

AI IN MUSIC – IN TUNE OR OUT OF SYNC?

A QUALITATIVE THESIS EXPLORING WHAT FACTORS MAY INFLUENCE THE PROCESS OF TECHNOLOGY ACCEPTANCE AND USAGE BEHAVIOR OF AI IN THE CREATIVE MUSIC PRACTICES OF PROFESSIONAL MUSICIANS

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AI in Music – In Tune or Out of Sync?: A Qualitative Thesis Exploring What Factors may Influence the Process of Technology Acceptance and Usage Behavior of AI in the Creative Music Practices of Professional Musicians

Abstract:

Artificial Intelligence has emerged as a rapidly advancing technology in various sectors, including the music sector, and the usage of assisting and generative AI tools in music practices has led to extensive media debate. The potential benefits and consequences of AI music technologies could impact musicians' perceptions and usage behaviors of AI. Given the scarceness of literature covering this topic, the purpose of this thesis is to investigate what factors may influence musicians' "technology acceptance" and usage behaviors of AI in their creative music practices, i.e. what factors may influence the determinants within "the technology acceptance process"; perceived usefulness, perceived ease of use, intention to use, and usage behavior. Using a qualitative method, eight semi-structured interviews were conducted with professional musicians – holding expertise in a variety of music areas. A thematic analysis was used for examining the empirical data, which revealed three new antecedents that may influence musicians' acceptance (process) of AI; collaborative potential with AI, social influence, and technological self-efficacy. Additionally, key findings introduced three novel determinants (with two antecedents each) that may significantly influence musicians' acceptance (process) of AI; artistic values, socio-emotional needs, and uncertainty.

Keywords:

Artificial Intelligence, Creative music practices, Technology Acceptance Model 2 (TAM2), Perceived usefulness, Perceived ease of use, Intention to Use, Usage Behavior, Technology acceptance process.

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1. Introduction

Artificial Intelligence (AI) has been revolutionizing various industries since its inception in the 1950s, including healthcare, financial management, and manufacturing (Marr, 2023). With advancements in machine learning and deep learning, AI has also integrated into industries defined by human creativity, such as the music sector, for instance, in music education practices (Li & Wang, 2023; Yu et al., 2023) and music production practices (Deruty et al., 2022). In 2023, the Swedish music organization STIM released a report stating that, even though AI is not a complete revolution in the music industry, AI technologies are becoming more advanced and currently have an impact on both musicians and music consumers, (STIM, 2023). As stated in STIM's report, AI is now able to assist with a variety of creative music practices such as music production, music performance, music composition, and songwriting (STIM, 2023). Furthermore, as AI technologies have developed and become more widely available, there has been a rise in research on the topic of "AI in music" as well as media debates and broad discussions about policy regulations and AI's potential impacts on society as well as on musicians and other actors within the music sector (Fahlén, 2023; STIM, 2023). Professional musicians and other actors in the music industry, both in Sweden and internationally, are voicing growing concerns about the current, and potential future, usage of AI technologies in the music industry, primarily due to certain AI music platforms being trained on copyrighted music without the consent of the music creators who own the songs (Donahue, 2023). For instance, the music label Universal Music Group requested that numerous streaming services, including Spotify (a Swedish streaming service company), prohibit AI companies from accessing UMG's copyrighted music for AI training purposes in order to protect music creators' copyright (Donahue, 2023).

Regarding how professional musicians view the usage of AI in creative music practices, their views appear to be diverse; while some perceive AI as a useful tool in music creation practices, others perceive AI as a threat to their job security in the music sector and/or music industry (Fahlén, 2023). Furthermore, some musicians in Sweden, such as professional songwriters, testify that the music industry is facing a shift and that many musicians fear losing their jobs (Lindstedt, 2023). Other professional musicians are exploring the potential advantages and disadvantages of AI tools in creative music practices. Notably, ABBA's Björn Ulvaeus, a prominent Swedish artist, believes that learning about AI's creative abilities and how AI models operate will help us protect the authorship rights of (human) music creators (Duran, 2023).

Furthermore, researchers in the field of AI in music practices believe that AI can serve as a collaborative tool, enhancing human creativity in music creation processes (Fahlén, 2023). However, they also acknowledge that some music creators have been negatively

impacted by the rapid development and availability of numerous AI tools in creative music practices (SAMI, n.d.).

1.1. Background

1.1.1. Artificial Intelligence

Artificial Intelligence (AI) is an advanced and continuously evolving technology defined as the automation of activities related to human thinking; including learning, problem solving, and decision-making (Bellman, 1978). AI incorporates human behavior and intelligence into systems or machines (Sarker et al., 2021) and is a broad field including several subfields, such as machine learning and deep learning (Soori et al., 2023). Machine learning algorithms learn by analyzing and discovering patterns in data (Samuel, 2000), while deep learning mimics the structure and functions of the human brain (Sarker et al., 2021) and aims to learn how to solve tasks along the way (Corea, 2019).

1.1.2. Artificial Intelligence in music

In the field of music, AI algorithms have previously been used primarily within music analysis, recommendations for playlists (on streaming services), and music production software (Fahlén, 2023). However, *generative AI* has recently gained media attention for its capabilities to create music (Fahlén, 2023). *Generative AI music tools*, based on machine learning (Fahlén, 2023) and deep learning algorithms (Zhu et al., 2024), refer to AI tools that can create songs, lyrics, music chord suggestions, and more. Some create music based on the styles of different composers, while others create completely new sounds, using machine learning algorithms. However, the aesthetic value of AI generated music is limited, and most AI systems do not generate music that sounds human (Fahlén, 2023). There are various generative AI music platforms, such as Boomy, AIVA, Soundful, Beatoven, and Loudly (AIVA, 2024; Boomy, 2023; M. Johansson, 2023; LimeWire, 2023; Soundful, 2024). Moreover, *assisting AI music tools*, based on machine learning and deep learning algorithms, refer to AI tools that do not create music themselves but rather help their users with altering their (human-made) musical piece by changing the pitch, removing instruments or vocals (singing vocals) from an audio file, or adding voice filters (D. Johansson, 2023; Production Music Live, 2024). Assisting AI tools, like the Moises app, Landr Mastering, and Studioverse, are mainly used in music practices such as music creation and music production (D. Johansson, 2023; M. Johansson, 2023; Moises, 2023; Production Music Live, 2024).

1.1.3. Sweden's music scene

According to a recent report from STIM, Sweden is the world's third-largest exporter of music, and the Swedish music industry's turnover in 2019 (prior to the covid-19

pandemic) was over SEK 12 billion (STIM, 2023). Moreover, Sweden has a significant impact on the international music industry (STIM, 2023), with Swedish musicians (music producers, songwriters, instrumental music composers, and live musicians) as the key stakeholders contributing to Sweden's music export revenue (Portnoff, 2022). The so-called "Swedish musical wonder" has its roots in the global appreciation for Swedish music in a variety of musical genres (Portnoff, 2022).

1.2. Purpose and Research Question

Due to the rapid advancement of AI in recent years, its increased presence in the music sector may lead to a change in the beliefs, individual experiences, attitudes, and perceptions of AI usage in creative music practices, as well as a change in musicians' usage behaviors of AI technologies. Therefore, this thesis aims to examine and gain an in-depth, nuanced understanding of the factors influencing professional musicians' perceptions of AI usage in music practices, as well as their intentions to use (or not use) AI in music practices, and their previous, current and/or potential usage behaviors of currently available AI technologies in their creative music practices.

That is, what factors may influence their "acceptance", or rather, influence these variables (determinants) within the "technology acceptance process"; perceived usefulness, perceived ease of use, intention to use, and usage behavior of technology – i.e. of AI technologies in music practices. Hence, this thesis will examine what factors may influence the process of technology acceptance and usage behavior (usage, or potential usage) of currently available AI technologies in the creative music practices of professional musicians.

Thus, the research question guiding this thesis is:

What factors may influence professional musicians' "acceptance" of AI usage in their creative music practices? – That is, what factors may influence the perceived usefulness, perceived ease of use, intention to use, and usage behavior (i.e. determinants within the "technology acceptance process") of AI technologies in the creative music practices of professional musicians?

1.3. Delimitations and Scope

Firstly, the scope regarding what kind of AI technology is examined in this thesis includes all AI technologies currently available and applicable in creative music practices, however, the AI technologies discussed during the interviews are delimited to, or defined as, "assisting AI software" and "generative AI software".

Secondly, the music sector and music industry consist of various types of actors, and thus, given the constraints of the timeline and scope of the research process, this thesis

is delimited to examining the perspectives of professional musicians. Hence, this thesis does not examine AI acceptance among other actors within the music sector or music industry (e.g. music industry managers) and therefore does not examine the organizational implementation process of AI in the music sector, music industry, or within a specific company.

1.4. Expected Contributions

Current research focusing on the technology acceptance of AI among professional musicians and within the context of creative music practices is scarce. Therefore, this thesis, which examines musicians' technology acceptance (process), including their perceptions, intention to use, and usage behavior of AI in music practices, is anticipated to provide an understanding of what factors may influence the process of technology acceptance and usage behavior among musicians. Thus, the thesis aims to contribute valuable insights for future research by adding to existing literature on technology acceptance, and bridging the research gap on technology acceptance of AI – especially in the context of AI usage in creative music practices. Moreover, the findings will offer helpful guidance to musicians, music educators, marketers, managers and product developers working in the music sector and music industry, as well as practical suggestions for facilitating potential AI adoption and implementation. Additionally, by examining professional musicians' usage behaviors, as well as their perceptions of AI and experiences of potential benefits and consequences of AI usage in music practices, this thesis provides guidance and valuable insights for marketing communication and strategic decisions among music industry managers, policymakers, and AI technology developers regarding AI usage in creative music practices.

2. Literature Review and Theoretical Framework

2.1. Literature Review

To gain insight into what factors may influence acceptance of AI among musicians, this section will begin with a review of the major trends in existing literature within the field of AI in music. This will provide the reader with an overview of the current situation in the field of “AI in music” and could offer a starting point for understanding what factors could influence acceptance of AI among musicians. Secondly, literature within technology acceptance of AI in music and the arts will be presented, since the arts field – as a creative field similar to the one of music – can provide valuable insights into AI acceptance in creative sectors. Lastly, literature on technology acceptance of AI in general will be reviewed to gain a deeper understanding of what factors might shape user acceptance of AI. Lastly, a literature synthesis and the research gap, which this thesis aims to address, will be presented.

