
# Iphungwa Ngezithebe: Exploring Umaskandi in The Fourth Industrial Revolution Threats and Opportunities

By

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## DECLARATION

I, **Mbuti Thomas Moloi**, hereby declare that the thesis for the Doctor of Philosophy degree at the University of Venda, hereby submitted by me, has not been submitted for a degree at this or any other university and that it is my own work in design and execution and that all reference contained therein has been duly acknowledged.

Signed:  Date: 14 September 2024

## DEDICATION

To my family

mostly my parents bo Tsele,

*nama* Africa *izwekazi lonke*.

## ACKNOWLEDGEMENTS

I consider it an honour to be associated with distinguished scholars who were my supervisors, Professor Geoff Mapaya and Dr T. G. Zulu, for their guidance, encouragement, dedication, and passion for research. I would like to thank all my friends who have contributed in various ways to complete the aims and objectives of this project.

My acknowledgements will not be completed without saluting *omaskandi,* many of whom I have met and formed lasting friendships with during my fieldwork in the execution of this study. To you, I say *isandla sedlula ikhanda, nime njalo nina beSilo*.

Lastly, I would like to thank my wife and four children, whose encouragement and support enabled this project to succeed.

## ABSTRACT

The phenomenon of *umaskandi,* which was the adaptation and continuation of a deep-seated Indigenous Isizulu culture of music-making, has become a commodity over several decades and has been monetised. Social advancement has meant that cultural industries, such as *umaskandi,* could not resist technological advances that have determined its production, dissemination, and reception. The production side of *umaskandi* has seen the introduction of new technologies that created entirely new ways of serving existing needs. The acceleration of innovations and the velocity of disruption are hard to comprehend or anticipate. However, *umaskandi*'s inception and subsequent development can be traced back to several previous periods of industrialisation. Currently, the world is in the midst of the Fourth Industrial Revolution's perceived state that it will not spare any industry, including *umaskandi*. While these far-reaching developments have been taking place, scholarship on the critical role of stakeholders, such as the music industry value chain, in bringing *umaskandi* to the present state has been mute. This study explores *umaskandi* and The Fourth Industrial Revolution depending on the appropriate phenomenological research approach. Potential threats and opportunities to the survival of *umaskandi* in the Fourth Industrial Revolution have been identified during this exploration. Interviews, conversations, literature reviews, action research, focus meetings, analysis of diaries and other personal texts were the main modes of data gathering. It is envisaged that this study will generate and arm the music industry with an informed outlook on the state of *umaskandi* genre, which is more pressing as we move through the Fourth Industrial Revolution. Furthermore, it is anticipated that, through this study, detailed and comparative insight into the survival and

the appreciation of opportunities presented by the Fourth Industrial Revolution will promote the genre. Therefore, it is hoped that this study will benefit *umaskandi*, its practitioners, music education, and the music business.

**Keywords:** Umaskandi; The Fourth Industrial Revolution; Phenomenological Methodology; Artificial Intelligence; Indigenous Knowledge Systems; Ordinary Language Philosophy

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## Table of Abbreviations

| | |
|---|---|
| A&R | Artists and Repertoire |
| AI | Artificial Intelligence |
| AIVA | Artificial Intelligence Virtual Artist |
| BMG | Bertelsmann Music Group |
| CAPASSO | Composers Authors & Publishers Association |
| CD | Compact Disc |
| CSL | Computer Science Laboratory |
| DAW | Digital Audio Workstation |
| DI | Direct Input |
| EMI | Electric and Musical Industries Ltd |
| EMS | Experimental Music Studio |
| EQ | Equalizer |
| FLAC | Free Lossless Audio Codec |
| HD | High Definition |
| HEI | Higher Education Institutions |
| ICT | Information and Communication Technologies |
| IGTV | Instagram TV |
| IKS | Indigenous Knowledge Systems |
| IoT | Internet of Things |
| IR | Industrial Revolution |
| IT | Information Technology |
| IWK | Indigenous Ways of Knowing |
| MIDI | Music Instrument Digital Interface |
| ML | Machine Learning |
| MPL | Music Notation Programming Language |
| OGC | Occupational Group Code |

| | |
|---|---|
| ORB | Artificial Intelligence Music Composition Software |
| PGC | Professionally Generated Content |
| PPQN | Pulses Per Quarter Note |
| PR | Public Relations |
| PRO | Professional |
| RBB | Rundfunk Berlin Brandenburg |
| SAMRO | South African Music Rights Organisation |
| SGC | Sony Global Technology Center |
| SiruisXM | SiriusXM Satellite Radio |
| SME | Sony Music Entertainment |
| TIDAL | High-Fidelity Music Steaming |
| UGC | Occupational Group Code |
| VST | Virtual Studio Technology |
| WHO | World Health Organisation |
| WMG | Warner Music Group Corp |

# PREFACE

The process of researching and writing this thesis has made me realise how easily **Isizulu** concepts and words can be misinterpreted when written into English grammar. Detection of elements that can be understood only in the context of musicological analysis depends upon sensitivity to the language of phenomena or the language used by practitioners of the culture under study. In this regard, I would like to address a few issues that could potentially hinder the comprehension of the arguments discussed in this document.

I have used **Isizulu** terminology and tried to use its grammatical principles wherever possible. It was done to present the correct usage of these grammatical terms as they are used in **Isizulu**. As an example, most indigenous languages in South Africa usually have a stem and prefix or suffix. Consequently, the meaning of the word is changed with the change of prefix. Using the word **Isizulu** as an example, it combines the prefix **Isi-** with the stem **Zulu**, meaning Isizulu culture or **Isizulu** language. The prefix may change to **Umzulu**, **Wesizulu**, **Besizulu**, **Ngesizulu**. The meaning of the forgone words is as follows, **Umzulu** is a person of **Isizulu** origins, **Wesizulu** something of **Isizulu** like **umculo Wesizulu** (Isizulu indigenous music). **Besizulu** refers to something of **IsiZulu** in a different context. Furthermore, **Ngesizulu** means in **Isizulu**, referring to Isizulu language or Isizulu procedures and protocols.

Another problem with using **Isizulu** words in English grammar is the insertion of the article 'the' before the word. Using words such as **Zulu** with the English article 'the' as a prefix is

an example. **Zulu** is a surname, but it loses its meaning when used with the article 'the'. Therefore, it would be incorrect to use the article 'the' with the word **Amazulu**, for example. This is because the prefix **Ama-** already indicates that the people being referred to are **Amazulu**. A similar example is 'the **umaskandi**'. This study uses **Isizulu** prefixes since they have strong enough meanings to convey the meaning of the context.

Other important issues that need to be highlighted are how this study has dealt with terms that possess double meanings, such as the word **umaskandi**, which has been the subject of this study. The term **umaskandi** (omaskandi in plural) refers to someone who performs **umaskandi**. Also, **umaskandi** describes the music that is performed by **umaskandi**. Put simply, **umaskandi** refers to the music or its practitioners. It should be noted beforehand that referring to music or persons depends on the context. For example, it does not sound correct to say **umaskandi** music.

Similarly, **umaskandi** musician would not be appropriate. In this study, these terms have been used the same way they have been used by **omaskandi** and those taking part in it. As a result, the use of them should be contextualised whenever possible.

To conclude, I believe indigenous terms can be included in academic discourse, and this will contribute to the resetting of our indigenous goals and standards in educational systems, scholarship, and, most importantly, our minds. May you find pleasure in reading this dissertation.

# 1 **Chapter One:** Introduction to the Study

## 1.1 Introduction

The aftermath of the Fourth Industrial Revolution, with its technological advancement, has thus far significantly impacted the preservation and continuation of folk music worldwide. This development owes its cause to our dependency as a society on technology, which has reached unprecedented levels. The recent decades have seen the most significant changes in technological advances, such as machines that simulate human intelligence, especially computers. This technology's impact on music, though, remains to be seen; it has meant that the way of music has been changed completely (Jackson, 2017). Using technology to make music or aid musicians has been in practice for quite some time. Several other Artificial Intelligence applications for music cover the way music is produced, marketed, and consumed. Still, the idea that Artificial Intelligence could one day completely replace music practitioners in composing and performing music is frightening for many people, significantly when these Artificial Intelligence applications may challenge our perceptions of folk music.

In Isizulu, there is a saying that goes like *iphungwa ngezithebe*, which simply emphasises that a particular phenomenon is upon us. In this instance, the Fourth Industrial Revolution is upon us, and it is said it will not spare any industry, including *umaskandi*. There is evidence to the fact that most of the traditions in the music business have been rendered completely redundant by the Digital revolution. Moving

ahead could mean things can only improve from the impact of the last revolution and change our understanding of what is *umaskandi* completely.

The study begins by briefly discussing the concepts of folk music, *umaskandi* and the Industrial Revolution as a way of introducing the subject. A brief discussion on the problem statement, the aim of the study, rationale, the objective of the study, the research question, the literature review, the limitations of the study, envisaged chapters, and a conclusion then follows.

### 1.1.1 Folk Music

Folk music encompasses both traditional folk music and the modern genre that developed from it during the 20th-century folk revival. Certain styles of folk music are sometimes referred to as world music. Several features characterise traditional folk music: it is often passed down orally, has anonymous composers, is played using traditional instruments, reflects cultural or national identity, evolves over generations, is linked to a community's folklore, and is typically performed according to long-standing customs (Bohlman, 1988).

Folk music is a traditional music style that ordinary people create in every society. It is the product of their work and imagination and is one of the most democratic forms of music. Folk songs are typically passed down orally from generation to generation, often changing significantly with each adaptation. The transition from folk songs to modern popular songs began with the advent of radio broadcasting. Many people have tried to define what constitutes folk music or popular music.

The term folk music refers to the music genre that is often called traditional music / indigenous music in any particular region worldwide. However, scholars find a more precise definition to be elusive (Scully, 2008). Slobin (2011) writes, 'understandings of the term have varied so widely over space and time that no single summary sentence can pin it down' (p. 1). Various terms in the literature, such as traditional music, world music, and indigenous African music, refer to folk music. However, the Annual Conference of the International Folk Music Concert held in London (1954) attempted to define the term as follows,

> the term can therefore be applied to music that has been evolved from rudimentary beginnings by a community uninfluenced by art music; and it can also be applied to music which has originate with an individual composer and has subsequently been absorbed into the unwritten, living tradition of a community. (Karpeles, 1955, p. 6)

As noted at the London Annual Conference of the International Folk Music Concert (1954), folk music belongs to a rich cultural context that dates from the beginning of time; it encompasses all knowledge transmitted in traditional forms. This definition highlights the deep historical roots of folk music, emphasising its role as a vessel for preserving and transmitting cultural heritage across generations. Folk music is not just a form of entertainment; it serves as a repository of communal wisdom, storytelling, and shared experiences. This genre often reflects the values, struggles, and joys of the communities from which it originates. Also, the definition includes music that originates from individual music practitioners, recognising the contributions of solo artists to the folk tradition. These individual creators bring their unique perspectives

and innovations while still drawing upon the rich tapestry of traditional forms and themes.

In the vast continent of Africa, with its distinct musical traditions, music is generally organised as a social activity and personal expression. Accordingly, individual musical expression becomes a part of the community experience only when it occurs in a social context (Nketia, 1975). In South Africa, various communities have a distinct indigenous musical tradition that has evolved over some time. A case in point is the genre of *umaskandi,* which draws on the precious Isizulu musical principles and is most prevalent in South Africa, particularly in the provinces of KwaZulu-Natal, Gauteng, and Eastern Cape.

While acknowledging the attempt to define and classify music by literature and conferences, the researcher should highlight that *umculo womdabu / wendabuko* (Indigenous African music) is as old as humankind. According to Phoshoko (2017), before colonialism, Africa already had indigenous musical arts practices. These practices involved imparting knowledge through oral transmission and were communal in nature, often being included in social activities. Throughout the centuries, there have been many significant changes to indigenous African music. Traditional music today differs greatly from African music in the past. In other words, contemporary traditional music has undergone significant changes compared to historical African music. This transformation could be due to various factors such as cultural exchange, technological advancements, and globalisation. The differences may be evident in elements like musical instruments, rhythms, styles, and the overall role of music in society.

## 1.2 The term umaskandi

*Umaskandi* refers to a genre of music that is associated primarily with Amazulu communities. In addition, people who practice the music are called *umaskandi* (*omaskandi* in plural). According to Nketia (1975), social occasions at which a musical genre is typically performed and with which it is associated may give rise to a name for the associated music. Similarly, *umaskandi* is named after those who practice it. As such, *umaskandi* may both refer to music and to a person.

### 1.2.1 Umaskandi (the person)

In the context of a person, the term is used exclusively to refer to someone who plays *isiginci* (guitar), *inkositini* (concertina), or *ivayolini* (violin). The following explanation of the word *umaskandi* is offered by Mbatha (2017) *'umculi kamaskandi uyena umaskandi, uma ungakwazi ukubamba isiginci leso sikamaskandi awuwuye umculi ophelele mawunjalo*' (the musician who sings umaskandi is the one who is umaskandi if you cannot hold/play the guitar according to umaskandi stipulated methods you are not an accomplish umaskandi) (T. Mbatha, personal communication, May 5, 2017). In this definition, *umaskandi* is a person who performs *umaskandi* and who is expected to follow certain norms and fulfil specific expectations according to umaskandi-making principles. In addition, Ndawonde (2017) stresses the following: *'omaskandi bebekade baziwa ngazo lezo zinsimbi, isiginci, ivayolini ne nkostini'* (omaskandi were identified by these instruments; guitar, violin, and concertina) (S. Ndawonde, personal communication, April 10, 2017). Notably, only guitar, violin, and concertina within the context of *umaskandi* are referred to with this title.

Ntombela (2011) suggests, *'umaskandi umuntu okwazi ukudlala isiginci esizihola phambili, acule phambili eqenjini, noma acule yedwa elekelelwa isiginci, ahlabe izihlabo, axoxise isiginci indaba ehambisana neculo aliculayo'* (umaskandi is a person who plays the guitar in umaskandi context, leading the group and at the same time sing the lead, or sing alone accompanied by the guitar, be able to play izihlabo, have a conversation with a guitar about news associated with the song being sung) (p. 24). This description has gone on to mention the norms and expectations that *umaskandi* must observe during *umaskandi* performance, such as *ukuhlaba izihlabo* (an introduction to umaskandi song performance), *ukucula* (singing), and *ukuzibonga* (uttering praises).

Thus, the word *umaskandi* refers to the person who plays guitar, violin, or concertina according to *ushuni kamaskandi* (umaskandi concept of sound organisation). Ndawonde (2017) elaborates, *'kuqala thina emakhaya umuntu besithi umaskandi engakarekhodi, nizwa ngesiginci ehamba ehlathini laphaya, okukanye nizozwa ngenkostini ikhala umahlathini lapha, noma ivayolini kungekho bass guitar noma amadrums'* (long ago at home a person would be referred to as umaskandi before recording their music, and you will hear them through the guitar while walking in the forest. Sometimes you will hear the concertina in the forest or the violin. There was no bass guitar or drums) (S. Ndawonde, personal communication, April 10, 2017). Later Ntuli (2017) corroborated this assertion, asserting that *'kuqala umaskandi ubungathakwa nalutho, bekuba nguwe nje nephimbo lakho nesiginci*' (before umaskandi was not mixed with anything, it was only your voice and guitar) (N. Ntuli, personal communication, May 5, 2017). *Umaskandi* does not refer to any musician who takes part in *umaskandi* performances. They insist that only guitarists, violinists,

and concertina players who follow the stipulated norms and expectations of performance are *omaskandi.*

In general, *omaskandi* are expected to possess qualities and attributes such as being creative within the confines of Ubuzulu (Isizulu identity). Xulu (1992) argues that *omaskandi* advocates *Ubuzulu* (Isizulu identity) and promotes *Isizulu* (Isizulu way of life) 'by setting traditionalist standards which act as social reference points' (p. 379). As such, the issue of Isizulu's dignity and integrity factors into the discussion, as it concerns the past and the present and the future.

Acoustic guitars are by far the most popular musical instrument in *umaskandi*. Many young men were attracted to them when they were introduced by Europeans (Rycroft, 1977). Xulu (1992) points out that *omaskandi* took up guitar because it became a recognisable symbol of excellence in Amazulu societies. The discussion that follows considers *umaskandi* as it pertains to music.

### 1.2.2 *Umaskandi* (the music)

As mentioned in Coplan (1985), Davies (1994), Nhlapo (1998), Olsen (2000), Pewa (2005), Ntombela (2011), and (Titus 2013), *umaskandi* emerged at the turn of the 20th century. It has been suggested by scholars like Rycroft (1975), (Impey 1983), and Coplan (1985) that *umaskandi* has descended from *umakhweyana* and *ugubhu* (Isizulu one-string bow instruments) music. However, the most significant characteristic of Amazulu musical tradition during the pre-colonial period was its diversity of expressions, as Ndawonde (2017) observed, *'umculo ebantwini*

*abamnyama uyithina. Abantu abamnyama bayacula uma kushoniwe, kuculwe amaculo anosizi, sijabule kushadwa kuyaculwa amaculo omshado, kuyoliwa kuchitheke igazi kufe abantu siyacula*' (music according to Africans is part of us. Africans sing when there is grief, sing sad songs, rejoice during the marriage process, sing wedding songs, and during the time of war spilling blood, we sing (S. Ndawonde, personal communication, April 10, 2017). Ndawonde (2017) stated that the music performed on these social occasions depends on the event since it is customary to organise the music in relation to the community's various activities or to meet the needs of particular situations.

During the early decades of the twentieth century, colonial movements and a Western capitalist economic system introduced rapid and far-reaching changes, leading to some Isizulu musical traditions undergoing transformation. At this time, most Indigenous South African communities were using pre-colonial social structures as primary references, even though these structures were subjected to a significant degree of dilution by colonial influences. The most apparent sign of colonial influence on *umculo womdabu* (indigenous Isizulu music) was the material presence of foreign musical instruments. Consequently, while *omaskandi* continued to practice *umculo womdabu*, modifications and refinements were necessary. Rycroft (1977) highlights this point as follows:

> among the Zulu, what is played on some cheap Western instrument is often not an attempted imitation of Western music at all, but rather an expression of indigenous musical principles which in some cases can be more effectively realise through these new media that could be done on the traditional instrument they have replaced. (Rycroft, 1977, p. 221)

In other words, Rycroft (1977) stated that *omaskandi* do not have a concept of Western music. A clear illustration of this was their encounter with foreign instruments when no attempt was made to incorporate Western musical principles into *umculo womdabu.* Instead, the opposite happened; *isiginci* (guitar), *inkostini* (concertina) and *ivayolini* (violin) were indigenised, causing them to exist side by side with *umakhweyana*, *ubhelebana, ugubhu, isitololo, udlokwe, umbeleza* (Amazulu Indigenous musical instruments) and many other Indigenous instruments. Thus, *umaskandi* began as a genre performed by a solo musician on *isiginci* (guitar), *inkostini* (concertina) and *ivayolini* (violin) according to the *umaskandi* method of sound organisation. As time passed and the commercialisation of music increased in the 1950s, ensembles became more common.

Amazulu societies have Indigenous instruments such as *umakhweyana, ugubhu,* and *udlokwe*, to name a few, that are primarily used for solo playing and accompanying solo singing. However, in Amazulu communities, *amahubo* (indigenous Isizulu vocal music) is the highest form of music. As far back as the dawn of time, *amahubo* have been a prominent feature of *umculo womdabu*. In Amazulu societies, *amahubo* are generally organised as a social activity. Their performance context is at funerals of prominent members of the community such as *Isilo samabandla* (king), *induna* (chief), *umnumzane* (head of the household), as well as at weddings, during the war, and other commemorative ceremonies (Xulu, 1992).

Regarding solo instruments, Nhlapho (1998) reports that 'it was established that *ugubhu* was mostly associated with men, while *umakhweyana* was the instrument of women' (Nhlapho, 1998, p. 30). Kirby (1968) also observes that *umakhweyana,*

> is played by both sexes, the larger size by men, single or married, and the smaller by maidens or newly-married women. The largest size is called inkohlisa or unkonka, the same name as that given to the instrument by the Thonga; and alternative names for this form are imvingo and uqwabe. The maiden ‘s instrument, which is of small size, is called uMakhweyana.
>
> (Kirby, 1968, p. 208)

Thus, from the above discussion, it is possible to conclude that the domestication and subsequent indigenisation of Western instruments in *umaskandi* was the continuation of an extension and a variation of a deep-seated indigenous Isizulu culture of music-making (Pewa, 2005). This process reflects a dynamic interaction between Amazulu musical practices and the incorporation of Western musical elements, resulting in a unique and culturally significant genre. *Umaskandi*, therefore, serves as a testament to the adaptability and resilience of Isizulu musical traditions, illustrating how they have evolved and thrived through the assimilation and reinterpretation of external influences.

Almost all scholars have noted that urbanisation had a profound impact on the social structure of the indigenous societies of South Africa and Africa, whereby conditions of labour migration forced young men to seek employment in the cities. The obtainability of Western instruments such as guitars and concertinas and the subsequent indigenisation that followed by migrants has led many researchers to incorrectly conclude that the condition of migrancy necessitated the development of *umaskandi*.

*Omaskandi* perceives their music the same way they do with pre-colonial indigenous music. This is evident in the explanation that was proffered by Ntuli (2017) on indigenous instruments; he asserted, '*umakhweyana umaskandi ojule kakhulu loyo,*

*besekubakhona umambheleza, sikubiza isitolotolo kusewumaskandi wonke, kukhona okuthiwa ubhelebana/sliter, imfiliji kusiwumaskandi konke lokho*' (umakhweyana is a deep-rooted umaskandi, there is umambheleza we call it isitolotolo, it is all umaskandi as well as ubhelebana/sliter and imfiliji its all umaskandi) (N. Ntuli, personal communication, May 5, 2017). In other words, the view that Indigenous Isizulu musical practices are the basis of *umaskandi* suggests that no matter how the way of life of an African, Amazulu in particular, changes, or their social institutions, political organisations, and aspects of economic life might have affected African communities, it could not succeed with the music.

Over the past couple of decades since *umaskandi's* inception, its development and existence have been significantly influenced by several factors. These factors result from societal changes during the introduction of colonial systems in Africa and African communities. It should be borne in mind that *umaskandi* is an Indigenous culture of music-making which predates colonialism (Moloi, 2019). Agawu (2023) opines, 'in the last hundred years, some aspects of tradition have remained intact; some have even intensified their authenticity, while others have metamorphosed into new traditions' (p. 5). Indeed, *umculo womdabu's* pre-colonial stability had to be reconfigured because of the far-reaching dramatic changes brought by colonial movements. As a result of these social reconfigurations and advancements, it meant that cultural industries, such as *umaskandi,* could not resist technological advances that have determined its production, dissemination, and reception. For instance, the advent of sound recording in the early 20$^{th}$ century (Morton, 2006), together with the onset of widespread radio broadcasting starting in the 1920s, forever changed the way music was heard and listened to (Sterling, 2013).

*Umaskandi* is defined by concepts like *ushuni* (umaskandi concept of sound organisation), *ukusetha* (a process of adjusting the pitch of one or many tones from the musical instruments to establish a particular ushuni) and *izihlabo* / *ihlabo* ((introduction to umaskandi performance), which provide a philosophical view of the phenomenon. Isizulu (language) plays a significant role in this regard, as it dominates the conceptual apparatus beyond its ordinary communicative function. Language is a device that controls the way we think, perceive, and interpret things. It is also a device that determines how we see ourselves as well as others. In this sense, language, which is dominant over individual consciousness, can be said to have a different conscious influence. It serves as a means of intersubjective recognition. Language does not so much reflect our notion of the world as it is constitutive of this notion, and in this sense, language constitutes all human reality (Soames, 2010).

### 1.2.3 Ushuni

*Ushuni* (umaskandi concept of sound organisation) is an intriguing concept that can be easily obscured by Western concepts such as 'style', leading many scholars to conclude as such. The concept of *ushuni* has been described by Ntuli (2017) as follows *'ulimi lwakho ushuni wakho*' (your language is your ushuni) (N. Ntuli, personal communication, May 5, 2017). Based on this description, how the instruments' sounds are organised in *umaskandi* is equivalent to spoken language. Bebe (1975) has observed, 'it is a fact that much African music is based on speech. The bond between language and music is so intimate that it is actually possible to tune an instrument so that the music it produces is linguistically comprehensible' (p. 119).

*Omaskandi* brought foreign instruments (guitar, violin, and concertina) into their communities and ensured that they became integrated into their musical life and spoke the same language as the community. These instruments were also taught the music language based on indigenous Isizulu music-making principles and concepts. Hence there are different *oshuni*, such as *Isikhomazi*, *Isitafu*, u *C*, *Isimondolini*, *Ushameni*, *Isikhuze*, *Ubhaca*, Isizulu, Afro, *Umzansi*, *Isimanjemanje*, *Isipoyinandi*, (oshuni found in umaskandi) to name the few.

Music is not conceptualised in isolation in most African communities but rather in conjunction with other art forms, such as dance, visual art, drama, and poetry. For example, in Isizulu, the term *ingoma* refers to a song-dance compound. However, some, and not all, *oshuni* are named after *ingoma*. Nketia (1975) postulates, 'when there is a specific name for the dance for which a musical genre is performed, this may also be used as a label for the music' (p. 25). *Isishameni*, *Isikhuze*, *Umzansi*, *Isikhomazi*, and *Ubhaca* are some *oshuni* who identify with *ingoma*, found in several Amazulu communities, both urban and rural. Different Amazulu communities in KwaZulu-Natal are the originators of these song-dance compounds. For instance, *Umzansi* is believed to have originated in areas of kwaMaphumulo and Endwewdwe, *Isikhuze* originated in the regions of Emkhuze, *Ubhaca* originated in the regions of Umzimkhulu, *Isishameni* originated in the regions of Umsinga (Ngema, 2007)

*Oshuni,* like Isizulu, which is associated with areas near KwaNongoma, *Isimondolini*, *Isipoyinadi*, *Isitafu*, and u *C,* are not named after *ingoma*. There are also personalised *oshuni*, named after *omaskandi*, who created them, which is done according to *umaskandi* music principles.

Mbatha (2017) points out that *ushuni* he plays results from him learning *ukusetha isiginci* (tuning the guitar). He states, '*ngizenzela mina ngazisethela wona ngase ngiyakudlala kwacishe kwahlangana. Ngaqala ukwazi ukuthi mina umaskandi ngiwudlala ngeyami indlela, ushuni lowo ngiwubiza ngokuthi ispanishi*' (I was tuning by myself, and I started playing, and it nearly came together. I started knowing that I play umaskandi my way, I call that ushuni ispanishi) (T. Mbatha, personal communication, May 5, 2017). Xulu (1992) also point out that *omaskandi* such as Nkindlane Buthelezi and John 'Phuzushukela' Bhengu have *oshuni* named after them called isi'Nkindlane and isi'Phuz'ushukela, respectively.

Giving a detailed definition of *ushuni*, *omaskandi* are unambiguous that *ushuni* is *inkulumo* (speech). Majola (2017) stated, '*mina ngikhulele izindaweni ezintathu, Kwazulu sasuka saya Emsinga, khona manje sengihlala Enyukhasela. Engingakusho ukuthi izinkulumo zakulezindawo azifani, yingakho noshuni behlukahlukene*' (I grew up in three places, Kwazulu, we moved to Emsinga. Currently, I am staying in Newcastle. I can say that speech dialect in all these places is not the same; that is why oshuni are also different). (M. Majola, personal communication, April 4, 2017). This assertion was supported by Ntuli (2017), and he gave an example of how different regions within the province of KwaZulu-Natal pronounce the word '*umama*' (mother); he states,

> *Oshuni laba bahlukene, uyabona nje umuntu waKwaNongoma ngimuzwa ngoshuni. Singamazulu nje asifani sihlukene singamazulu kukhona Umzulu waseMkhomazi, waseMsinga, waKwanongoma. Uma ubheka kahle umuntu waseMsinga akakwazi ukuthi umama uthi umalo, uma ujula ungena phakathi neKwaZulu-Natali koMaphumulo uzothola umuntu othi*

> *uma, kuno mama kunomame koNongoma ukuyoshona oPhongolo. Uyabona nje mina angikwazi ukukhuluma ngo nga. Ulimi lwakho ushuni wakho* (Oshuni are different; you see someone from KwaNongoma I can hear from ushuni. As Amazulu society, we are different. There are people from uMkhomazi, Emsinga, and KwaNongoma. If you pay attention, a person from Emsinga cannot say umama, and they say umalo. When you go deep in the middle of KwaZulu- Natal in areas of kwaMaphumulo, you find a person who says uma. There is umame in areas from Kwanongoma toward oPhongolo. You see me; I cannot speak stressing 'nga'. Your language is your ushuni).
>
> (N. Ntuli, personal communication, May 5, 2017).

