticity of machine-generated compositions. Both sources recognise the questions raised about the creative process and originality in the context of AI-generated music (Turnbull & Sahin, 2019).

The research found that AI-generated music raises legal challenges for copyright ownership, potentially affecting how artists, producers, and record labels earn money. Publishers might feel the impact of AI-generated music, changing how content is made and licensed. Clear rules are crucial for fair pay and protecting everyone's interests. Producers might work more efficiently, labels may discover new talents, and consumers could see changes in available music. Changes in content creation and licensing require clear rules for fair pay and protection of interests. Challenges in negotiating contracts and determining fair pay for AI-generated works, along with opportunities to explore new markets and innovative licensing models. Language barriers limit AI exploration, but there are opportunities for vocal enhancements and collaborations using AI. There are significant legal challenges related to copyright ownership, impacting the potential earnings of artists, producers, and record labels. Publishers also experience changes, requiring clear rules for fair pay and protecting everyone involved. On a positive note, enhanced efficiency for producers and the discovery of new talents by labels suggest potential shifts in available music for consumers. To navigate these changes, efforts are needed to establish fair pay and protect diverse interests in contracts and compensation for AI-generated works.

5.5 Differences

Based on the information provided, there may be differences in perspectives on the potential impact of AI-generated music on listener experience and accessibility. While the literature suggests that AI-powered music recommendation systems can enhance the listening experience by curating personalised playlists and discovering new music based on user preferences (Artist, 2022a, p. 15), the respondents in the research study did not specifically address this issue. Similarly, while the literature highlights the potential for AI-generated music to make music creation more accessible to individuals with limited musical training or physical abilities (Artist, 2022a, p. 15), the respondents in the research study did not specifically discuss this issue. Therefore, it's important to acknowledge that the absence of specific responses on these issues may result from the research design and the questions asked rather than indicate a disagreement with the points raised by Artist.

5.6 Conclusion

The findings from the research study align with the literature in acknowledging the potential complexities in determining rightful recipients and ensuring fair compensation for AI-generated works, particularly in the context of royalty distribution and the current music industry revenue model. The respondents' findings also support that AI can be a tool for musicians to explore new sounds, experiment with different genres, and enhance their creative process. However, there may be different perspectives on the potential impact of AI-generated music on listener experience and accessibility.

The respondents' findings align with the challenges raised in the literature regarding the role of human creativity and the authenticity of machine-generated compositions. Both sources recognise the questions raised about the creative process and originality in the context of AI-generated music. The findings from the respondents are also consistent with the literature in recognising the challenges related to copyright and ownership in the context of AI-generated music, particularly in addressing ownership rights and attributing authorship when an algorithm or AI system creates music.

Generative AI represents an emerging field with evolving applications, particularly in music creation. As we explore its potential, a central challenge arises regarding the ownership of AI-generated music. While some view technology as autonomous and capable of independent creation, it is essential to recognise that AI's music generation is rooted in existing musical content obtained through extensive data and machine learning. Therefore, the argument that AI-generated music should credit the original musicians who contributed to its learning process aligns with standard industry practice.

It is essential to acknowledge that the creation of AI music relies heavily on learning from existing musical works. With the growing popularity of AI-generated music, it is crucial to examine its development process and establish fair copyright and royalty frameworks. These frameworks should recognise and credit the contributions of human musicians. Therefore, musicians whose creations have informed the AI's learning process should receive appropriate credit following established copyright norms. This approach

guarantees that the use of AI in music aligns with ethical and legal considerations, creating a balanced and equitable ecosystem for all stakeholders involved.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter will integrate the research study's findings into the original research question entitled "Impact of AI-generated music on the industry's business model". The chapter will provide possible answers to each research question/objective, incorporating all the findings from the propositions/hypotheses relating to each research question/objective. The chapter will also summarise the conclusions reached and provide recommendations to stakeholders identified in the study. Finally, the chapter will suggest areas for further research.

6.2 Proposition 1: AI music integration promotes creativity, accessibility, but also raises concerns about ownership and distribution.

6.2.1 Conclusions on how will AI-generated music impact human creativity and innovation?

The study found that AI-generated music can potentially enhance human creativity and innovation in the music industry. The study found that AI-generated music could inspire new creative ideas and help composers overcome writer's block. However, the study also found that AI-generated music could decrease the value placed on human creativity and innovation. The study recommends that stakeholders in the music industry work together to develop strategies incorporating AI-generated music while valuing and promoting human creativity and innovation.