2.1.1. Articles on AI in music

Articles on Perceptions of AI in music

A significant number of articles on the topic “AI in music” examine people’s opinions and attitudes regarding the use of AI in music creation, as well as how they perceive “AI-music” – music created with AI technology – and distinguish between “AI-music” and “man-made music”. A study by Hong et al. (2021) investigated people’s perceptions of music generated by AI and found that the acceptance of generative AI had a positive connection with the evaluation of AI-generated music. Furthermore, Schubert et al. (2017) found that participants with a wide range of musical backgrounds struggled to detect the difference between musical compositions performed by humans and algorithmic musical performances. Additionally, Moura & Maw (2021) examined how listeners and music professionals perceive music composed by AI. The results of this study indicated a rather negative perception towards musicians using AI in their music creation process, as well as a low purchase intention for “AI-music” (Moura & Maw, 2021). Furthermore, the awareness of AI automation usage in a musical piece did not influence the participants’ perceptions towards AI-generated music (Moura & Maw, 2021). Additionally, Tubadji et al. (2021) investigated participants’ opinions of music compositions created by humans versus AI-generated music and found that the participants’ perceptions of “AI music” were negatively influenced when they were informed that the music was composed by AI.

Articles on AI-human-co-creation in music

A substantial portion of the literature on AI in music explores AI-human-co-creation, i.e. how humans use and interact with AI and how AI ought to be implemented in

different areas. One application of AI, and an outcome from “AI-human-co-creation in music” that is discussed among researchers, is how AI tools have enhanced human music creation; for instance, how music novices (people without prior experience in music) may co-create with deep generative AI models in order to compose music (Louie et al., 2020). Additionally, there are numerous articles on the integration and use of AI in music education (Li & Wang, 2023; Yu et al., 2023). Li & Wang (2023) investigated AI-enabled music teaching and discovered that piano students who used the given AI app (an AI-powered chatbot) performed better than those enrolled in traditional piano classes. The literature also highlights that AI may be used to enhance music education, increase students’ interest in music classes, and provide tailored teaching approaches to meet their diverse needs (Yu et al., 2023).

Articles on Technical Designs, Benefits and Consequences from Integration

There are many articles discussing how musicians could potentially be impacted by, or already are affected by, AI. Other articles examine the benefits and consequences of implementing AI and investigate how to design AI music tools. Previous articles have found that AI-driven music technologies are advancing in their abilities in executing creative music tasks, e.g. within the mixing process (Deruty et al., 2022) and mastering process (Birtchnell & Elliott, 2018) in music production. Within literature on the design and use of AI music tools, researchers who studied AI product development in contemporary pop music production found that using AI tools (with their editing and mixing audio functions) was more suitable for supporting artists’ creative workflows, than just using the traditional digital (MIDI; Musical Instrument Digital Interface) tools (Deruty et al., 2022). Moreover, researchers discuss the possible impact of AI innovations on future job content, along with ethical and legal concerns. For instance, Birtchnell and Elliott (2018) found that audio mastering professionals are now collaborating as well as competing with AI, indicating that there is change underway regarding AI’s impact on future job content within the music sector.

2.1.2. Articles on technology acceptance of AI in music and arts

Upon reviewing articles on technology acceptance in the field of music, the author of this thesis noted that previous studies investigating the technology acceptance of AI in creative music practices are scarce and, to the best of the author’s knowledge, nonexistent. The author found no previous articles using traditional technology acceptance models to examine what factors might shape acceptance of AI in the field of music.

Moreover, the existing literature on technology acceptance of AI in other creative sectors also proved to be scarce. However, a study by Latikka et al. (2023) examined attitudes towards the use of AI in the field of arts (including music) from the perspective of self-determination theory. They found that participants were less positive about using

AI in the art and culture field in general, compared to many other fields (such as medicine, building and real estate technology). Results also indicated that human needs for autonomy and relatedness are important in shaping attitudes toward using AI in art, and that positive personal experiences with the use of new AI technologies will likely influence how individuals perceive the implementation of AI in the field of art (Latikka et al., 2023). Since the literature on technology acceptance of AI in music is scarce, the author will, in the section that follows, review the technology acceptance literature of AI in general.

2.1.3. Articles on technology acceptance of AI in general

While other theoretical approaches have been developed to investigate technology acceptance of AI, the Technology Acceptance Model (TAM), introduced by Davis (1989), and modified extensions of TAM, has been the most widely used theory in previous studies on AI acceptance (Kelly et al., 2023). The TAM model seeks to explain how individuals' perceptions of new technology influence their acceptance and usage of that technology (Davis, 1989).

Previous studies examining what factors may influence individuals' (technology) acceptance of AI have been conducted in various fields (Kelly et al., 2023). For instance, prior research articles across a variety of sectors have highlighted the significant impact of *psychosocial factors* on acceptance of AI in comparison to acceptance of other technological innovations (Kelly et al., 2023). Additionally, researchers have discovered that *trust*, *performance expectancy*, *perceived usefulness*, *attitude*, and *effort expectancy* all have a positive and significant impact on a user's intention to use AI, and their actual use of AI (Kelly et al., 2023). Researchers have also found the factor *trust* (trust in AI) to be an important antecedent of usage behavior, and they have incorporated it into technology acceptance models to predict behavioral intentions; for example, Choung et al. (2023) discovered that trust positively influence perceived usefulness (PU) of AI technology, using an extended TAM model. Researchers using various versions of TAM identified *social influence* as another influencing factor on AI acceptance, more specifically *subjective norm* – with its positive effect on perceived usefulness (Buteau & Lee, 2021; Song, 2019; Venkatesh et al., 2003). Research on acceptance of AI systems in agriculture, using the TAM model, found that *perceived behavioral control* is the strongest driver of AI acceptance, followed by *personal attitude*, *personal innovativeness*, *perceived social norm*, and *expectation of property rights over business data* (Mohr & Kühl, 2021). Researchers also highlight that in some cultural contexts, e.g. where individuals seek services purely for a sensory experience, it seems that *the need for human contact* cannot be replaced by AI, no matter the perceived ease of use (PEU) or perceived usefulness (PU) (Kelly et al., 2023).

Moreover, due to its self-learning capabilities, AI is different from previous technologies, which makes it important to consider the possibility that traditionally used technology acceptance models may no longer be relevant when examining AI acceptance (Gürsoy et al., 2019; Sohn & Kwon, 2020). Thus, the advances in AI technology have increased the need and development rate for models capable of examining what antecedents may shape technology acceptance of AI (Gürsoy et al., 2019; Kelly et al., 2023).

2.1.4. Synthesis and Research Gap

Previous literature on the topic of “AI in music” has explored how individuals perceive AI in music and proposed ways for both musicians and non-musicians to utilize and co-create with AI in various music domains. Prior articles on AI in music have also provided designs for the development of AI tools and AI implementation, as well as potential outcomes (i.e. benefits and consequences) for musicians following AI’s integration in the music sector. However, literature examining the acceptance of AI technology using traditional technology acceptance models in the music domain is scarce. Hence, this is identified as a major research gap that needs to be addressed.

This thesis aims to reduce this research gap by investigating what factors may influence AI acceptance among professional musicians. By exploring their perceptions, intentions to use, and usage behaviors of AI within their creative music practices, this thesis will provide an understanding of how, and why, professional musicians choose to use and accept (or not use or accept) AI technologies in music.

2.2. Theoretical Framework

Considering that the main purpose of this thesis is to examine what factors may influence the acceptance process of AI technologies among musicians in their music practices, this purpose needs a theory that explains *the technology acceptance process*; i.e. individuals’ *perceptions (e.g. perceived usefulness)* of a technology, as well as their *intention to use* this technology, and their *actual usage behavior* of this technology. In other words, a theory that can explain how, and why, musicians use (or accept), or do not use (or accept), AI technologies in music practices.

Therefore, *the Technology Acceptance Model 2 (the TAM2 model)*, developed by Venkatesh and Davis (2000) will serve as the theoretical framework for this thesis, since it offers the possibility to investigate *factors* that might influence the *technology acceptance (process) among individuals i.e. users, or potential users, of a technology*.

Furthermore, this thesis will use the TAM2 model in combination with a qualitative approach, since this approach will provide a deeper, more nuanced understanding of the technology acceptance (process), and this approach is also suitable for theory-building

(i.e. further development of the TAM model) when examining what factors may influence technology acceptance (Vogelsang et al., 2013).

2.2.1. The extension of TAM into TAM2

The TAM suggests that the two main theoretical constructs influencing the actual use of a technology (Usage Behavior; UB) are *perceived usefulness* (PU) and *perceived ease of use* (PEU) (Davis, 1989). PU and PEU shape users' beliefs about a technology system, and thus predict their attitude towards it, and ultimately, their intended and actual use of this technology (Davis, 1989). "Perceived usefulness" is defined as "*The prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context*" (Davis et al., 1989, p.985). "Perceived ease of use" is defined as "*The degree to which the prospective user expects the target system to be free of effort*" (Davis et al., 1989, p.985). According to Davis et al. (1989) perceived usefulness is more important in influencing "intention to use" (IU), than perceived ease of use.

The Technology Acceptance Model 2 (TAM2) was developed by Venkatesh and Davis (2000), as they extended TAM into TAM2 by integrating additional constructs related to social influence processes and cognitive instrumental processes (see figure 1 below). By including social influence factors and instrumental cognitive factors to further investigate factors influencing perceived usefulness and intention to use a technology, TAM2 provides a deeper analysis of key determinants of PU (Venkatesh & Davis, 2000). The social influence processes include the constructs "Subjective Norm", "Voluntariness" and "Image", while the cognitive instrumental processes include "Job Relevance", "Output Quality", "Result Demonstrability" and "Perceived Ease of Use".

The definitions of the TAM2 constructs (determinants) are as follows; "Subjective Norm" is defined as "*A person's perception that most people who are important to him/her think he/she should or should not perform the behavior in question*" (Fishbein & Ajzen, 1975, p.302). "Voluntariness" is defined as "*The extent to which potential adopters perceive the adoption decision to be non-mandatory*" (Venkatesh & Davis, 2000, p.188). "Experience" is defined as "*The direct effect of subjective norm on intentions may subside over time with increased system experience*" (Venkatesh & Davis, 2000, p.189). "Job Relevance" is defined as "*An individual's perception regarding the degree to which the target system is applicable to the individual's job*" (Venkatesh & Davis, 2000, p.191). "Output Quality" is defined as "*In perceptions of output quality, users will take into consideration how well the system performs the tasks that match their job relevance*" (Davis et al., 1992, p.985). "Image" is defined as "*The degree to which use of an innovation is perceived to enhance one's status in one's social system*" (Moore & Benbasat, 1991, p.195). "Result demonstrability" is defined as "*tangibility of the results of using the innovation will directly influence perceived usefulness*" (Moore & Benbasat, 1991, p.203).

Venkatesh and Davis (2000) suggested that PU, PEU and subjective norm all jointly influence intention to use, and thus these three constructs also indirectly shape usage behavior (through IU). Moreover, Venkatesh and Davis (2000) found that subjective norm directly determines PU, and that the influence of subjective norm on PU is more significant, than that of PEU on PU.