According to Majola (2017) and Ntuli (2017), *ushuni* is not a recent phenomenon; rather, it represents a unique linguistic tradition deeply rooted in the Amazulu society, having persisted since ancient times. This cultural artefact, referred to as *ushuni*, can be understood in the context of *inkulumo*, which translates to speech. In this cultural framework, music and rhythmic expressions are integral to the everyday lives of African people. *Ushuni* exemplifies how language and music are intertwined in the social fabric of Amazulu community. The existence of *ushuni* highlights the significance of oral traditions and the role of musicality in conveying messages, emotions, and communal values. In African societies, where oral history and performance play crucial roles, *ushuni* connects past traditions with present practices, ensuring the continuity of cultural knowledge.

*Ushuni* is conceptualised in *umaskandi* as *ukusetha* (tuning) and a performance tool, and a didactic tool. This study has found that when *omaskandi besetha* their instruments, it is not just an exercise of standard tuning. This is not even standard in *umaskandi* context, but *basetha ushuni* (tuning an instrument into a particular ushuni).

Concerning performance practice, *badlala ushuni* (they perform a particular ushuni), and as a didactic tool Ntuli (2017) points out, '*isiginci ukusifunda uqala ngoshuni. Uma usukwazi ukusetha ufunda ushuni owodwa, abanye oshuni sebezokuthola ngendlela*' (When learning a guitar, you start with ushuni when you have learned ukusetha, you proceed and learn one ushuni and other oshuni will find you along the way) (N. Ntuli, personal communication, May 5, 2017).

### 1.2.4 Ukusetha

Tuning a musical instrument means adjusting the pitch of one or more notes to establish typical intervals between them. The concepts of tuning and temperament may be similar, but they are not equivalent. Temperament refers to tuning adjustment to remove inaccuracies in intervals between notes and adjust the entire tuning. For example, the temperament divides the octave into twelve equal semitones (Myers, 2012). In contrast, tuning refers to one note and is usually based on a fixed reference, such as A = 440 Hz (Loosen, 19950).

Different instruments require different tuning methods that are dictated by their ways of producing sound. For example, string instruments like guitars and violins, often used in *umaskandi*, can be tuned manually by turning the tuning pegs, which affects the pitch by changing the tension on the strings. The open strings are E, A, D, G, B, and E, arranged from the lowest-pitched (low E) to the highest-pitched (high E) string. The violin strings are tuned similarly, with the strings G, D, A, and E. Also popular among *omaskandi* is the concertina, which is adjusted to G/C in *umaskandi*.

In *umaskandi*, *ukusetha* refers to adjusting one or many tones from the musical instruments to establish a particular *ushuni*. In this case, *ushuni* is a reference point where intervals between the notes are tuned into a specific temperament befitting *umaskandi*. It has been pointed out before that *omaskandi basetha ushuni* (omaskandi tune their instrument according to a particular ushuni). In this process, no modifications of the Western tuning system are made to string instruments to tune the strings. In other words, where a particular string will be manipulated to another note from its original standard tuning system, an example being tuning the low E to D, string A to B, and the like.

As a point of reference, *ushuni* resides in the memory of *umaskandi* and during each occasion of *ukusetha*, *umaskandi* uses *izihlabo* (introduction to umaskandi song performance). As Ntuli (2017) puts it, '*uma uqala nje usetha, usetha ngazo izihlabo ukuzwa ukuthi izintambo zakho zingenelene yini*' (when you start tuning, you use izihlabo to hear if your strings are communicating or connecting) (N. Ntuli, personal communication, May 5, 2017). Bebe (1975) has argued that 'the bond between language and music is so intimate that it is actually possible to tune an instrument so that the music it produces is linguistically comprehensible' (p. 119). Thus, African languages convey culture, and a way of living, and music in African societies is an integral part of daily life.

In *umaskandi,* it could be said that *ukusetha* is the most critical vehicle in transforming the musical instrument to speak the language of *omaskandi*. By doing so, the instrument can produce *ushuni*, and within *oshuni* (plural of ushuni), the music produced is socially, conceptually, and philosophically comprehensible.

The other dimension that is involved in *ukusetha* (tuning) is the use of *ibriji* (capo) on the guitar, which *omaskandi* use to raise or decrease the pitch of the guitar so that they can play in a different key using the same *umsetho* (tuning). In music, a capo (short for capo d'astro) is a device used on the neck of a stringed (typically fretted) instrument to shorten the length of the strings, thus raising their pitch. This device has been used for many centuries on instruments such as guitars, banjos, ukuleles, mandolins, and almost any instrument with strings suspended over a fretted fingerboard (Ayres, 2021).

Original *ibriji* in *umaskandi* were made from sticks or curved wood pieces attached directly to one side of a guitar fret using strings to create a new nut higher than the guitar's standard nut. While describing the use of *ibriji*, Majola (2017) stated, '*ukuqala kwami besisebenzisa uthi ubophe ngentambo*' (when I started, we used the stick and tied it with a string) (M. Majola, personal communication, April 4, 2017). This assertion is supported by Ntuli (2017), who generally does not use *ibriji* on the guitar when he pointed out, '*kukhona ushuni ophoqa ukuthi ngisebenzise ibriji, uma ngizodlala loshuni okuthiwa ispoyinandi. Ngithatha ipulangi ngilivule isikhala ukuthi zibopheke zonke izintambo ngaphandle kweyesithupha*' (there are ushuni that forces me to use ibriji when I am playing loshuni ispoyinandi, I take the wood and open the gap so that it ties all the string except the sixth string) (N. Ntuli, personal communication, May 5, 2017). According to Ntuli (2017), *ibriji* he uses when playing *ispoyinandi* (one of ushuni found in umaskandi music) covers all the top five guitar strings and leaves the low E string uncapoed.

Some capos do not raise all the strings, called partial capos, and they can be obtained in music shops. Some *omaskandi* are currently using modern capos instead of the ones that are made of *uthi ne ntambo* (stick and string), and one of them is Majola (2017), who confirmed that '*sekwabakhona awesilungu namhlanje sesisebenzisa wona*' (lately there have been the Western made currently and we are using them) (M. Majola, personal communication, April 4, 2017). In his assertion, Majola (2017) emphasises that *omaskandi* are not mimicking Western musical practices. According to him, the modern capos in *umaskandi* emerged long after they were using *uthi ne ntambo*, thus the statement *sekwabakhona awesilungu* (lately, there have been Western capos).

After *ukusetha ushuni*, *omaskandi* use *ibriji* (capo) to be in tune with any other instrument found in *umaskandi* performance. In his explanation of the use of *ibriji,* Ntuli (2017) states, '*isiginci ngisibopha ukuthi siqondane nenkostini*' (I tie the guitar so that it matches the concertina) (N. Ntuli, personal communication, May 5, 2017), and this view has been supported by all *omaskandi* who took part in this study. In other words, *ibriji* in *umaskandi* performance serves as a tool that can be manipulated to raise or lower the pitch but keep the same *umsetho* (tuning). This enables *omaskandi* to match the tuning of other instruments during *umaskandi* performance.

Instruments like *inkostini* are prominent in umaskandi performances, and they are not spared from *ukusethwa* (tuning) according to *umaskandi* methods of sound manipulation. Regarding *inkostini*, *ukusetha* can only be done by specialists. The process begins by opening it up and adjusting the reed inside to produce the desired

*umsetho* (tuning). Therefore, *ukusetha* in *umaskandi* aid *omaskandi* in expressing, conceiving, philosophising, and conceptualising their music

### 1.2.5 Izihlabo

*Izihlabo/ihlabo* (introduction to umaskandi performance) is the prelude to *umaskandi* performance, which is played in the context of *ushuni*, through which the performance takes place. *Izihlabo* consists of a series of flashy melodic passages executed by *omaskandi* using *ukupika* (the technique of picking the guitar strings using two fingers, the thumb, and the index fingers) (Davies, 1994). Apart from introducing *umaskandi* performance, *izihlabo* also introduces *umaskandi* as argued by Majola (2017), '*izihlabo zibalulekile ngoba yizo ezikuvezayo*' (izihlabo are essential because they introduce you) (M. Majola, personal communication, April 4, 2017). Ntuli (2017) attest to Majola (2017)'s assertion and further explains that '*izihlabo ukukhombisa into ozoyidlala, njengoshuni ozowudlala, futhi bonke omaskandi bangempela ingoma yakhe uyizwa ngezihlabo yena engakaculi, engakasho lutho*' (izihlabo is to show what you are going to play, for instance, ushuni you are playing in, and all of the real omaskandi's songs can be picked up through izihlabo before they sing or say anything) (N. Ntuli, personal communication, May 5, 2017). Hence, *izihlabo* serves as a signature of individual *umaskandi*, as every one of them can be recognised by their *Interestingly, izihlabo can also be observed in many other umculo womdabu (Indigenous music) genres, including Isicathamiya and Umbhaqanga*. Concerning the introduction role that *izihlabo* plays, it confirms *umsetho*, introduces *ushuni*, introduces *umaskandi*, and introduces *umaskandi* song performance.

Interestingly, *izihlabo* can also be observed in many other *umculo womdabu* (indigenous music) genres, including Isicathamiya and Umbhaqanga. (Ngema, 2007) writes that during the performance of *indlamu* and *ingoma* (Isizulu music and dance compound), particularly with the performance of *Isishameni*, there is always a solo dance performance before every main dance routine. In other words, solo dancing introduces the performers to the following dance routine they are about to embark on. As in Umbhaqanga music, the introduction to a song performance mainly lies with the keyboard, which is a phenomenon that was popularised by Moses Ngwenya of the Soul Brothers, and which was adopted by most of the bands that followed. In Isicathamiya, the performance begins with the group leader singing an introduction, which serves both as tuning and introducing the song to the group members. This is because African societies perform music differently from Western societies, with their heavy reliance on the conductor or pop music bands and their dependence on the drummer.

On the whole, when concerned with *umaskandi,* we are concerned with the genre that was and still is a continuation or an extension and a variation of a deep-seated Indigenous Isizulu culture of music-making. The term refers to a genre of music associated primarily with Amazulu communities. Furthermore, people who practice this music are known as *umaskandi*.

### 1.3 The Industrial Revolution

In the second half of the 18th century, Europe and America underwent the Industrial Revolution. It transformed these continents' rural agricultural societies into

industrialised and urbanised societies; after that, it spread worldwide. The Industrial Revolution has been defined as the changes in manufacturing and transportation that began with fewer things being made by hand but instead made using machines in larger-scale factories (Your Dictionary, 2018). Webster's New World College Dictionary (2014) defines the Industrial Revolution as 'the change in social and economic organisation resulting from the replacement of hand tools by machine and power tools and the development of factories and large-scale industrial production: applied to this development in England from about 1760 and to later changes in other countries' (Webster's New World College Dictionary, 2014). The American Heritage Dictionary (2011) defines the Industrial Revolution as 'the complex of radical socioeconomic changes, such as the ones that took place in England in the late 1700s, that are brought about when extensive mechanisation of production systems results in a shift from home-based hand manufacturing to large scale factory production' (The American Heritage Dictionary of the English Language, 2011). Nef (2016), writing about the Industrial Revolution, argues, 'the popular impression is of a transformation of the conditions of life that has brought human beings into a new world which does not bear comparison with the world of their ancestors' ( pp. 7–8).

Throughout the history of humanity, people have consistently used and are dependent on the technology they had to simplify their lives. The technology of each era during the Industrial Revolution might not have been the same, but people were always trying to take it to another level. These constant innovations and inventions that began with the first Industrial Revolution have brought us to an era currently referred to as The Fourth Industrial Revolution, aka 4IR. It is the revolution that the whole world is going through at the present moment. Harvey (2019) argued,

> The argument for a new category – a Fourth Industrial Revolution – is compelling. New technologies are developing with exponential velocity, breadth and depth. Their systemic impact is likely to be profound. Policymakers, academics, and companies must understand why all these advances matters and what to do about them. (Harvey, 2019, para. 6).

Accordingly, the convergence of breakthrough technologies such as advanced robotics, Artificial Intelligence, the Internet of things, virtual and augmented reality, wearables, and additive manufacturing transforming production processes and business models across different industries cannot be wished away (World Economic Forum, 2017). Life in its totality is being transformed in the process of the Fourth Industrial Revolution. As a result, it may mean *umaskandi's* survival will depend on its ability to withstand the impact of The Fourth Industrial Revolution.

## 1.4 Problem statement

Despite substantial qualitative studies on *umaskandi*, a popular music genre in South Africa, there is a lack of comprehensive research on its progression in relation to the ever-changing developments in the music industry, particularly within the context of the Fourth Industrial Revolution. The focus on defining the genre and biased scholarship in the past has further compounded the issue. With the Fourth Industrial Revolution upon us, set to impact all industries, including the music industry, there is a risk that the lack of comprehensive studies on *umaskandi* could compromise its commercial viability and sustainability. This study aims to explore the Fourth Industrial Revolution phenomenon and its specific impacts on the *umaskandi* genre. It investigated how these technological advancements influence the compositional,

production, distribution, and consumption aspects of *umaskandi*. Furthermore, the study examined the implications of Artificial Intelligence on these processes, assessing both the challenges and opportunities presented by the new digital landscape. Additionally, the study delved into *omaskandi* (practitioners) understanding of these implications and their perceptions of the Fourth Industrial Revolution's effects on their music. By doing so, the research seeks to identify potential strategies and opportunities that could ensure the survival and commercial viability of *umaskandi* moving forward.

Given that the African continent has often been a spectator in past industrial revolutions, this research presents an opportunity to turn the continent's fortunes around by proactively addressing the current revolution's impact on traditional music forms like *umaskandi*. This comprehensive study provides valuable insights that can inform strategies for adapting to the evolving environment, ultimately promoting the sustainability and growth of *umaskandi* genre.

## 1.5 The Rationale of the Study

The study explores and recognises *umaskandi* as an innovative industry that significantly impacts the South African music business. As a traditional music genre that draws on rich Isizulu musical principles, *umaskandi* deserves academic attention to confront the discrepancies and neglect pervasive in South African music scholarship. The study advocates for urgent research on the survival and evolution of *umaskandi* and readiness for the Fourth Industrial Revolution, which introduces new technologies and disrupts the music industry. Through this study, the hope is to

provide detailed and comparative insight into the state of *umaskandi* and promote its understanding, ensuring that cultural industries such as *umaskandi* continue to adapt, survive and flourish. Additionally, the study could contribute to writing conference and journal papers proposing solutions that could benefit *umaskandi* fraternity.

## 1.6 Aims of the Study

The broader aim of this study is to explore *umaskandi* in The Fourth Industrial Revolution, threats, and opportunities. It is anticipated that this study would provide clarity on the state of preparedness of *umaskandi* to navigate and appreciate the challenges and opportunities that the Fourth Industrial Revolution could present.

## 1.7 Objectives of the Study

The objectives of the study are as follows:

- First, to explore the Fourth Industrial Revolution phenomenon.

- Second, to investigate the impact of the Fourth Industrial Revolution on music, particularly *umaskandi* genre.

- Third, to examine the implication of Artificial Intelligence in the compositional, production, distribution, and consumption of *umaskandi*.

- Fourth, to explore *omaskandi* understanding of the implications of the Fourth Industrial Revolution on their music.

- Finally, to investigate the possible opportunities that the Fourth Industrial Revolution will present moving forward, thereby ensuring the survival and evolution of *umaskandi* in this new era.

## 1.8 Research questions

The research questions of the study are as follows:

- What is The Fourth Industrial Revolution phenomenon?

- What is the impact of the Fourth Industrial Revolution on music, particularly *umaskandi* genre?

- What are the implications of Artificial Intelligence in the compositional, philosophical and production of *umaskandi*?

- What is *omaskandi* understanding of the implications of the Fourth Industrial Revolution on their music?

- What opportunities will the Fourth Industrial Revolution present moving forward, ensuring the survival and evolution of *umaskandi* in this new era?

## 1.9 Literature Review

Several areas of literature spread over this study on the survival of *umaskandi* in the face of the Fourth Industrial Revolution were reviewed. The reviews were classed into several categories, such as literature pertaining to *umaskandi,* which has a sizeable contribution from scholars such as Coplan (1985), Msimang (1986), Brubeck (1992), Davies (1994), Nyembezi (1992), Grove (1994), Ntuli and Makhambeni (1998), (Molefe (1999), Sikwebu (2001), Mzizi (2003), Mbatha (2003), Levine (2005), Nkumane (2006), Mathenjwa (1996), Shabane (1997), Nhlapo (1998), Pewa (2005) Ntombela (2011) and Moloi (2019) to mention but a few.

Secondly, the other category of the literature reviewed concerns itself with the Fourth Industrial Revolution. In this category, the literature is minuscule, but authors such as Schwab (2015, 2016), Marwala (2019), and Beka (2017), to name but a few, have done some sterling work on the subject. The third category was the literature on Artificial Intelligence in music composition, production, and performance. This review looked at global, continental as well as local trends.

## 1.10 Theoretical Framework

The study concerns *umaskandi*, which some scholars have defined as indigenous African music. As part of its theoretical perspective, the research explores *umaskandi's* survival against the Fourth Industrial Revolution, utilising Indigenous Knowledge Systems and Ordinary Language Philosophy. These theories were chosen considering their relevance for sustainable scholarly discourse in Africa, South Africa,

and the globe.

## 1.11 Research Methodology

A methodology is defined as a specific procedure or technique used to identify, select, process, and analyse a topic. It is tasked with answering questions such as how data was collected or generated and analysed. A phenomenological methodology has been identified as the best means for determining data sources that can assist the understanding of phenomena from an insider perspective. A phenomenological methodology design approach was appropriate given the complex and subjective nature of experiences within the South African music industry. The methodology for this study is discussed in detail in Chapter Three.

## 1.12 Envisaged Chapters

**Chapter One:** introduces the study by briefly discussing the concepts of folk music, the development of *umaskandi* and the Industrial Revolution to introduce the subject. The precise aims, objectives, statement of the problem, rationale, and research question are outlined.

**Chapter Two:** presents, evaluates, and examines literature that covers the entirety of the study. The literature reviewed was drawn from three main areas of knowledge pertinent to this study: *umaskandi*, the music industry, The Fourth Industrial Revolution and Artificial Intelligence in music composition, production, and performance.

**Chapter Three:** deals with the research methodology, including research design, population and setting, sampling, research instrument and data analysis. Included is the theoretical framework that underpins this study.

**Chapter Four:** focuses on the use of technology in *umaskandi* composition, production, and distribution with particular reference to studio technologies, music software and Artificial Intelligence in music composition.

**Chapter Five:** focuses on social media platforms, which have already become indispensable tools for music marketing and promotion in the digital age. It also highlights the use of social media by *omaskandi*, Digital music aggregators, and music streaming and downloading services with a particular reference to *umaskandi.*

**Chapter Six:** present concluding remarks and recommendations.

## 1.13 Conclusion

Chapter One has provided an overview of the study, exploring *umaskandi* in the Fourth Industrial Revolution threats and opportunities. To provide a solid foundation for understanding, the chapter begins by introducing the concept of folk music and defines *umaskandi*, a specific genre within this broader category. *Umaskandi* refers not only to the music itself but also encompasses its practitioners. Furthermore, the chapter explores the concept of the Fourth Industrial Revolution, a period characterised by the convergence of digital technologies and the physical world. This revolution has significantly impacted various industries, including the music industry. Considering this

context, the chapter highlights the need to examine *umaskandi* concerning the Fourth Industrial Revolution, as it offers challenges and potential advantages.

To establish the focus and purpose of the study, the chapter presents a clear problem statement. This statement addresses the need to investigate the impact of the Fourth Industrial Revolution on *umaskandi*, as well as the threats and opportunities it presents to this genre and its practitioners. The rationale behind this research lies in the importance of understanding how technological advancements affect traditional music forms and their survival in the rapidly changing digital landscape.

To guide the research process, the chapter outlines the study's objectives and research questions. The objectives revolve around examining the influence of the Fourth Industrial Revolution on *umaskandi*, identifying the threats and opportunities it brings, and exploring potential strategies for preserving and promoting this genre in the digital era. The research questions further delve into these aspects, seeking to uncover specific insights and perspectives.

Lastly, the chapter introduces the methodology and theoretical framework that underpins the study. These frameworks encompass relevant theories, concepts, and models. By employing this theoretical foundation, the research aims to analyse and interpret the intricate relationship between *umaskandi* and the Fourth Industrial Revolution.

In summary, Chapter One is introductory, providing a comprehensive study overview. It introduces the concept of folk music and *umaskandi*, explains the Fourth Industrial

Revolution, presents the problem statement and rationale, outlines the objectives and research questions, and establishes the theoretical framework that will guide the investigation. This chapter sets the stage for the subsequent chapters, which will delve deeper into the subject matter and present the study's findings.

# 2 **Chapter Two:** Literature Review

## 2.1 Introduction

This chapter explores the literature review that is spread over several areas. The review has enabled the familiarisation of the researcher with the subject under study. It also provides a succinct summary and analysis of pertinent information on the music industry's development. Randolph (2009) suggests that 'an effective method to begin planning a research review is to consider where the proposed review fits into Cooper's (1988) Taxonomy of Literature Reviews' ( p. 2). Cooper's taxonomies of the literature review are as follows, focus, goal, perspective, coverage, organisation, and audience. Randolph (2009) continues to propose four potential focal points, namely, research outcomes, research methods, theories, practices, or application as a way of organising a literature review (p. 2).

While aware of these methods, the literature review in this study has been used to set the scene for a primary research topic (Bolderston, 2008). To achieve this end, the literature reviews analyse patterns and turning points that have shaped the direction of music, giving its interpretation of how and why certain developments have taken place. This analysis has been done by classing the review into several categories, such as literature about the development of *umaskandi*, the Fourth Industrial Revolution and literature review of Artificial Intelligence in music composition, production, and performance.

To arrive at a comprehensive grasp of developments in *umaskandi*, the music industry's role cannot be disregarded. Hence, the literature review starts with the development of the music industry worldwide, which has had some implications on Indigenous music, particularly *umaskandi*. Conclusively, these advancements have meant that cultural industries, such as *umaskandi,* could not resist technological advances that have determined its production, dissemination, and reception.

The following discussion is divided into subtopics that look at developments of the music industry from the global to the continental and the South African context. Similarly, the Fourth Industrial Revolution has had an international, continental, and local impact, and the reviews follow this trend. Lastly, the study reviews the use of Artificial Intelligence in music composition, production, and performance.

## 2.2 Music industry a global perspective

The music industry is an essential element in this study because of its role in developing cultural industries, such as *umaskandi*. *Umaskandi* has been transformed from Amazulu Indigenous process of music-making to a commodity to be consumed. Deliberating on these occurrences will enable a more in-depth understanding of the role the music industry facilitated in the development of *umaskandi*. The discussion starts by exploring the historical background of the music industry and eventually arriving at a period this study is focusing on. Nevertheless, defining the term music industry creates a point of departure in elucidating core matters related to the development of an industry that has had such an impact on music.

The music industry is a broad term that refers to companies and individuals representing and aiding the music value chain process. The music value chain comprises sectors such as the music publishing industry, the live music performance industry, the record industry, the music brand industry, the music production industry, the music media industry, and the music education industry (Shaw, 2010). In other words, the music industry is a general term for all parties involved in creating, performing, recording, promoting, and managing the successful and profitable music business. However, the DACST (1998) summarises it as follows: 'the music industry is constituted by a variety of different industrial and service sectors, its products take the form of physical artefacts, services and intellectual property and it is characterised by a global flow of revenues' ( p. 19).

The literature agrees that the music industry started with sheet music during the mid-15th century. It was a period when the evolution of printing technologies by the publishing industries, namely, bookmaking, news reporting, and print media, were developing economies of scale. Therefore, with the capability to deliver their products to wider audiences, the publishing industries forever changed the production and distribution of print music (or sheet music). Smith (2012) writes,

> When many different orchestras were able to play the compositions of few composers as a result of sheet music distributed to them, the music publishing industry was created. By the late 1800s, composers could write works that would be sold on paper to hundreds of localised orchestras and the printing industry was thriving. (Smith, 2012, para. 6).

In other words, sheet music publishers dominated the music industry at the time due

to printing that enabled sheet music to be reproduced much more quickly. However, it was not until the invention of sound recording technologies that could record musicians performing from sheet music that the recorded music industry was created (Smith, 2012).

At the dawn of the 20th century, the recording industry became a disruptive force to the interests of published sheet music and ultimately replaced the sheet music publishers as the music industry's most massive powerhouse. The recording industry achieved this huge powerhouse status by transforming the entire political economy of music's production and consumption guided by technology (Hull, 2004). The 20th century is the period that saw dramatic and wide-reaching changes in music because of the way paved by the Industrial Revolution, which brought a more structured delivery of music to a broader audience (Lubin,1997). The revolution came because of the new media and radio gaining popularity worldwide. Technologies were developed to record, reproduce, and distribute music; as a result, music with a broad appeal was distributed worldwide. Before these developments, the Western world could only access music at live music concerts or theatres (Weber, 2017). Technologies such as the phonograph and its successor gramophone records and radio broadcasts, which were available on a mass-market scale, enable people to purchase recordings of or listen to recordings or live broadcasts of a wide variety of music from around the world.

The emergence of sound recording technologies paved the way for music to be objectified, monetised and commoditised. Krüger-Bridge (2019) writes that as music gravitated towards becoming a different kind of mass commodity, and in so doing, it

'attracted entrepreneurs, and local record industries emerged in England, Germany, France, and Russia, with the more successful ones later consolidating and merging' (p. 1). By the 1930s, there were leading record companies all over Europe, Japan, and the United States of America. Africa and Australia saw the emergence of the recording and local music industry around the 1920s. According to Krüger-Bridge (2019), 'this time also marked the ‘official’ beginnings of the industrialisation of recorded music production and broadcasting' (p.1).

Subsections within the music industry, such as the recording industry, deal with music production, promotion, and distribution. This subsection is usually referred to as Record labels, and it has been a common occurrence to equate the music industry with the recording industry (Pastukhov, 2019). According to Kruger-Bridge (2019), between 1920 and 1930, numerous record labels came and went. In the late 20th century, only a few companies referred to as the 'Big Six were dominating the industry, namely, EMI Group Limited, Sony Music Entertainment (SME), Bertelsmann Music Group (BMG), PolyGram N.V., Warner Music Group Corp. (WMG), and Universal Music Group.

The function of the recording industry involves the production, distribution, and sale of music in various forms and the promotion of live musical performances. Although throughout the years, these recording industry priorities have evolved. To achieve these objectives, Smith (2012) writes that record labels,

> brought together the composers from the publishing industry and the musicians from the live industry and created a vinyl for the recording industry, would employ people to find the upcoming talent: to put the right

> musician with the right song in the right studio with the right producer or sound engineer and to release the record at the right time. These people became known as Artist & Repertoire Representatives (or A&R reps). Who went on to pick and choose the successful artists we see today.
>
> (Smith, 2012, p. 1)

Thus, the recording industry flourished, partly thanks to the exploitative contracts entered into with unsuspecting musicians whose primary focus was to create music. Through these exploitative contracts, major companies established themselves as multi-million business. However, the most glaring impact of the recording industry on music is that it gradually changed the global music culture (Herholdt-Powell, 2007). The following discussion looks at the recording industry, the sector guided by technology, more so than any other music industry sector.

### 2.2.1 Recording technology

According to Herholdt-Powell (2007), and Smith (2012), the 1870s saw the emergence of the technology that could instantly record and playback audio. Thus, the phonograph was born, and it enabled the means to capture sound on a recording medium for preservation and reproduction. This recording technology eventually became one of the most economically and culturally remarkable 20th and 21st centuries technologies. Sound recording technology's emergence and subsequent development have been roughly identified to fit Acoustic/Mechanical, Electronic, Magnetic and Digital timeframes. They were all marked by a specific technology that was created to record sound at that particular time. In addition, sound recording technology has been influenced by the quest for better sound quality from early to the

present (Rothstein, 2019).