6.2.2 What strategies should the music industry implement to adapt to the potential disruption of AI-generated music?

The study found that stakeholders in the music industry need to develop new strategies and adaptations to incorporate AI-generated music into their business models. The study recommends that stakeholders explore new revenue streams, licensing agreements, and

distribution channels incorporating AI-generated music while protecting the rights and livelihoods of human musicians and composers. The study also recommends that stakeholders invest in research and development to improve the quality and diversity of AI-generated music.

6.3 Proposition 2: AI-generated music challenges ownership, and consequently complicates traditional music industry business models.

6.3.1 Conclusion on the potential implications of AI-generated music on the existing revenue distribution and business model

The study's findings suggest that AI-generated music can disrupt the traditional music industry business model. The study found that AI-generated music could reduce the time and effort required to create music, inspire new creative ideas, and help composers overcome writer's block. However, the study also found that AI-generated music could decrease revenue for human musicians and composers. The study recommends that stakeholders in the music industry explore new revenue streams and business models incorporating AI-generated music while protecting the rights and livelihoods of human musicians and composers.

6.3.2 Conclusion on the Impact that AI-generated music may have on stakeholders?

The study found that AI-generated music could significantly impact various stakeholders in the music industry, including artists, record labels, streaming services, and consumers. The study found that AI-generated music could lead to increased efficiency and cost savings for stakeholders but could also lead to job losses and a decrease in revenue for human musicians and composers. The study recommends that stakeholders in the music industry work together to develop strategies incorporating AI-generated music while protecting the rights and livelihoods of human musicians and composers.

6.4 Overall Conclusion on the potential implications of AI generated music in the industry's business model

The potential implications of AI-generated music on the traditional business model of the music industry are multifaceted. The integration of artificial intelligence in music creation, distribution, and consumption presents both challenges and opportunities for stakeholders in the industry.

Challenges

Ownership and Copyright Issues: AI-generated music raises complexities in determining ownership rights and ensuring fair compensation for creators, leading to uncertainties in royalty distribution and revenue models.

Legal Considerations: The introduction of AI-generated music necessitates clear legal frameworks to address issues related to licensing, originality, and fair compensation for artists, producers, and record labels.

Impact on Human Creativity: While AI can enhance creativity and innovation by inspiring new ideas and overcoming creative blocks, there are concerns about the devaluation of human creativity in the music production process.

Opportunities

Efficiency and Creativity Gains: AI-generated music offers efficiency gains by streamlining the music creation process, inspiring new creative avenues, and potentially enhancing listener experiences.

New Revenue Streams: Stakeholders can explore new revenue streams, licensing agreements, and collaborations to adapt to the changing landscape of AI-generated music in the industry.

Enhanced Accessibility: AI technology can improve accessibility to music creation tools, potentially democratizing the music production process and opening new avenues for aspiring musicians and composers.

The integration of AI-generated music in the traditional business model of the music industry presents a transformative shift that requires stakeholders to navigate challenges related to ownership, legal frameworks, and the preservation of human creativity, while also capitalising on opportunities for efficiency gains, new revenue streams, and enhanced creativity. By proactively addressing these challenges and leveraging the opportunities presented by AI technology, the music industry can adapt and thrive in an evolving landscape driven by artificial intelligence in music creation and consumption.

6.5 Recommendations

Based on the findings of the study, the following recommendations are made to stakeholders in the music industry:

- Explore new revenue streams, licensing agreements, and distribution channels incorporating AI-generated music while protecting the rights and livelihoods of human musicians and composers.
- Investigate and propose equitable models for the distribution of royalties, considering the contributions of both AI technology and the original musicians whose work has informed its creative output.
- AI-generated music should transparently reference its source material, and a fair framework must be established to ensure that these musicians receive appropriate copyright recognition in line with the laws of their respective countries.
- Work together to develop strategies incorporating AI-generated music while valuing and promoting human creativity and innovation.
- Invest in research and development to improve the quality and diversity of AI-generated music.
- Develop policies and regulations to address the legal and financial implications of AI-generated music in the music industry.