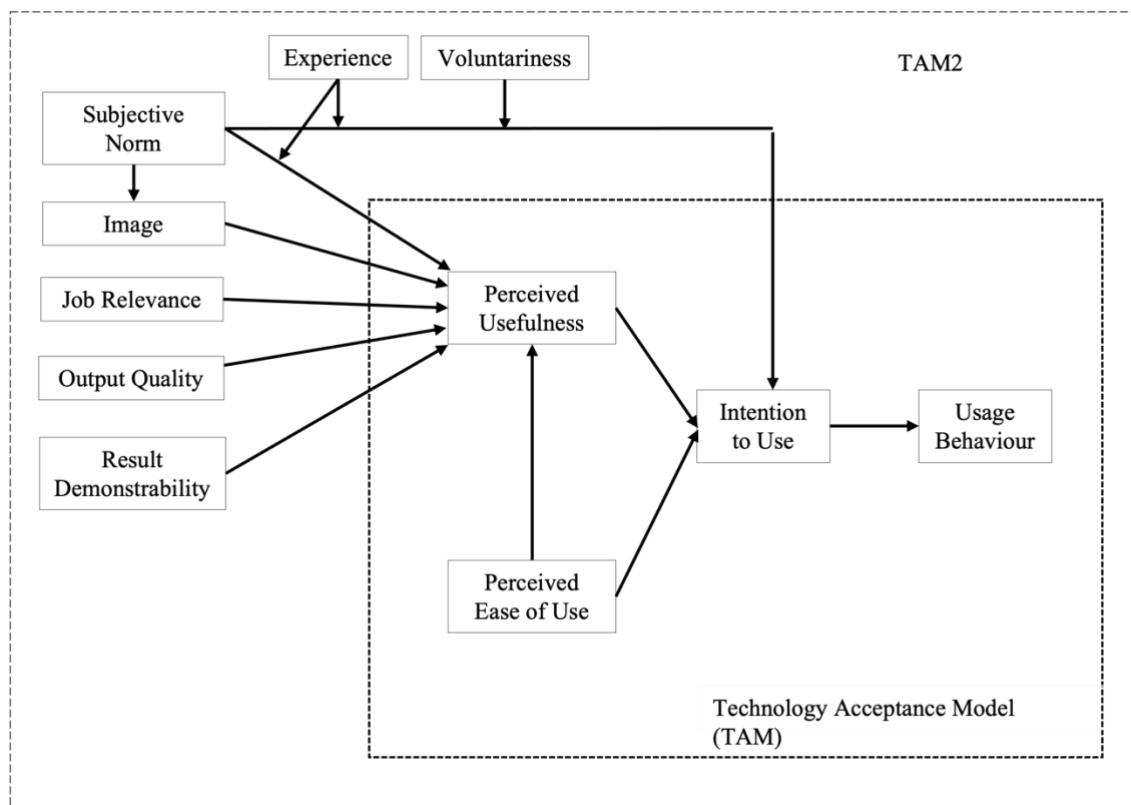


Figure 1. Comprehensive overview of the TAM2 model (Venkatesh & Davis, 2000)

Criticism of TAM2

Since its publication, the TAM and the extended versions of TAM, such as TAM2, have been empirically applied to a range of end-user technologies (Vogelsang et al., 2013). However, relying on “intention to use” as the only indicator of “usage behavior” can be criticized (Orlikowski & Baroudi, 1991). Additionally, the developed TAM models (Venkatesh et al., 2003; Venkatesh & Davis, 2000), such as TAM2, may be difficult to manage because of their complex assumptions about moderating effects. Nevertheless, TAM2 has added to, and filled a void in, the literature on technology acceptance by examining constructs that influence PU, and by exploring how people perceive technology as well as how – and why – they accept (or not accept) new technology (Venkatesh & Davis, 2000). Moreover, TAM2 has been evaluated in both mandatory and voluntary settings, and the results significantly supported TAM2 (Venkatesh & Davis, 2000).

3. Method

3.1. Research Approach

The purpose of this thesis, according to its author, is best served by an interpretivist, abductive and qualitative methodological approach. Hence, implementing the following research approach will allow for a qualitative examination of the research question and thus provide a deeper understanding of what factors may influence acceptance of AI among musicians.

The *interpretivist* approach is described by Bell et al. (2022) as focusing on understanding human behavior. Thus, the author believes that the interpretative approach aligns with the aim of this research: to gain a deeper understanding of why musicians choose to use and/or accept, or do not use (or accept), AI in their creative music practices. Hence, an interpretivist approach was used while addressing the research question in this thesis, which also enables this thesis to capture nuanced perspectives among the participants, regarding what factors they believe may influence their usage (and/or acceptance), as well as their non-usage (or non-acceptance), of AI in music practices.

Qualitative methods are suitable and recommended by Bell et al. (2022) when conducting research that investigates how a phenomenon works, and what change within a sector a phenomenon could result in. Thus, instead of yielding a general truth, the qualitative approach provides observations that are subjective in nature and are meant to capture the interviewee's own views of the phenomenon of "AI in music". The qualitative approach enables the respondents (interviewees) to describe, in their own words, what beliefs, attitudes, experiences etc., they have regarding AI in music, as well as how, and why, they perceive, and choose to use (or not use), AI in their music practices.

The *abductive* approach is a combination of the inductive and deductive approaches, which enables the research process to start with both the theoretical rules and the empirical context (Bell et al., 2022). The abductive approach also enabled the author of this thesis to continuously, during the whole research process, explore the empirical context while simultaneously adapting the interview guide (i.e. interview questions) and the theoretical framework (Bell et al., 2022). Furthermore, since there is a scarcity of previous research on musicians' technology acceptance of AI in their creative music practices, the abductive approach also allowed the author to evaluate existing theory and compare it to the emerged empirical findings of this thesis and thus potentially develop an extended TAM2 model, that builds upon the previous theoretical framework (i.e. TAM2).

3.2. Primary Data Collection

3.2.1. In-depth Interviews with Musicians

The primary data collection was conducted through eight in-depth interviews with professional musicians; where five of the interviews were held face-to-face – four interviews took place at an elementary school, and one interview at a music studio – and three interviews were held online via Teams. Although interviews held online can obstruct the ability to interpret non-verbal cues (Bell et al., 2022), allowing for holding interviews via Teams when requested was crucial to being able to meet participants' needs, enable their participation, and reach a multitude of interviews. The author used semi-structured interviews as the data source in this thesis. This choice was made considering the research aim of gaining an in-depth understanding of a rather specific and complex phenomenon (technology acceptance of AI among professional musicians) using TAM2 constructs as a theoretical framework, and therefore a semi-structured approach was found more appropriate than unstructured interviews (Bell et al., 2022). All eight interviews were conducted in November and December 2023, and lasted between approximately 40-75 minutes each.

Interview guide

In semi-structured interviews, researchers use a semi-structured interview guide with their previously established questions for all interviews (Bell et al., 2022). The interview guide offers a framework to follow, but also allows the researcher to ask additional questions in response to interesting interviewee responses, and to ensure the quality and depth of the interviews (Bell et al., 2022). The author of this thesis used the theoretical framework of TAM2, with its determinants influencing technology acceptance, to structure and create the interview guide (see Appendix A). However, the interview guide was not used to validate the TAM2 framework but mainly provided conversational guidance in discussions about what factors may influence technology acceptance of AI. Moreover, the interview questions were formulated as open questions, to increase the reliability and quality of the participants responses (Bell et al., 2022).

The interview guide arranged the interview questions into three categories, and included initial interview questions regarding the interviewee's musical background, experiences, and musical area(s) of expertise. The purpose of the initial questions was to make the interviewee feel more comfortable with the interview process, and for the author to gain an understanding of the interviewee's musical background. Following these questions, the interview guide consisted of topics related to musicians' perceptions of AI's usefulness and AI's ease of use, as well as their own usage (and/or potential use, and/or no use) of AI in their creative music practices.

During the first category of the interview guide, the musicians (interviewees) were asked to talk about their own perceptions as well as potential understandings and prior

experiences of AI in music practices, in order to investigate their current understanding, knowledge, and perceptions of AI. The second category covered questions regarding their use, or potential use (or no usage) of AI in their music practices, and the third category focused on their awareness of how their peers might perceive and use AI in music, their thoughts on potential consequences of AI (e.g. legal and ethical dilemmas), what factors they perceive as influential on their own AI acceptance, and their beliefs about the future development and use of AI in music. At the end of each interview session, the author included a final, open, question that enabled the interviewees to discuss potential areas of interest that they wanted to acknowledge or clarify.

Interview process

The author had brief pre-interview discussions with each interviewee with the goal of establishing trust and providing them with an outline of the research purpose, interview procedure, interview guide content, data anonymization, and voluntariness in order to make sure that all interviewees were properly informed. In addition, prior to the interviews, all participants received an email with information about the purpose of the thesis, the prerequisites for the interview, the interview format, and the opportunity to schedule an interview. At the start of every interview session, the author repeated this information briefly and gave each participant the option to consent to recording and transcription for data processing purposes, to which all interviewees agreed. Every interviewee was promised anonymity and was informed that they could discontinue their participation in the thesis at any time.

All eight interviews were held in Swedish, since it was the preferred language of all interviewees, and were thereafter recorded and transcribed, to which all the interviewees had consented. The purpose of transcription was to analyze the interview data as well as aid the researcher's memory (Bell et al., 2022). Key takeaways from interviews were noted and summarized after each interview, to gather important information and facilitate the categorization procedure in thematic analysis (Bell et al., 2022).

3.2.2. Participant Sampling

To address the research question of this thesis, a purposive sampling approach was used, i.e. the sampling was conducted with the purpose of the thesis in mind (Bell et al., 2022). The criteria for interviewees were that they had to be skilled musicians (i.e. with post-secondary educations or experiences in music) and currently work in the music sector engaging in creative music practices. Previous knowledge or experience of AI in music, was not a criteria in the sampling process. To gather a multi-faceted perspective the participants were chosen considering their diverse expertise and experiences in various music areas, and a variety in current occupations in the music sector. By gathering data from musicians with diverse characteristics and viewpoints, the reliability of the data collection was ensured. Since the thesis was aimed towards the

Swedish music scene, musicians with expertise in various music areas working in the music sector in Sweden were contacted.

In total, nine musicians were invited to participate in the thesis through purposive sampling, of which eight participants responded and were interviewed. The list of interviewees who participated can be found in Appendix B. The author noticed recurring themes and topics when seven participants had been interviewed, that is, very few new concepts seemed to emerge after this point. In line with the suggestion by Bell et al. (2022), if no new or relevant concepts emerge after a certain number of interviews, the researcher could use that to decide that data saturation has been achieved. Therefore, the author considered the sample size of eight interviews adequate. Furthermore, with regards to the quality and depth of the interviews, the interview time spent on each participant, and the scope of the thesis including musicians with various perspectives; these aspects ensured richer data collection during the interviews, despite the limited number of interviewees. Hence, with eight interviews, data saturation was attained, which reduced potential issues related to internal and external validity (Bell et al., 2022).