The concept of sound/audio recording has been defined as making a record of sound (Merriam-Webster, 2020). Thaker (2020), establishes the process as 'a progression of codifying or storage of human speech or singing, sound pertaining to instrumental music or sound effects using electronic or mechanical methods' ( p. 57). During the process, audio information or sound waves are captured onto a storage medium such as electrical, mechanical, electronic, or Digital inscription. During the Industrial Revolution in the 1800s, the capturing of sound on a recording medium for preservation and reproduction began in earnest. The subsequent Industrial Revolutions, such as the Second, the Third and the Fourth Revolutions, saw the emergence of new technologies that revolutionised the process even further.

Acoustic/ Mechanical sound recording was the initial and practical method of recording sounds, and the technologies were entirely mechanical devices. Electronic sound recording was ushered in by the Second Industrial Revolution technologies that saw energy from water and steam replaced by oil and electricity. During this period, the sound was recorded using electronic devices such as microphones, electronic signal amplifiers, electromechanical recorders, and other appropriate equipment. Magnetic sound recording was the third wave of development in audio recording. It was made possible by discovering the magnet tape recording after World War II (Morton, 1993). The radio and music industries adopted it as the standard medium for audio master recordings. Magnetic tape technology simplified the process of recording different instruments and fuelled a rapid and radical expansion in the sophistication of music genres that could be recorded. The Digital sound recording emerged during the Digital

Revolution, which started in the second half of the 20th century; it brought Digital computers and communications (Monforte, 1984).

Schwab (2015) writes, ‘it used electronics and information technology to automate production' (para. 2). The technology records the sounds by sampling and coding (converting sound or data into a binary or numeric format). It can record sound using an analogue to Digital converter device, transforming the sounds into Digital audio. Another significant development that came with the Digital era is the birth of the MPEG Audio Level 3 (MP3). According to Oxford Languages (2020), MP3 is a means of compressing a sound sequence into a tiny file, which enables Digital storage and transmission. This technology has allowed music to be downloaded and purchased online using cellular phones and computers.

Since its inception, the technology to record sound has undergone a remarkable transformation, significantly influencing the global music landscape, with *umaskandi* being a prominent example. *Umaskandi*, an Indigenous Amazulu musical genre, has seen its reach and expression evolve in tandem with advancements in recording technology. Initially, sound recording was a rudimentary process, capturing limited audio quality. However, with the advent of more sophisticated techniques and equipment, the fidelity and richness of recorded music have improved exponentially. This progression has not only preserved *umaskandi*'s intricate vocal and instrumental nuances but has also introduced it to a broader audience.

### 2.2.2 Media and broadcasting

Phonograph records of musical performance commercially emerged in the 1880s. The emergence of Phonograph records started the development of media as a sector in the music business. Radio offered free music delivery into consumers' homes, becoming the earliest disruptive media technology. According to Hawley (2000), 'radio technology primarily altered the music business by developing broadcasting companies, a new segment within the music business' (p.21). In the 1920s, the onset of widespread radio broadcasting, which had the potential 'of conveying messages from a source to a theoretically unlimited number of people who are at a certain spatial distance from the source of the message' (Josipović, 1984, p. 40), transformed from technological innovation to an integral part of society. Radio broadcasting became a large industry that presented an easily accessible form of media that permanently changed how music was heard and listened to. Early network programming mainly focused on music. Hawley (2000) argues that this early network programming changed the American listening audience in two primary ways, 'the number of individuals listening to music increased, and the audience for art music expanded to include all social classes' (p.3) These occurrences could also be valid with other listening audiences around the world. Thus, the relationship between music and radio became reciprocal in the sense that as music became the primary programming element in broadcasting, it influenced radio by identifying it as a form of entertainment (Hawley, 2000).

Various physical media/music consumption formats have existed since the technology could instantly record and playback audio emerged. Simultaneously, transformative

technologies such as format changes were continuously developing within the industry. According to Burgess (2014), 'the phonograph opened up a new creative medium that allowed the development of the art of music production' (p.1). The format changes during this era saw cylinder refinements from tin foil into wax and the introduction of mass replication technologies (Burgess, 2014). However, it was not until the 1930s that the new media in vinyl records was introduced, moving to the flat disc format. The introduction of vinyl records popularised and heightened sales of new consumer technology, and the format remained dominant until cassette tapes started replacing it in the late 1970s (MN2S, 2020). Cassette tapes became the following and critical phase in the music format revolution and encoded higher quality audio into the magnetic tape media for home use. As technology has demonstrated its ability to disrupt the status quo, some innovation that would change the music industry during the cassette tapes phase was gestating. The fate of cassette tapes would later be determined by the arrival of the Compact Discs (CDs) in the 1980s. A CD was initially developed to store digital audio, and it became a new format to replace analogue vinyl records and cassettes eventually (Peek, 2010).

Physical media (such as vinyl records, cassette tapes, and CDs) used to be the core product in the physical supply chain distribution in the music industry. Ramnandan (2015) writes, 'internationally supply chains can be described as a sequential series of linked suppliers and customers' (p. 24). The physical supply chain process of distribution works as follows; record companies contract musicians who compose, perform and record music. The next step is the manufacturing and packaging of physical media such as cassettes and CDs. Manufacturing and packaging are then followed by physical distribution from record companies and warehouses to retail

outlets, and retailers sell to customers who purchase and ultimately own the vinyl record, cassette, or CD.

However, the traditional music value chain and its business model of physical distribution disintegrated due to the disruption brought by Digital music distribution. Such a disruption occurred in the mid-1990s and early 2000s, shifting from physical products such as vinyl, cassettes, and CDs distribution to Digital file distribution (Peek, 2010). This occurrence has challenged many existing means of media production, distribution, and consumption. For instance, physical products have been replaced by Digital products, and similarly, physical music shops have been replaced with Digital music shops.

The journey towards music digitisation became possible due to the MP3 serving as an enabling technology and a completely new distribution model such as the Internet. Such has been a success in Digital music distribution; it gave birth to music streaming pioneers like iTunes, who rewrote the rulebook on Digital adoption (Simon, 2019). The two most popular models of accessing music online have been Digital Downloads and Streaming Subscriptions. With the Digital download model, the music is copied into the consumer's device when the purchase is made, allowing for permanent ownership of the music. On the other hand, the streaming subscription model provides access to a more extensive collection of songs for a monthly fee. These services allow subscribers to access music in real time without downloading the file to their devices. Streaming technology has become the new revolution in music consumption because of its music library, which is available from anywhere with an Internet or mobile phone connection and is the most widely used today.

## 2.3 A Perspective on the African Music Industry

Africa is a vast continent with distinct musical sounds and practices amongst all indigenous peoples. Music in Africa is the highest form of human expression through singing or (and) playing of an instrument (s), thereby expressing life, in all its aspects, through the medium of sound (Bebe, 1975). Writing about the critical characteristic of African music, Nketia (1975) postulates, 'the most important characteristic of this family of musical traditions is the diversity of expressions it accommodates, a diversity arising from different applications of common procedures and usages' (p. 4). As an integral part of African life, the process of producing music is a matter of creating, performing, and sharing it.

Due to the close integration of African music and social life, it was inevitable that music has undergone frequent changes throughout the centuries. These far-reaching changes have resulted from corresponding changes in African social institutions, political organisations, and economic life or religious practice. Concerning music development, in the 1960s, there was an emergent body of music mixing the elements of indigenous African music with Western popular music that gave rise to African popular music (Barber,1987). However, the music industry at the time was non-existing in most countries around the continent except recording studios that, in most cases, were technically ill-equipped, and record companies rarely had any systems. Thus, it is said that Africa is the continent of music makers but does not have the music industry.

On the other hand, literature on the development of the music industry in the continent

of Africa is mute. Several lengthy searches conducted by the author revealed that little published and peer-reviewed work exists that relates directly to the development of the music industry in most countries of the African continent. However, in South Africa, authors such as Jonathan Shaw (2010) have attempted to deal with most areas of the music industry in his book titled, The South African music business. In addition, one online resource has proven to address the gap in the lack of information in such an essential sphere of the African music industry. Music In Africa (2017), an online resource, has 'commissioned and published original overview texts that cover the historical development of the recording industries of various African countries' (CDC, 2017).

Recording music in the African continent started with a few individuals interested in recording and archiving it, even though colonisers viewed Africa and Africans as backward and void of any authentic culture worth preserving. However, the common trend in recording music has been mainly by broadcasting corporations in most countries of the African continent (Laing, 2009). These are state-run broadcasting corporations, and they became major recording facilities in their respective countries for a considerable time. These institutions were mainly responsible for documenting and recording music for public amusement at the time (Drammeh, 2015). Sometimes, the musicians had to cross the borders to record their music. This phenomenon was common in countries such as South Africa, whereby musicians from neighbouring countries like Lesotho, Eswatini, and Zimbabwe, to name a few, were using South African facilities. Musicians from Tanzania and Uganda had to cross the border to Kenya to record their music as well. The same could be said about the Senegalese artists who travelled outside the country to Abidjan in the 1970s.

In Africa, the transition from analogue to Digital technology has brought about a revolution in the art of recording sound. As a result of Digital technology, recording music has been made relatively affordable, and this recording affordability has seen a proliferation of home studios or backyard studios throughout the continent (Siame, 2016). The previous discussion noted a tendency to equate the music industry as a whole with the recording industry. This equation might be construed as a growth of the music industry, whereas the recording industry is just one of the subsections in the music industry value chain. Despite the growing number of recording studios in African countries, the music industry still faces massive challenges. The challenges suffocate the music industry that some may argue does not or never exist in the first place.

The music streaming sector is now available on the African continent, which was introduced to Africa around 2013 by Spinlet, according to Research (2020). Music streaming services are online applications that allow for a continuous stream of data (music or video) in real-time. Amongst some services offered by music streaming platforms are recommendations of new music based on a user's listening history, allowing users to bookmark artists and discover new acts. Unlike other music sectors that have been neglected, music streaming services have been promising. Platforms such as Kenya-based Mdundo, Nigerian Spinlet and uduX, MusikBi in Senegal, and Simfy in South Africa, to name but a few, have held their own against dwarfing by international brands (Adewumi et al., 2023). Be that as it may, Africa's music streaming space is steadily growing, and start-ups have since been fuelling consumers' interest in music subscription and consumption. This steady growth has been aided in part by the rapid and pervasive uptake of smartphones and mobile Internet.

### 2.3.1 Developments in South Africa

The development of the South African music industry, like elsewhere, started with sheet music publishing as the primary music sector. However, it was not until 1900 that some of the music sectors, such as the recording sector, publishing sector, media sector, and record companies, to name a few started to emerge. Technological advances that revolutionised the recording and distribution of music helped recording companies become powerhouses in the music industry. The establishment of the South African Broadcasting industry in the 1920s and the introduction of programmes for South African indigenous communities in the 1940s popularised local music and fuelled the growth of the recording industry (Shaw, 2010). According to Chislett (2014), in South Africa, the music industry is a vibrant and flourishing entity characterised by diversity and a relatively decentralised structure. A more precise description is that the South African music industry is very developed, as evidenced by solid infrastructure and structured markets.

Recording of South African traditional music started after Gallo had set up the first recording studio in Johannesburg in 1932 (Shaw, 2010; Coplan, 1985). The setup of the recording studio by Gallo Africa saw other companies following suit. However, in the 1990s, international music companies such as BMG entered South Africa and later merged with Sony Music Entertainment in 2004. These mergers were a global trend as many music companies were countering the challenge from technologies like the Internet that transmitted Digital information over a vast network of users around the globe. In addition, the 1990s was the era that welcomed independent record labels in South Africa (Drewett, 2015). To the scene came independent labels such as Getto

Ruff Records, Bula Music, Chissa Music Group and African Cream Music, to name a few. The 2000s, on the other hand, have not been kind to the recording industry as the globalisation of music has forced record companies to seek a merger with either smaller or larger ones. The continued mergers result from the impact of current technologies, such as streaming services, that have threatened to render most of the companies redundant.

According to Shaw (2010), after 1950, several musicians entered the music business as recording artists. This break into the industry led to recording labels upping their game in marketing techniques of records. These techniques saw the sampling for radio, and several new stations were beginning to broadcast. The introduction of television in 1971 further bolstered the visual aspect of South African musicians. Regarding physical media as the core product in the physical supply chain process of distribution in the music industry, Shaw (2010) writes,

> along with this, new mediums for packaging music recordings were developing. The famous 'war of speeds' was taking place with the introduction of 45-rpm vinyl discs which were smaller and suited for single and 33-rpm 'long-playing' discs which were perfect for albums, this new medium provided consumers with easy access to and playability of music. By the end of the 1970s the cassette tape was introduced.
>
> (Shaw, 2010, p. 193)

Thus, technological advancement replaced vinyls and cassettes with the CD in the 1980s, following global occurrences. The 2000s saw the South African music industry trying to unlock and play in the Digital Revolution sphere. Streaming Services have seen Digital devices such as laptops and mobile phones becoming the big music

medium.

### 2.3.2 Specifically Umaskandi

Fundamentally transforming *umaskandi*, a deep-seated indigenous Isizulu culture of music-making into financial rewards, manifested itself around the 1950s. It was the time when South African record companies started to concern themselves with *umaskandi*. The first *umaskandi* to record his music was John Bhengu, a.k.a Phuzushukela, whom Coplan (1985) suggests he arrived in Johannesburg in the 1950s. He met with Umbhaqanga producer Cuthbert Mutumba from Trouble Company. Ntombela (2011) continues to explain that after meeting with the Mutumba, 'uPhuzushukela *waqopha umculo wakhe okokuqala osihloko sithi*, “Ilanga Libalele”. *Ngemuva kwalokho wabe esesebenza* noMnumzane H.V. Nzimande. UNzimande *wenza olukhulu uguquko emculweni nasempilweni* kaJohn Bhengu *nokwamenza waduma kakhulu waze wathola isidlaliso esithi uPhuzushukela* (he recorded his music for the first time with a title called “Ilanga Libalele”. After that offering, he worked with Mr. H.V. Nzimande, who changed Bhengu's life and music, resulting in him becoming very popular and earning the nickname Phuzushukela) (p. 43).

Undoubtedly, the beginning of recording *umaskandi* also spelt the commodification and monetisation of the genre. In other words, *umaskandi* became a commodity to be consumed and provided financial rewards to its practitioners. This process had some far-reaching implications for *umaskandi*, such as introducing the rhythm section to *umaskandi* performance. Music producers suggested this rhythm section, consisting of bass guitar, drums, concertina and sometimes keyboards (Ntombela, 2011). The

commodification also meant that the entire music industry value chain began to have a stake in the music.

The continuation, variation, sustainability, and interface of *umaskandi* as it is known today took place at the back of the music industry value chain. An example is the popularity of Phuzushukela, which was to a larger extent aided by broadcast radio, as it could reach a much more extensive and more comprehensive range of people, including lower and middle-income people who could hear his music. During the same period, the production and distribution of music were dominated by record companies, and *omaskandi* were reliant on them to connect with consumers.

The literature on the role of the South African music industry's impact on most of what is referred to as traditional South African music, particularly *umaskandi,* is mute. However, it is safe to assume that *umaskandi* felt the same treatment from the South African music industry as most of the music genres found in the country.

The current trend concerning *umaskandi* mirrors everything that is taking place with all forms of music worldwide. *Umaskandi* is distributed through various ways, namely online retailers, streaming services, peer to peer file sharing as well as personal websites. *Umaskandi's* marketing strategies have also shifted to online services such as social media and the Internet. There are effective ways of monitoring the effectiveness of these online strategies by individual *omaskandi*.

## 2.4 The Industrial Revolution

The Industrial Revolution, which took place in the latter half of the 18th century, marked a significant period of progress in Europe and America. It brought about a profound transformation from rural agricultural societies to industrialised and urbanised societies, eventually spreading worldwide. According to various definitions, the Industrial Revolution refers to the shift from handcrafted production to machine-based manufacturing in larger-scale factories, resulting in extensive social and economic changes. Nef (2016) argues that this revolution ushered in a new world distinct from the lives of previous generations.

Over the span of more than 250 years, the world has undergone profound and repeated transformations. Throughout this period, notable advancements such as steam engines, scientific discoveries, mass production, the rise of digital technologies, the Internet of Things (IoT), and Artificial Intelligence have shaped the global landscape. These changes, occurring successively and often overlapping, have been categorised as the First, Second, Third, and Fourth Industrial Revolutions. In the subsequent discussion, we will explore the impact of each Industrial Revolution on music and the music industry on a global scale.

### 2.4.1 The First Industrial Revolution

The first Industrial Revolution also referred to as the Industrial Revolution, occurred in Britain in the 18th century. According to Schwab (2016), and Beka (2017), it started with the steam engine and mechanisation. In other words, water and steam power

were used to mechanise production. Then, it transitioned to new manufacturing processes that went from hand production methods to machines. Technological advances in textile, iron manufacturing and other industries resulted in mass quantity production in factories (Histor.com Editors, 2009).

The major causes of the Industrial Revolution are the development of trade and the rise of business (Landes, 1969). Almost every aspect of daily life was touched by the Industrial Revolution in one way or another, particularly the average income. According to some economists, the Industrial Revolution was most significant for the general population in the Western world because it consistently increased their standard of living for the first time in human history (Feinstein, 1998). The first Industrial Revolution influenced every facet of daily life in Britain at the time, including the music scene. The following discussion highlights some of the aspects of music that were fundamentally affected by this phenomenon.

According to Wenlong (2014), the Industrial Revolution coincided with the Romantic period in music. This period was when musicians were allowed to compose more freely. In other words, some form of disregarding some old rules and regulations guided the composition. Nettel (1945) suggests that 'apart from the piano, the steam age has not had a great effect directly on music; its effect has been indirect, through the social changes' (p.33). There are two phases of the Industrial Revolution: the steam and electrical ages and the latter has brought the most significant material change in music. Due to the steam engine improving transportation systems, it became easier for musicians to travel from one place to another. In this way, it became possible for musicians to communicate and share ideas. Using better machinery, mass

construction of instruments became possible, extending the possibility of music-making to the masses rather than an intellectual preserve of a few. The emergence of the middle class meant that more people could afford to attend music concerts, which necessitated bigger concert halls (Wenlong, 2014). Thus, the first Industrial Revolution deed influenced the way music was produced and received by audiences.

### 2.4.2 The Second Industrial Revolution

During the late 19th to early 20th centuries, rapid industrialisation was known as the Second Industrial Revolution or technological revolution. According to Schwab (2016), in the initial Industrial Revolution, water and steam power were employed to automate production processes. Subsequently, the second revolution harnessed electric power to establish the concept of mass production. In other words, the second Industrial Revolution continued the first with newer technologies that saw energy from water and steam replaced with oil and electricity. This assertion is supported by Beka (2017), who stated that the Second Industrial Revolution brought electricity, oil, and mass production. In addition, new technological systems were introduced in communication, transport, and manufacturing, most significantly electrical power telephones and steel.

There were several exciting developments in the music industry throughout the world during the Second Industrial Revolution, including South Africa. The music industry value chain was well entrenched. As in South Africa, the advent of sound recording began to boom after the 1930s when Eric Gallo's Brunswick Gramophone House sent several South African musicians to London to record for Singer Records. After that, record companies followed suit, and *umaskandi* became one of many impacted music

genres. The technological innovations that were developed during this phase had a profound impact on music as well. Thus, the Second Industrial Revolution did change the face of the music industry until the third revolution presented itself as a disrupter to the commercial interest of record companies.

### 2.4.3 The third Industrial Revolution

The third Industrial Revolution, also called the Digital Revolution, started in the second half of the 20th century, bringing Digital computers and communications. Schwab (2015) states 'it used electronics and information technology to automate production' (para. 2). Rifkin (2012) opines:

> The third Industrial Revolution is the last of the great Industrial Revolutions and will lay the foundational infrastructure for an emerging collaborative age. Its completion will signal the end of a two-hundred-year commercial saga characterised by industrious thinking, entrepreneurial markets, and mass labour workforces and the beginning of a new era marked by collaborative behaviour, social networks and professional and technical workforces. In the coming half century, the conventional, centralised business operations of the first and second Industrial Revolutions will increasingly be subsumed by the distributed business practices of the third Industrial Revolution; and the traditional, hierarchical organisation of economy and political power will give way to lateral power organised nodally across society. (Rifkin, 2012, p. 1).

In other words, according to Rifkin (2012), the third Industrial Revolution era has introduced some new phenomena, such as globalisation. This globalisation phenomenon is because the world has become interconnected due to the Internet,

increased trade, and cultural exchanges. As a result, it has increased the production of goods and services, and the most prominent companies are now called multinational corporations.

Around the first decade of the 2000s, Digital and online music distribution, which came because of the third Industrial Revolution, began to function as a disruptive technology to the commercial interests of record companies. Coetzer (2009) has observed that 'artists not contracted to a record company, who are able to produce low-cost, high-fidelity audio recordings, are able to utilise this web-platform to connect directly with consumers without reliance on record companies' (p. ii). This development has meant that music content providers could disseminate their products using innovative distribution platforms across multiple devices. The disruption has seen the worldwide recorded music market halving since 2000, according to the International Federation of the Phonographic Industry (IFPI, 2012). Music consumption has shifted from physical music consumption modes, such as CDs, to streaming services, such as Tune and Apple Music, Spotify, Amazon Music, Google Play, and YouTube, to mention but a few.

### 2.4.4 The Fourth Industrial Revolution

The Fourth Industrial Revolution (4IR), or Industry 4.0, began at the turn of this century, building on the digital revolution. It is relatively different from the previous three revolutions, primarily because of the disruptive nature of the technologies driving it and the potential scale of its impact across many industries. This revolution has seen collaboration, automation, adaption and human-machine interaction, Digital

technologies are becoming more integrated and sophisticated; as a result, it has transformed the globe. According to Schwab (2016), the fourth industrial revolution's scope is much broader than intelligent and connected machines and systems. He writes,

> occurring simultaneously are waves of further breakthroughs in areas ranging from gene sequencing to nanotechnology, from renewables to quantum computing. It is the fusion of these technologies and their interaction across the physical, Digital and biological domains that make the fourth industrial revolution fundamentally different from the previous revolutions. (Schwab, 2016, p. 8).

Consequently, the fourth industrial revolution is characterised by the convergence of breakthrough technologies such as advanced robotics, Artificial Intelligence, the IoT, augmented and virtual reality, wearables, and additive manufacturing, which are transforming production processes and business models across a variety of industries. (World Economic Forum, 2017). Schwab (2015) writes that 'we stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another' (para. 2) In other words, the fourth industrial revolution will redefine the way of life in its totality.

Various technologies, algorithms and models, and music production are used to teach computers to generate music. For example, a simple Google search of 'How Google is making music with Artificial Intelligence takes one to Google's research project, aimed at what Artificial Intelligence can do in the arts. In 2014, a group of engineers and musicians from New York started Artificial Intelligence music composition software called Amper, an Artificial Intelligence music composition company that develops tools

for content creators of all kinds (Amper Music, 2020).

Digital music technologies have revolutionised many aspects of the music industry, as argued in previous discussions. The music production process is now relying more on electronic devices to compose, perform and record, playback, mix, master, edit and analyse music. Technologies such as music streaming services aided by the rapid and pervasive uptake of smartphones and mobile Internet have revolutionised the delivery and consumption of music worldwide. In the process, they have rendered some sectors of the music industry redundant. Thus, the fourth industrial revolution fundamentally alters our perspective and the way we relate to music. `

## 2.5 Industrial Revolution in Africa

The history of the Industrial Revolution in Africa cannot be divorced from the colonisation of the continent. Responding to the economic needs of the industrial capitalist West, Africa was colonised, resulting in disastrous consequences. The Industrial Revolutions of the past several centuries have played a vital role in the exploitation of people in Africa and the transfer of wealth from Africa to the West. Growing demand for cheap raw materials, which were plentiful throughout Africa, sparked the Industrial Revolution of the nineteenth century and the scramble for Africa. The same proportion by which raw materials came from the continents helped develop the West is the same proportion the West underdeveloped Africa (Walter, 1973).

The degree to which Africa has been associated with Europe since the beginning has worked against the integration of local economies, making industrialisation in Africa difficult. According to Walter (1973) 'certain interterritorial links established on the continent were broken down after the 15th century because of European trade' (p.167), specifically citing trade along the West African coast down to Angola, where it was most extensive. Moreover, colonial governments acting for metropolitan industrialists deliberately obstructed internal movements in the direction of African industrialisation whenever they seemed to push in that direction.

Stearns (2021) opines that Sub-Saharan Africa 'avoided any significant contact with the Industrial Revolution until the late nineteenth century, ignoring or shunning even modest imitation' (p. 96). However, traditional industries were explored, but there was no basis for significant technical innovation, nor was sufficient capital available to fund these efforts. The problem was worsened by weakened governments and a dislocated economy, which made fast responses to Europe's transformation impossible.

Throughout history, other economic revolutions have indeed taken place in Africa. African societies had long-standing experience with ironworking and other relevant technologies, and they had a substantial commercial tradition. Maloma (2019) argues, 'Industrial Revolution dates are estimates — i.e. the beginning, duration and end of any given Industrial Revolution is marked by when its sequel is named and recognised — and they serve to identify eras of significant revolutionary innovations in the world' ( para. 3). Nwokeabia (2009) highlights that Industrial Revolutions do not just happen to societies or economies but are also influenced by preconditions.

## 2.6 Artificial Intelligence

Artificial Intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (acquiring information and rules for using the data), reasoning (using the rules to reach approximate or definite conclusions), and self-correction (The University of AI, 2021). The study and design of AI have created new fields of study in computer science and mathematics, such as machine learning, computational intelligence, data mining, pattern recognition, classification, optimisation, and search.

Artificial Intelligence is a field that combines computing and large datasets to facilitate problem-solving. As defined by Burnett (2018), it entails machines that should be able to perform tasks that are similar to those carried out by humans, such as problem-solving, planning, reasoning, and identifying patterns. It is also claimed by Bolter (1984), Brent (1988), Sokolowski (1988), and Beavers (2009) that it is a simulation of human intelligence processes by computer systems. In this case, computers are employed to perform tasks usually associated with human intelligence. According to Burns, Laskowski and Tucci (2018):

> AI systems work by ingesting large amounts of labelled training data, analysing the data for correlations and patterns, and using these patterns to make predictions about future states. In this way, a chatbot that is fed examples of text chats can learn to produce lifelike exchanges with people, or an image recognition tool can learn to identify and describe objects in images by reviewing millions of examples. (Burns et al., 2018).

It simply means creating algorithms that classify, analyse, and predict data. Furthermore, analysing data and learning from new information is necessary, as is improving over time. The use of Artificial Intelligence is not limited to just the IT industry or to only the technology industry; instead, it is being applied in numerous fields, including medical, business, education, government, and manufacturing.

Artificial Intelligence also encompasses subfields of machine learning and deep learning, which are frequently mentioned in conjunction with it. (IBM Cloud Education, 2020). However, in actuality, there are considerable differences between AI and Machine Learning (ML). Artificial Intelligence, for instance, allows machines to simulate the behaviour of humans. Alternatively, Machine Learning is a set of tools that help a machine automatically understand past data without being explicitly programmed. Meanwhile, deep learning is a critical component of ML. Johnson (2020) sums it up best, 'all ML falls under the AI umbrella. But Artificial Intelligence is much more than only ML' (para. 5). Deep learning refers to a class of machine-learning algorithms that use many data processing layers to make inferences about complex concepts.

The use of Artificial Intelligence is already pervasive in many areas of life, and in music, it offers more than just a simple framework of paradigms. Using it in some form or another covers nearly every aspect of the music-making process. The same way AI has transformed other industries, it is transforming the music industry by automating services, discovering patterns and insights in massive data sets, and helping to improve efficiency. Several AI-based music software applications have been developed for use in music composition, production, and performance. Several other

AI-based applications have been developed for use in marketing and consumption. As well as interactive composition technology, where a computer generates music based on the performance of a live musician, Artificial Intelligence is behind the creation of so-called autonomous music engines.