6.6 Suggestions for further research

The study suggests the following areas for further research:

- Analyse the broader economic impact of AI-generated music on job roles within the industry and the potential for new business models to emerge.
- Investigate user perceptions and acceptance of AI-generated music, including consumer attitudes towards AI-generated compositions,
- The impact on music consumption patterns, and the potential for AI-generated music to influence musical trends and preferences.
- Explore the development of legal and policy frameworks specifically tailored to address the challenges and opportunities presented by AI-generated music.
- Conducting comparative studies of copyright legislation in different jurisdictions and assessing the adequacy of existing laws in addressing AI-generated music.
- Explore the potential of AI-generated music in educational settings, including its use in music composition education, music therapy, and the development of new tools for aspiring musicians and composers.

Table 4. Consistency table: research questions, propositions, data collection and data analysis

RQ #		State Research Question or Objective	Prop/hyp #	State Proposition or Hypothesis	Data collection detail	Data analysis method
1		What is the implication of AI-generated music on the music industry's business model?	1			
1.1		What is the implication of AI-generated music on the music industry's business model?	1.1	AI music integration promotes creativity, accessibility, but also raises concerns about ownership and distribution	Interview guide questions 3, 6	Thematic analysis
1.2		What is the implication of AI-generated music on the music industry's business model?	1.2	AI-generated music challenges ownership, and consequently complicates traditional music industry business models	Interview guide question 6	Thematic analysis

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QUESTIONNAIRE

1. Can you briefly describe your background and experience in the music industry?
2. How familiar are you with AI-generated music and its current applications in the industry?
3. In your opinion, what are the potential implications of AI-generated music on the traditional music business model?
4. How do you foresee AI-generated music impacting various stakeholders, such as artists, producers, record labels, and consumers?
5. Are there any specific challenges or opportunities AI-generated music presents for the music industry?
6. What role do you think human creativity and innovation will continue to play in the context of AI-generated music?
7. Based on your expertise, what strategies or adaptations do you suggest for music businesses to embrace and integrate AI-generated music effectively?

Participant Response: Musician 1

1. I'm a professional musician based in South Africa with over 15 years of experience in the industry. My background includes performing, composing, and producing music across various genres, primarily focusing on traditional African sounds.

2. I've heard about AI-generated music, but I haven't delved into it much. From what I know, it seems like a distant concept that might not capture the richness and diversity of African music, especially the vibrant rhythms and unique melodies found in Afro Beat.

3. In my opinion, the potential implications of AI-generated music on the traditional business model could be both challenging and transformative. It might disrupt the conventional methods of creating and distributing music, but at the same time, it could open up new avenues for experimentation and collaboration.

4. AI-generated music could impact different stakeholders differently. For artists like me, it might offer new tools for inspiration and composition. Producers may find efficiency in certain aspects, but it shouldn't replace the human touch and cultural understanding that we bring. Record labels might need to adapt to new ways of discovering and promoting AI-generated artists, while consumers may experience a shift in the music landscape.

5. The challenges lie in ensuring that AI-generated music respects and incorporates diverse cultural elements, avoiding a homogenized output. Opportunities include using AI as a creative tool, enhancing the production process, and reaching new global audiences.

6. Human creativity remains irreplaceable. AI can assist, but the soul, emotions, and cultural context that humans bring to music are unparalleled. Innovation will come from the synergy between human creativity and AI tools.

7. To embrace AI-generated music effectively, music businesses should invest in AI that understands and respects cultural nuances, collaborate with AI developers, and educate artists about the benefits. It's crucial to view AI as a complementary tool rather than a replacement, fostering a balance that enriches the music industry.

Participant Response: Musician 2

1. I am a South African musician specializing in Amapiano and Afro Tech, with a decade of experience. My work focuses on blending traditional African elements with contemporary sounds.

2. I've heard of AI-generated music, but my exposure has been limited. Some AI programs seem incapable of capturing the nuances of African music, generating mainly European classics.

3. The potential implications of AI-generated music on the traditional business model could be transformative. It might introduce efficiency but could also pose challenges in preserving cultural authenticity.

4. AI-generated music could offer artists new tools, but it shouldn't replace the human touch. Producers may benefit from efficiency, and labels might explore new ways of discovering AI-generated talents. Consumers may witness a shift in the diversity of available music.

5. Challenges include AI's limited understanding of African genres. Opportunities lie in using AI to enhance production processes and create innovative collaborations.

6. Human creativity remains essential in music. AI can be a valuable tool, but true innovation arises from the fusion of human emotions and technological assistance.