3.3. Data Analysis

The data was analyzed using the thematic analysis approach. Thematic analysis identifies patterns or meanings, i.e. themes, in the data connected to the research focus of the thesis (Braun & Clarke, 2006). Themes build on codes that can be identified within interview transcripts (Braun & Clarke, 2006). Moreover, themes facilitate researchers understanding of their collected data, and enable a theoretical contribution related to the research focus (Braun & Clarke, 2006). All eight interviews were voice recorded and transcribed for the purpose of thematic analysis. The author read (and re-read) the transcripts before identifying codes in the data. Thereafter, multiple codes were combined to generate themes, which resulted in four overarching themes that were then reviewed, defined, and named. Themes were identified through repetitions, similarities and differences, metaphors, and analogies, as well as linguistic connectors (Ryan & Bernard, 2003). The occurrence of topics that were repeated throughout several interviews was used as the primary criteria for determining themes. By following this thematic analysis process, confirmation bias was avoided (Braun & Clarke, 2006).

3.4. Quality of Research

3.4.1. Validity

When research findings are generally applicable, across various contexts, and not restricted to the specific context of the study, *external validity* is achieved (Bell et al.,

2022). However, since the sample size is often limited, and the scope is often specific to a particular context, obtaining external validity can be challenging when using qualitative research methods (Bell et al., 2022). This thesis is delimited to a certain sector and type of actors, which makes it more difficult to generalize the findings to other types of sectors or actor types with different opinions on AI use in music. However, the use of semi-structured interviews, and the decision to hold all the interviews with the musicians in their everyday settings, do enable the achievement of *ecological validity*, which is defined as “*whether or not social scientific findings are applicable in everyday, naturally occurring social settings*” (Bell et al., 2022, p.49) (Bell et al., 2022, p.49). That is, whether the findings correspond to what is expressed by the studied participants in their natural environment (Cicourel, 1982). Thus, the extension of the TAM2 develops from findings regarding interviewees’ everyday circumstances, and from ideas and concepts that emerge via semi-structured interviews. The participants were able to respond to a semi-structured interview through open conversations with the author, as opposed to utilizing direct questions from quantitative questionnaires, which contributed to the naturalness of the collected data, i.e. the ecological validity (Bell et al., 2022). To improve ecological validity, all interviews were carried out in the musician’s natural habitat, where four interviews took place at an elementary school where the musicians worked as music teachers, and one interview took place at a music studio. The remaining three interviews were conducted online, where two of the participants were in their home environment, and the third participant was in a workplace setting at a music school, constituting their natural environments, resulting in natural, relaxed interviews.

Furthermore, *internal validity* is defined as the compatibility between the emerged theoretical ideas and the collected data (Bell et al., 2022). By using thematic analysis, the emerged theoretical ideas that were added into the extended TAM2 model are based on collected interview findings; hence, the ecological validity contributes to improving internal validity.

3.4.2. Reliability

Internal reliability refers to the degree to which there is agreement between the researchers regarding the perception of the data (Bell et al., 2022). In qualitative research, it can be challenging to achieve internal reliability, especially when there are several observers conducting a study (Bell et al., 2022). However, since there was only one author of this thesis, who participated in every interview, the author of this thesis achieved a consistent and stable interpretation of the data, ensuring internal reliability. Additionally, the author made every effort to exclude personal biases during the coding process within the thematic analysis, and strived to keep the coding as close to the empirical findings as possible (Braun & Clarke, 2006).

External reliability assesses the consistency and stability of a measure of a concept, i.e. if a test produces similar results after multiple uses with various individuals or under different conditions (Bell et al., 2022). This assessment is also referred to as the *replicability* of the study (Bell et al., 2022). It can be difficult to achieve external reliability in qualitative research; however, by attaching the interview guide to this thesis and describing the research process, including research methods, future researchers will be able to comprehend and transparently replicate this thesis, thereby improving external reliability (Bell et al., 2022).

3.5. Ethical Considerations

All interviewees were informed of the ethical guidelines of this thesis, which specified what personal data would be managed and disclosed. Prior to the interviews, all participants received information about the study's purpose, as well as the interview format and conditions. Additionally, before the interviews, consent regarding participation in the thesis was acquired from each participant in accordance with GDPR, ensuring they were aware of the terms and conditions of the thesis. To maintain interviewee integrity, all interviews were anonymized, and no irrelevant data was collected. An additional purpose of anonymization was to increase the likelihood of earnest interview responses. All the interviews were conducted in Swedish. Moreover, the interviews were recorded and transcribed, to which the interviewees had given their consent before the interviews. No personal data is revealed in this thesis, in order to protect the interviewees' privacy and comply with GDPR regulations.

4. Empirical findings

In this section, the author of this thesis will present the empirical findings derived from the semi-structured interviews that were conducted with eight participants, all of whom are skilled musicians with various main areas of expertise in music practices. The findings have been grouped into four *themes*, that emerged from thematic analysis of the data: “*Social influence, applicability, and technological understanding*”, “*Uncertainty*”, “*Socio-emotional needs*”, and “*Artistic values*”. The empirical findings reflect the participants’ perceptions, experiences, interactions, beliefs, and thoughts about the use of AI in creative music practices, such as music creation, music production, music performance, and music education practices. Each theme is supported by direct quotes from the interviews, providing a deeper understanding of the initial research question; “What factors may influence professional musician’s “acceptance” (influence the determinants within “the acceptance process”) of AI usage in their creative music practices?”.

4.1. Social influence, applicability, and technological understanding

4.1.1. Social influence

Social influence was expressed by some of the participants as an important factor that influences their perceptions of AI and, thus, their willingness to use AI in their own music practices. Some of the interviewees (musicians) said that they were more willing to use AI after being influenced by positive opinions on AI from their peers (music colleagues, etc.). Other interviewees said that they felt less willing to use AI since they associated “AI usage in music” with negative opinions from their peers.

One of the interviewees mentioned that seeing a peer (music colleague) use an AI tool successfully and learning about AI’s usability, increased this participant’s willingness to explore and use this AI tool in creative music practices.

“There’s a person in my choir that uses [an assisting AI app], to remove and create vocal stems... I think that’s great [useful]. ... and [my music colleague] showed me the app and was very happy about it. So that was good I think... it’s just that I haven’t started using this AI-app yet” – Participant 1

In contrast, some interviewees expressed nuanced views, that related to the dual nature of social norms within the music sector. For instance, while one participant observed a liberating trend in music creation methods, another participant expressed concerns about potential negative credibility as a musician when (or if) using AI.

“It feels like the mindset “everything goes / is ok” [how people create, perform, and produce music] is becoming more common in the music industry nowadays [...] it doesn’t seem to matter if an AI has created the music or not, and it’s for better or worse [...] and it feels like nowadays you can do whatever you want in music, and that’s quite nice, I think, because there are so many tools available [in music creation].” –

Participant 4

“The credibility decreases if I say I’ve created music with AI. You can ask most composers... I believe they would have the same opinion as me... [Regarding whether this could be a factor influencing the participant’s choice not to use AI] Yes, it probably is. [...] You get devalued by your colleagues, I imagine, in some cases, if you use AI to make it easier for yourself.” – Participant 3

One of the interviewees expressed a practical approach, prioritizing functionality and determining which approach to music creation would best serve the storyline within music creation.

“I don’t feel any concern about what other people may think [if I would use AI in my music practices] ... and everything I do is based on cooperation, so I compromise a lot and do what serves the story or drama that I am working on ... so for me, it doesn’t really matter that much how music is created, if it serves its purpose. So, if there’s any advanced AI that can help me, I would use it. But if I could afford it, I would absolutely hire a live symphony orchestra instead.” – Participant 6

4.1.2. Collaborative potential with AI

All eight interviewees expressed their nuanced opinions of the applicability and usefulness of AI usage in creative music practices during the interviews. Their willingness to use AI would depend on the purpose, type of music area, and degree of emotional input required within the music practices. All of the participants shared the same view of AI as being useful as an assisting tool, for enhancing music practices, as long as AI did not replace their own (human) creative process.

Many of the interviewees recognized AI’s potential as a helpful assisting tool for enhancing the technical aspects within music production. For instance:

“If AI would be able to create great mixes, in my music production practices, I think that would be nice ... so, regarding technical aspects in music production, AI could be helpful. ... but I don’t think “wow, I’m going to use AI to create music!” [...] but if I need some inspiration or a framework for lyrics, then maybe I could let AI write lyrics, and then I edit those lyrics.” – Participant 2

“I would try to keep the creative process as my own, and then use AI as a complement. [...] If you have a very good recording, but it’s noisy in some places, then an AI-tool

can find this noise and remove it. So, in that way, it [the AI-tool] is useful.” –
Participant 7

Furthermore, the responses of two interviewees highlight their willingness to experiment with AI tools in music creation and music production; using AI to modify vocal tracks, and to generate creative musical ideas. This demonstrates AI’s ability to inspire creativity without fully taking over the human (artistic) creativity process.

“I tested using AI once when I was writing a song for a girl [a female singer]; first I recorded the song using my own voice, and then I transformed it into a female voice using some sort of AI algorithm. It turned out very well, it sounded nice. [...] So, I considered it useful to be able to hear how this song would sound like if a girl was singing it, but I would not use that song as a finished product [a song to be published].”
– Participant 4

“I would use AI if it surprised me... or inspired me with an idea... but I would never rely on AI inspiring me for my next musical piece ... but to use AI for feedback, brainstorming, and as an idea generator could be fun.” – Participant 6

4.1.3. Technological self-efficacy

The simplicity (ease of use) in the design of AI tools was viewed as a positive aspect among all participants regarding being able to use AI tools in music practices. However, not all participants were willing to use AI tools just because they were easy to use. Furthermore, technological understanding and technological confidence (self-efficacy) in using technology (e.g. AI tools in music) emerged as important topics among some of the participants. They explained that their knowledge of AI, and/or a self-perceived technological understanding and confidence in how to use AI, were significant aspects that influenced their willingness, or hesitance, towards using AI tools in music.

Some of the participants expressed their interest in using AI music tools more. They associated the use of AI with improvements in their own technological competence, as well as potential useful benefits from implementing AI into their music practices. However, the factor that was hindering them from using AI more, was their lack of technological knowledge of AI tools in music.

“I want to use more AI technology, but I know too little about it. ... I would love to be able to use more AI tools, and AI would certainly have facilitated various things for me ... and it would have been fun.” – Participant 5

“I’m not super capable of learning a lot of new technology stuff [...] but if I knew how to use AI practically, it would be great fun... and I also believe it [having knowledge of how to use AI in creative music practices] would make me feel very intelligent and technologically competent.” – Participant 1

Furthermore, some interviewees pointed out that, while they were interested in AI, a barrier to their acceptance and/or use of AI was their lack of technological knowledge of AI tools, and/or a self-perceived lack of technological understanding and confidence (self-efficacy) regarding using AI tools in music practices.