Accordingly, the business benefits of AI for the music industry are primarily about increasing productivity and revenue growth. As a benefit to music creators, AI allows them to create, remix, and learn music in an easy-to-use manner. Sennaar (2019)'s assessment of AI applications in the music sector identifies three significant categories of music industry AI applications. Firstly, AI is being used to create, enhance, and/or complement music content. ML and deep learning are used in streaming music for personalised content recommendations. Lastly is using Artificial Intelligence to enable musicians to monetise their music content and generate revenues.

## 2.7 Conclusion

In this chapter, the study did succeed in setting the stage for a primary research topic. Literature reviews analyse patterns and turning points that have shaped the direction of music, giving their interpretation of how and why specific trends have occurred. The literature review has been classified into several categories, such as literature on the development of *umaskandi*, the Fourth Industrial Revolution, and the literature review on Artificial Intelligence in musical composition, production, and performance.

Several interrelated sub-topics regarding the developments in the music industry value chain emerged under each of these categories. The study began by exploring the

historical background of the music industry, which can be seen as an essential part of the development of cultural industries such as *umaskandi*. *Umaskandi* was transformed from Amazulu indigenous music-making process to a commodity due to the music industry. The music industry is the economic sector involved in the creation and sale of recorded music. The industry also includes the music publishers and companies that manage the sound recording and music publishing rights, the companies and individuals who distribute the music and the audio equipment manufacturers and retailers. Next, the discussion moved on to the recording industry, the sector of the music industry most influenced by technology. Technology introduced various physical media/music consumption formats since the technology that instantly recorded and playback audio emerged.

This study did derive some benefit from the published literature on the development of *umaskandi* and the Industrial Revolution phenomenon. Concluding this literature review has been looking at Artificial Intelligence which is already pervasive in many areas of life and music. It has been making its way into our lives since the beginning of the computer age. The first computer ever designed was built to play tic-tac-toe. It was the ultimate game of wits between man and machine. The computer won. Today, Artificial Intelligence is all around us. It's on our phones. It's in our cars. It's in our music, and it's even in our art.

# 3 **Chapter Three:** Methodology

## 3.1 Introduction

An in-depth analysis of the research methodology used in the study of threats and opportunities faced by *umaskandi* in the Fourth Industrial Revolution is provided in this chapter. The chapter presents a detailed account of the study research methodology and its implementation to gather the empirical data required for the study. The information gathered from this research should help advance the current understanding of the impact of the Fourth Industrial Revolution on cultural industries such as *umaskandi* and influence future design methodologies.

The researcher should quickly point out that this study was conducted during the Coronavirus pandemic (COVID-19) that swept the globe. A novel strain of Coronavirus was discovered in the Chinese city of Wuhan in December 2019. According to the World Health Organisation (WHO), Coronavirus disease (COVID-19) is an infectious disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2' (SARS-CoV-2). The coronavirus causes this respiratory illness. Viral transmission occurs when close contact is made with an infected individual. Contaminated objects and surfaces can also spread viruses. An infected person can pass the virus to others (All of Us Research Program, 2021) with small liquid particles as they cough, sneeze, speak, sing or breathe. The particles range from larger respiratory droplets to smaller aerosols. People may also become infected by touching surfaces that have been

contaminated by the virus when touching their eyes, nose or mouth without cleaning their hands (World Health Organisation, 2020).

Following the pandemic, many countries and regions imposed quarantines, entry bans, and other restrictions on their citizens, recent travellers to the affected areas, or all travellers. Globally, the pandemic has severely impacted educational systems. Many governments have temporarily closed educational institutions, while others have switched over to online instruction. In addition, around 63% of students claimed that their mental health had worsened due to the COVID-19 pandemic, according to a report released by the Higher Education Policy Institute.

In response to COVID-19, the South African government has taken steps to limit and prevent its spread, including a 21-day nationwide lockdown declared by President Cyril Ramaphosa on 23 March 2020. In addition, three weeks of severe travel and movement restrictions were imposed nationwide with support from the South African National Defence Force from midnight Thursday, 26 March, to midnight Thursday, 16 April 0202. Essentially, this meant that people would only be able to leave their homes in extreme circumstances, such as buying food, seeking medical help, or under other extreme circumstances.

South Africa has experienced three waves of the pandemic since the emergence of covid-19. To contain the spread, lockdown measures have been implemented using a risk-adjusted approach based on several criteria under the National State of Disaster Act. These include the extent of infections and transmission, health facilities' capacity,

public health interventions' implementation, and the economic and social effects of continuing restrictions (South African Government, 2021).

The following alert levels determine the level of restrictions to be applied during a national state of disaster.

a) Alert Level 1 indicates a low covid-19 spread with high health system readiness.

b) Alert Level 2 indicates a moderate covid-19 spread with a high health system readiness.

c) Alert Level 3 indicates a moderate covid-19 spread with a moderate health system readiness.

d) Alert Level 4 indicates a moderate-to-high covid-19 spread with low to moderate health system readiness.

e) Alert Level 5 indicates a high covid-19 spread with a low health system Readiness.

During the study, the data was collected during the national state of disaster alert level 3, which was subsequently moved to alert level 2 after some time. The following are mandatory protocols that were adhered to when attending gatherings and meetings to limit exposure to covid-19.

a) wearing a face mask.

b) adhering to all health protocols.

c) maintaining a distance of at least one and a half metres from each other.

d) adhering to the curfew hours as provided for in the regulations.

e) adhering to any other health protocols and social distancing measures as provided for in directions issued by the relevant Cabinet member after consultation with the Cabinet member responsible for health.

This chapter discusses the theoretical orientation that underpins this study. Also, it discusses the methods used to collect, analyse, and process the information within the context of the overall tradition of this field of research and the specific design chosen to study the impact of the Fourth Industrial Revolution on *umaskandi.* The conclusion completes the chapter.

## 3.2 Theoretical Framework

The theoretical framework is a set of propositions that have guided this inquiry process in empirical research. As a theory-based research design, it has organised an investigation in terms of concepts, assumptions, and relationships among variables within a specified domain of phenomena. Theoretical constructs were derived from existing theories or frameworks in the field. The theoretical framework helps understand any situation or scenario and allows for better analysis and a deeper understanding. It has helped provide focus in this study, qualifying to be considered a

map for this research project. It has allowed having an organised way of thinking about the work and how to approach the problem or issue the study is trying to solve. A theoretical framework helps researchers understand their study better so they can conduct a more thorough and comprehensive study.

The study concerns *umaskandi*, which some scholars have defined as Indigenous African music. To explore the survival of *umaskandi* in the face of the Fourth Industrial Revolution, the study adopted Indigenous Knowledge Systems and Ordinary Language Philosophy as its theoretical orientation. These theories were chosen considering their relevance for sustainable scholarly discourse in Africa, South Africa, and the globe.

### 3.3 Indigenous Knowledge Systems

Indigenous knowledge systems are the traditional ways in which societies pass on knowledge to future generations. These Knowledge Systems are interwoven into all aspects of life, from birth through death. They are also how communities learn about the natural world. Indigenous knowledge systems and practices have been a foundation of Indigenous peoples' and communities' holistic and sustainable development for centuries (Noyoo, 2007). From the dawn of time, people have been in quest of solutions to their problems. They still are. When harsh conditions prevail, living creatures adapt by developing survival techniques. This is how human beings have evolved over the years to become what they are today. The ability to adapt and survive under all circumstances is one of the things that makes humans different from other living species on Earth. This knowledge base is often referred to as Indigenous

Knowledge Systems (IKS), which includes the substantial knowledge embedded in traditional practices and the intangible elements such as traditional ecological management systems that sustain local ecosystems.

Several authors have submitted the definitions of Indigenous Knowledge Systems as follows. Noyoo (2007) defines it as 'the complex set of knowledge, skills and technologies existing and developed around specific conditions of populations and communities indigenous to a particular geographic area' (p. 167). In other words, IKS is the knowledge local people use to make a living in a particular environment (Warren, 1991). On the other hand, Mapara (2009) points out that 'Indigenous knowledge systems are a body of knowledge or bodies of knowledge of the indigenous people of particular geographical areas that they have survived on for a very long time' (p. 140). In addition, Hammersmith (2007) argues, 'Indigenous ways of knowing are based on locally, ecologically, and seasonally contextualised truths' (p. 2). Scholars such as Altieri (1995) and Nyota and Mapara (2008) Have observed that these Knowledge Systems are sometimes referred to by other names such as ethnoscience (or people's science), Indigenous ways of knowing (IWK), traditional knowledge, Indigenous technical knowledge, as well as rural knowledge.

An Indigenous knowledge system is essential to developing an Indigenous community in agriculture, food preservation, water collection and storage, animal husbandry, and ethnic veterinary treatment. It also serves as the foundation for Indigenous interpretations of meteorological and climatic phenomena, navigation on land and water, and natural resource management. Indigenous knowledge also benefits basic health care, preventive medicine, psychosocial care, and reproductive law (Abah,

Mashebe, & Denuga, 2015). In addition, they have the potential to provide an essential source of inspiration and solutions for current international development strategies. However, the loss of indigenous languages also poses a serious threat to humanity's natural heritage, especially in preserving traditional knowledge about medicinal plants, which often do not have official names or can only be identified through local dialects.

Indigenous knowledge pre-dates Western forms of knowledge creation by thousands of years. The African Indigenous Knowledge Systems had served Africans with distinction for thousands of years before colonialism and Western education were introduced by European colonialists and missionaries. It was swept aside and ridiculed as superstitious and empirical by colonialists trying to justify why they had to colonise African peoples' lands (Mapara, 2009). Africa is the birthplace of humanity, but unfortunately, it is also home to some of the direst poverty. Throughout history, Africans have used Indigenous Knowledge Systems to survive extreme conditions and create sustainable societies. Indigenous Knowledge Systems are passed down through generations, usually orally. The African indigenous knowledge system is a significant source of pride for Africans. This is because they have always been there to guide Africans in their daily activities. The history of their existence can be traced back to when human beings started inhabiting this earth. Today, most people are still following these systems even though Western concepts are replacing them.

Even though the indigenous knowledge of Africa has long been neglected and maligned by outsiders, as a result of this realisation, more and more African governments and international development agencies are embracing participatory approaches to development that are cost-effective and sustainable, according to

Warren (1991). African Indigenous Knowledge Systems are crucial survival strategies that have enabled Africans to continue to exist despite the many forms of exploitation and oppression they have experienced over time. They are also pivotal in ensuring Africa's future development. There can be no doubt about the centrality of Indigenous Knowledge Systems to Africa's development. This is because they represent a vast body of knowledge accumulated over centuries by Africans themselves and because this same African Indigenous knowledge is the African way of life. Despite the diversion and articulation of Indigenous African Knowledge Systems, promoting Indigenous African Knowledge Systems is an essential aspect of sustainable community livelihood and development in Africa.

Even though the unfortunate history of the continent (slavery, colonisation, and Apartheid) has ravaged many intellectual, cultural, and spiritual assets, the past has not eliminated them entirely. The traditional institutions of Indigenous African knowledge production, conservation, and sharing, including initiation schools, indigenous games, agricultural systems, songs, dances, proverbs, stories, and so on, persist. Moreover, in local African communities, elders and other knowledge holders retain a wealth of knowledge that demonstrates the vibrant intellectualism to which researchers and intellectuals should look (Hassan & Seleti, 2014).

Indigenous knowledge systems are still eclipsed by Western culture in the twenty-first century. The Western world has expanded its global dominance through globalisation and modernisation programs, which have resulted in the marginalisation of Indigenous Knowledge Systems. Globalisation is an international process that involves interaction between people from different countries or cultures. As we move on in the twenty-first

century, the Indigenous Knowledge System should be an important part of higher education institutions, particularly African Indigenous Knowledge Systems. It is not only a reflection of the educational process but also a source of information to the higher education community about the host culture, tradition, values, and beliefs. The IKS can be used as a foundation for Higher Education Institutions (HEIs) to develop culturally relevant curricula and pedagogies.

For a long time, Indigenous Knowledge Systems have not been accorded the status it deserves by institutions of higher learning; this is because they continue to embrace Western development paradigms. However, there is a pressing need to acknowledge that Indigenous Knowledge Systems have made a contribution to offering scholarships for the future. Hence, the future does not depend exclusively on Western worldviews.

### 3.4 Ordinary Language Philosophy

According to Parker-Ryan (n.d.), the Philosophy of Ordinary Language, also known as Oxford Philosophy, is a 'linguistic' philosophy. The view that linguistics is central to both the content and method of philosophy as a whole (and therefore distinct from philosophy of language) may be called linguistic philosophy. Linguistic philosophy comprises both Ordinary Language philosophy and Logical Positivism, and it was developed by the philosophers of the Vienna Circle (an informal group of philosophers that gathered around Moritz Schlick in Vienna after his arrival there in 1922). History and theory are closely interwoven between the Logical Positivist and Ordinary Language schools, and comprehending the relationship between the two is a vital first step in understanding Ordinary Language philosophy. While both Ordinary Language

philosophy and Logical Positivism agree that philosophical problems are language problems and that linguistic analysis is the proper philosophical approach, they disagree substantially with what this analysis entails and its goals.

A considerable amount of work by the Oxford Philosophers from 1945 to 1970 is often regarded as influencing Modern Language philosophy. Philosophical work on Ordinary Language can be traced back to the Cambridge University of 1929 when Wittgenstein returned to the Cambridge faculty after a period away (Laugier, 2013). However, the philosophy's roots go back much further than 1945. Ordinary Language philosophy is associated with John Wisdom, Norman Malcolm, Alice Ambrose, Morris Lazerowitz, Gilbert Ryle, J. L. Austin, and P. F. Strawson, amongst others (Den Uyl, 1976; Jardon, 2020). Nonetheless, it is worth emphasising that the Ordinary Language philosophy viewpoint was not established as a cohesive theory or a well-organised program. This philosophy is first and primarily a methodology, a way of critically and attentively evaluating words and expressions, particularly conceptually difficult ones. In a field with a wide range of views, philosophy unites a variety of otherwise diverse and independent views through its commitment to this methodology as the most productive for its discipline (Hanfling, 1013).

Ordinary Language philosophy focuses on the use of expressions, not expressions themselves. Therefore, the issue is not whether ordinary or technical words are used in discourse, nor is it determined by the language used in various discourse areas, such as academic, technical, scientific, or lay, slang or street discourses. Ordinary use of language occurs in all discourse forms. An expression may have different uses in different discourses, for example, 'empty space' (Hanfling, 1013). There can be lay

uses of the expression and scientific uses, which are equally acceptable as long as the same discourse and expression are known. However, from the perspective of Ordinary Language, it is evident that the way the expression is used in different discourses indicates a difference in meaning. For instance, the term is used differently in lay terms than in physics, which implies a vacuum that references a room or a plain without any objects. However, this view does not allow one sense of the expression to replace another, for the lay sense is perfectly adequate for the uses to which it is applied, and the meaning of this term in physics is unavailable in these other contexts.

An expression's ordinary meaning can best be understood by contrasting it with its non-standard or non-ordinary uses rather than its technical use. According to Ordinary Language philosophy, philosophical theories are often based on unusual language uses, particularly when they yield perspectives that contradict what would usually be said about a subject matter (Den Uyl, 1976). Hence, such use of language in a 'philosophical' sense creates the philosophical problems they are meant to solve. Often, in the context of the Ordinary Language view, they are not acknowledged as non-ordinary uses and are attempted to be passed off as simply more precise versions of the ordinary use of an expression, suggesting that it is inadequate in some way. The Ordinary Language position, however, argues that non-ordinary usage simply introduces new expressions. Therefore, following Ordinary Language philosophy, they cannot be disqualified if criteria are given for their use (Cappelen & Mc Keever, 2023).

The philosophical endeavour of developing an 'ideal' language, which began by the Logical Atomists and was followed up and expanded most energetically by the Logical Positivists, is seen to be in contrast to taking into consideration ordinary uses of

language. Reality is expected to be portrayed more accurately and concisely in an ideal language than in everyday speech. The Ordinary Language philosophy arose in response to some viewpoints on this ideal language paradigm. It is thought that 'common' language obscures a clearer picture of reality. It is regarded as opaque, ambiguous, and deceptive, requiring change (at least in conveying philosophical truth) (Beaney, 2013).

On the other hand, Ordinary Language philosophy claims that attempts to develop perfect languages cause philosophical challenges since they require language in an unusual way. Ordinary language philosophy's central thesis is that Ordinary Language is entirely suited to its objectives and does not require reform, but it can continually be enhanced and evolve. In this perspective, observation and attentive attention to everyday uses of language will 'dissolve' (rather than 'solve') philosophical problems, revealing them to be mere 'misuses' of language rather than actual dilemmas (Lawn, 2001).

According to at least some versions of the viewpoint, studying everyday uses of language can lead to philosophical knowledge. Nonetheless, the caveat is that philosophy is interested in either our grasp of the meanings of the phrases we use (and hence what we are willing to consider as descriptive) or our comprehension of the philosophical structures we reflect in our language usage (our methods of exploring the world) (Lawn, 2001). This 'knowledge,' as Wittgenstein would have pointed out, is nothing new; it has always been available to all of us; all we had to do was pay attention to the correct use of language to notice it (Avramides, 2016). However, later Ordinary Language philosophers like Strawson claimed that this

constituted new knowledge since it allowed us to obtain a new understanding of reality. As a result, philosophy does not have to have a negative outcome (the 'solution' of philosophical issues), and Ordinary Language philosophy does not have to be regarded as nihilistic or quietist, as suggested in the past. Nonetheless, it turns out to be a distinct and original undertaking than expected in the past (Avramides, 2016).

In Ordinary Language philosophy, words have a primary meaning and a secondary meaning. Primary meanings are the ones that appear in dictionaries, while secondary meanings are a result of the way we use the words in everyday life. Ordinary language philosophers believe that it is impossible to understand or know about reality except through our experiences with the world around us. Therefore, they argue that any attempt to talk about something beyond these experiences will likely be based upon abstract words that carry assumptions from Ordinary Language. Ordinary language philosophy attempts to describe a common sense understanding of the world shared by those in that world. It is an attempt to describe the actual meaning of words as used by people. When someone uses a word, they mean something by it, which is what philosophers try to get at when using Ordinary Language philosophy (Beaney, 2013).

Ordinary Language Philosophy is defined as a philosophical methodology that regards traditional philosophical problems as rooted in misunderstandings among philosophers, which has been developed by distorting or forgetting what words actually mean in everyday use (Mastin, 2009). Fasiku (2008) analyses 'Ordinary Language philosophy and explains how it authenticates African philosophy as a unique ‘species’ of philosophy' (p.085). Arguing that the epistemological, metaphysical, ethical, social, and political beliefs and worldviews of human society can be explored using language

as a tool. This view is further argued by Mapaya (2013) when writing, 'the Ordinary Language philosophy approach actualises one of the tenets of the Afrocentric paradigm, namely, mainstreaming the African episteme' (p.38).

*Umaskandi* is Indigenous African music, so its dependence on *Isizulu* ought to be expected, common, and appreciated in what is equivalent to treatment and evaluation. Utilising linguistic and epistemological apparatus, *omaskandi's* worldviews can be explored and understood. Arguably, the ability to understand, coupled with the correct use of the language, renders the process of clearing up conceptual puzzles that are found in *umaskandi* a surmountable task. Hence, a social phenomenon such as *umaskandi* and *omaskandi's*, every constituent part of their language counts if we are going to understand them. This study acknowledges the encapsulation of Indigenous Knowledge Systems within the orality of the Ordinary Language; thus, they were chosen to underpin this research.

## 3.5 Research design

Research design is a process of planning, implementing, and monitoring research activities. It is an essential part of any research study. It is an approach to research inquiry that uses a rigorous and systematic process to generate and evaluate possible solutions for a given problem. It can be a theoretical framework, a formal plan, or simply practices that have been shown to work in the past. In any case, it is operationalised through the choice of sampling technique and measurement strategy as well as data analysis procedures.

This section describes the methodology that was used for this study. First, the discussion focuses on a comprehensive description of the research methodology used, in this case, phenomenological research. After this, the data collection, data analysis, sample, and population issues are discussed.

## 3.6 Phenomenological research

Phenomenological research, also known as phenomenography, is a qualitative research method researchers use to understand people's lived experiences of a phenomenon. It is sometimes called grounded theory methodology because it focuses on understanding the meanings and experiences that shape our lives. It is a research approach concerned with making the implicit explicit. Phenomenological research aims to get a greater understanding of the world by observing and describing its elements. The aim is to identify any patterns or relationships within a given topic. Several different academic disciplines, including phenomenology in psychology, phenomenology in psychiatry, phenomenology in sociology, and phenomenology in anthropology, have adopted this research method (Wilding & Whiteford, 2005; Heidegger, 2005; Groenewald, 2004; Polkinghorne, 1989; Knaack, 1984).

It is widely understood that phenomenology takes the form of either a field in philosophy or a movement in the history of philosophy. A phenomenological discipline may be defined as the study of consciousness or experience structures. In phenomenology, conscious experience is studied as experienced from the subjective point of view (Groenewald, 2004). In this sense, this field of philosophy is distinguished from and related to such other fields as ontology, epistemology, logic, and ethics, to

mention just a few. On the other hand, philosophers Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, Jean-Paul Sartre, and others began a philosophical movement known as phenomenology in the first half of the 20th century. In that movement, phenomenology (as opposed to ethics or metaphysics) was valued as the foundation of all philosophy (Spiegelberg, 2012).

According to Spiegelberg (2012), it can be seen as an attempt to draw out and make explicit the essential structures of experience and to construct philosophy on this basis. Its position relative to other philosophical approaches is itself one of the fundamental questions addressed by phenomenological research, which has implications for its use in psychology and other social sciences.

The term 'phenomenology' is used to indicate a philosophical approach to the study of phenomena. In phenomenological research, researchers attempt to create an experience or observance of phenomena in their natural context, with no preconceived notions about true or real; therefore, they must suspend previous experiences and beliefs (where they are relevant) when investigating something new (Moran, 2002).

Essentially, phenomenology explores the nature of different experiences, including perception, thought, memory, imagination, emotion, desire, volition, bodily awareness, embodied actions, and social activities, including linguistic activity. These forms of experience are typically characterised by what Husserl called intentionality: directness of experience toward things in the world, a property of consciousness as a consciousness that is aware of something. Husserl's classical phenomenology claims that we experience things only through specific concepts, thoughts, ideas, images,

and many more. These are the things that make a given experience meaningful, and they are distinct from the things that present or signify the experience (McIntyre & Smith, 1989; Stanford Encyclopedia of Philosophy, 2003).

According to the Stanford Encyclopaedia of Philosophy (2003),

> The basic intentional structure of consciousness, we find in reflection or analysis, involves further forms of experience. Thus, phenomenology develops a complex account of temporal awareness (within the stream of consciousness), spatial awareness (notably in perception), attention (distinguishing focal and marginal or 'horizonal' awareness), awareness of one's own experience (self-consciousness, in one sense), self-awareness (awareness-of-oneself), the self in different roles (as thinking, acting, etc.), embodied action (including kinesthetic awareness of one's movement), purpose or intention in action (more or less explicit), awareness of other persons (in empathy, intersubjectivity, collectivity), linguistic activity (involving meaning, communication, understanding others), social interaction (including collective action), and everyday activity in our surrounding life-world (in a particular culture).
>
> (Stanford Encyclopedia of Philosophy, 2003, para. 7).

To put it simply, different forms of experience are revealed through reflection or investigation within the basic purposeful structure of consciousness. As a result, phenomenology constructs a detailed account of temporal consciousness, awareness of space, attention, self-consciousness, the self in various roles, embodied action, purpose or goal in action, awareness of other people, linguistic activity, social engagement, and everyday activity in our surrounding lifeworld.

As another dimension, we find various enabling conditions for intentionality, including embodiment, physical skills, cultural background, language and other social practices, and contexts. In this way, phenomenology helps to give experience its intentionality by delving into conditions that enable conscious experience. Phenomenology has traditionally focused on the subjective, practical, and social aspects of experience. Consequently, cultural conditions seem closer to the kind of experience we have, and to the kind of self-understanding we possess than the electrochemical functioning of our brain, let alone our dependence on quantum-mechanical states of systems we may belong. It is prudent to say that phenomenology leads to at least some background conditions of experience in some ways (Smith, 2018).

Using phenomenological methods to select data sources offers insight into phenomena from an insider perspective, which has been identified as the most suitable approach for this study. Hekman (1980) suggests that there are two lines of enquiry in phenomenology, the first being exploring. He writes,

> the constituting process of social actors, that is, the process by which the actors' understanding are produced in the social world. It supplied the set of conceptual tool by which this process can be examined in detail. Second, Phenomenology explores the nature of the social scientists' concepts and how these concepts differ from those of the social actors. By specifying the degree to which the social scientists' concepts must both reflect the object of analysis, it also specifies the legitimate parameters of social scientific analysis. (Hekman, 1980, p. 342).

In other words, this is the process by which actors' understanding of the social world is developed. It provided a more extensive evaluation of the process by providing the

conceptual tools. Phenomenology also places social science concepts in context with those of social actors. The legitimate parameters of social science analysis are defined by the degree to which a social scientist's notions represent the object of research. Hammersmith (2007) states, 'phenomenology is the study of lived experiences and the way we understand those experiences to develop a worldview. It rests on the assumption that there is structure and essence to shared experiences that can be narrated' (p. 41). In other words, the methodology used in phenomenology tends to differ from most other research methodologies because the goal is to describe a lived experience rather than to explain or quantify it in any way.

Holloway (1997) states that phenomenological researchers are reluctant to prescribe techniques for conducting a study. They prefer the researcher to have a great deal of freedom in how they conduct the study. The idea is to let the phenomenon guide the research and then use whatever methods seem appropriate. Similarly, Hycner (1999) asserts, '[t]here is an appropriate reluctance on the part of phenomenologists to focus too much on specific steps' (p.143 ). In addition, he writes that one cannot impose a method on a phenomenon since that would be an injustice to its integrity. However, some guidelines should be followed.

Phenomenology utilises various methods, namely interviews, conversations, participant observation, action research, focus meetings, and analysis of diaries and other personal texts. In general, the methodology is designed to be less structured and more open-ended to encourage the participant to share details regarding their experience.

## 3.7 Study progress

Study progress refers to the stages and activities completed while conducting a research study, from planning and design to reporting and validation. It involves defining research questions, selecting a methodology (such as Phenomenological methodology), and designing the study framework. Key milestones include data collection through participant recruitment and interviews and data transcription, coding, and analysis to identify patterns and themes. Preliminary findings are then interpreted, providing initial insights, which are validated through further comparison with existing literature. This structured approach ensures the research stays on track, meets its objectives, and achieves meaningful and reliable results.

### 3.7.1 The research paradigm of an investigation

The research paradigm refers to the structure and process of conducting a study. Researchers in natural sciences, social sciences and humanities use it. There are several accepted models, but they all have the same goal: to clearly understand how we can know what we know about human behaviour and change. Understanding this process is crucial because it affects every aspect of the research, from determining the purpose for researching in the first place, to how to plan data collection methods, analyses, and reporting. Research paradigms are defined by Denzin & Lincoln (2000) as 'a fundamental set of beliefs guiding action' (p.157), dealing with first principles, 'ultimates' or the researcher's worldview.

An effective research project begins with choosing a topic, problem, or interest area and selecting a paradigm (Creswell, 1998; Mason, 1996). This is because the quest of conducting effective research lies in the ability of the researcher to determine their question. The paradigm describes an individual's thinking; it is a model of design action based on the exemplar or model to be followed. Alternatively stated, a paradigm represents an act of submission to a viewpoint (Stanage, 1987).

The way we perceive knowledge is as important as the knowledge itself. A researcher's epistemology is a framework that allows them to identify and interpret facts without any preconceived notions or prejudices. Therefore, it is imperative that researchers develop their epistemological framework and evaluate it continuously regardless of their field of study. According to Holloway (1997), Mason (1996), and Creswell (1998), a researcher's epistemology is their theory of knowledge that defines how social phenomena will be examined. This study illustrates its epistemological position: 1. Data in this study are generated by people involved with *umaskandi*, either as *omaskandi*, producers, or marketers. 2. To collect data, the study engaged with the participants.