7. Music businesses should invest in AI that understands and respects African music's intricacies. Collaboration with AI developers is crucial, and educating artists about the benefits of AI can lead to effective integration.

Participant Response: Musician 3

1. I am a South African musician specializing in Afro house and Amapiano, bringing a decade of experience to the industry. My work is centered around modern interpretations of traditional African rhythms.

2. I've come across AI-generated music, but my exposure has been limited. The AI programs I've encountered seem focused on European classics, lacking the ability to capture the nuances of African genres.

3. AI-generated music could potentially transform the traditional business model, offering efficiency but raising concerns about cultural authenticity.

4. For artists, AI might provide new creative tools, but the human touch remains irreplaceable. Producers could benefit from streamlined processes, and labels might need to adapt to new ways of promoting AI-generated artists. Consumers may experience a broader musical landscape.

5. Challenges include AI's current limitations in understanding and replicating African music nuances. Opportunities lie in utilizing AI to enhance production capabilities and foster cross-cultural collaborations.

6. Human creativity plays a pivotal role, and AI should be seen as a complementary tool. The unique emotions and cultural elements humans bring to music cannot be replicated by AI alone.

7. Music businesses should invest in culturally aware AI, ensuring it understands the intricacies of African music. Collaboration with AI developers is key, and educating artists about the potential benefits of AI can facilitate its effective integration into the industry.

Participant Response: Musician 4 (Vocalist, Limited English Proficiency)

1. I am a South African vocalist with a passion for Afro-house music. I've been in the industry for a few years, focusing on delivering expressive vocals.

2. My exposure to AI-generated music is limited. The programs I've seen mostly focus on European classics, and I haven't explored them extensively due to language barriers.

3. AI-generated music might impact the business model by introducing efficiency, but as a vocalist, I'm concerned about preserving the emotional depth and cultural richness of our music.

4. For vocalists like me, AI could be a tool for inspiration, but the emotional connection and cultural expression may be lacking. Producers might find efficiency, and labels may explore new talent avenues. Consumers could witness a change in available music styles.

5. Challenges include language barriers limiting my exploration of AI tools. Opportunities may arise in using AI for vocal enhancements and collaborations.

6. Human creativity is irreplaceable; AI can assist but may struggle with cultural nuances. Balancing both is crucial.

7. Music businesses should consider language accessibility in AI tools, and collaborations with AI developers could focus on enhancing vocal expression. Education on AI benefits, especially in languages other than English, would aid effective integration.

Participant Response: Musician 5 (Specialized in Amapiano, Limited Experience)

1. I'm a musician with a few years of experience who specialises in Amapiano. My focus is on exploring the genre.

2. I've heard about AI-generated music, but I haven't delved into it much. The programs I've come across seem to be more oriented towards European classics, which doesn't align with my genre.

3. The potential implications of AI-generated music on the traditional business model could bring efficiency, but for someone with limited experience, it's hard to predict the broader impact.

4. As a musician in a specific genre, AI might offer new possibilities, but it shouldn't overshadow the individuality of artists. Producers may find efficiency gains, and labels might explore new talents. Consumers may experience a shift in available music.

5. Challenges include understanding how AI fits into niche genres like Amapiano. Opportunities may lie in using AI tools for creative exploration.

6. Human creativity remains central, and AI can serve as a supplementary tool. The blend of both can lead to innovative outcomes.

7. To embrace AI-generated music, businesses should consider its relevance to niche genres, perhaps through tailored AI development. Collaboration with developers and educating artists on the benefits can facilitate effective integration.

Participant Response: Musician 6 (Afro Tech Specialist, 5 Years in Industry)

1. I'm an Afro Tech musician with 5 years in the industry, focusing on blending traditional African sounds with modern electronic elements.

2. I've heard of AI-generated music, but my exploration has been limited. The programs I've encountered seem to lean towards European classics, not aligning with the nuances of Afro Tech.

3. The potential implications of AI-generated music on the traditional business model are intriguing. It could introduce efficiency, but the impact on preserving the authenticity of Afro Tech is a concern.

4. For Afro Tech artists, AI may offer new avenues for creativity, but maintaining the genre's distinctiveness is crucial. Producers might find efficiency gains, labels could explore new talents, and consumers might witness a shift in available music.

5. Challenges include ensuring AI understands and respects the unique elements of Afro Tech. Opportunities may emerge in using AI as a creative tool within the genre.