“Probably it’s [why I don’t use AI in music practices] due to my lack of knowledge and lack of interest [about AI tools in music].” – Participant 3

“I have an idea of what AI is, but... I don’t know how AI works practically, and that’s why I haven’t used it, and also, I might be a little hesitant. But I’m curious about AI.” – Participant 8

4.2. Uncertainty

When the participants were asked whether they were aware of any potential impacts of AI technologies on their job content as professional musicians, or of any legal dilemmas surrounding AI usage in music practices, there was a great deal of uncertainty among all eight participants. Hence, “uncertainty” emerged as an important theme, reflecting musicians’ ethical and legal concerns, and their uncertainties about future job security.

4.2.1. Job security uncertainties

When discussing current and future job content in the music sector and music industry, all eight interviewees were concerned about the possible impacts (current and future) of AI. They all shared the belief that future job security is unpredictable and uncertain. However, their opinions regarding job security were nuanced; while some musicians expressed optimism, others were mainly worried about future job security.

Some of the interviewees expressed their concerns about job security by acknowledging potential threats from AI within specific music areas, such as, for instance, the creation of instrumental jingles (without lyrics), which some interviewees perceived as a music domain where emotional depth (in the music creation process) is less crucial. However, all of the interviewees also shared the belief that AI is not capable of replicating human expressions and social connections between humans, such as e.g. within the music domain of live music performances.

“I don’t believe I’m going to be that affected by AI, because people will always want to see and hear live concerts, and experience the magic that exists within music ... We can’t just put a computer on a musical stage... because people want to go out and meet other people, and view the interactions between human beings [musicians] performing live on stage.” – Participant 3

“What you as a musician can feel threatened by is that, if AI can do this [certain music practices] then we [musicians] are no longer needed ... maybe within music creation

processes that doesn't have to be that personal [emotionally], like when creating jingles without lyrics ... I guess AI could be threatening [replace human composers] in that domain ... however, AI – a computer – can never perform music with the same expressions as a human being.” – Participant 8

In contrast, some of the interviewees believed that their roles (job content) as professional musicians within the music sector would remain stable, both now and in the future. All eight interviewees expressed that the reason for why they felt this way, was that human beings will always want to create music (regardless of increased developments and availability of various AI music tools), and that human beings (e.g. music consumers and musicians) will always want to see, hear, and connect emotionally and socially with human-made music performances, and with the musicians on stage performing live music.

“I think it will be difficult for AI to replace live music. ... No, I do not think so [that my job has been impacted or threatened by AI] ... Creative people who are good at expressing themselves will always be able to engage in creative practices, we just have to find new ways. ... there will always be a place for things [e.g. human-made music creations, music performances, etc.] that are exceptionally good.” – Participant 4

“I don't feel any impact on my job [as a professional music composer] [...] around here [among my music colleagues] neither guitarists nor singers have lost their jobs. [...] and especially within the domain of live performances of classical music ... I don't see how AI could threaten that musical genre. [...] I believe that in contexts where music has a supporting function, such as in a movie, a ballet, or on stage, AI won't gain any ground.” – Participant 6

“I believe that you will continue to do what you do [in music practices], regardless of how you do it, and with whom [you create music] ... I don't feel threatened at all by AI.” – Participant 7

4.2.2. Legal uncertainties

All the interviewees shared an uncertainty and concern over the ambiguity and complexity of legal dilemmas surrounding AI in creative music practices, such as music creation, especially regarding authorship, copyright, and musicians' rights to royalties.

Some interviewees were hesitant towards using AI in their music practices due to unclear legal guidelines surrounding authorship and royalties. For instance:

“Can I “stim” a song [claim authorship and receive royalties from STIM] that is created by AI? That is the question ... I don't know how that works legally. If someone does a remix of this song (that I created with AI), could I say; “No, that's my song!”? It's very unclear how it works. ... and that's why I won't use AI this way.” – Participant 2

In a similar way, one interviewee raised questions about the authorship (ownership) of melodies created by AI, and expressed uncertainty about what applies legally regarding AI-generated music content.

“If I create a song and ask AI to make the chorus melody... how is anyone supposed to know that I in fact didn’t create that chorus melody myself, if I put my name on this song? And if I say “this song was created by AI” and someone wants to make a recording of that song, should they ask the creator of that AI tool for permission, or ask me for permission?” – Participant 3

Another interviewee reflected on the unclarity of legal processes regarding the use of AI in music creation practices.

“All the legal processes that exist within the field of music creation are incredibly unclear ... or that’s my experience of it anyway ... but I think that ... if you have used an AI tool, then you must be able to check [read somewhere] how the copyright works within that AI program, I guess?” – Participant 5

4.3. Socio-emotional needs

All eight participants firmly believed in the importance of human social connections and emotional engagement within creative music practices. They also highlighted some music areas where they felt that AI cannot replace human connections or replicate the depth of human emotional and social engagement.

4.3.1. Need for social connections

All of the participants emphasized their need for social connections in music practices, and their profound appreciation for musical collaborations, performing music together with others, as well as the irreplaceable joy and value that these social interactions bring.

Some of the interviewees expressed their passion for live music performances and music rehearsals together with their music colleagues.

“I love to rehearse music with my friends and perform together with them on stage. ... it [social connections in music practices] is an extremely important aspect. And the joy that arises when you play music together with people ... becomes the motivation for me, and also, the feeling of joy is so healing as well.” – Participant 2

“I love to perform music, I’m a bassist [play the bass guitar] ... and to perform music together with others, and be able to play various instruments like the guitar, bass, drums, vocals, keyboard etc, that’s the most fun part [within music practices], absolutely.” – Participant 7

One interviewee explained that human collaborations in music creation practices are much more enjoyable and enriching, than if the participant would use an AI tool as the “lead singer” in the songwriting process.

“There is something wonderful about singing and playing music with people, which I think will be difficult to replace for AI. [...] I think it would be more fun to invite a human being to the music studio who got to sing [a song that I wrote], instead of using AI [AI creating the vocals for the song]. Maybe that is not so cost-effective [to use human singers instead of AI], but it feels more fun, indeed.” – Participant 4

In a similar way, another interviewee emphasized the limitations of AI in the creative music practices of music education. While AI might be able to assist with certain technical musical tasks, it cannot replace, or mimic, the hands-on teaching techniques, human engagement, and social connections required when interacting with students.

“AI could perhaps be helpful for me [in my music practices] ... I believe AI could remove the vocals [from an audio-track], so that we [when educating music] have an instrumental accompaniment that we could sing along to, but I don’t think AI can replace me sitting here and playing the piano with the children [the music students] ... and I strongly believe that this aspect [human social connections within music practices] is very important.” – Participant 1

4.3.2. Need for emotional connections

To emotionally engage in music; to feel, express, and connect with the soul of the music, and to emotionally connect with other musicians, was a recurrent topic among all eight participants. They all highlighted the importance of human emotions, emotional depth, human expressions, and personal life stories in creating and performing music, as well as appreciating and connecting with music and musicians.

Many interviewees mentioned the importance of human emotions within music. They argued that the soul of the music, and the emotional expressions within human-made musical pieces and music performances, cannot be replicated by AI.

“That we feel what we create, and emotionally connect with other human beings; that’s music and art to me.” – Participant 3

“I believe in the soul of the music. ... A human being has emotional expressions... while a computer has... well, it will not be the same [with AI]. ... I feel that AI generated music becomes impersonal ... something synthetically made.” – Participant 8

One of the interviewees emphasized the importance of understanding the music creator’s, or musician’s, personal life story and the emotions from which musical creations and music performances originate. The participant argued that learning about the socio-cultural background and emotions that formed a musical piece or song helps

the listener connect emotionally to the musical piece, and to its music creator or music performer.

“If I don’t know where a musical piece is originated from, I often don’t feel any emotional connection to it... But when you get to know the life story of the musician who created or performed a musical piece ... and you have knowledge of “who has created this musical piece”, and “oh, that’s why they wrote this lyrics or musical piece” ... I appreciate and connect to it [music] more. ... so, I believe that the human factors behind the creation or performance of a musical piece often “makes the music”.” – Participant 5

4.4. Artistic values

All eight interviewees highlighted artistic values as an important topic, and thus artistic values emerged as a significant theme during the interviews. The interviewees expressed their concerns regarding AI’s potential intrusion upon their artistic values. These views stemmed from their beliefs about the value of human authenticity in creative music practices.

4.4.1. Fear of creativity dilution

All of the participants voiced their concerns that usage of AI, or an integration of AI, in creative music practices could replace, decrease, or intrude upon human creativity.

Furthermore, all of the interviewees expressed that they believe, and feel, that the creative music process is highly personal as well as joyful. Some of the interviewees mentioned that the creative music process gives them an opportunity to develop in their professional role as musicians, as well as in their personal development, and thus, they would prefer to participate and engage in the creative music process themselves rather than hand it over to an AI tool.

“For me, music is an incredibly deep [personal and emotional] process.... it’s a lot about what you create and what you learn about yourself while you are in this process, and the joy of feeling “wow, did I create that musical piece, awesome!”[...] but if you handed everything over to an AI, the creative process and the personal value of what is (or could be) created, would disappear.” – Participant 7

Some of the interviewees reflected on the balance between using AI as an assisting tool and maintaining human creativity. They emphasized the importance of ensuring that the core of creativity originates from within yourself, i.e. from human imagination and human insights, which AI might be able to enhance but not replicate. For example:

“I believe that the creative process should be in the hands of humans ... I don’t think “wow, now I’m going to use AI to create music!”, I don’t feel like that at all. [...] I

hope that the human brilliance and human creativity will never be repelled by AI. [...] I think that if you use AI more and more, you will lose your own creativity... and I also believe that you must practice your creativity often, in order to keep it going.” –

Participant 2

“I hope that AI can be a tool in a creative process as well ... but we humans are already very interested in being creative ourselves, so I think that even if AI could create a lot of cool stuff ... we would still, as human beings, continue to create things on our own [without AI], because that’s what we want to do (as human beings). [...] I believe that the creative process mainly needs to come from within yourself, but that you could also integrate AI a little bit [in your music practices] as a helpful aid.” – Participant 5

4.4.2. Concerns about authenticity

All of the participants expressed their concerns about losing the authentic element within music if they would use AI in their creative music practices. They expressed the importance of the personal origin in their music creations, music performances and music productions, and emphasized that AI cannot replace human experiences and emotions within creative music practices.

The belief that authenticity in music originates from personal life experiences was put forward by many of the interviewees. One interviewee believed that incorporating personal elements into music during the songwriting or music composition process provides the element of magic within music.