### 3.8 Locating the research participants

Phenomenology research aims to get a holistic and accurate understanding of what it is like for individuals to experience a particular phenomenon. This method of qualitative analysis consequently requires the researcher's involvement in data collection and interpretation and can be used to elicit information about quite complex phenomena. A key element in the process is locating suitable participants who can

provide rich data based on their lived experiences regarding the phenomenon under investigation (Moran, 2002).

This study was driven by the phenomenon, which even shaped the choice of its participants. To identify the primary participants, the study used purposive sampling. Purposive sampling is a non-probability sampling method that involves selecting participants based on their relevance to the research problem (Campbell et al., 2020). In qualitative research, purposive sampling is used when it is essential to select individuals who have experienced the phenomenon being studied directly. In phenomenological research, purposive sampling is one of several types of sampling methods used by researchers. Phenomenologists want the opportunity to interview participants who can provide them with detailed descriptions and explanations of their experiences. According to Welman and Kruger (1999), it is one of the most important non-probability sampling methods.

The sample was selected according to the researcher's judgement and the purpose of the study. Using the Internet, social media, and telephone inquiries to record companies, record studios, the South African Music Rights Organisation (SAMRO), and the Composers Authors and Publishers Association (CAPASSO). The study identified *omaskandi*, *umaskandi* producers and marketers to offer insight into phenomena from an insider perspective. *Izingxoxo* (interviews) were conducted with these participants based on their informed consent, and these interviewees are the primary unit of analysis (Bless & Higson-Smith, 2000).

Using snowball sampling, the researcher tracked down additional participants. Snowball sampling is a method of expanding the sample in which a recruited participant is used to recruit another participant, who is then used to recruit another participant for interviewing. The snowball sample is a research technique in which the sample size increases as more data is collected. Because it requires more resources than other sampling techniques, such as convenience sampling, volunteers must be easily obtainable. The snowball sample allows for some control over selection bias and can help provide a specific demographic or niche of people to study. It also allows for multiple iterations of data collection and analysis (McCance, 2008). The researcher requested the purposive sample interviewees to give, at their discretion, the names and contact details of persons who are *omaskandi*, *umaskandi* producers, A&R in record companies, artists managers and social media managers.

Many people think of research as simply a tool for collecting information, but it can also build trust with stakeholders. For example, when the researcher asks their participants to help them discover more about themselves, they may feel like they are being given the opportunity to have a say in what happens next. This kind of interaction builds trust and fosters open communication between the researcher and the participant. The researcher has adopted a continued commitment to ethical principles. The aim was to ensure that the research did not adversely affect the psychological and social well-being of the participants. Study participants have freely consented to participate in this study. Detailed explanations of the proposed research have been provided, including its objective and nature, who is conducting it, its likely duration, the reasons for conducting it, the possible outcomes, and how the results will be disseminated. Study participants were informed of their right to refuse participation

(Bhusal, 2021) at any time, including withdrawal from the study at any time, and were not given the impression that they were forced to participate. The researcher ensured trust, respect, and confidentiality were observed in their relationships with the research participants.

In qualitative research, it is a guiding principle to sample until saturation is achieved. Researchers refer to data saturation as the point at which additional data collection or analysis does not add substantially to their understanding of the phenomenon under study. Although this term is used most often in qualitative research, it may also be applied to quantitative research when no clear pattern emerges from data collected after a reasonable period (Walker, 2012). The small sample size is usually used in qualitative research because of the variety of participants (or other units) involved, the broadness of the research question and phenomenon, the data collection methods (e.g., individual or group interviews), and the sampling strategy. Generally, the researcher and their team decide when the data saturation point has been reached and whether the sampling can be stopped, and whether the sample size is sufficient. The most important criterion is whether enough information is available showing the patterns, categories, and variations of the phenomenon under study. As the researcher reviews the analysis, findings, and quality of the participant quotes, they can decide if it is time to end sampling due to data saturation (Moser & Korstjens, 2018).

Moser and Korstjens (2018) state that phenomenological studies require fewer than ten interviews. Gentles et al. (2015) recommends two to ten participants for saturation, while Creswell (1998) suggesting lengthy interviews with up to ten participants. The

sample size for this phenomenological study was five *omaskandi*, four *umaskandi* studio engineers, two artist managers, and two social media managers.

Along with the thirteen interviewees, data were also collected from literature, social media, the Internet, and online applications. Intriguing data from multiple sources is a way to compare the results and validate the results if similar findings emerge. The process is referred to as data triangulation, and it looks at different data sources to find a consistent result (Annells, 2006). In other words, it is comparing two or more datasets that use different methodologies and approaches to determine if their results are consistent with each other. After interviewees had exhausted or saturated the topic, it was considered exhausted as no new perspectives could be added.

### 3.9 Data gathering methods

Since phenomenology has no rigid rules, the data collection methods vary from study to study. However, researchers have used several techniques in this field over the years, such as interviews, conversations, participant observation, action research, focus meetings, and analysis of personal texts. The phenomenological method of data gathering is a process that occurs in two parts: firstly, the researcher must closely examine all factors related to the phenomenon at hand; secondly, they must gather and examine data from participants (Ramsook, 2018). The specific phenomenon that the study focused on is the impact of the Fourth Industrial Revolution on *umaskandi*. The study's central research question was about the threats and opportunities posed by 4IR technologies on such cultural industries as *umaskandi*. As Bentz and Shapiro

(1998) and Kensit (2000) point out, researchers must let the data develop. Therefore, the actual research questions put to participants were:

- *Omaskandi's* view on what is The Fourth Industrial Revolution phenomenon?
- What is the impact of the Fourth Industrial Revolution on music, particularly umaskandi?
- What are the implications of Artificial Intelligence in the compositional, philosophical and production of *umaskandi*?
- What is *omaskandi* understanding of the implications of the Fourth Industrial Revolution on their music?
- What opportunities will the Fourth Industrial Revolution present moving forward, ensuring the survival and evolution of *umaskandi* in this new era?

Permission was sought for *izingxoxo* (interviews) to be conducted with *omaskandi, umaskandi* producers and marketers in locations that would be convenient for them. Observing mandatory protocols of the national state of disaster discussed in the forgoing discussions when attending gatherings and meetings, the researcher conducted unstructured in-depth phenomenological interviews with study participants. The questions focused on the participant's experiences, feelings, beliefs, and convictions about the topic. Husserl called it bracketing when the inquiry was made from the researcher's perspective, as described by Bentz and Shapiro (1998). Borrowing from Groenewald (2004), bracketing in this study entailed asking the participants to set aside their experiences about the impact of the 4IR technologies on *umaskandi*. Thus, it was the participants' most direct thoughts and feelings that were obtained. Instead, the researchers focused on what goes on within the participants

and asked them to describe the lived experience as free of the constructs of society and intellect as possible.

### 3.9.1 Bracketing

According to Chan et al. (2013), there are two different forms of bracketing in phenomenological research. The first is called phenomenological bracketing, which is the researcher's refusal to interpret or judge any phenomenon during the research process. This form of bracketing is used because once a person becomes aware that they are being studied, their behaviour changes, which may influence the study results. There is also a second form of bracketing, which is about the researcher continually being aware of their own subjective biases and presuppositions to avoid imposing them on the subject. By bracketing out non-essential data points, the phenomenologist can focus on understanding the phenomena at hand. Thus, bracketing becomes important to phenomenological reduction, isolating and separating the phenomenon from what is already known about it.

### 3.9.2 Intuition

Intuition in phenomenological research is a hotly debated topic; however, we can surely agree that our intuition allows us to foresee and predict future events. Intuition is a highly subjective experience, often difficult to articulate. Thus, it presents challenges for the phenomenologist to capture its essence in both written and oral descriptions. In philosophy, intuition is the ability to gain knowledge that cannot be grasped through inference, observation, reasoning, or experience. Because intuition

is designed to account for just those kinds of knowledge that other sources do not provide, it is considered an independent source of knowledge. Thus, intuitive processing can help ground researchers in their understanding of phenomena. Phenomenology itself encourages the use of intuition as a means of gaining access to a phenomenon (McKenna, 2013; Ruth-Sahd & Tisdell, 2007).

Intuition requires that the researcher become immersed in the study and the phenomenon. Researchers must have an intuitive sense of the phenomenon, which will help them determine its properties, boundaries, and variations. Further, the researcher remains open to the meaning of the phenomenon as described by those who experienced it. The process of intuition results in an understanding of the phenomenon and may require the researcher to vary the data collection methods or questions until that level of understanding emerges.

### 3.9.3 Memoing

Memoing is another form of qualitative data that is valuable when researching qualitatively, and it has been used in this study. Memoing uses reflective diary-writing or other forms of self-reflection to enhance reflection and analysis in phenomenological research (Groenewald, 2004). Memoing is a method through which researchers can reflect on their experiences during fieldwork and improve their ability to take notes and remember critical details. Memoing in phenomenological research is a significant part of conducting the study. The style and manner of memos may vary considerably. Researchers write notes to themselves on some hypothesis regarding a particular property or category or, especially, the relationship between categories.

As ideas and their relationships are recorded in memos, they accumulate as written notes. Thus, qualitative research processes and credibility are greatly enhanced by memos (Patel et al., 2016).

The researcher has used memos to describe, analyse, and interpret the phenomenon focused on in the research. Memos were also used to record information acquired during interviews, observations, or readings and what the researcher hears, sees, experiences, and thinks while collecting and commenting on the data. Memos were always dated and referenced in accordance with the subject matter. Cross-references and a header were always included. A list of emerging codes was always kept on hand to prevent duplicate entries. Memos usually focus on intellectual concepts gained from incidents rather than people. The researcher never hesitated to modify existing memos. The memos only contained one idea to avoid problems during later sorting.

### 3.10 Data storing methods

The method of storing the data is a critical part of qualitative research. Methodologies differ from researcher to researcher and even between schools of thought. While some researchers use computer software or other electronic means to store information, others use handwritten notes or index cards. Selecting a method that suits one's research and analysis needs is vital. The data-storing method in phenomenological research is an integral part of the process. How it is stored will affect later analysis and whether the results can benefit others (Smythe & Spence, 2020; Yoshimi, 2016).

Audio recordings of all interviews were conducted with permission from the research participants. For each interview, a simple code was assigned, such as Part 07.08.21. Whenever more than one interview was conducted on a specific date, the interviews were identified by an alphabetic character, such as Part A, 07.08.21. The interviews were recorded using a Samsung Galaxy A30 Voice recorder. Notes were made as soon as possible after each interview. Keywords, phrases, and statements were transcribed to allow the voices of research participants to be heard.

Field notes are a secondary data storage method in qualitative, and they were used in this study to retain the data gathered. This study has observed four types of field notes (Groenewald, 2004), namely, a) observational notes, which are notes that the researcher feels are important enough to make. Observational research is a method of qualitative data collection. As such, it depends upon the researcher to record their observations and experiences accurately and thoroughly as they happen. Furthermore, these notes should be detailed enough that another person who reads them will understand what the researcher observed or experienced while participating in the study. b) Theoretical notes, a researcher's attempt to derive meaning from their experience. In phenomenological research, theoretical notes are reasons to reflect on a phenomenon. Phenomenology is based on the idea that something can only be understood from experience. Therefore, theoretical notes enable researchers to reflect on their experience in relation to their study and notice any patterns or themes that emerge from it. c) Methodological notes, self-reminders, instructions, or critiques regarding the process. Methodological notes are the rules which are used during phenomenological research. These include having a very open mind, being aware of one's values and biases, reflecting with one's life experiences, remaining objective

about people around, giving oneself time to reflect on experiences, not researching alone but with others who might have different views on things, making sure that one does impose anything. d) Analytical memos, a summary of the progress report at the end of a field day. The analytical memos of phenomenological research are the essential tools for the researcher. The purpose of these memos is to explore and deepen understanding of meanings. The main goal is to show how things appear or make sense in particular contexts. These memos are usually written after interviews, observations, or reading materials. It records the researcher's thinking about the data and the questions that lead to the following analysis step. Analytical memos are used throughout the research process to keep track of the researcher's actions and think carefully about proceeding (Phillippi & Lauderdale, 2018).

In this context, it is essential to note that field notes are already part of data analysis. Morgan (1997) writes that since field notes involve interpretation, they are, properly speaking, 'part of the analysis rather than the data collection' (pp. 57-58). Because 'the basic datum of phenomenology is consciousness, or the lived experiences of the participants' (Bentz & Shapiro, 1998, p. 98). To the greatest extent possible, the researcher must avoid prematurely categorising or pushing the data into the researcher's preconceived ideas about the impact of the Fourth Industrial Revolution on *umaskandi*.

Following Phillippi and Lauderdale (2018) and Groenewald (2004)’s method of data storing, the researcher opened a file with a section for each interview and filed the following hardcopy documentation: The notes taken during the interview. The field notes were made after each interview. Notes or sketches made by the participant

during the interview. Any additional information the participant provided during the interview, for instance, brochures. Any notes taken during the data analysis process, such as grouping units of meaning into themes. The draft transcription and summary of the interview were presented to the participants for validation. Participants confirmed the accuracy and commented on the transcript and analysis of the interview. Further or subsequent communications between the researcher and the participants.

### 3.11 Explicitation of the data

Data explicitation in phenomenological research is the raw data documentation, which includes statements about how each participant came to understand a particular phenomenon. It is a process of identifying and describing the meaning of data. Though it seems straightforward, there are many ways in which researchers can misinterpret participants' statements by focusing on surface features instead of the underlying meaning (Mouchet et al., 2018). Therefore, the interpretation of data should be performed deliberately and with great care so that researchers do not impose their ideologies onto the data. Phenomenological research is often characterised as having the goal of understanding the phenomena in its terms. This is done through rigorous, systematic reflection on the part of the researcher, who endeavours to make explicit all levels of data collection and analysis. By making explicit what was implicit, the researcher hopes to understand more fully how a phenomenon appears from within itself rather than through interpretation or description by an outside observer. In phenomenological research, the goal is to examine and describe people's lived experiences. Explicitation helps identify and describe what happened and why it happened (Depraz, 2022).

Data analysis or explicitation (as it is referred to in phenomenology) in the current phenomenological study is similar to data analysis in other qualitative approaches where the data can be organised either manually or through computer software (Manyam & Panjwani, 2019) such as Cluvio, Power My Analytics, Bitrix24, Manta to mention just a few and then analysed. According to Hycner (1985), the simplified version of the data explicitation process consists of five steps or phrases, which the researcher has used. The steps or phrases are as follows, bracketing and phenomenological reduction, delineating units of meaning, clustering of units of meaning to form themes, summarising each interview, validating it and, where necessary modifying it, as well as extracting general and unique themes from all the interviews and making a composite summary.

### 3.11.1 Bracketing and phenomenological reduction

The researcher compares the two iteratively for data gathering and analysis while developing comprehension and saturation. When assessing data, a researcher's beliefs can inadvertently impact what they hear or do not hear from the participants' voices. While putting one's preconceptions aside allows one to hear the nuances and intricacies of a participant's response more clearly, bracketing prevents the researcher from categorising replies into preconceived categories or filtering a participant's experience via one's lens. This is a different perspective on the concept of bracketing that is used during interviews. It is meant to provide meaning to the phenomenon for the interviewee. In this case, it refers to bracketing the researcher's own opinions and preconceptions (Valentine, 2014).

The reduction stage of the phenomenological method aims to limit the researcher's preconceptions about the phenomenon by providing an interpretive description of it, not imposing any particular philosophical or theoretical viewpoint. Reduction is supposed to produce descriptions with rich meaning for human understanding rather than simply recording observations or collecting statistical data. Beech (1999) states that researchers need to be 'explicit about the process of bracketing so that others can observe and understand the rules of the game so the researcher can legitimately use the word' (p. 44).

### 3.11.2 Delineating units of meaning

Phenomenology is a philosophical method of inquiry that aims to provide a detailed description of phenomena. To achieve this, phenomenology requires us to elucidate the essential structures and meanings of our experiences. The fundamental step in the process is determining what constitutes an entity for a particular individual or culture, that is, delineating units of meaning. Phenomenological research seeks to identify these delineated units by analysing the participants' expressions and experiences in their terms. This process has allowed the researcher to identify and describe the fundamental elements or building blocks of a phenomenon (Munhall, 2012). However, in this phase of explicating the data, those parts of the study that illuminate the studied phenomenon are extracted or isolated. Therefore, the researcher must make a substantial amount of judgements while consciously bracketing their presuppositions in order to avoid inappropriate subjective judgements.

A detailed analysis of each interview's relevant meaning was performed, and any redundant meaning units were eliminated. To do so, the researcher took notes of the literal meaning, how many times a meaning was mentioned (the importance) and how it was stated (non-verbal or para-linguistic clues). Thus, even though two seemingly similar units of meaning appear similar, their meaning could be different based on the order of events or their weight (Hycner, 1999).

### 3.11.3 Clustering of units of meaning to form themes

In phenomenological research, a thematic analysis is a description of the data in terms of its themes or clusters of meaning, which were identified during a qualitative analysis. Thus, thematic analysis can be defined as a multistep process for identifying and reporting patterns in data. The units of meaning are the words, phrases, sentences, or paragraphs that convey the key findings. The themes are the major categories into which these units of meaning fall.

Identifying relevant units and developing a coherent meaning of their experience was critical for understanding what the participants said in this study. In both Holloway (1997) and Hycner (1999), the importance of returning to the recorded interview and then returning to the list of non-redundant meaning units is emphasised. As expected, there are often overlaps within the clusters, given the nature of human phenomena. However, by exploring the meaning of the various clusters, a central theme emerges, 'which expresses the essence of these clusters' ( p. 153).

### 3.11.4 Summarising each interview

In this step of the phenomenological data analysis process, a researcher makes interpretations based on common patterns or themes identified and links them to the bigger picture or purpose of the study. The researcher develops the storyline based on the common themes identified from the dataset and links it to deduce the meaning participants attribute to the phenomena after experiencing it (McCance & Mcilfatrick, 2008).

The summary of qualitative data collected through interviews is best done by coding it and turning it into a storyline. Coding involves first converting what was said in an interview recording to text and then identifying patterns in those utterances by assigning labels. Finally, the storyline should explain the change in the phenomenon based on the patterns discovered from the coding. To determine if the essence of the interview has been accurately captured, the researcher conducts a validity check (Hycner, 1999). Ideally, additional corrections are made based on the validity check.

### 3.11.5 Synthesising the general and unique themes from all the interviews

Extracting general and unique themes from all the interviews is a standard practice in phenomenological research**.** This process is called a composite summary because it summarises the general and unique themes into one significant theme that describes the situation as a whole. The clustering of common themes needs to be avoided if significant differences exist. It is essential to highlight the unique or minority perspectives regarding the phenomenon studied (Groenewald, 2004).

As described by Groenewald (2004), Hycner (1999), and Moustakas (1994), the researcher concludes the explicitation through the writing of a composite summary, which should reflect the context of the themes. Sadala & Adorno (2001) state, ' at this point, the researcher 'transforms participants' everyday expressions into expressions appropriate to the scientific discourse supporting the research' (p. 289). Coffey & Atkinson (1996) contend, however, that good research is not determined by rigorous data alone but rather 'going beyond the data to develop ideas' (p. 139). The first theorising is derived from analysing qualitative data, no matter how small.

## 3.12 Validity and reliability

Phenomenology is a qualitative research methodology that involves the examination, description, and analysis of lived experience. Research findings are presented as descriptions rather than explanations. The truthfulness of such descriptions has been questioned since they can appear vague and ambiguous (Moustakas, 1994). However, Moustakas (1994) argues that researchers can achieve convincing descriptions that give insight into people's lives through rigorous methodological procedures.

The validity and reliability of a phenomenological study is the degree to which it adheres to the protocol. A phenomenological study can be valid and reliable, meaning that it has followed the guidelines set out by the qualitative research methodologist who has determined its methodology, or it can be invalid, meaning that it does not follow all of those same rules. In the context of qualitative research, validity and reliability refer to the extent to which a study's findings reflect what they purport to

reflect. In other words, it is an expression of whether the results found can be trusted. Phenomenological research is not just about asking questions. Phenomenologists are interested in the truth of experience, and they want to know what it means for something to be true. Thus, validity and reliability become very important because how can one say they have captured anything meaningful if their findings cannot be trusted?

The phenomenological research design contributed to the truth of this study. Specifically, the researcher bracketed himself to examine the phenomena being studied from the perspective of the participants interviewed, meaning that the focus was on insider perspectives. Additionally, recording the audio of each interview and the researcher bracketing himself during transcription contributed to finding the truth. Subsequently, participants were given copies of the text to verify that it reflected their perspectives regarding the phenomenon.

## 3.13 Conclusion

A detailed explanation of the theoretical orientation that underpins this study was presented in this chapter and a comprehensive description of the research methodology used to gather, analyse, and process information in line with the tradition of this field of study. Indigenous Knowledge Systems and Ordinary Language philosophy were chosen as a theoretical orientation for this study since it has been argued that they are suitable for analysing the intricate details of 4IR technologies affecting cultural industries like *umaskandi*. A persuasive case was made to support these theories since *umaskandi* warrants a dedicated mode of investigation.

It is worth emphasising the impact of the Covid-19 on the global population and, by extension, on some of the protocols during the data collection stages during the study. Contacting some companies in the music value chain, such as record labels, music publishing companies, and recording studios, was difficult. There were challenges caused by the closure of many companies and employees working remotely, so phone lines went unanswered. To engage participants, it was essential to emphasise the mandatory protocol to limit exposure to covid-19. As a result, most participants had safety concerns that weighed heavily on their decision to participate.

As far as methodology is concerned, it was stated that the study assumed phenomenological research, also known as phenomenography. This is a qualitative research method used by researchers to understand better people's lived experiences with a phenomenon. Because it focuses on understanding the meanings and experiences that influence our life. Also covered in detail were issues relating to locating the research participants, data-gathering methods, data-storing methods, explicitation of the data and questions of validity and reliability.

# 4 **Chapter Four:** Modern Technology and AI in Umaskandi Production

## 4.1 Introduction

In this age of technology, technology is omnipresent. Therefore, it is unsurprising that it greatly influenced music in the 20th century. In addition, it has altered how music is produced, transmitted, preserved, heard, and performed. As a result, there is a decreasing likelihood of hearing a musical sound that has not been shaped by technology in some way: technology is used in the construction of concert halls, the recording and broadcasting of music, and the design and construction of musical instruments (Kramer, n.d.).

Music technology is a broad term that involves using various devices, programming languages, or computer programs to create or perform music. As technology has evolved, it has become more accessible to musicians, allowing them to produce high-quality music in professional environments. In the opinion of Frith (2011), music technology is more than a collection of instruments, recordings, and equipment for playing them back. He writes

> technology is also an environment in which we experience and think about music; it is a set of practices in which we engage in making and listening to musical sounds; and it is an element in the discourse that we use in sharing and evaluating our experiences, defining, in the process what music is and can be. In this sense, the ensemble of electronic devices that are used to

> distribute and experience contemporary music is not simply a technical means through which we experience music. Technology has become a mode of music production and consumption; that is, technology has become a precondition for music-making. (Frith, 2011, p. 3).

As a result, music is also a setting in which we encounter and consider technology. People used to listen to music on vinyl records or cassette tapes. For the sake of convenience, more and more people are opting for Digital files. Listeners can now download songs and listen to them on their phones or other Digital devices by downloading them from the Internet. Over the last century, our attitudes toward music have shifted tremendously. People across the world may now record and share songs thanks to technological advancements. People can record and distribute music with the help of mobile apps and PCs.

## 4.2 Recording and studio technology

While recording has gone through many changes, the basic process remains the same. The only difference is how it is all done. The earliest audio recordings were made on phonographs and wax cylinders, but these were soon replaced by reel-to-reel tapes, which could record for extended periods. Since then, cassette tapes have taken over the market, with Digital media quickly following suit. Digital audio workstations (DAW) are now used to create high-quality recordings within professional studios and home recording environments.

Since the advent of sound reproduction during the late 19th century, studio recording practices have evolved along with technological advances. Early recording studios were no more than soundproof rooms that isolated performers from outside noise, which was still the case in the era of acoustic recordings. During a recording, performers usually performed in front of a flared metal horn that collected and redirected sound waves to a thin, silken diaphragm at the other end. The diaphragm vibrated due to the energy of the sound waves. A stylus attached to the vibrating diaphragm engraves the sound waves onto a blank wax rotating cylinder or disc. Unfortunately, the acoustic recording process only allowed a limited range of audio frequencies to be captured. Therefore, recording an acoustic performance took extraordinary creativity and ingenuity (Volmar, 2013).

As sound recording increasingly became a mechanical process due to the invention and commercialisation of the microphone, the electric amplifier, the mixing desk, and the loudspeaker, acoustic recording gradually gave way to electric recording (Manning, 2003). By extending the range of audio frequencies and allowing further placement of microphones away from sources, electric recording techniques have enabled the clearer and more full recording of distant and feeble sounds that had not been previously able to be captured. During the electrical recording, the microphone converts the sound into an electrical signal that is amplified and used to actuate the recording stylus. During the recording process, engineers used various microphones and placed them in multiple places around the studio. Brands of microphones were selected based on their specific audio characteristics (Babiloni et al, 2011). After the 1960s, isolation and soundproofing became the emphasis, with treatments like echo and reverb added separately to the mix rather than mixed in during the

recording. Electronics companies introduced proprietary sound processing devices during the 1950s and 1960s, including equalisers and compressors. These sound processing devices further shaped the sound of recordings at the time (Morton, 2000).

As multitrack recording technology became available, instruments and singers could be recorded separately on separate tracks on the tape. Tracks are then mixed through a mixing console, where each volume is compared with the overall sound. Furthermore, the technology made it possible to record new tracks later than the initial recordings. Thus, multitrack recording evolved because of technological advancements. Over time, monophonic recording formats have evolved into stereophonic recording formats. Few new tracks were added every few years after that, and ultimately 24 tracks were offered (Eargle,1986).

Further, locked tape recorders enabled the isolation of sound input so that up to 48 tracks could be recorded. Multitrack recording technology offers a variety of possibilities when producing musical recordings (Morton, 2000). For example, in such a way that recording engineers could cut and paste audiotape, then paste the tape, replace short musical passages by recording onto earlier tracks, and mix the tracks after recording in post-production. In the mixing process, signal modifying devices enhance the original timbre of the recorded material or, in some cases, alter it. With these technological improvements, studio practices expanded, and editing and mixing became more effective.

There can be no question that the introduction of magnetic recording in the early 1950s was an important development in the history of sound recording. The impact of this

development would be felt in every facet of music recording, from the recording studio to the radio station to the home (Belton, 1992). Magnetic tape recordings transformed recording studios into musical instruments. A magnetic tape is a storage medium consisting of a thin strip or ribbon of magnetic material on which information is stored. It was widely used for data storage, enterprise data centres and computer storage. It is one of the most common ways to store audio recordings, video recordings, and computer files containing music. Magnetic tape recording is a process of encoding analogue signals as magnetic patterns on a strip of plastic. The tape can then be read by an electromagnet with a paper or metal backing and converted back to analogue form. Magnetic tape was widely used during the mid-20th century and became obsolete in most uses with the advent of Digital recording and manufacturing. However, as the primary medium for storing electrical signals and reproducing them later, the technology significantly improved the frequency response of tape recording. As a result, it became the basis for almost all commercial recordings between the 1950s and the 1980s (Belton, 1992; Bate, 1991).

According to Théberge (2020), the use of Digital recording began to grow during the 1970s when professional studios adopted it. This changed how people recorded music and allowed musicians to record more tracks simultaneously. Digital recording is the process of storing sound in Digital form. It is a method that can store audio in many different formats, with the most common being .wav files used in most home computers. As digital formats and processes took over from analogue methods and formats, such as tape and vinyl, in the 1980s, tape and vinyl quickly became obsolete. Production software enabled the mass adoption of Digital production in the 1990s. Using the Music Instrument Digital Interface (MIDI) protocol to control synthetic sounds

and pre-recorded sounds, Digital technology enhanced the possibilities of recording and creating artefacts with limitless sound transformation.