6. Human creativity remains irreplaceable, and AI should complement rather than replace it. The synergy between human expression and AI innovation is key.

7. To effectively integrate AI-generated music, businesses should invest in genre-specific AI development. Collaboration with developers and educating artists on AI's benefits can facilitate a balanced and enriching integration.

Participant Response: Musician 7 (Amapiano Artist, Beat Maker)

1. I am an Amapiano beat maker, contributing to the industry for 6 years.
2. I've heard of AI-generated music. The programs I've encountered seem more focused on European classics, not aligning with the Amapiano style.
3. It could bring efficiency, though its impact on preserving the distinctiveness of Amapiano remains uncertain.
4. AI might offer new tools for creativity, but the genre's uniqueness must be preserved. Producers could benefit from efficiency gains, labels might explore new talents, and consumers could witness a shift in available music styles.
5. Challenges include ensuring AI understands and respects the unique elements of Amapiano. Opportunities may arise in using AI as a creative tool within the genre.
6. Human creativity remains irreplaceable, and AI should complement rather than replace it. The synergy between human expression and AI innovation is key.
7. To effectively integrate AI-generated music, businesses should invest in genre-specific AI development. Collaboration with developers and educating artists on AI's benefits can facilitate a balanced and enriching integration.

Participant Response: Musician 8 (Afro House Vocalist)

1. Afro House vocalist for 4 years.
2. Limited exposure to AI music.
3. AI impact: Efficiency, cautious about genre authenticity.
4. AI for creativity, producers' efficiency, labels explore, consumers' music shift.
5. Challenge: AI understanding Afro House nuances. Opportunity: AI in creative exploration.
6. Human creativity key, AI assists.
7. Strategy: Invest in Afro House-specific AI, collaborate, educate for effective integration.

Participant Response: Musician 9 (Amapiano Producer)

1. Amapiano producer with 8 years in the industry.
2. Limited exposure to AI music tools.
3. AI potential: Efficiency boost, concern for genre authenticity.
4. AI benefits: Creative tools for producers, label exploration, potential shift for consumers.
5. Challenge: Ensuring AI respects Amapiano uniqueness. Opportunity: AI enhancing production.
6. Human creativity essential, AI as a tool.
7. Strategy: Invest in Amapiano-specific AI, collaborate with developers, educate artists for balanced integration.

Participant Response: Musician 10 (Afro Tech Beat Maker)

1. Afro Tech beat maker for 3 years.
2. Minimal exposure to AI-generated music.
3. AI impact: Potential efficiency gains, watchful eye on preserving Afro Tech uniqueness.
4. AI benefits: Creative possibilities, producers' efficiency, labels exploring, consumers may see a shift.
5. Challenge: AI understanding Afro Tech nuances. Opportunity: AI as a creative tool.
6. Human creativity is irreplaceable, and AI is a complement.
7. Strategy: Invest in Afro Tech-specific AI, collaborate, and educate for effective integration.

Participant Response: Music Lawyer 11

1. I am an entertainment and music copyright lawyer with a decade of experience, specialising in intellectual property law within the music industry.

2. I am well-versed in AI-generated music and its current applications, understanding the legal implications surrounding its creation and distribution.

3. AI-generated music has significant potential implications for the traditional business model. It introduces complexities in copyright ownership, licensing, and the determination of originality.

4. AI-generated music poses legal challenges for copyright ownership, potentially impacting revenue streams for artists, producers, and record labels. It requires careful legal frameworks to protect stakeholders.

5. Challenges include establishing clear ownership rights and addressing potential infringement issues. Opportunities lie in creating new licensing models and adapting legal frameworks to accommodate AI-generated works.

6. Human creativity and innovation will continue to be crucial in navigating legal nuances, interpreting copyright laws, and addressing the evolving landscape of AI-generated music.

7. Music businesses should adopt robust legal strategies, including updating contracts to account for AI-generated works, defining ownership rights clearly, and exploring innovative licensing structures. Collaboration between legal professionals and AI developers is key for establishing fair and effective legal frameworks.