“My songs are my life’s work, and they also reflect how I am as a musician ... those melodies are created by me and couldn’t have originated from anyone else; that’s the unique thing with music. [...] and it’s the magic within music that you want, and are always searching for ... for instance; why did I write this song? ... the song-lyrics come from the songwriters own lives, from what they themselves have experienced; and that is the magic within music and the music creation process.” – Participant 3

Many interviewees emphasized that they value personal expressions in music practices, and argued that the depth of human emotions cannot be replicated by AI. For instance:

“It’s a fantastic thing to be able to express yourself, by singing or playing music, or writing lyrics and singing it and creating music to it. [...] The personal aspect [in music creation], that’s what it’s all about [...] it’s the human aspect, the emotions, and I think a machine [AI] can never have those dimensions of human emotions, it’s just not there.” – Participant 2

One interviewee highlighted that singing and songwriting are personal processes, and that the joy that comes from human involvement in creative music processes would be diminished if your voice and creativity were to be replaced by an AI tool.

“I am a professional songwriter, and I wouldn't want to be a songwriter and have AI create everything for me ... that doesn't feel fun at all ... and for me, music is really personal. I sing a lot, and I think that if I were to stop singing, and instead train an AI to sing like me, I probably wouldn't be happier... I'd be sadder...” – Participant 4

5. Discussion

The investigation of the technology acceptance (process) of AI among musicians, using the TAM2 framework as a theoretical lens, resulted in nuanced empirical findings of various factors influencing the acceptance (process) of AI among musicians. In this section, the author will discuss the alignment and integration of these findings into the original TAM2 model. Furthermore, the author will examine and discuss the influence of these findings on musicians' perceived usefulness and perceived ease of use of AI, and ultimately their intention to use AI, as well as their actual usage behavior of AI in their music practices.

The thematic analysis of the data in this thesis resulted in empirical findings that represent the most prominent themes that emerged during the semi-structured interviews. The analysis highlighted the emergence of three new antecedents and three novel determinants influencing technology acceptance of AI among musicians. The findings of these new antecedents and novel determinants (with their antecedents) were identified through an exchange between data and theory and will be presented and discussed by the author in the following section. These novel findings illustrate the contextual nature of the TAM2 framework, and indicate the need for revising the original TAM2 in the context of AI acceptance in music practices. Therefore, and in line with the suggestion of building a theory based on the original TAM (Vogelsang et al., 2013) as the foundational theory, the author proposes an extended TAM2 model, which provides a tailored explanation for what factors may influence the technology acceptance (process) of AI among professional musicians, in their creative music practices.

5.1. Aligning TAM2 with empirical findings

The author will discuss how the empirical findings may align with the TAM2 framework, and how the addition of new antecedents and novel determinants enriches the TAM2, and provides a nuanced, in-depth understanding of technology acceptance in creative contexts such as music.

5.1.1. Integration of novel determinants and their influence on acceptance of AI

Artistic values

It is evident from the statements within the empirical findings, that the musicians are worried about AI's potential to undermine human creativity and authenticity, and that this factor could influence the acceptance of AI. The empirical finding of *artistic values* illustrates the deep concerns voiced by musicians regarding creative integrity and authenticity when using, or potentially using, AI in their creative music practices. All

participants expressed their worries about the potential dilution of creativity and authenticity related to AI usage in creative music practices. Some of the participants explained that their fear of AI's potential to diminish human creativity and authenticity partly depended on to what degree AI would (or could) take over the creative music process. This fear of creativity and authenticity dilution made all eight participants hesitant or reluctant, although to various degrees, towards using AI tools in music. Some musicians explicitly stated that they did not see AI as useful at all in their creative music practices since they prioritized their own human creativity in music practices. Hence, this suggests that the empirical finding of artistic values in this thesis, directly influences the original TAM2 construct of perceived usefulness. When comparing the empirical finding of artistic values to previous research findings of Venkatesh and Davis (2000), Venkatesh and Davis focus on functional aspects (cognitive instrumental processes) and social influences (social influence processes) of technology acceptance. However, they do not focus on examining the factor of artistic values, emerging in creative contexts such as music. Hence, "artistic values" is identified as a novel determinant, constituting two empirically found antecedents; "concerns about authenticity" and "fear of creativity dilution". Fear of creativity dilution highlights the importance of intrinsic motivation and the need for human self-participation in creative (e.g. music) processes. Concerns about authenticity emphasize the importance of ethical considerations – regarding AI's potential intrusion upon human authenticity – and the preference and need for genuine expressions in creative (music) processes. Furthermore, previous research findings by Latikka et al. (2023) examined technology acceptance of AI in the arts (including the field of music) using the self-determination theory. Latikka et al. (2023) emphasized the influence of autonomy and personal values on the acceptance of AI in the field of arts, which supports the empirical findings of "artistic values" in this thesis as a significant determinant of technology acceptance of AI in the creative context of music. Hence, *artistic values* is introduced as a novel determinant in this thesis, thus challenging the original TAM2 framework and suggesting the need for an extension of TAM2 to include the factor of artistic values. The author of this thesis suggests that this extension of TAM2 would be suitable for examining technology acceptance in creative fields, where individuals value their own creativity and artistic personal expression.

Socio-emotional needs

The empirical finding of *socio-emotional needs* emphasizes the significant role of social and emotional connections in influencing acceptance of AI among musicians. All participants in this thesis expressed their need for emotional and social engagement in their music practices, and the joy that was derived from socio-emotional connections – which they believed could not be accomplished with the use of AI in music practices. Hence, this suggests that the empirical finding of socio-emotional values in this thesis, is a novel determinant, directly influencing the original TAM2 constructs of perceived

usefulness. Socio-emotional values introduces the factor of the deeply rooted social and emotional values and needs among humans, i.e. social and emotional connections with other humans, through creative practices, such as music practices. When comparing this empirical finding to the previous research findings of Venkatesh and Davis (2000) in their original TAM2, Venkatesh and Davis mainly highlight social and cognitive influences on technology acceptance, without any focus on the role of affective (socio-emotional) values in influencing technology acceptance in creative processes. Furthermore, prior research findings from Latikka et al. (2023) highlighted an increased resistance towards using AI in the field of arts (compared to a relatively lower resistance among "non-arts"-fields), due to the participants need for human relatedness and autonomy in creative fields. The research findings of human relatedness (and autonomy) (Latikka et al., 2023) align with the empirical finding of socio-emotional factors in this thesis, which indicates that "socio-emotional factors" may be a factor that influences technology acceptance of AI among musicians. Thus, the found importance of socio-emotional needs in creative fields such as music, supports the introduction of "socio-emotional needs" as a novel determinant in this thesis, which challenges the original TAM2 model. This identification of a novel determinant suggests the need for an integration of *socio-emotional needs* – with its antecedents "*social connections*" and "*emotional connections*" – into the traditional TAM2.

Uncertainty

The empirical finding of *uncertainty* emphasizes the ambiguity and uncertain aspects that musicians face regarding AI's job-related, legal, and ethical implications. All participants expressed their uncertainty regarding legal dilemmas surrounding AI in music, some of them expressed concerns about future job layoffs among musicians in general, and a majority were uncertain about what the legal guidelines constitute and how far policymakers have come in the legal regulation processes of AI in music. These uncertainties may hinder musicians from perceiving the use of AI in music as beneficial and might hinder their acceptance and use of AI in music. Hence, the empirical finding of uncertainty in this thesis, directly influences the original TAM2 construct of perceived usefulness. Furthermore, the empirical finding of uncertainty among musicians – i.e. a factor that may influence technology acceptance of AI among musicians – captures a context-specific aspect of technology acceptance that is not addressed in previous research by Venkatesh and Davis (2000) in their original TAM2 model. The original TAM2 mainly highlights the influence of social influence processes and cognitive instrumental processes on technology acceptance. Thus, the TAM2 framework (Venkatesh & Davis, 2000) does not explain the nuanced uncertainties regarding future job content and legal concerns (about copyright, authorship, and royalties, etc.) that are specific to the context of technology acceptance of AI among musicians, in the creative field of music. However, a similarity could be drawn with the previous research findings of Mohr and Kühl (2021) who investigated the technology

acceptance of AI systems in agriculture. Their findings highlighted how perceived behavioral control – which encompasses elements of uncertainty – significantly influences technology acceptance of AI (Mohr & Kühl, 2021). Hence, the prior research findings of Mohr & Kühl (2021) align with this thesis’ empirical findings of uncertainty’s influence on technology acceptance of AI among musicians. This comparison with previous research suggests that while the empirically found factor of “uncertainty” is a novel determinant – in comparison with previous research on the original TAM2 by Venkatesh & Davis (2000) – this empirical finding is also supported by previous findings in other contexts (Mohr & Kühl, 2021). Hence, the empirical finding of *uncertainty* is identified as a novel determinant that may influence technology acceptance of AI among musicians. Furthermore, the identification of uncertainty as a novel determinant challenges the existing technology acceptance models, such as the original TAM2, and suggests the need to consider an integration of uncertainty (as a novel determinant) together with its antecedents; “*job security uncertainties*” and “*legal uncertainties*”.

5.1.2. Empirically found antecedents and their influence on acceptance of AI

Social influence

The empirical finding of *social influence* emerged as an important topic, highlighting the importance of peer influence and societal influence on shaping musicians’ intentions to use AI in music practices. Hence, the empirical finding of social influence aligns with the original TAM2 construct of subjective norm, and the findings of Venkatesh and Davis (2000) who examined and recognized the impact of social influence processes – such as subjective norm – and its significant impact on technology acceptance. However, social influence’s nuanced influence on technology acceptance of AI in the context of creative music practices, was not explored by Venkatesh and Davis (2000). Moreover, previous research by Mohr and Kühl (2021) recognized the influence of perceived social norm on the acceptance of AI systems in agriculture. Furthermore, among the factors included in the systematic review by Kelly et al. (2023) on factors influencing technology acceptance of AI, the impact of social influence on subjective norm, and thus social influence’s impact on perceived usefulness, is highlighted in numerous studies across various sectors, including creative industries (Buteau & Lee, 2021; Song, 2019; Venkatesh et al., 2003). This indicates that the empirically found antecedent “social influence” in this thesis, aligns with the original TAM2 construct of subjective norm, supported by these previous studies (mentioned in this paragraph) using TAM and TAM2 as the theoretical framework. Furthermore, this alignment identifies *social influence* as an antecedent that may influence technology acceptance (process) of AI among musicians. Moreover, the alignment of the empirically found antecedent social influence in this thesis, with the original TAM2 construct of subjective norm, supports the original TAM2 model.