In most cases, the recording, mixing, editing, and production of audio files is now carried out using DAWs. There are varieties of DAWs available, such as Ableton Live, ACID Pro, Ardour, Audacity, Audiotool, Cakewalk, Bitwig Studio, Cubase, Digital Performer, FL Studio, GarageBand, LMMS, Logic Pro, Maschine, MetaSynth, Mixcraft, Nuendo, Mixbus, Pro Tools, Soundtrap, Studio One and Waveform, some of which are enhanced by third-party virtual studio plugins. In addition to offering the best sound quality, Digital editing offers insurmountable advantages in ease, efficiency, and possibilities. Throughout the past decade, music technology has drastically changed to take the form of electronic, Digital, and software-based music products. Due to the decrease in the equipment size required, it has become much easier to record albums. Presently, musicians are not required to have a studio, and they can create and mix music on laptop computers.

### 4.3 Umaskandi recording process

Around the 1950s, the cultural practice of *umaskandi* was fundamentally transformed into a system of financial rewards. Certainly, the advent of recording *umaskandi* marked the beginning of commerce and the commodification of the genre. As a result of the commodification process, the music industry's value chain began to be involved. During commodification, far-reaching implications were introduced, such as backing up the singers and guitarists with ensemble players to broaden the appeal of *umaskandi.* This rhythm section was suggested by music producers and consisted of

bass guitar, drums, concertinas and sometimes keyboards (Ntombela, 2011). Thus, as part of the music industry's value chain, *umaskandi* developed, varied, became sustainable, and entered the entertainment industry. At the same time, record companies dominated *umaskandi* production and distribution.

The term *umaskandi* production is used to describe the whole process of making a song from the beginning right through to the final recording and mixing stages. The process of producing *umaskandi* involves developing, creating, and refining it for public presentation. In *umaskandi* recording process, recording studios are where the production phase begins. The recording process usually begins with sounds from the rhythm section, *inkostini* (accordion), keyboards, *isiginci* (guitar), bass guitar, and drum kit recorded before vocals are recorded and added in over the top. The technology shifts from live mixing to multi-tracking in the 1950s and 1960s made this possible. Mixing now could occur after the initial session, and parts could be recorded on individual tracks before being mixed and compiled into one holistic song. After recording the basic tracks, additional sounds are layered onto the existing ones. Tracking the rhythm section is a crucial part of the production process of *umaskandi.* As a means of locking in tempos, a click track is used to synchronise sound recordings, which helps ensure that each layer of sound retains its rhythmic integrity. Additionally, a click track is invaluable in the editing phase when it is important to locate rhythmic pulses precisely.

The technology of music recording, particularly in *umaskandi,* has changed significantly over the past few decades. Thanks to modern Digital recording systems, *omaskandi* records can be edited more efficiently and quickly than ever. As a result,

*omaskandi* can enhance their music playing with new technology, resulting in a better sound. In addition, because of new recording technology, *umaskandi* producers can record with greater accuracy and depth of field, enabling them to produce more complex mixes, making it easier to create great sounding albums than ever before. The following discussion will look at recording each instrument in *umaskandi* more because technology has made it possible to record each instrument in many different ways.

### 4.3.1 Bass guitar

The evolution of recording technology has greatly impacted how the bass guitar in *umaskandi* is recorded. Electric bass guitars, with four strings tuned to E, A, D and G, took centre stage during the 50s, backing *umaskandi* hits and various kinds of music. In recording *umaskandi* bass guitar, every aspect contributes to the quality of the recording, including the context, the player, what they're using (pick or fingers), the recording chain, and the amp. The recording of the bass guitar can be achieved using a few different techniques. One can either use a direct input or an amplifier to record the instrument's sound. A direct input occurs when the instrument's sound is directly plugged into the recording device, whereas with an amplifier, the sound must be amplified before being recorded. A typical way to record a bass guitar is to plug it into a Direct Input (DI) box, often used in *umaskandi* recordings. In essence, DI boxes serve only to connect instruments to a mixer or multitrack recorder by connecting the inputs to the outputs, whether tube or solid-state, active, passive, mic, or line levels. Especially useful for isolating an instrument and eliminating noise bleed, recording for mixing, and upgrading guitar signals with a different setup later (Vintage King, 2021).

Another technique of placing a microphone in front of the bass amp during the recording session is used in many *umaskandi* recording sessions (W, Gxowa, personal communication, August 12, 2021). Dynamic microphones are typically used, and low-frequency mics are especially crucial. It is essential to consider where to place the mic to get the best bass sound. The intensity of the sound can increase by placing it near the amp. In addition to choosing the right angle for the microphone, it can also impact the sound of the bass. Depending on whether a deep or high-pitched tone is desired, a microphone should be placed at a certain distance from the amplifier. According to Guitar Center (2020), 'traditional single-mic placement is almost touching the grille cloth, aimed at the point where the dust cap (that dome at the centre of the speaker) is glued to the speaker cone' (para. 36). It offers the best chance of getting the desired sound without using an Equalization (EQ) since it introduces phase differences. Also, to be considered in single-mic techniques is the effective distance the amplifier has on the sound.

One of the oldest ways of recording electric bass guitar is hybrid recording (combining different recorded methods into one track). In this technique, the engineer splits the signal to feed both the amp and mixing board simultaneously. In the last few years, advances in recording technology have made this technology even more versatile. (W, Gxowa, personal communication, August 12, 2021) suggests that when applying the technique in *umaskandi* recording, the bass is usually very clear in DI recordings but can sound two-dimensional occasionally. In contrast, amplifiers produce a richer and more saturated sound. It can be beneficial to use both types of bass to produce a three-dimensional mix that cuts through the noise. Mixing the direct track behind the miked tracks provides clarity and definition while preserving the feel of the mic. The

combination of compression on one and not the other can give a dynamic emphasis and solid bottom simultaneously.

### 4.3.2 Drums

The process of capturing a drum sound is complex. Drums are the most difficult instruments to record since there are so many variables. Recording drums in the 1960s to 80s was a lot different than today (Godøy & Dahl, 2017). Back then, recording technology was still advancing, and sound engineers were still trying to improve their recordings. Many of these advancements also impacted how drummers played their parts in songs. *Umaskandi* drums, like other music genres, were recorded with one microphone over the drum kit and one in front of the bass drum in the 1950s. As *umaskandi* became more popular, creators began including microphones on drum tracks to create a closer, more competitive, and more aggressive sound. Bass drumheads are often removed, and the mic is placed within the drum instead. The increase in multitrack recording and the availability of more channels on the desk led to more microphones, while isolation and soundproofing became more crucial. Specifically, designed microphones were used for snare drums, floor toms, overhead toms, and high hats (Zagorski-Thomas, 2016).

The 1980s saw a shift toward Digital recording and sampling, but the '80s were also the decade in which drummers discovered MIDI. The most important was the invention of MIDI in 1982 and Digital samplers in 1983 (Harkins, 2019). MIDI was a universal interface for electronic instruments that made it possible for any keyboard or drum machine to control every other keyboard or drum machine in existence. This led to a

far more flexible and creative approach to *umaskandi* and pop music, where both studio time and musicians were much cheaper than when bands had been forced to hire. The year 1986 marked the introduction of one of the first dedicated MIDI drum machines to hit the market, paving the way for electronic drums to become more commonplace.

A drum machine is a device that creates beats or rhythms primarily used in electronic music. Beats are made by either sampling sounds from various instruments or synthesising them using very basic waveforms. Drum machines can also be considered sampler-based hardware sequencer that operates according to a special step-programmed algorithm, usually triggered by MIDI signals received from an external keyboard or another controller. They may imitate the sound of a drum kit, but they can also produce unique sounds with characteristics such as electronic genres and natural acoustics.

The advent of Digital recording software has prompted many *umaskandi* producers to adapt their techniques to work within a DAW. While some may prefer analogue over digital, there are many perks to using a DAW, such as Pro Tools, Cubase, and many others for tracking drums. According to Gxowa (2021), '*kuma* drums *ngebenzisa i* rhythm composer, *kodwa ke iningi lo enjiniya bomaskandi basebenzisa ama* fruity loops ne drum kick ye R 58 *bese bayawa sampula benze ama* waves (on drums I use a rhythm composer, but most of omaskandi engineers use fruity loops together with R 58 drum kick and then they sample to make waves)' (W, Gxowa, personal communication, August 12, 2021)

The prevalence of drum machines used in *umaskandi* recording is certainly not a new trend. Many legendary albums have used this tool, and its popularity is still growing. In today's Digital age, *omaskandi* use computer software to create beats. However, some still prefer to manually program their own drums using a physical instrument, mainly due to the level of creative freedom it offers them.

### 4.3.3 *Inkostini* (Concertina)

Several new types of musical instruments became popular with *omaskandi* in the 20th century, including *inkostini* (concertina). In the 1960s, this instrument was transformed from something that one person could play into something that could be played by many in a band or ensemble. Consequently, it was added to the ensemble instruments during the introduction of the backing band in *umaskandi* performances and recordings.

Concertinas are small free-reed musical instruments that resemble small accordions. It has buttons and expanding and contracting bellows, but not pushrods like an accordion. There are usually two rows of buttons (or keys) on either end of the concertina. Concertinas use single notes on both hands, allowing for intricate melodies to be played.

*Umaskandi* producers claim that it can be challenging to mic the instrument in the studio. It is, of course, a problem that the sound comes from both ends of the instrument and those that move around. Consequently, *inkostini* has a distinct sound

emanating from every direction. In addition, there are other sounds that *inkostini* makes, so it is essential to decide how to record those sounds.

In the earlier *umaskandi* recordings, *inkostini* was recorded by placing the mic somewhere in the middle of the bellows at a distance of about one or two feet from the instrument. In that distance, *inkostini* surface radiates a pleasing blend of sounds. On the other hand, a tightly placed mic will not accurately record the sounds of an entire instrument. Therefore, as recording techniques improved, one microphone for each end was used when recording *inkostini*. Sometimes, more than two microphones were used for the left and right hand and ambience microphones if possible.

*Izinkostini* (plural for inkostini) are not much different from other instruments because they can be recorded digitally. However, technology has significantly simplified many of the hustles associated with producing quality *umaskandi*. In the last few years, Digital devices have become a standard part of *umaskandi* creation. Digital recording has changed how *omaskandi* create music and how musicians interact with their audience.

### 4.3.4 *Isiginci* (Guitar)

The history of acoustic guitar recording goes way back to 1888 when Edward Norton was hired as a producer for Thomas Edison. At that time, the only instrument available was the piano, which could not be heard well enough to accompany singers. So, Norton set out to find a better instrument that would be easier to hear in recordings. He discovered that guitars were louder than pianos and began featuring guitars in

many of his recordings. In the world of music production, guitar recording is one of the most popular categories. The recording of acoustic and electric guitars has been made possible by new recording technology that has produced recordings of truly professional sound.

Over half a century ago, the acoustic guitar became part of the South African musical landscape, particularly *umaskandi*. It played an important role in shaping the principles and definition of *umaskandi.* Guitars are available in electric, acoustic, and hybrid versions. Depending on how the instrument is made, recording methods may include recording sound from the soundhole or from the pickups. During the early period, recording techniques for the guitar were influenced by earlier recording technologies. However, the technology of electric recording paired with a multitrack mixing console with magnetic tape recording dominated when *umaskandi* entered the scene around the 1950s.

*Umaskandi* producers recommend placing a large diaphragm condenser mic about fifteen or thirty centimetres away from the acoustic guitar strings, about the 12th fret, while recording mono. To add a little lower end to the sound, the microphone is turned toward the soundhole. For a similar effect, it is turned away from the soundhole if the initial sound pattern has more low ends. The adjustments are made until the perceived sound is achieved. Stereo recordings require a large-diaphragm mic near the bridge and a small-diaphragm mic close to the frets. Adjustments are made to the positions of each microphone until the desired sound is heard. Each of these microphones is assigned a separate channel and panned left and right accordingly.

Electric guitar recording is different from capturing acoustic guitars. There are multiple ways to record electric guitar, from miked-up valve amps to preamps that are physically modelled in software. Miking up a good amplifier is still the most satisfactory method in many cases. *Umaskandi* engineers frequently place dynamic microphones at different points before the speaker, significantly affecting the sound they capture. Additional variables arise when miking techniques are taken into consideration. However, nowadays, many DI techniques are available for recording electric guitars, offering more choices.

One feature of *umaskandi* guitars is their tuning, which is slightly different from standard tuning. *Omaskandi* uses the term *ukusetha*, and it is an intriguing concept that may be obscured by Western concepts such as tuning, which has led to many scholars concluding as such. However, in *umaskandi*, *ukusetha* goes beyond adjusting the pitch to establish typical intervals between the tones to organising the pitches in a manner equivalent to spoken language. *Ukusetha* in *umaskandi* refers to a process of adjusting the pitch of one or many tones from the musical instruments to establish a particular *ushuni* (*umaskandi* concept of the sound organisation). In this specific case, *ushuni* acts as a fixed reference on which intervals between the notes are tuned into a particular temperament befitting to *umaskandi.*

Responding to the possible impact that *ukusetha* might have on *umaskandi* guitar recording technique. Gxowa (2021) asserts, '*indlela yokusirekhoda iyafana kuhluka nje ngokuthi umuntu usetha kanjani* (the guitar recording method does not change, the difference is how an individual is tuning)' (W, Gxowa, personal communication, August 12, 2021). In other words, it does not matter whether the recording technique is miking

the acoustic guitar or amp to going direct, as it is referred to when using a DI. The recording method does not change.

### 4.3.5 *Amaphimpo* (Voices)

*Umaskandi* is an art that captures the imagination of everyone with its own distinct features, setting it apart from other genres. When one listens to *umaskandi*, one can be entertained or inspired by the lyrics or rhythm. A singer's vocals, however, set the tone of a song better than anything else. The human voice is the most natural and versatile instrument known to man. It is also one of the most complex pieces of machinery on earth. Typically, *umaskandi* sings the lead vocals and plays the guitar in *umaskandi* performances. Another type of singing is often performed by *Abavumayo* (an ensemble of musicians backing *umaskandi*), a critical element in *umaskandi*.

One of the most crucial aspects of a song is the quality of the vocal recording. The way it is recorded can make or break the song. In *umaskandi*, producers prepare for recording vocals during pre-production by ensuring the song is ready for vocals, and the rough mix is ready for recording. However, the recording chain is incomplete without microphones. To record a good, clear voice on the recording medium, the right microphone is essential. Condenser microphones with large diaphragms capture the nuances of the voice more easily, resulting in better quality recordings. Dynamic microphones are sometimes used for particular types of vocalists as they can make a vocalist sound warmer. In addition, dynamic microphones are more durable, and they reject background noise better than a traditional microphone.

There are so many variables to consider when it comes to recording music vocals. First, the microphone must be placed to allow the proper amount of reverb to be captured. Reverb is an important element in professional recordings because it adds depth and texture to the sound. However, when placing a microphone near a singer's mouth, this natural reverb can cause background noise from the vocalist's breath and mouth clicks. To circumvent these problems, experimenting with different microphone placements until the right spot is found is crucial.

Multi-tracking to digital sampling technologies has been utilised in *umaskandi* vocals recording and creation. The recording process is being revolutionised by Digital technology. The latest advances in computer hardware and software have made it possible to capture, edit, and process sounds with a level of fidelity that has never before been possible. This means that the modern-day *umaskandi* can now have total control over the way their voice sounds on the recording.

### 4.3.6 Keyboards

The electric keyboard is one of the instruments that occasionally appears as part of the ensemble in *umaskandi* performance and recording. The electric keyboard belongs to a family of keyboards referred to as the electro-mechanical group. This group includes all pianos and organs and electronic keyboards such as those used for synthesised music. The electric keyboard is a modern musical instrument which appeared in the early 1960s. The first electric keyboards were realised as electronic substitutes for traditional instruments and used by artists of the middle and late 1960s. Electric keyboards could imitate the sounds of traditional analogue instruments such

as piano, organ and harpsichord. It was very important because many musicians wanted to create modern music, but they did not have enough money to buy expensive synthesisers or other electronic equipment.

Earlier keyboard recordings were done with a microphone and an amplifier. The keyboard amplifier was the first and most crucial piece of hardware. The microphone came next. A decent microphone will pick up all of the sounds you need while excluding undesirable noises and feedback.

The most common methods of recording keyboard tracks include using MIDI or USB directly from the keyboard, using the keyboard's line-out ports, and through an amp and microphone combination (The Music Studio, 2015). Connecting the keyboard directly to the setup and recording the output is the most straightforward way to record. Depending on the hardware of the keyboard, there are a few options. A software plugin for the digital audio workstation is required to record via MIDI. With most current keyboards, MIDI keyboard controllers can also be connected through USB. It is a MIDI signal that tells the software plugin what notes to play, but the computer is the one that makes the sounds.

Another extremely popular way is to record the keyboard directly. Again, a 'line-out' connector should be available on the keyboard. This method allows for direct recording into the DAW after plugging into the mixing board or audio interface. Additionally, there is an opportunity to try out some of the accessible plugins.

## 4.4 Music software

The development of music software is the most dynamic field in music technology today. It has seen a lot of changes and developments over the previous years. In fact, music software had a humble beginning with the creation of synthesisers back in the 1920s, which later evolved into the modern-day Digital sound modules that many people use for their musical productions worldwide (Ihde, 2021). Music software has been evolving since the 1950s, encompassing more and more aspects of music creation and performance and spreading socially and geographically. However, computer technology has advanced significantly in the past few years. It can now be used for creating, performing, learning, analysing, researching, broadcasting, editing, and composing music or recording audio tracks. In addition, the software industry of apps and web-based applications has changed everything about how we access our music, both personally and professionally.

In general, there are three types of music software: notation software, virtual studio software, and DAWs. Digital music software has evolved to meet the ever-changing music production needs in today's Digital age. From making beats to creating an orchestra, modern music software is capable of just about anything. The following discusses the various types of software used for music production. First, notation software is used to create music scores. Second, virtual studio software is used to produce backing tracks. Finally, the purpose of a DAW is to record, edit, and mix music.

### 4.4.1 Notation software

Music notation software, sometimes called music composing software, has existed since the late 1960s (Horton, 2022). It existed long before there was a market for it. The original programs were written by academics who had access to mainframe computers at their universities. They wrote the first music notation programming language (MPL) because they wanted to create tools that helped them do their jobs better and faster than existing methods allowed. At the beginning of music notation software development, there were limitations everywhere. There was no standard, and software developers created their own way of working with music. Sometimes, these programs only work on certain platforms or are very specific about how a piece of notation should look (Hewlett, 1991).

Software for music notation comes in many different forms. Many of these programs operate on a variety of platforms. However, the most common are Windows and Mac operating systems. These programs are available both online and on personal computers. Computer software development for creating music scores dates to the 1950s, although it was not until the 1990s that electronic software became commonly available (Horton, 2022). Music notation software is easy to use, and there are several free programs that are widely used, such as MuseScore, MagicScore, Encore, and many more. Three main professional-level and widely-known applications are Sibelius, Finale and Dorico. They have been upgraded and improved and are popular among musicians and composers for writing music scores.

Music notation software is a form of music notation that uses Digital computers and specialised notational symbols to create, edit, print, and play musical scores. Furthermore, score writers include various compositional tools in addition to copying and pasting, transposing, changing keys, changing tempos, changing meters, and even developing motives such as inversion or retrograde. Score writers utilise staff lines and round note heads derived from European classical music notation to write music. As well as tempo, dynamics, articulations and pitch, symbols represent duration in sound and silence. In some cases, users have the option to import or create their own symbols. Some programs combine DAWs, which allow users to input parts in traditional notation, the graphic notation of the piano roll, and record acoustic or electronic instruments in real-time along with the existing scores. Music notes can be entered using a computer keyboard, mouse, and MIDI musical keyboard, edited with traditional or piano-roll-based notation.

### 4.4.2 Virtual studio software

Virtual studio software, also known as virtual studio technology (VST), is a digital signal processing-based software. VST is typically incorporated as a plugin for a DAW to enhance its capabilities. Many VST plugins exist, mainly classified as instruments (VSTi) or effects (VSTfx). As its name implies, VSTi emulates different musical instruments. VST is a digital interface standard for connecting and integrating software audio effects, synthesisers, and effect plugins with recording systems and audio editors. VST is a software emulation of hardware synthesisers, instruments, and samplers (Technical Feed, 2020). It frequently includes a custom user interface that closely resembles the original gear, right down to the knobs and switches. It gives

recording engineers and artists virtual replicas of gear and equipment that would be too costly or difficult to obtain otherwise.

Digital notes are received as MIDI signals and output as digital audio signals by VST instruments. Plugin processing converts digital audio into audio output. Additionally, some effect plugins are MIDI capable; for example, they can be synchronised with the tempo to change the effect accordingly. The parameters of an instrument and an effect plugin can be controlled by a MIDI message. The audio output of one VST can be routed to the input of another in almost all host applications. Steinberg created the VST plugin standard, allowing third-party developers to create audio plugins within VST host applications. Windows, Mac OS X, and Linux versions of VST are available for download and installation separately (Koszolko, 2022).

### 4.4.3 Digital Audio Workstation

DAWs are electronic devices or software applications that record, edit, and produce audio files. Depending on the configuration, DAW may be a single software program on a computer or laptop, an integrated standalone unit, or a highly complex combination of components controlled by a central computer (Fajar & Sukmayadi, 2021). In addition to being used in music, DAWs have numerous uses for anyone who needs to record audio, including podcasters. The DAW, designed for recording professionals, replicated many of the same features as a multitrack tape recorder. In addition, various controls such as record, play, waveform display, track controls, mix, and so on are included. The number of available add-ons, which is constantly expanding, contributes to making the DAW so powerful. Each has unique functionality

and a complete set of sounds that can be manipulated. Various plugins can be used in layers to create an even more distinctive sound, and they can be further automated to manipulate the original sounds. Sample packs allow audio file libraries to expand, while VST plugins improve the recording software. In addition, the ease of use of DAWs increased as they became more sophisticated. This is due to the prevalence of personal computers and laptops, which allow people to create music anywhere.

The digital audio workstations are categorised into Integrated DAWs and Software DAWs. Integrated DAWs include a digital signal processor (DSP), a control surface, converters, and a storage device. A Software DAW consists of four components: a computer, a sound card or another audio interface, audio editing software, and at least one user input device for adding or editing data. An example is a mouse and keyboard, or perhaps a more sophisticated MIDI controller keyboard or automated audio mix surface. Most DAWs have a standard layout that includes transport controls (play, rewind, record, and so on), track controls, and a mixer. Other standard features include waveform displays. Music production using a DAW has become an integral part of the recording industry. Engineers needed to use multiple studio equipment and large mixing boards to record a track in the past. Nowadays, all that is required is a DAW and an Internet connection. Recording can even take place at home using an existing computer setup. Today's DAWs have the power to record music with high-quality sound in no time.

Recording *umaskandi* has become increasingly dependent on using a DAW for its production. Therefore, it is a must have tool for music and *umaskandi* producers, and the most recent versions of the digital audio workstation include updated features. A

DAW is a software application for recording, editing and mixing audio. In *umaskandi,* the software can record, edit and mix any audio signal. This includes live performances from musical instruments or voices and sound generated by virtual instrument plugins or non-audio input devices such as video cameras, microphones, and turntables.

In some instances, notation software has been used to record *umaskandi* as Shabangu (2021) states,' *ama* drums *kuba lula ukuwabhala ku Sibelius bese uwaletha ngapha usuzo mixer*' (it's easy to write the drums in Sibelius and bring them this side to mix) (Z. Shabangu, personal communication, October 3, 2021). When recording, *umaskandi* Shabangu (2021) prefers to notate the drum set using the music notation software. At the same time, other instruments are recorded following the usual methods, such as tracking them live using live musicians. Detailing the process of sharing files between DAWs to add the drums to the music Shabangu (2021) explains that music scores can be exported as MIDI files, making it easy to import into virtually any other music program. There is no requirement for MIDI devices or interfaces to be able to export a MIDI file.

### 4.4.4 MIDI file export

The MIDI file format is a particular type of file that contains the data for music. What does this mean? It means that music can be created using a computer, edit it just like text, and then sent to another device. This is possible because midi files are digital files that contain all the information needed to play music, just as if it was being played on an instrument or sung into a microphone. In addition, the software allows for changing the tempo or pitch of midi files themselves (Huber, 2012).

MIDI is a widely used approach to making music. It is an excellent way for people to record or compose songs without playing an instrument. Midi files are a series of numbers and codes that a computer can play but do not have any sound until they are translated into another file type. Exporting midi files is an essential process in today's music industry. It is widely expected that midi files are the most efficient way to present a series of musical notes. They also come in handy when transferring sheet music to another musician or producer.

Music notation software allows users to choose whether to export MIDI files for the current playback device or a different playback device. By default, Sibelius will export a MIDI file suitable for playback on a General MIDI device, which can be helpful in, for example, sending MIDI files to other people. Alternatively, the appropriate sound set from a different playback device list must be selected if a virtual instrument is used and a MIDI file is exported for further editing in a sequencer such as Logic Pro. Then, the MIDI file will be exported with all the appropriate MIDI controller changes, key switches, and so on.

MIDI files can also be exported as Type 0 or Type 1. Almost every application may benefit from a Type 1 MIDI file. However, some devices, such as keyboards and pianos, can only play Type 0 MIDI files. Sibelius's internal resolution is 256 Pulses Per Quarter Note (PPQN), and this setting is recommended. In addition, some devices can only play MIDI files with specific PPQN settings. Increasing the PPQN value does not make the exported MIDI file any more accurate since Sibelius' internal resolution is fixed at 256 (Huber, 2020).

By choosing that option (by default), Sibelius will export pickup (upbeat) bars as bars of entire duration with rests at their beginning, which is ideal for playback. As a tempo track in a sequencer or DAW for ReWire sync, exporting a first pickup bar as a short bar with a different time signature from the first whole bar in Sibelius is more practical, and this option must be disabled (Spreadbury, 2009). Sibelius includes a full range of playback options when exporting MIDI files, such as Espressivo, Rubato, and Rhythmic Feel. Sibelius can be used as a MIDI file enhancer by opening a MIDI file, adding some playback settings, and saving the improved version as a MIDI file.

According to Shabangu (2021), the notated drums set with Sibelius are saved as a MIDI file and opened on Logic Pro to manipulate the sounds. It is generally possible to import MIDI files either through DAW's Import command, by selecting a MIDI file, or by dragging one into the session. It then depends on what kind of file it is. When the MIDI file contains only one track, it is likely saved as a Type 0 file (single channel), but if the MIDI file contains multiple channels, it will be a Type 1 file from the first import. Each part will have its track. Upon receiving the file, the receiving DAW creates corresponding instrument tracks for each part-sometimes with the appropriate General MIDI sounds.

Thus, *umaskandi* benefits from this technological innovation. While the technology may be new, software for music notation is rapidly becoming an essential tool for *omaskandi*. It is increasingly being used to improve the playing and recording process. The following discussion looks at Artificial Intelligence composition platforms.

## 4.5 AI Music Composition Platform

The use of AI is becoming more prevalent in creative industries, such as music production. However, this phenomenon is not new, 'AI has been trying to carve a name for itself in the music business as a collaborator, composer, artist and lyricist since 1951' according to (CityAM, 2021, para. 1). For the first time in history, Alan Turing, a British mathematician, created computer-generated music in 1951. Turing's machine was used to generate several melodies, including 'God Save the King' and 'Baa, Baa Black Sheep'. A computer wrote the first piece of music in 1957 named Illinois Suite for String Quartet. Computer-generated piano music in 1965 and the MIT Experimental Music Studio (EMS) in 1973. In the latter facility, digital computers were used full time for computer music research and development for the first time worldwide. Musical Intelligence (EMI) made a key advance in 1980. EMI produced new works by analysing existing music with generative models. By examining many musical works, EMI created unique organised musical compositions within a specific music genre. As a result, EMI has produced dozens of compositions based on the works of various composers. In the 1990s, Bowie began experimenting with a digital lyric randomiser he helped develop with computer programmer Ty Roberts. In 2002, AI performed alongside musicians for the first time. In the not-so-distant past, American Idol star Taryn Southern created an album called 'I AM AI' with the assistance of Amper Music's AI composer.

The combined fields of Artificial Intelligence and music have been slow to evolve due to the complexity of programming computers to mimic human creativity. However, in recent years, ML has expanded dramatically in music composition. ML offers a new

method of computer programming that allows computers to learn from data without being explicitly programmed. These powerful tools already produce, perform, and monetise their musical compositions. In music production by AI, mental tasks are simulated, like Artificial Intelligence applications in other fields such as medicine, stock trades, and many other areas. Several AI applications are available in the creative industry. In addition to generating ideas, it can provide feedback to artists, help streamline tedious tasks, and provide ways to streamline and improve the process and maximise efficiency.