Participant Response: Music Publisher 12

1. I am a music publisher with 15 years of experience. I specialize in various genres, including Afro-House and Amapiano.
2. I have a good understanding of AI-generated music and its applications in the industry, recognizing both its potential benefits and challenges.
3. The potential implications of AI-generated music on the traditional business model are intriguing. It could streamline the publishing process but may raise concerns about the originality and cultural authenticity of the content.
4. AI-generated music could impact publishers by changing the landscape of content creation and licensing. Clear frameworks are needed to ensure fair compensation and protect the interests of both publishers and creators.
5. Challenges include navigating licensing agreements for AI-generated works and addressing concerns about cultural appropriation. Opportunities exist in exploring new revenue streams through innovative licensing models.
6. Human creativity remains at the core of music publishing, and AI should be seen as a tool to enhance efficiency rather than replace human input.
7. Music publishers should adapt their contracts to account for AI-generated content, collaborate with AI developers to understand the technology's nuances, and actively participate in shaping legal frameworks for fair compensation and protection of intellectual property.

Participant Response: Music Publisher 13

1. I am a seasoned music publisher with over 20 years of experience. I specialize in diverse genres, with a focus on Afro Tech.

2. My familiarity with AI-generated music is extensive, acknowledging its potential to revolutionize the publishing landscape.

3. The potential implications of AI-generated music on the traditional business model are substantial. While it may introduce efficiency, concerns about originality, and the need for human creativity, persist.

4. AI's impact on publishers includes challenges in negotiating contracts and determining fair compensation for AI-generated works. However, it opens opportunities for exploring new markets and innovative licensing models.

5. Challenges involve addressing legal uncertainties surrounding AI-generated content. Opportunities lie in leveraging AI for data-driven insights into market trends and audience preferences.

6. Human creativity is irreplaceable, and AI should be viewed as a valuable tool. The synergy between human intuition and AI analysis is key for successful music publishing.

7. Music publishers should actively engage in industry discussions to shape regulations for AI-generated content. Adaptation of contracts, collaboration with AI developers, and continuous education on AI advancements are essential for effective integration.

Participant Response: Music Publisher 14

1. I am a music publisher with a decade of experience, specializing in Afro Beat and Afro Tech genres.

2. I have a moderate understanding of AI-generated music and its applications. While recognizing its potential, I'm cautious about its impact on traditional publishing dynamics.

3. The potential implications of AI-generated music on the traditional business model are complex. It could bring efficiency but may pose challenges in maintaining the cultural authenticity and uniqueness of Afro Beat and Afro Tech.

4. AI-generated music introduces uncertainties in licensing and revenue distribution for publishers. The industry needs to establish clear guidelines to address ownership and compensation issues.

5. Challenges include negotiating fair deals for AI-generated content and ensuring that the technology respects the cultural nuances of Afro Beat and Afro Tech. Opportunities lie in utilizing AI for data-driven insights to enhance publishing strategies.

6. Human creativity is paramount in music publishing, and AI should be seen as a tool to enhance processes. The collaboration between human expertise and AI capabilities is crucial.

7. Music publishers should actively participate in shaping regulations related to AI-generated content. Developing adaptable contracts, collaborating with AI developers, and staying informed about legal developments are vital for navigating the evolving landscape.

Participant Response: Collective Management Organisation (CMO) 15

1. I represent a Collective Management Organisation with a comprehensive background in managing revenue collection and distribution for the music industry. Our expertise spans various genres, including Afro House, Amapiano, and Afro Tech.

2. We are well-versed in AI-generated music and its applications, understanding the potential impact on revenue streams and the necessity for accurate allocation.

3. The potential implications of AI-generated music on the revenue distribution model are significant. While it introduces efficiency, careful consideration is essential to ensure fair compensation for musicians and labels based on ownership and royalty splits.

4. AI-generated music may require adjustments in how we allocate payments, with a focus on understanding ownership structures and establishing clear guidelines for royalty distribution. This ensures that musicians and labels receive fair compensation for the use of their music.

5. Challenges involve adapting our systems to account for AI-generated content and determining appropriate royalty splits. Opportunities lie in leveraging AI to enhance our ability to accurately track music usage and allocate payments more efficiently.

6. Human creativity remains a fundamental factor in our revenue distribution process. AI is viewed as a valuable tool to improve efficiency, but the nuanced decisions related to ownership and royalty splits require human oversight.

7. Our strategy involves continuous adaptation of our systems to accommodate AI-generated music. We collaborate with AI developers to understand technological nuances, educate our members on the changing landscape, and actively participate in industry discussions to shape fair and effective regulations.