Collaborative potential with AI

The *collaborative potential with AI* in music was a topic discussed among all of the participants. They all recognized the collaborative potential with AI, in terms of using AI as an assisting tool capable of enhancing certain technical tasks within music practices, for instance within music production, as long as AI did not replace human creativity within creative music practices. The empirical finding of “collaborative potential with AI” emphasizes the applicability of AI as an assisting tool in creative music practices. The empirical finding of applicability (collaborative applicability, i.e. usage, of AI) in this thesis aligns with previous research findings by Venkatesh and Davis (2000), who highlighted the importance of cognitive instrumental processes where job relevance was a determinant of perceived usefulness in TAM2. Hence, prior research findings indicate that “collaborative potential with AI” – illustrating AI’s meaningful potential in certain job practices within music – is an antecedent to the TAM2 construct of job relevance. However, Venkatesh and Davis (2000) did not specifically examine AI’s collaborative potential in *creative* practices. This indicates, that while “collaborative potential with AI” aligns with job relevance in the original TAM2, this empirical finding also offers new insights into the context-specific factors influencing AI acceptance among creative professionals (e.g. musicians). Thus, the empirically found antecedent “*collaborative potential with AI*” in this thesis, challenges the original TAM2, and hence suggests a need for an extension of TAM2 to include the collaborative potential with AI technologies.

Technological self-efficacy

The empirical finding of *technological self-efficacy* emphasizes the importance of musicians’ confidence in their ability to use AI technologies, and whether they believe AI tools in music are easy to use. A majority of the musicians had a belief, or personal experience, that AI-music tools in general are easy to use, and due to the simplicity in the design of certain AI tools, some of the musicians expressed that they felt confident in using, and knew how to use, these AI tools. However, the aspect of simplicity in AI tool design did not emerge as a motivator for musicians who had not yet used AI in creative music practices, but the musicians who had previously used AI in music appreciated that the AI apps were easy to use. Furthermore, the findings also suggest that while some participants expressed interest in using AI tools more, they felt hindered or hesitant to use AI due to their lack of technological knowledge of AI tools, and/or a self-perceived lack of technological understanding and confidence (self-efficacy). Hence, the finding of technological self-efficacy is identified as an antecedent, directly impacting the TAM2 construct of perceived ease of use. The empirically emerged concept of technological self-efficacy in this thesis, aligns with previous research findings by Venkatesh (2000), who investigated determinants of perceived ease of use. Venkatesh (2000) found that factors such as intrinsic motivation, control, and emotion, i.e. computer self-efficacy, was of importance regarding their

influence on perceived ease of use. Hence, Venkatesh (2000) suggests that computer self-efficacy is a determinant of PEU, and highlighted self-efficacy's influence on technology acceptance across a variety of sectors. Therefore, previous research indicates that the empirically found antecedent of technological self-efficacy in this thesis, being similar to computer self-efficacy (Venkatesh, 2000), could be identified as an antecedent to PEU in this thesis. However, Venkatesh (2000) did not examine self-efficacy's influence on PEU in the context of technology acceptance of AI in creative practices (such as music practices). Since the application of self-efficacy in the context of AI acceptance in music is unique, and is not included in previous research articles on technology acceptance, this thesis introduces a nuanced dimension of technological self-efficacy – emphasizing the importance of individual beliefs in one's technological understanding of AI tools and one's ability to use AI tools in creative (music) practices. Thus, the empirical finding of technological self-efficacy in this thesis, aligns with and supports the original TAM2 model due to its similarity to computer self-efficacy (Venkatesh, 2000). However, the empirical finding of technological self-efficacy in this thesis also challenges the original TAM2 framework, emphasizing the important role of technological confidence (with its dimension of technological understanding) influencing technology acceptance of AI among musicians. This indicates the need for extending the original TAM2 model, by including the new antecedent *technological self-efficacy* as an antecedent to perceived ease of use.

5.1.3. Proposition of an extended TAM2 model

The empirical findings suggest that while the original TAM2 determinants – perceived usefulness and perceived ease of use – are relevant, the examination of technology acceptance of AI in the unique context of creative music practices introduces additional considerations. The empirical findings in this thesis; three new antecedents – collaborative potential with AI, social influence, and technological self-efficacy – and three novel determinants (including their antecedents) – artistic values, socio-emotional needs, and uncertainty – indicate the need to extend the original TAM2 model.

The suggestion of extending the TAM2 stems from the empirically emerged social, emotional, psychological and professional factors that may influence musicians' technology acceptance of AI. By incorporating the new antecedents and novel determinants found in this thesis into the original TAM2, the author of this thesis proposes an extended TAM2 model (see figure 2 below) that illustrates a nuanced, in-depth understanding of what factors may influence technology acceptance of AI among musicians (in their creative music practices). The proposed extended TAM2 model offers a framework for examining technology acceptance of AI in the field of music, and could potentially also be used within other creative fields.

Based on the empirical findings and discussion above, an extended TAM2 model is proposed in figure 2 below. This extension of TAM2 illustrates the new antecedents and

novel determinants – including two antecedents of each novel determinant – and their alignment to the original TAM2 constructs.

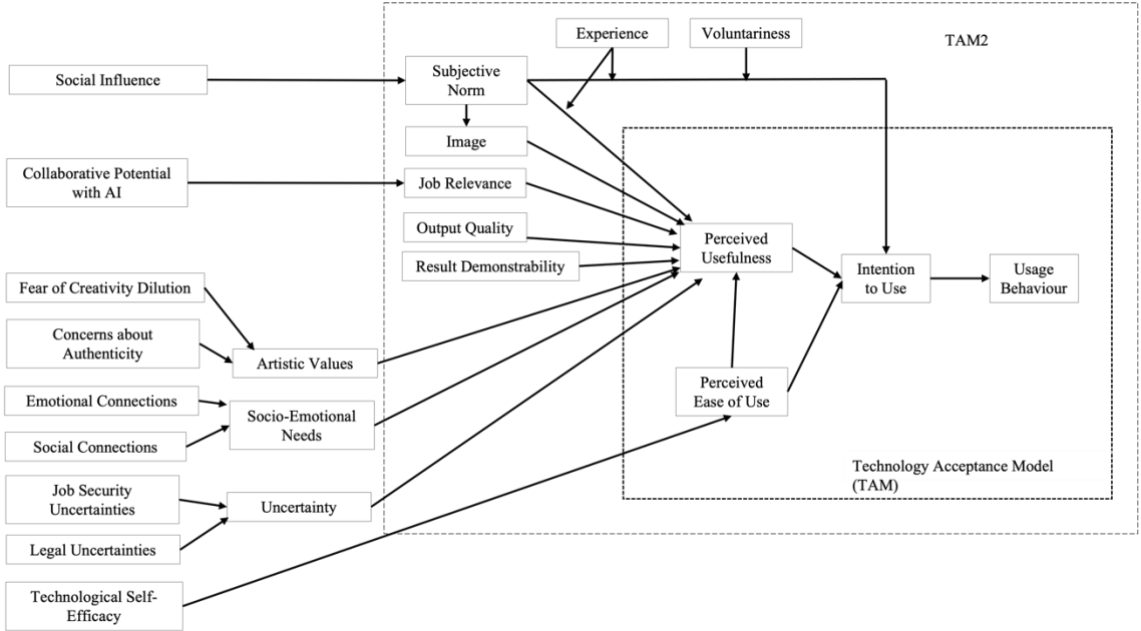


Figure 2: Extended TAM2 model based on the empirical findings of this thesis (Roald, 2024).

6. Conclusion

The purpose of this thesis was to examine the research question; *“What factors may influence professional musicians’ “acceptance” (influence the determinants within “the acceptance process”) of AI usage in their creative music practices?”*.

As a result of the thematic analysis of the collected data, this thesis has identified three new antecedents, as well as three novel determinants (including two antecedents for each new determinant), that influence musicians’ acceptance to use AI in their creative music practices. This result aligns with the author’s original belief that using the TAM2 model as the theoretical framework could support and explain the findings of new factors (antecedents and determinants) shaping the technology acceptance (process) among individuals (e.g. musicians).

The empirical findings in this thesis include three new antecedents; technological self-efficacy, social influence, and collaborative potential with AI, that may influence musicians’ technology acceptance of AI. The key findings introduce three novel determinants; socio-emotional needs, artistic values, and uncertainty, that may significantly influence musicians’ technology acceptance of AI. These empirical findings collectively highlight the nuanced and complex factors that may influence technology acceptance of AI in creative music practices, where professional musicians express concerns as well as positive expectations of AI, and emphasize their need for human creativity, authenticity, and socio-emotional connections. Thus, the empirical findings in this thesis go beyond the traditional TAM2 determinants (Venkatesh & Davis, 2000) and the original TAM2 constructs of perceived usefulness and perceived ease of use (Davis, 1989) within technology acceptance literature.

Hence, this thesis provides an answer to the research question, and fulfills its aim by providing a nuanced, in-depth understanding of the acceptance (process) of AI among musicians, in their creative music practices. The conclusions in this thesis are aligned with the empirical findings which indicated the need for a modified TAM2 model in order to include the context-specific factors that may influence the acceptance of AI technologies among musicians within their creative music practices. Thus, the author proposes an extended TAM2 model for examining technology acceptance of AI among musicians in the field of creative music practices.

The key findings in this thesis also indicate that there is a need for a potential revision of original technology acceptance models (such as e.g. the TAM2 model), to better illustrate and explain the process of technology acceptance and usage behavior of AI technologies, given the unique nature of AI technologies, and the characteristics of creative contexts and creative practices such as, for instance, creative music practices.

Furthermore, the creative nature within music practices, brings forward the possibility that the extended TAM2 model proposed in this thesis could potentially also be used as a theoretical framework, or utilized as a valuable theoretical complement, within technology acceptance research of AI in other creative fields – such as e.g. the field of arts, etc. – or in fields related to creative practices (e.g. marketing communications, etc.) and the use, and/or potential use, of AI technologies.

By providing an extended TAM2 model, this thesis answers the research question, and contributes valuable insights for future research. Based on the empirical findings, the author of this thesis also provides practical implications regarding AI use and integration in the creative music sector.

6.1. Theoretical Contribution

The empirical findings in this thesis (i.e. study); of three novel determinants (with two antecedents each), as well as three (new) antecedents, add to the existing literature on technology acceptance, and provide valuable insights to the research field on technology acceptance of AI – and especially within the research field on technology acceptance of AI in creative music practices among professional musicians. Furthermore, the findings in this thesis also add and contribute to the existing literature on the TAM2 model, and contribute with bridging the research gap on what factors may influence technology acceptance of AI among musicians in their creative music practices.

The key findings of this thesis are the addition of *three novel determinants: socio-emotional needs, artistic values, and uncertainty*, which, according to the thematic analysis, are *factors that may significantly influence the technology acceptance (process) of AI in creative music practices among musicians*.

Moreover, the findings of the novel determinants in this thesis show how, due to the unique characteristics of AI and the nature of a creative context such as music practices, it may be necessary to revise the traditional technology acceptance models (theoretical frameworks), in order to better explain and illustrate what factors are at play in these kinds of contexts. Thus, *this thesis provides an extended TAM2 model that is applicable for the examination of what factors may influence the process of “acceptance” and usage behavior (i.e. the “technology acceptance process” with its determinants; Perceived Usefulness, Perceived Ease of Use, Intention to Use, and Usage Behavior) of AI technologies in the creative music practices of professional musicians*.