Researchers and start-ups are using AI to compose soundtracks and soundscapes and write original songs in the style of specific genres and artists. Top musicians, bands and producers now use Artificial Intelligence music composing software. With the help of AI music software, users can create original high-quality music with little or no experience in composition. Every day more people are using this AI-powered tool to produce hits. There are many online platforms to use this technology to make an entire song with a button click. According to Arango (2021), there are ten top-ranking AI music composers in 2021. Their music generators can devise original, copyright-free music for use in YouTube videos or social media advertisements. The following discussion looks at each of some AI music composers as they offer a different range of possibilities.

### 4.5.1 Amper Music

Amper Music is cloud-based music composing and production software platform that facilitates the creation of high-quality music without needing to be an expert in the field,

using Artificial Intelligence-based algorithms to produce music in various genres. Its mission is to enable anyone to express themselves creatively through music regardless of their background, expertise, or access to resources' (Amper Music, 2020). In other words, it is designed for both professional musicians and beginners who are looking to explore their creativity. In Amper music, samples are used to build tracks, and the results are actual audio, not MIDI. Changing the mood, the tempo, key, muting specific instruments or changing entire instrument kit parts each affects the mood of the song. Furthermore, the audio can be exported as a whole or as individual layers of instruments.

Amper Music has a free version that provides only a limited number of features. Upgrading to the professional version enables users to enjoy the full potential of this Artificial Intelligence music composer. Both versions can be accessed by creating an account on the platform.

### 4.5.2 AIVA

The acronym AIVA stands for Artificial Intelligence Virtual Artist. It is a virtual singer developed by Sony Music Entertainment's Computer Science Laboratory, Inc. (CSL), collaborating with Sony Global Technology Center (SGC). The software was developed to generate singing voices using Artificial Intelligence technology and then uploaded onto the cloud server. Their mission 'is to empower individuals by creating personalised soundtracks using Artificial Intelligence' (AIVA, 2016). AIVA appears to have a wealth of experience composing emotional soundtracks for ads, video games

and movies. The AIVA music composer allows for choosing a pre-set style and creating music automatically by clicking Create.

Additionally, this can be useful for people who require a more specialised music composer. Users can also use AIVA to produce variations of existing songs, in addition to the ability to create music from scratch. A music engine powered by this AI music composer eliminates the need to go through the music licensing process, making producing corporate or social media videos easier. A free version and a paid version are both available for AIVA. A free version is entirely adequate if it does not require a specialised and more powerful AI music composer. The premium version can also provide a lot of extra features depending on the need.

### 4.5.3 Jukedeck

According to Velardo (2017), Jukedeck is an online music creation tool that uses Artificial Intelligence to generate unique music. It is based on state-of-the-art technology that brings Artificial Intelligence to music composition and production. Like Amper's music composer, Jukedeck's AI composer evaluates music data used by the AI to learn how to create music. It works by analysing each note in an audio file, comparing it with other similar-sounding musical phrases stored in its database, and combining them all into one seamless track. In addition, this AI music composer allows for editing any track, such as changing its tempo or its length.

Making music using Jukedeck is free if all the rights are given to the AI composer. However, a particular amount is payable to purchase the licence to make a song available for use.

### 4.5.4 Ecrett Music

Ecrett Music provides AI-generated music for video backing tracks through an online AI music composer, as Dredge (2019) reported. The development of this tool involved collaboration among various musicians, composers, designers, and engineers. This AI-powered application generates unique compositions suitable for any type of video. Users can upload video footage and select the scene type and mood to quickly generate a soundtrack. The generated music can be further customised by adjusting instruments and timings to better fit the video. Scene options include parties, travel, and fashion, with moods ranging from happy to serious.

### 4.5.5 Melodrive

According to Dredge (2019), Melodrive music Artificial Intelligence aims to simplify the process of creating music. It has been programmed by experts in music and audio engineering using an ML algorithm to create music that is not unique but also sounds natural and organic. Melodrive is the first AI music system to create an infinite stream of original, emotional music in real time. The system constantly adapts to users' interactions and emotions using cutting-edge Artificial Intelligence techniques while composing original music. To match the mood and style of the video, the AI adapts to the media environment and generates music.

### 4.5.6 ORB Composer

The website ADSR Sounds (2020) defines ORB Composer as an Artificial Intelligence music composition software. It uses a neural network to generate original compositions. The generated music can be used as background music for various websites, games, and other multimedia projects. Composers, musicians, and orchestrators can use ORB Composer to experiment with new ideas and enhance their creativity, discover new styles of music, and experiment with exotic instrument mixes, chord progressions, and accurate instrument clip settings. There are almost all chord progressions used in popular music in the AI music composer's library of chord progressions. Music compositions can be created by simply combining different blocks of music from six different templates.

The ORB Composer does not replace the composer and does not compose music automatically. Instead, the user must select the chords themselves. Then, using Artificial Intelligence, mock-ups for music are created based on the users' creativity and ideas. Using ORB Composer, a user can build a musical environment according to what ideas they want to explore, and it updates in real-time as their input changes (ADSR Sounds, 2020).

It has a comprehensive set of critical features that make it the best tool for writing music, including the following: a) A MIDI Editor with Control Changes, which gives the user complete control over every aspect of the song creation process. b) The Smart Melody Import feature creates complete songs in no time by importing any MIDI files the user has. c) The ORB Chord Progressions Engine has been completely

redesigned for better performance and results. d) new features automatically change the notes produced for each instrument part inside the ORB MIDI Editor (ADSR Sounds, 2020).

### 4.5.7 Amadeus Code (citations)

Amadeus Code is a new music AI iPhone operating system (iOS) based app that promises to push the limits of modern music production, as discussed in Seok (2023). Amadeus Code is the best melody composing app for beginners and professionals alike. Neural networks and cloud computing enable it to create songs that have never been heard before. Melodies are composed by an Artificial Intelligence engine unique to this product, and they can be exported as files and MIDI to the DAW of the user's choice (Seok, 2023). Several programmers, musicians, and artists from around the world collaborated on the project.

Amadeus Code uses an AI engine that contains chord progressions of the most famous songs of all time, allowing users to use these progressions to create new and innovative structures for music (Hughes, 2018). Furthermore, users can use gestures to create new songs or recreate specific segments of songs composed previously. Even though Amadeus Code can export audio and MIDI files to audio editing software, all songs must be purchased if users want to keep them.

### 4.5.8 Humtap

Humtap is another iOS-based AI-driven music production tool that allows users to produce studio-quality music with their natural voices on their phones. Humtap does not use any software or hardware for recording. Instead, it uses a proprietary technology that analyses the user's voice in real time (Seok, 2023). An entire song can be created by humming a melody, choosing the favourite artist's style or genre, and automatically generating various instruments. Furthermore, beats can be added automatically, and after the music is created, the vocals can be added and adjusted using five different effects. A song's tempo can be adjusted by slowing it down or speeding it up with a single tap. Additionally, this app offers video-making capabilities to create music videos for all users' songs. The songs and videos created with the Humtap AI music composer can be saved to the user's phone, but they cannot be shared directly to social media (Erica, 1018).

### 4.5.9 Muzeek

Muzeek is an AI engine used to create music in any style. Muzeek is the first AI that can compose its own music by learning from tens of thousands of pieces of original music. Muzeek learns styles and genres and the typical sound characteristics of instruments within a genre; by studying tens of thousands of tracks, it becomes familiar with typical harmonies, rhythms, and instrumental combinations used in specific genres or styles. Muzeek Artificial Intelligence algorithm creates customised, licensed music for video content, Video files are analysed for rhythm and length so that appropriate soundtracks are generated according to their length. The video’s original

audio can also be analysed by Muzeek, allowing it to create subtitles or change its volume automatically. Muzeek allows for audio manipulation in many ways. In addition, it offers users a way to combine video and music legally, as social platforms crack down on infringements. Creators, developers, or agencies who need original, professional-quality music can use the service (Gray, 2015).

### 4.5.10 Brain.fm

According to (Parr, 2020), Brains.fm is an AI-driven music therapy service that generates music in response to your brain activity, mood, and personal preferences. It gives users the ability to customise their playlist according to their state of mind with just a few clicks. Researchers, musicians, and engineers use artificial intelligence to generate music designed to enhance focus and productivity. The music created with their AI music composer is said to achieve its effects in just ten to fifteen minutes. The platform, however, cannot be used to create personal music since it is more suitable for people who spend most of their time at work and have difficulty maintaining their focus while performing essential tasks. The user selects the desired type of session from Calm, Focus or Sleep on their website or mobile app, puts on headphones, starts listening, and relaxes while using Brains.fm adjusts its background (Parr, 2020).

The rise in popularity of electronic music has led to the increased use of music composition software by musicians, and this trend is likely to continue as time goes on. The biggest reason for this is that it makes writing more accessible, more efficient, and less expensive. The use of Artificial Intelligence music composition software by

musicians has been a popular topic for quite some time. The software is widely used by amateur and professional musicians alike, as well as bands and small orchestras.

*Umaskandi* belongs to Amazulu's rich cultural heritage that reaches back into the past, embracing the real and the mythical and bound to the nation's traditions. Meanwhile, Artificial Intelligence does not have a culture or traditions. Despite this, it has shown great promise. During this study, no evidence was found of any AI music composer composing music in the context of *umaskandi*. It should be noted, though, that technology that uses Artificial Intelligence to compose music is still relatively new, and as time passes, it will only develop and grow. However, over the past few years, there have been technological changes to the way *umaskandi* is created that have a significant impact on the once traditional art form.

## 4.6 Conclusion

Through the descriptions of processes involved in the production of *umaskandi*, this chapter has illustrated how technological advances have affected the production, dissemination, distribution, and reception of music in general and *umaskandi* in particular. Technology advancements and studio practices evolved in parallel during the history of recording. Audio recordings were first made on phonographs and wax cylinders, but reel-to-reel tapes, which could record for more extended periods, quickly replaced them. Since then, there has been a dominance of vinyls and cassette tapes, and digital media has followed closely. Professional recording studios and home recording environments now use DAW to make high-quality recordings.

The chapter also covered music software, a program used to create, record, or perform music. With the advent of DAW and synthesisers, the recording industry has seen dramatic changes in the past decade. Today, computers are used to record and edit audio, mix sounds, add effects, sequence the playback of digital instruments, and even act as digital instruments. The software instruments that are available to the modern musician are pretty powerful. They can simulate the sound of almost any instrument, either by sampling the sound of the instrument itself or by the synthesis of the sound.

Furthermore, the advent of music production software has been a game-changer for *omaskandi* who wish to make music but do not have access to a large studio. In the days of analogue, the space required to make music was prohibitively expensive. However, as technology progressed and the hardware and software became more powerful and efficient, music software programs became more complex. As a result, they were able to produce more prosperous and better-quality sound through synthesis and sampling. In the digital age, however, a laptop and a software package are all that is needed to make a professional level recording.

Lastly, the different types of Artificial Intelligence that compose music were discussed. Many different types of Artificial Intelligence are being created daily, with their impact and importance in the music industry. The growth of Artificial Intelligence in music is developing quickly, changing the dynamic of the past. We can see the growth of AI every day, whether using music recommendations or through the creation of music.

# 5 **Chapter Five:** Social Media, Digital Aggregation, and Streaming in Umaskandi Promotion

## 5.1 Introduction

Just about everything we do has been revolutionised by the Internet, including the music industry. Social media platforms have been a massive part of the music industry for years. It is an excellent way for musicians, including *omaskandi,* to promote their music, reach new audiences, and grow their fanbase. Musicians can use social media to create a personal connection with their fans on a more regular basis. Social media is also a great way to promote upcoming shows and events. Social media marketing has been a popular marketing tool for musicians. The most popular social media sites for promoting music are Facebook, YouTube, Instagram and TikTok, to mention just a few. Musicians use these platforms to promote themselves as well as their music.

Social media can be used as an interactive marketing platform for musicians who want to give their audience exclusive access or content that they would not usually be able to get elsewhere. Social Media sites such as Facebook and Twitter offer musicians an easy way to share their lives with fans between albums and tours by posting pictures, videos, and updates about what they have been up to lately. A musician's success largely depends on the number of followers on social media sites like Facebook, Instagram, and YouTube. Of course, the quality of their music also matters, but having a solid online presence is more important nowadays. Musicians have been using

different strategies to increase the number of followers on their social media profiles, such as buying advertisements from Facebook, Instagram, and YouTube to grow their following quickly without any effort.

The music industry is arguably one of the industries that have been hit hardest by the Digital Revolution. Aggregators and streaming and downloading platforms have caused much change in the way we consume music and listen to our favourite songs. Unfortunately, they have also greatly affected how artists and musicians earn money and promote their work.

We can see that more people are turning to streaming sites or downloading platforms instead of buying CDs or vinyls. The introduction of these new technological advancements has led to some changes in the industry, such as:

a) Artists do not need record labels for distribution anymore

b) Streaming sites such as Spotify provide an opportunity for artists to get paid every time someone listens to their music

c) Downloading platforms allow users to preview specific albums before they purchase them

The following section explains how social media platforms and their significant technologies have diminished the role of record labels and distributors. Technology and social media have been significant in the music industry's transformation in the

past few years. However, undoubtedly, the most significant innovation in the music industry has been the digitisation of the music scene and the rise of music streaming websites.

## 5.2 Social media

The emergence of social media platforms and technology has been instrumental in breaking the barriers of time and distance between people, enabling people to connect and develop relationships. These interactive computer-based technologies have allowed for the creation and sharing of information and other forms of expression through building virtual communities and networks (Porter, 2015). The wide-ranging nature of sites and services that are part of the rapidly expanding digital universe allows for too many things to be done online. The umbrella term social media includes social networking websites and applications focusing on communication, community-based input, creativity work-sharing sites, forums, interaction, content sharing, and collaboration (Wigmore, 1999). Social media can be organised into the following primary categories, each with its own unique set of characteristics: social networking, bookmarking, social news, media sharing, microblogging, online forum sites, virtual worlds, video sharing, social gaming, photo sharing, business networks, and collaborative project management (Garg & Pahuja, 2020).

According to Daniel et al. (2021), social media is viewed and defined as the colonisation of the space between traditional broadcast and private dyadic communication, providing people with a scale of group size and degrees of privacy that we have termed scalable sociality'(p. 2). Other scholars, such as Bregman (2012),

write, 'social media is a term that refers to a number of web-based applications through which users interact with one another'(p. 7). On the other hand, Merriam-Webster (2021) defines social media as 'forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)'. Summing up the definition, Tuten & Solomon (2018) argue, 'social media are the online means of communication, conveyance, collaboration, and cultivation among the interconnected and interdependent networks of people, communities, and organisations enhanced by technological capabilities and mobility'(p. 4). In other words, through social media, there are different ways to engage in publicly visible knowledge and conversation (Hajli, 2015).

Widespread access to the Internet, which has become the cornerstone of society, has enabled users to access social media services. People utilise devices such as smartphones and tablets, web-based applications, personal computers, webcams, and wearables like smartwatches, game consoles, and televisions, to name just a few, to participate online. According to Dean (2021) right now, in 2021, 'the number of people using social media is over 3.96 billion worldwide, with the average user having 8.6 accounts on different networking sites' (para. 7).

The statistics on social media users in the continent of Africa are scanty, but the continuous growth has been propelled by the number of people with Internet access and the prevalence of smartphones. Amongst the three billion-plus total number of social media users worldwide, about 25 million are in South Africa (Kemp, 2021).

More than a hundred social websites, platforms, and apps are available, each boasting unique characteristics and niches. The commonality among them is to assist their users in developing a social network. According to Lua (2021), as of 2021, the top 21 social media sites were as follows: Facebook, YouTuber, WhatsApp, Messenger, WeChat, Instagram, QQ, Tumblr, Qzone, TikTok, Sina Weibo, Twitter, Reddit, Baidu Tieba, LinkedIn, Viber, Snapchat, Pinterest, Line, Telegram, and Medium.

According to the report published by the World Wide Worx in partnership with Ornico, called the 2021 Social Media Landscape. Facebook, YouTube, Instagram, TikTok, Twitter, LinkedIn, and WhatsApp are the dominant social media platforms in South Africa.

Musicians are adopting social media for a variety of reasons because it is a reasonably inexpensive tool to expand the reach and frequency of messages that would otherwise be conveyed through more traditional extended media techniques. Musicians are increasingly promoting themselves and their songs through social media. Many benefits for musicians who use social media for promotion include building a fanbase, increasing sales, and connecting with other artists. Some musicians even find that social media helps them make more money because it brings them closer to their customers. The following discussion looks at different social media platforms and their offers to their users.

### 5.2.1 Facebook

It was founded by the University of Harvard Students Mark Zuckerberg, Dustin Moskovitz, Chris Hughes, and Eduardo Saverin in 2004 (Carlson, 2010). A global leader in social media, Facebook is one of the most widely used platforms. Approximately two billion people rely on the service every month. With an estimated 27 million users, Facebook maintains its position as the most popular social media platform in South Africa (Writer, 2021). Facebook is a social network type of social media, and it is used to associate with individuals and brands online. Moreover, it allows for the channelling of different types of social media campaigns that will assist users in widening their reach.

Devices with Internet connectivity, such as laptops, tablets, and smartphones, can access Facebook. According to Hall (2021),

> The site has many components, including Timeline, space on each user's profile page where users can post their content and friends can post messages; Status, which enables users to alert friends to their current location or situation; and News Feed, which informs users of changes to their friends' profiles and status. Users can chat with each other and send each other private messages. Users can signal their approval of content on Facebook with the Like button, a feature that also appears on many other Web sites. (Hall, 2021, para. 1).

Consequently, as access to Facebook is free of charge, users can create profiles, start a new group, or join existing groups, comment on other network members' posts, share favourites, follow their favourite artists, and get their latest news, memories,

advertise, create, and promote events as well as buy and sell on Facebook Marketplace. Facebook also accepts almost all content formats, including images, text, videos, stories, and live videos. Lua (2021) suggests 'the Facebook algorithm prioritises content that sparks conversations and meaningful interactions between people, especially those from family and friends' (para. 5). Then, the algorithm displays content like images, status updates, and videos posted by friends and businesses that the user might be interested in (Chi, 2021).

### 5.2.2 YouTube

YouTube is an exclusive online video-sharing and social media platform launched by Steve Chen, Chad Hurley, and Jawed Karim in 2005 (Wooster, 2014). The video service can be accessed on smartphones, laptops, televisions, tablets, and personal computers. It is the Media sharing network type of social media where individual users and brands can find and share media with targeted audiences. People can upload and share videos to YouTube using the easy-to-use service. Users can create a personal YouTube channel, search for and watch videos, create playlists, upload videos to the channels, like/share/comment on other YouTube videos, subscribe, and follow other YouTube channels and users. From videos, live videos, personal videos, music videos, short films, documentaries, audio recordings, and other kinds of media, online YouTube has it. It is worth mentioning that users also perceive it as a search engine to find educational content.

Statistics from Semrush (2021) show that YouTube is the second most visited website worldwide, with an estimated one billion-plus monthly users. They collectively watch

more than one billion videos each day. Besides ranking second after Google, YouTube is also a major search engine. According to Southwood (2021), 'YouTube is available in all African countries but has been localised in a number of African countries including South Africa, Nigeria, Ghana, Kenya and Uganda' (Southwood, 2021, para.2). In South Africa, the platform has an estimated 24 million users, with 16 million active views (Writer, 2021).

YouTube has got several services, all having different features. They are as follows a) YouTube Community for users with over a thousand subscribers. b) YouTube Kids for content made for the younger audience, with some extra parental controls. c) YouTube Movies is a service that shows movies on the YouTube website. d) YouTube Music is a service that is oriented towards music streaming. It offers music from a vast library of songs and albums as well as music videos. It also allows users to create and manage their playlists. e) YouTube TV is a television streaming service that offers live TV. f) YouTube Premium is a subscription service that provides advertisement-free access to content across the service. g) YouTube Shorts is a service of short videos up to one minute long, with built-in creative tools.

### 5.2.3 Instagram

Instagram is a highly visual social network platform built almost entirely around sharing images and videos, created by Kevin Systrom and Mike Krieger around 2012. Like YouTube, it is also a Media sharing network type of social media used to find and share photographs, live videos, videos, and other kinds of media on the web. With

over a billion users worldwide and an estimated 10 million in South Africa (Writer, 2021), Instagram is another social media app that has become a sensation.

On Instagram, users follow accounts that interest them, and in turn, those users can follow back. Users can like and comment on other users' posts. The platform allows users to upload media edited with filters and organised by hashtags and geographical tagging. Users can browse other users' content by tags and locations and view trending content as well. Instagram also allows users to schedule posts using some third-party tools. Users can connect their Instagram accounts to other social networking sites, enabling them to share uploaded media to those sites.

To offer great creativity and self-expression opportunities, Instagram rolls out new features regularly. The latest Instagram features include a) Instagram Live, which allows users to live-stream their video to anyone who wants to watch. In addition, this feature allows viewers to interact by sending messages and hearts during the live stream. b) Instagram TV (IGTV) is a video application that lets users upload videos up to 15 minutes in length. In addition, videos of up to 60 minutes can be uploaded by verified and popular users. c) Instagram Shopping is the feature that allows millions of people to shop on Instagram. d) Instagram Reel is a feature where users can share and discover engaging short videos on Instagram. This feature allows users to edit 15 seconds multi-clip videos with various effects and audio (Singh, 2020).

### 5.2.4 Twitter

Twitter is an important real-time microblogging social media application service where users post and interact with messages known as ‘Tweets’. As a real-time microblogging platform, many journalists in all media aspects are using it to break the news. Twitter was created by Jack Dorsey, Noah Glass, Biz Stone, and Evan Williams in 2006. Twitter is a Social Network type of social media used to associate with individuals and brands online. Worldwide, Twitter boasts more than 326 million users and 9.3 million of them are found in South Africa (Dean, 2021).

Twitter's defining feature is the tight limits placed on each post which was initially 140 characters, and this was doubled to 280 characters in 2017. The posts can include a link to relevant websites and resources. According to Economic and Social Research Council (2021), 'Twitter users follow other users. If you follow someone you can see their tweets in your Twitter timeline. You can choose to follow people and organisations with similar academic and personal interests to you' (para. 12). The platform allows users to create their tweets or retweet information that others have tweeted. It is a social media site for news, entertainment, sports, politics, and many more. As a social network, Twitter is also a very popular customer service application.

Features on Twitter allow users to tap and watch premium and exclusive live streams, see viral topics and trending hashtags, chat privately with friends and followers, and suggest influential people to follow. In addition, Twitter allows users to connect their accounts to other social network services such as Facebook, Messenger, and Google

Chat, to mention just a few. The connection of accounts enables their Twitter posts to be updated on their Facebook status or instant messenger service away messages.

### 5.2.5 TikTok

TikTok (known in China as Douyin) is a social media platform it allows users to make 15-second videos that can be shared, and it was launched in 2017 by a company called Byte Dance. The platform is used for creating and sharing various short-form videos from genres like dance, comedy, education, lip-sync, and talent videos. TikTok is one of the top 10 social media sites; it became the world's most downloaded app in Q1 2018, beating Instagram, Facebook, and other famous social media apps (Mobile App Daily, 2021). Over 1.1 billion active TikTok users are estimated worldwide each month. Meanwhile, in South Africa, the platform has seen exponential growth that younger demographics have driven to an estimated 9 million users.

TikTok falls under the category of Media sharing networks like Instagram, Snapchat, and YouTube. As a result, it is used to find and share media like photographs, live videos, and other media online. The platform feature offers users a wide selection of sounds and song snippets and the option to add special effects and filters. Recently added is the reactions feature, which allows users to record and share their reactions to videos. Another critical driving feature is the digital well-being feature that alerts users after spending over two hours on the platform. Some features include an attractive user interface, editing tools, social media integration, making duet videos with anonymous users, and an integrated music library with multiple language support.

A key driving factor in the TikTok application's acceptance is its strong focus on localised content despite being a global app. It often runs local contests and challenges and captures local trends using localised hashtags. According to Christopher & Swathi (2020), the TikTok application has achieved optimal results in terms of human-computer interaction, interface design, user-generated content (UGC), organization-generated content (OGC), as well as production models for professionally generated content (PGC) and content micro-narratives. These achievements effectively meet the needs and demands of the users.

### 5.2.6 LinkedIn

LinkedIn is an employment-oriented online service used almost exclusively for building professional relationships around the globe. The platform was launched in 2003 as a professional networking site, and it has become a widely recognised tool since then. In the period between 2017 and 2019, LinkedIn was the most trusted social platform globally, according to Schomer (2019). Throughout its existence, the platform has evolved into a professional social media site where experts share content, network, and build their brands. As a result, users can increase their business connections while connecting with other professionals.

LinkedIn is a Social Network type of social media because it is used to associate with individuals and brands online. LinkedIn boasts over 756 million users worldwide in more than 200 countries and territories (LinkedIn, 2021). In South Africa, the number of professional social media site users is 8.4 million (Writer, 2021).

Apart from being a social media site for professionals, it is also used as a social media app for marketing, and it has been used by businesses to establish their authority in their particular industries. The industry also uses LinkedIn to attract promising talent. Features on LinkedIn allow users to create a professional profile highlighting their skillset, recruit and find jobs, follow their connections, and showcase companies and products.

### 5.2.7 WhatsApp

Created by Brian Acton and Jan Koum in 2009, WhatsApp is a free download messenger application to send messages, images, audio, and videos. Texting and voice messaging functionality make voice and video calls, share documents, and use locations and other content. WhatsApp service requires a cellular telephone number to sign up. It is also accessible from the desktop, provided the user's mobile device is online while they use the desktop application. Though it uses the Internet to send messages, the WhatsApp service is very similar to the text messaging service (Cetinkaya, 2017).

Currently, there are over 2 billion WhatsApp users worldwide, and according to the Quartz Africa Report 2018, it is dominant in the African continent. For example, in South Africa, WhatsApp boasts about 23 million users. It is popular with young people, which has led to it becoming the primary means of Internet communication in more than 180 countries. Additionally, it is one of the top ten social networking sites in the world.

In 2018, WhatsApp launched the WhatsApp Business service for small businesses. Its business platform allows businesses to have a good profile, provides customer support, and shares updates about their purchases. Hundreds of features, including group chats, voice notes, messages, images, videos, voice/video calls, status updates, documents, and other options, are available without a WhatsApp Business account. The broadcast lists feature is one of the most popular tools for bulk messaging on WhatsApp. Some of these top WhatsApp marketing ideas are enabled through these features. In addition, the WhatsApp feature allows users to share their location in real time, back up their media and chats, and save offline messages. It also allows users to be in touch with users all over the work without incurring the international charges associated with text messages (Rahmadania & Nurhidayat, 2023).

### 5.3 Social media marketing

The use of social media platforms and websites to advertise a service or product is referred to as social media marketing. Social media platforms are beneficial for marketing because of their access to people and their practicality. According to Tuten and Solomon (2018). social media marketing utilises 'social media technologies, channels, and software to create, communicate, deliver, and exchange offerings that have value for an organisation's stakeholders' (p.19). In addition, this enables companies to track the progress, success, and engagement of advertisement campaigns.

Marketing refers to the process a company undertakes to engage its target audience. These engagements involve actions or business promotions and selling products or services, including marketing research and advertising (Oxford Languages, 2020). Compared to the traditional marketing technologies predating social media, such as radio and television commercials, billboards, and printed media, social media marketing has entirely changed and improved marketing. Social media marketing is all about communication enabled by user-generated content such as online comments, product reviews, feedback, and suggestions, to name just a few. As a result, users can have more personal interaction in social media marketing than in traditional outbound marketing and advertising methods.

Using social media marketing, companies can focus their resources on the audience they want to target. The focus is possible because audiences can be better compartmentalised on social networking platforms through personal information users provide when signing up, such as detailed geographical, demographic, and personal information. Social networking applications build virtual communities that allow consumers to communicate their needs, wants and values online. Then, social media marketing connects these consumers and audiences to companies that share the exact needs, wants, and values. Much information about what products and services prospective clients might be interested in can also be included on social networking platforms.