The empirical findings in this thesis emphasize the importance of modifying the original TAM2 model, to better suit the nature and characteristics of the context that it examines, and in this case – when examining what factors might influence musicians’ “technology acceptance (process)” – the TAM2 model could benefit from being revised in order to enable the inclusion of broader psychological and situational factors such as

sociopsychological, emotional, artistic, and uncertainty factors that, in this thesis, were found to have an influence on technology acceptance of AI among musicians in their music practices.

Furthermore, the empirical findings introduce, and support the alignment within the TAM2 framework of, *three found (new) antecedents: social influence, technological self-efficacy, and collaborative potential with AI*. The findings from the thematic analysis emphasize the direct influence of these three (new) antecedents on perceived usefulness and perceived ease of use. The alignment of these antecedents with the original TAM2 constructs builds upon, and adds, to existing literature on technology acceptance. The integration of these new antecedents highlights the importance of individual technological confidence, positive social impact on perceptions, and meaningful applicability to increase acceptance and use of new technologies, such as the usage (or potential usage) of AI technologies in creative music practices.

The findings suggest a possible extension of the existing technology acceptance models, to include factors influencing technology acceptance of AI in the field of creative music practices (among professional musicians). Hence, the findings in this thesis contribute with an in-depth, more nuanced understanding of technology acceptance of AI usage in creative music practices.

Due to the creative nature of music practices, the extended TAM2 model in this thesis could potentially also be utilized, and/or be useful, within other creative contexts or fields that include creative practices, and thus potentially contribute to an increased understanding of the technology acceptance process and usage behavior of AI in creative fields such as e.g. the field of arts, marketing communications, etc.

6.2. Practical Implications

Given the empirical findings, this section presents suggestions of practical implications for potential usage, and sustainable implementation, of AI in music.

Firstly, based on the findings of the participants' concerns about creativity dilution, legal and ethical uncertainties, and the influence of technological self-efficacy on AI acceptance, it is suggested that marketers could design their marketing communications (e.g. marketing campaigns) by highlighting AI's abilities to complement traditional music practices and enhance creative expressions without replacing human creativity.

Secondly, these findings also suggest that managers, in their communication with employees (e.g. musicians and music teachers), could promote AI as a technology that enhances human creativity, and provide AI workshops where employees could explore AI tools in music. Managers could also facilitate AI implementation by addressing musicians' concerns about AI's intrusion upon creativity and authenticity, and by holding open discussions about legal and ethical dilemmas regarding AI in music.

Hence, managers could increase musicians' technological self-efficacy, and align AI implementation with their artistic values.

Thirdly, based on the findings of technological self-efficacy and collaborative potential with AI, the author suggests that music educators and various actors within the music industry, such as record labels, could provide AI workshops to support musicians and students interested in exploring AI usage in music. By demonstrating how AI tools function and explaining how users could enhance their music practices with AI, barriers such as lack of technological understanding could be mitigated.

Additionally, since technological self-efficacy and fear of creativity dilution are found to be influential factors on musicians' acceptance of AI, it is suggested that technology developers could focus on designing user-friendly AI tools, that facilitate and enhance musicians' creativity and focus on supporting musicians in their music practices rather than replacing human creativity.

6.3. Limitations

Although this thesis has revealed interesting empirical findings, some limitations of this thesis should be acknowledged.

Firstly, the research in this thesis is conducted by using a qualitative approach, which provides in-depth and nuanced empirical insights into what factors may shape the technology acceptance (process) of AI among professional musicians with various musical areas of expertise. However, there is a risk that the research in this thesis might not be entirely replicable and that the findings will not fully reflect musicians in general since a qualitative approach with a limited participant sample was used. A quantitative approach might enable an increased replicability and possibly a stronger accuracy regarding the degree of influence of each new factor on the three TAM2 determinants (Perceived Usefulness, Perceived Ease of Use, Intention to Use) within the technology acceptance process, and possibly a stronger accuracy of the relationships between the new (found) factors and the TAM2 constructs (PU, PEU, IU).

Secondly, the findings of this thesis may be subjective and not fully represent the viewpoints of musicians in general because of the limited sample size of participants. However, the qualitative method was prioritized to gain a deeper understanding of the musicians' own perspectives on what factors might influence their acceptance of AI. Furthermore, the qualitative approach enabled a nuanced understanding through a multi-faceted participant sampling (with musicians holding expertise in various music areas). Moreover, to a certain degree, the multi-faceted participant sampling enables this thesis to reflect the opinions of musicians in general, despite the potential for subjective findings.

Thirdly, since this thesis chose an interpretivist approach, the author's own personal perspectives and biases may influence how the empirical data in this thesis is analyzed, understood, and communicated.

6.4. Suggested Future Research

The aim of this thesis is to examine and gain a deeper, more nuanced understanding of what factors may influence the technology acceptance (process) of AI among musicians, with which the author hopes to contribute valuable insights for future research. This thesis provides an extension of the original TAM2 framework, to explain the understanding of the technology acceptance (process) of AI among musicians. The proposed extended TAM2 model (see figure 2) suggests the need for future research to consider the specific characteristics of AI in creative fields, and to further examine the empirically found antecedents and novel determinants within this thesis (i.e. "Artistic values" etc.), as well as their potential implications for traditional technology acceptance models. Furthermore, the proposed extended TAM2 model in this thesis could potentially be applied in future research studies on the technology acceptance of AI in creative music practices (among musicians, with various areas of musical expertise).

The extended TAM2 model in this thesis could potentially also be utilized as a theoretical framework or as a useful theoretical complement within technology acceptance research of AI in other creative fields (e.g. the field of arts), as well as in fields that include creative practices (e.g. creative practices of marketing communications, etc.) along with the use, and/or potential use, of AI technologies within these creative practices.

However, there is still a great need for further research in this area to which this thesis intends to contribute, and future research on AI acceptance among musicians using qualitative, quantitative or mixed-methods approaches could contribute to important findings. Future research on AI acceptance among musicians may be beneficial not only for the music sector, but for other creative sectors as well. For instance, the author suggests using a quantitative approach to examine musicians' acceptance of AI, which could provide an increased accuracy in the identification of factors, and an accuracy in the strength of the relationships between factors and the original TAM2 constructs.

Moreover, the author suggests future research using a smaller scope regarding the choice of what type of music practices, type of AI technologies or specific AI tools, and type of music areas of expertise among musicians, to include in the study. For instance, by focusing on either music creation, music performance, music production, or music education practices, this approach could provide a more specified understanding of what factors may influence the process of technology acceptance and usage behavior of AI in the creative music practices of music professionals.

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Appendices

Appendix A – Interview Guide

The interview guide was originally constructed in English, but translated into Swedish for the interviews to improve communication with the interviewees.

Ethical considerations:

- A brief introduction of the purpose of the interview.
- Participation in this study is voluntary, and their answers are confidential and anonymous in accordance with GDPR rules.
- Asked for consent to record interview.

Introduction (Background information):

- Can you tell me a little about your background and experience in music?
- What are your profession(s) and/or main area(s) of expertise in creative music practices?
- Do you have prior knowledge of technology in general, and/or technology used in music practices? If yes, what knowledge/experience?
- Do you have prior knowledge of AI technology, and/or AI technology used in music practices? If yes, what knowledge/experience?
- Do you know what the abbreviation “AI” means, and how AI works?

Category 1:

- (Intention to use): What factor(s) do you feel have influenced you, regarding your choice to use/not use AI in your music practices?
- (Perceived ease of use): In your experience, how easy (simple) is it to use AI tools in music practices, regarding the technical aspects? Or how easy do you think it would be?
 - Do you experience / imagine (or have heard of) any technical limitations or challenges with AI tools in music practices? Are there any technical aspects of AI that you find difficult to use or understand?
- What do you think of when you hear “AI in music”, and “AI music tool”?
- In your experience or opinion, how does AI work, generally or specifically, in music practices?

Category 2:

- (Experience): Have you had past experiences with AI technologies in music practices? If so, what kind of AI tool(s), and how did you use this AI tool? Has this experience affected your willingness to use AI in music practices?

- (Perceived usefulness): How useful do you think AI is (or could be) in your music practices? Do you associate your use (or potential use) of AI with any benefits and/or consequences? If so, how, and why/why not?
- (Job relevance): Do you find AI relevant in your music practices (e.g. in a specific job role or a specific area of music practices)? If so, in what music area, how, and why/why not?
- (Usage behavior): Do you currently use AI in your (creative) music practices? If so, how, and why/why not?
- (Output quality): How do you perceive the quality of output (e.g. the quality of your created musical pieces) when using AI in your music practices?
- (Result demonstrability): Would you be able (or willing) to demonstrate your results (e.g. music created with AI), and communicate the benefits and limitations of using AI in music practices to others?

Category 3:

- (Subjective norm): How do your peers (music colleagues and other musicians) in the music sector and/or music industry view the usage of AI in music practices? Do your peers use AI in music practices? If so, how? Do you feel that your peers' opinions influence your own perception or usage of AI?
- (Image: Self-image): Do you believe that your self-image changes when you use, or if you use, AI in your music practices? If so, how?
- (Image: Professional image): How do you think that using AI might change how others perceive your status (image) and skills as a musician? If so, how?
- (Voluntariness): Do you feel that the decision to use or not use AI in your music practices is entirely up to you?
- Do you know what opinions policymakers and officials in the music industry have about the usage of AI in music practices, and what laws and legal regulations (if any) currently exist?

Category 4:

- (Intention to use): Are you planning to use, and/or want to use, AI technologies in your future music practices? If so, how, and why/why not?
 - If you should choose *to use AI* – *or not use AI* – in your future music practices; do you see any risks (consequences) and/or benefits with these two alternatives?
- Have you noticed any impact of AI on your job content or job security in the music sector or music industry? If so, how?
- What future uses of AI do you anticipate and hope for among musicians in the music sector and/or the music industry?
- Do you think that AI could replace human creativity in music practices?

Concluding questions:

- (Intention to use): In conclusion, which factor(s) – among those we have already covered or if you would want to add new aspects – do you believe have had influence, and/or the most influence, on your intention to use or not use AI in your music practices?
- Is there anything else that you would like to share regarding your experience or thoughts in general on “AI in music”?
- Thank you for your time, your participation, and your valuable insights.

Appendix B – List of participants and information about the interviews

Participant	Role	Interview type	Date
Participant 1	Musician	Face-to-face	21/11/23
Participant 2	Musician	Face-to-face	22/11/23
Participant 3	Musician	Face-to-face	22/11/23
Participant 4	Musician	Face-to-face	29/11/23
Participant 5	Musician	Online (Teams)	30/11/23
Participant 6	Musician	Face-to-face	1/12/23
Participant 7	Musician	Online (Teams)	6/12/23
Participant 8	Musician	Online (Teams)	8/12/23