The Internet's ability to reach millions across the globe, together with social media using natural conversational platforms of people online, has given online word-of-mouth a powerful voice. Social media platforms have allowed citizen advertisers, such

as people who share their views about the product or services even though they are not affiliated with the company, and post or tweet about it. The retweet or repost comments about a promoted product frequently spread positive word of mouth about the product. The user's connections can see the message, therefore, reaching more people, which has a multiplier effect on getting the message repeated. These engagements on social media have meant that customers and stakeholders are no longer passive views but rather active participants in various marketing operations of products or services.

## 5.4 Marketing through social media in the music industry

Throughout history, the music industry has changed dramatically due to the enormous influence of technology and social media. Before the advent and the subsequent advancement of technology and social media, the music scene was very different. It has borne witness to events such as the invention of the phonograph, the rise to the popularity of the radio, the invention of the coin-operated jukeboxes, the introduction of music formats such as cassettes which were later replaced by CDs (Yue, 2011), to mention just a few. During that period, the music industry was a domain of record labels who held power as gatekeepers of the entire industry. Their business model relied on mass production, promotion, and distribution of recorded material (Margiotta, 2012). However, Internet-based social media disrupted this traditional model as it became an increasingly important aspect of marketing communication throughout all industries, including the music industry. With affordable recording technology, they have forced record labels and artists to appreciate and make full use of social networking platforms for their promotions and marketing.

Social networking platforms have already become an indispensable tool for music marketing and promotion in the digital age. Hence, record labels and artists are pouring out their content online to attract as many consumers as possible to increase their network effects. The statistic shows social media marketing as being an exceptional strategy to gain exposure to new fans and listeners. Using social media, record labels and artists can access billions of people looking for the next big thing. Moreover, musicians can reach out directly to their fans, which has proven to be an asset for musicians. Advances in various types of social media enable real-time, spontaneous communication using multimedia formats such as videos and visual presentations (Mangold & Faulds, 2009). Therefore, a solid social media presence is significant for artists to engage with fans and expand their fan base.

The research by MusicWatch has found that 90% of social media users engage with music or musicians by viewing videos of posts featuring musicians, liking or sharing a musician's post and discovering or sharing music. Their research findings state that 68% of Snapchat users view or post videos from live events. On Instagram, 56% of users follow, share a post or tag artists. About 51% of Twitter users follow or get updates from an artist or influencer. Facebook has 44% of users who like an artist or band. With the likelihood of social media users following a musician more than any other public figure, 57% follow at least one artist or band (Glanz, 2018).

### 5.5 Umaskandi on social media

Since social media is relatively inexpensive, musicians are using it for all manner of purposes. It is a relatively economical way to proliferate the reach and frequency of

messages that more traditional extensive methods would otherwise deliver media. Concerning *umaskandi*, social media has revolutionised many aspects of the engagements between its practitioners and their audiences. The same goes for all other musicians in other genres found in South Africa, across the African continent, and worldwide. *Omaskandi,* who took part in this study, have an active presence in social media communities, including Facebook, YouTube, Instagram, TikTok, Twitter, LinkedIn, and WhatsApp. A variety of these social media platforms are used in managing promotions and monitoring publicity for practitioners. The promotions and publicities are done digitally to reach new fans and continue to build fan bases. They are creating unique brands that stand out in competitive streaming and social media platforms by engaging existing fans, building deeper connections with them, and turning fans into e-word of mouth for practitioners on social media platforms (Beaumonde, 2021).

In more recent years, the emergence of social media has helped promote the music of musicians/ bands that are referred to as independent musicians or bands (Indies). The term indie is interchangeable with unsigned artists, unsigned bands, or independent artists, and it has been used in the music industry to categorise musicians or bands that are not contracted with major record labels. As part of the music industry, some *omaskandi* fall under similar categories of independent artists. However, independent *omaskandi* are not the only ones looking for new product sales methods. Besides, mainstream *omaskandi* and major record labels are also exploring online resources to expand their fan base.

As *omaskandi* are figuring out creative ways to expand their brand on social media. Those on the traditional mainstream have much financial support from their record labels and social media management teams that work on social media and digital marketing solutions. While independent *omaskandi* have more opportunities than before to launch successful careers without the backing of major labels and their big budget, they still struggle with where to start or how to maintain a successful promotional campaign.

The study's participants were all unanimous in citing social media as an essential part of *umaskandi* practice. Khuboni (2021) emphasises the importance of being present on social media with the following remarks, *'njengo maskandi sekuyaphoqa ukuthi kumele sibekhona futhi siyisebenzise imithombo yezokuxhumana'* (as omaskandi, it is imperative that we must exist and use social media) (M. Khuboni, personal communication, July 11, 2021). Following is a discussion of different categories of social media platforms used by *omaskandi*. Each has its own set of characteristics, which are examined below.

### 5.5.1 Social networking category

The Social Networking category of social media includes Facebook, which is the widely used platform amongst *omaskandi*. *Omaskandi* are well aware that Facebook is the undisputed leader of social media. Since Facebook generates the most traffic and exposes them to the most listeners, ignoring it means missing out on a sizeable percentage of their potential audience. A clear expression of this view is provided by Sibiya (2021) when he says, '*kahle kahle u Facebook bekungeyona into yami,*

*ngasengiyathola kamuva ukuthi ikhona indlela yokuphusha kuwona*' (well, Facebook was not my thing, but I found out later that there is a way to push music using it) (S. Sibiya, personal communication, July 4, 2021)

The most important feature of Facebook for *omaskandi* is the Fan page. Creating a Facebook page is meant to cultivate fans. Visitors to the page can become fans of it by selecting 'Like' it. Fans can find out about the practitioner's biography, band members, tour dates, and discography by visiting *omaskandi* 's Facebook page. The fan page allows *omaskandi* to introduce themselves and describe what their music is about. It also allows them to upload images from the photo library. Further, Facebook pages can contain links to other social media accounts, images, music videos, and many other things. Wiebe (2020) suggests that the following are essential for musicians, including *omaskandi*, to succeed on Facebook.

> post something new, several times per day if possible. Share your post on your fan page to your personal profile. Interact with the community. Join and participate in groups. Upload videos to Facebook (in addition to YouTube). Use Facebook Live and advertise your top performing posts.
>
> (Wiebe, 2020, para. 22).

In fact*, omaskandi* are aware that ignoring social media could damage their traction, even with great music. Hence, they strive to update their Facebook accounts regularly in order to remain visible. In addition to the tools on Facebook that *omaskandi* are using, there are a few others that they are benefiting from, including Facebook Groups, Facebook Live, and Facebook advertising.

The microblogging and social networking service Twitter provides musicians with an invaluable source of information and promotion. Everywhere from the most prominent labels to the smallest independents, musicians use Twitter for information and promotion. They get instant feedback and can interact with their audience on Twitter almost immediately. In addition, fans are always enamoured with musicians who converse on Twitter.

The use of Twitter by *omaskandi* promotes their work, connects them with fans, and engages them in the discussion. Whether they are in the studio, in a video shoot, or in between shows, Twitter lets them share their stories with their fans. In *omaskandi's* opinion, keeping their Twitter feed updated with every significant accomplishment and event in their careers is crucial. By releasing information as an exclusive first on Twitter, such as album release dates and song titles, artists in general and *omaskandi* in particular can gain extra attention. They emphasise the importance of interacting with their peers within *umaskandi* profession since their followers may choose to follow them too. Twitter has the excellent quality of displaying current trends in real time, so it is not hard to find what people are talking about. Hence, *omaskandi* are getting involved with trending topics and are interacting with them.

*Omaskandi* uses LinkedIn for various things since it is a social networking site. Besides being a professional website, it is also used as a social networking app for marketing. Particularly companies involved with *umaskandi* are able to establish themselves as authorities in their industry. They can create their profiles, showcase their products online, and follow their connections with its features. Thus, creating an opportunity to attract promising talent.

### 5.5.2 Media Sharing Networks category

Media sharing networks are among the channels that *omaskandi* use to run well-planned campaigns to generate leads and reach a wider audience. YouTube belongs to this category. Apart from being a top social media application, it also ranks as one of the best video streaming platforms. YouTube serves as a social networking site, and they have launched YouTube Music, a dedicated music service that will have a series of new charts based on popular songs and videos.

*Omaskandi* engages their audience on YouTube with regular content to grow their following through regular uploads. As part of their interactions with the community, they link, share and comment on other videos. In other words, they are creating conversations in a social network and are becoming more influential by participating in them. Among their various activities, they show off their music and give their fans behind-the-scenes content. The video description in the YouTube account of *omaskandi* allows them to include hyperlinks to websites with music from other streaming services such as Spotify, Google Play Music and many more, and any other content they deem appropriate. YouTube offers *omaskandi* a fantastic platform to share their videos with their community, enabling them to get personal. In addition, there is an opportunity to create playlists that help them get more views for their video.

Instagram falls within the category of media-sharing networks, just like YouTube. The upside to Instagram is that it is an excellent platform for generating much engagement on visual content. *Omaskandi* uses this type of content naturally on Instagram, designed originally as a platform for sharing photos. However, the platform is versatile,

and *omaskandi* are using it to promote their work simply because it allows regular posts, IGTV, and Stories, alongside various advertising options. A hashtag's importance on the Instagram platform cannot be overstated. Utilising Instagram hashtags can help organise and categorise photos and videos. New audiences can discover *omaskandi* on Instagram using relevant, targeted hashtags on their posts and stories. That then leads to a greater level of engagement, followers, and potential customers for their music.

*Omaskandi* uses TikTok to find and share media like photographs, live videos, and other media online. Some of the exciting features for *omaskandi* on TikTok are its attractive user interface, editing tools, social media integration, making duet videos with anonymous users, and an integrated music library with multiple language support. In large part, the success of TikTok can be attributed to its algorithm. Instead of recycling the songs of existing celebrities and influencers, it keeps searching for new songs to share with its viewers. This makes it much easier for *omaskandi* to build an audience and become famous, although they must work hard to keep their videos visible. For many omaskandi, the ability to have their content appear on people's 'For You' page is the holy grail of TikTok's success. It means TikTok values their content over all the other videos that users upload daily. As a result, the service provides them with an excellent opportunity for recognition and exposure.

### 5.5.3 Messaging/social networking category

WhatsApp falls under messaging and social networking applications and is a significant force in South Africa and on the African continent. It is affordable and

efficient, allowing entrepreneurs, musicians, and small businesses in Africa to market their businesses more effectively than ever before. One example is Anghami, a digital distribution company which uses WhatsApp to engage with musicians. The music platform uses WhatsApp to notify its users of significant events, such as releasing new songs and updates about their achievements, such as how many new subscribers they have gained. Also, musicians can use WhatsApp to report any problems uploading music to Anghami (Al Ogaily, 2021).

A simple Google search will reveal several WhatsApp music groups for different genres of music. Using such groups, *omaskandi* are able to share photos and videos. In addition, they use WhatsApp features such as Groups and Broadcasts, which allow them to communicate with multiple people simultaneously. As *omaskandi* points out, this is a way of connecting with the core fanbase based on how they connected with peers.

## 5.6 Music distribution

The distribution of recorded music is the process by which music is made available to consumers. Record labels, independent record stores, and musicians are all involved in the distribution process. The digital distribution of music works much like traditional distribution, just on a different platform. Distribution companies distribute digital albums instead of selling albums in physical form. Contracts and payments govern the process of reselling and purchasing an artist's music. The distribution companies sell music to record stores, streaming services, and online music platforms.

During most of the 20th century, distribution companies were the link between record labels and retail outlets, including music-only stores and big-box retailers (McDonald, 2020). However, since the first decade of the 2000s, online music streaming and digital downloads have become more popular than purchasing CDs. Compared to traditional physical supply chains, distribution costs are significantly lower. This is partly due to the fact that the consumer assumes some of the costs of distribution through the hardware and software they purchase to access the digital material. Further, the Internet allows digital distribution to diminish the market's dependence on large corporations to distribute digital content (Nkala, 2013). Thus, the distribution of music electronically has become the focus of attention. For instance, in 2015, digital sales surpassed sales of physical mediums for the first time. As a result, the role of distributors and record labels has changed significantly. It is the objective of digital distribution to make music available on iTunes, Spotify, Google Play, and other streaming services and online music shops. In particular, digital distribution has reduced the cost and hassle of physical distribution for independent labels and musicians and has provided equal opportunity to all artists.

## 5.7 Digital music aggregators

An aggregator is defined as a person or entity that consolidates information from various origins. (Merriam-Webster, 2021). An aggregator, in most circumstances, does not produce or warehouse any items or services but instead establishes a domain that allows customers to compare the pricing and specs of various products and services. Aggregators, in other words, facilitate the distribution of goods and services. The digital aggregator is defined as 'a web-based or installed application that

aggregates related, frequently updated content from a variety of Internet sources and consolidates it in one place for viewing' (Dictionary.com, 2021). Often, digital distribution (also called content distribution or online distribution) refers to the delivery and distribution of digital media content such as audio, video, e-books, video games and many more.

In the digital age, music aggregators have taken over the task of music distribution. The heart of digital music distribution is aggregators, which are digital warehouses. They have licensed content in various formats for media and retail distribution. Aside from negotiating partnerships with record labels and independent artists, aggregators help digital music service providers secure much needed content through several agreements. Music aggregators, in essence, provide a global distribution route for music across digital stores and streaming platforms. Thanks to the Internet revolution, these new online entrants have bypassed established physical distribution channels such as CDs.

A music aggregator typically provides contractual services to record labels and artists on the one hand and to digital music stores on the other. Thus, the business model relies on a two-fold customer strategy; it needs to cater to its customers and partners. Usually, music aggregators and small rights holders sign exclusive contracts, so no label or artist can license the same repertoire to more than one aggregator at a time. In general, the contracts between large digital music stores and music aggregators do not expire, allowing digital service providers to cooperate with multiple aggregators, and aggregators are expected to provide content to multiple services (Galuszka, 2015).

The essential functions done by music aggregators are bundling digital rights and providing them to digital streaming services and limiting bargaining asymmetry. In addition, other responsibilities include monitoring the rights situation and modifying digital formats to the online retailer's needs. Furthermore, organising the client data into one place to help with making informed decisions regarding things such as the following release, promotion tour schedule and many others. Finally, receiving royalties as soon as streaming services pay out and transferring the funds directly to the client's account.

Currently, the way forward for *umaskandi*'s distribution is digital, and *omaskandi* certainly appreciates that. These developments have provided *omaskandi* with an opportunity to reach a broader audience through digital channels, bypassing traditional industry intermediaries. Galuszka (2015) contends that the bundle of rights collected by the aggregator makes it an attractive partner for digital music stores. Thus, aggregators are motivated to find rights owners whose catalogues have not yet been made available online. A new partnership not only gives aggregators the opportunity to make a profit but also makes them more attractive as a partner for digital music stores. As a result, *umaskandi* benefits from the mode of operation of the aggregators.

## 5.8 Music Streaming and Downloading Services

A music streaming and download service is an Internet service that delivers songs in real time to computers and mobile devices. They store the music on servers that laptops, mobile devices and smart devices can access. Users can listen to songs online, download tracks for offline listening, and transfer their music library to the

cloud. The music files are planned and supplied in sequential packets of data to be broadcast promptly in streaming. They are automatically erased after they have been played. Through downloads, consumers can have their own copy of virtually any song they want and store it on various portable devices. With streaming music, artists and the music industry now have a new way of sharing and distributing music worldwide.

A reliable and fast Internet connection, a subscription to a streaming service, and a streaming-capable device are needed for streaming. Streaming service users can generally download an application to interact with the service rather than solely using the website. There are several streaming device options, each with its specific features. The most popular streaming music services are compatible with Android and iOS smartphones, and they have desktop and laptop apps as well. In addition, the growing popularity of smart devices such as audio streamers, smart speakers, and wearables have provided yet another way to listen to music. Mobile devices have music apps such as YouTube Music and Apple Music as default features. Additionally, Apple's App Store and Google Play have other streaming music services.

Music streaming services have been a popular way for customers to listen to music in recent years. Streaming allows users to listen to songs and podcasts more easily and affordably. Streaming services give users access to many songs, albums, and playlists. All Internet users could stream each song simultaneously, regardless of their location or device. Users can search a catalogue of songs, add them to their library or playlist, and access them anytime. However, the user does not own the music in the catalogue. Users can also not download individual MP3 files from the collection, preventing them from making copies for themselves (Barata & Coelho, 2021).

There are many music streaming platforms to choose from, each with its features and offerings which are better suited to specific devices. Spotify, Apple Music, YouTube Music, Deezer, Tidal, Pandora, Primephonic, Qobuz, Amazon Music Unlimited and many more are music streaming services platforms that have become outlets for music consumption. According to Kulm (2020), there are five top music streaming services: Spotify, Apple Music, Amazon Music Unlimited, Tidal, and Pandora. They are either ad-supported or require a monthly fee for unlimited music streaming on many different devices. Friedlander (2019) has categorised them as 'premium subscription services, such as Apple Music and Tidal, streaming radio services, like Pandora and SiriusXM, and ad-supported on-demand streaming services, such as YouTube and Spotify' (para. 2). The differences between free and paid streaming music tiers are significant in most services. A free account usually restricts users to only six skips per hour and displays audio or video advertisements. However, premium accounts offer unlimited song skips, on-demand playback, and other perks.

The number of people who subscribe to some sort of music streaming service has reached over 611 million worldwide (Kulm, 2020). In Africa, the market for music streaming and downloads is proliferating. A large and growing young population in Africa, coupled with increased Internet and smartphone penetration, are some of the reasons streaming services are now increasingly drawn to the continent. The most popular music streaming platforms in South Africa include Spotify, Apple Music, Tidal, Prime Music, YouTube Music and SoundCloud.

### 5.8.1 Spotify

Spotify is widely considered one of the best music streaming services available. It has a library of over 70 million songs and may be linked to the user's Facebook account. Spotify also has a fantastic app that is cross-compatible with various devices. With paid subscriptions, users benefit from no advertisements between songs, unlimited skipping through tracks, and the ability to listen to their favourite songs offline. Free services, however, have limited control and include advertisements. In addition, users can search for music by artist, album, or genre and create, edit, and share playlists. Furthermore, the company offers several curated music discovery services, including its Discover Weekly playlist, and continually implements new ones like Stations.

The Spotify royalties are calculated based on the number of artist streams for a certain percentage of all songs streamed. Most of its revenue is distributed to record labels, who pay individual artists according to their performance (Spotify, 2021). On Spotify, users and artists alike have been provided with the opportunity to discover and consume new music that they would not otherwise have encountered. In addition, listeners can explore Spotify's many playlists to discover new music or artists. Thus, artists can gain new fans in countries where their music may not have existed.

### 5.8.2 Apple Music

The Apple Music streaming service allows users to stream over 75 million songs on demand and does not offer a free version. It only offers the Premium option, which begins after a three-month free trial. With a large user base and being popular with

many users, the iTunes Store served as a foundation for Apple Music. The service enables users to discover new songs, create playlists and access curated playlists that are recommended based on a user's previous streaming history. The Playlists feature allows users to browse playlists based on activity, such as while running or driving (Bhoot, 2017).

Moreover, subscribers can create a profile to share their music with friends and follow other users to learn what music they listen to regularly. A section of the app called Connect aims to provide users with access to artists they love. Essentially, this area is a blog. Fans of artists can access exclusive content, including images, posts, and videos, through the streaming service (Coffey, 2016).

According to its website, Apple Music remains committed to empowering artists and songwriters by providing new and inventive ways to earn a living via music (Apple Music for Artists, 2021). Apple Music believes that every creator should be paid the same amount, that plays have value, and that those creators should never have to pay for features. All labels receive the same headline rate. As a result, artists can distribute music however they like, knowing Apple Music will pay the same. In each country and region, they pay all publishers and licensors the same headline rate. Thus, they have invested millions in optimising publishing operations to ensure songwriters are paid as quickly as possible.

### 5.8.3 YouTube Music

YouTube Music is a streaming service that offers a tailored interface for music streaming, enabling users to search for only music-related results. It is available in two versions, a free subscription with ads and YouTube Music Premium. Subscribers to YouTube Music Premium gain access to these features: Background play, Ad-free music, and audio-only mode. Additionally, they can download and listen to YouTube Music offline using the app. The service allows users to browse songs and music videos on YouTube based on genres, playlists, and recommendations. The app can automatically create a playlist based on the user's previous search and listening history, or users can create a playlist themselves. In the free subscription, songs are listened to in their video version where available. By default, the premium version plays the official tracks of the album if the user does not search for the video. Listening to the latest hits, staying connected to their favourite artists, and discovering new music are now more fun and convenient with YouTube Music (Wooster, 2014).

YouTube Music's royalty rate is based on a proportionate percentage of ad revenue and subscription revenue. Videos viewed through the platform's paid services, like YouTube Premium and YouTube Music Premium, do receive royalties as well. The YouTube Music pay-out for musicians differs depending on which country/region the streams originate from and whether the listeners are paid subscribers or not. Symphonic suggests that YouTube pays mechanical and performance royalties, which they collect on behalf of their clients (Dimont, 2017).

### 5.8.4 Tidal

Tidal is one of the subscription-based music, podcast, and video streaming services that offer audio and video content. According to its website (TIDAL (2021), the platform, through distinctive encounters and superior audio fidelity, facilitates a closer connection between fans and artists. Tidal is available on many mobile devices, but it can only be accessed via the web on desktops. The company offers two levels of service: Tidal HiFi and Tidal Premium, which begins after a three-month free trial. The platform provides its users with high-quality lossless streams, and the sound quality is also exceptional. Lossless audio and high-fidelity sound quality are offered in an easy-to-use standard quality, which is a good compromise between data usage and sound quality. In addition, HiFi allows the streaming of lossless Free Lossless Audio Codec (FLAC) audio, which provides an immersive and crisp listening experience. Master sound quality with the highest possible resolution, authenticated and unbroken(TIDAL, n.d.).

Since Tidal promotes paying fair royalties to artists, songwriters, and performers respectively, they pay a higher royalty rate than other mainstream streaming services. Further, musicians are paid the same amounts whether they are signed to a major label, an independent label, or not at all to a label. TIDAL pays a share of the net revenue derived from its monthly subscription services after tax deductions for songs streamed through its services. On their official website, TIDAL states that they believe in valuing music and creating a sustainable model for the music industry.

### 5.8.5 Prime Music

According to Sisario (2016), Amazon Music is an online music service offered by Amazon. Music Unlimited and Prime Music are two music streaming entertainment services offered by Amazon Prime, an Amazon subscription service. Besides music streaming services, Amazon Prime also offers members access to exclusive shopping and entertainment services, discounts and many more. Amazon Prime Music is complimentary as part of Prime memberships, while Amazon Music Unlimited is additional for Prime members. The most significant difference between Prime Music and Amazon Music Unlimited is that Prime Music has over two million songs, while Amazon Music Unlimited has over 50 million. The two Amazon versions allow users to skip an unlimited number of songs, have thousands of curated playlists, offer personalised stations based on listeners' histories, and allow offline music streaming. Furthermore, their intelligent voice-control assistant feature Alexa allows users to control music playback using their voice. Additionally, Amazon Unlimited offers high-definition streaming as well as Ultra HD and 3D playback.

Amazon pays royalties as a proportionate share of its subscription revenue per month. An artist is paid a fixed stream of cash based on their contract with Amazon. Artist performance and mechanical royalties from their respective collection societies payments are usually made quarterly. Amazon Music page updates must be handled by contacting their respective musician's distribution company because musicians no longer have access to claim their pages directly.

### 5.8.6 SoundCloud

SoundCloud is among numerous online audio distribution platforms and music sharing websites where users can publish, promote, and exchange audio. The site offers free and paid membership options, with paid subscriptions providing subscribers with ad-free and offline listening choices. The basic version is free and available online and on mobile devices. SoundCloud's interactive features enable producers, such as musicians and podcasters, to connect with their audiences and admirers. SoundCloud's commenting system is likely its most prominent feature. Users can comment on precise points in an audio stream, available to anybody listening to it.

SoundCloud is better for creators since it gives them additional tools to share their work and increase their audiences. The Creator Guide, in particular, provides a thorough overview of all the tools and resources accessible to artists to help them get the most out of the platform. In addition, tips on optimising SoundCloud recordings for simple discovery, instructions on how to share their SoundCloud music on social networking and embeddable players, and more are covered (Demarest, 2021). SoundCloud was first established in the music streaming market as a tool for musicians to share and promote their music. Musicians can directly upload their work to the site by clicking 'Upload'.

Unlike other streaming services that pay royalties based on their advertising revenue and subscription revenue, SoundCloud is different. The artists get paid by SoundCloud from subscribers who have actually listened to their songs 'the fan-powered royalties' system' (FreeYourMusic, 2021). For years, Deezer has been advocating for this fair

compensation method but has had trouble enlisting large labels to participate in a pilot program. For musicians, this payment system is dramatically more transparent than those offered by other streaming services.

## 5.9 Umaskandi Streaming and downloading

Streaming and downloading services have changed the way *umaskandi* consumers consume music. Consumers have access to more music than ever before at prices approaching zero. However, technology companies have seen software and hardware sales related to music increase dramatically over the past decade, providing a valuable new revenue stream. Nowadays, *umaskandi* consumers can stream music from services like Spotify and Apple Music and download music from iTunes and Amazon, to mention just a few. They can even get music from YouTube, although the service does not host music for streaming or downloading. The song can be downloaded from other sites, though, and the YouTube video can be used as a backdrop for a playlist. The services have resulted in a dramatic decrease in sales of music CDs but have also led to a boom in music downloads.

This is the age of on-demand music rather than choosing music on physical CDs. As a result, the music streaming and download industry has witnessed a boom in the past decade, with the number of paid on-demand music streaming subscriptions more than doubling between 2014 and 2021. The music download industry has transformed the way consumers listen to music. Now, consumers can easily access music through online stores via the Internet. This has also created an avenue for artists to sell their music directly to consumers, eliminating the middleman (Barata & Coelho, 2021).

As of 2015, streaming has overtaken downloading as the most common way to listen to music. Streaming is growing faster than downloading, making the change in the music industry to streaming inevitable. While this has had a negative impact on the music industry, it has also had a positive impact.

The discussion that preceded examined how streaming services are affecting the music industry as a whole. From both a consumer and *omaskandi* perspective, the following discussion explores the positives and negatives of today's top streaming services. It is important to note that *umaskandi* exists within the South African music industry, and the most accessible data looks at South African music, which includes *umaskandi*. In general, *umaskandi* consumers will be impacted in the same way as all other subscribers to music streaming services.

Borrowing from Carter (2020), to examine the consumer perspective of streaming services, the following subtopics are considered, an overview of the cost structure, music library, user experience, discovery of new music, and social interactions.

### 5.9.1 An overview of the cost structure

The prices of streaming services in South Africa are relatively similar, with subscriptions priced between R59.00 and R135.00. Through a free tier, free trial period, and partnerships with other services, streaming services create competition among themselves, giving music listeners more options than just price. By providing consumers with free access to their services, companies increase consumer loyalty and compete with them for business. The ad-supported freemium model of Spotify is

like that of YouTube, where a free subscription includes ads, and a paid subscription option does not. Additionally, Amazon Music Unlimited offers a free tier with ads, giving consumers choice and variation (Pendlebury, 2021). Music listeners who rely on free subscriptions may not find them in all streaming services. Spotify, Apple Music, Tidal, Prime Music, YouTube Music, and SoundCloud offer free trial periods to attract customers. Unlike Spotify and Amazon Music Unlimited, Apple Music does not offer a free trial, but it does offer a three-month free trial, which is much longer than the 30-day trial that Spotify and Amazon Music Unlimited offer (Pendlebury, 2021). Nowadays, the music industry and particularly the streaming and download business, is evolving rapidly. As a result, users have become increasingly demanding and expect a seamless experience across all platforms.

### 5.9.2 Music catalogues

Music streaming catalogues are extensive collections of music songs. These usually include online and offline access to the songs, so people prefer them over other music playing devices like MP3 players or CDs. One of the critical differences between music streaming services used to be the number of songs available, and currently, this has been replaced by the type of music offered. However, every major streaming service now offers over 60 million songs. Their music catalogues contain tens of millions of songs, making them similar in terms of quantity. Depending on the user's preferred genre, some have more extensive catalogues containing indie, hip-hop, and under-the-radar artists. According to Pendlebury (2021), those who are musically inclined and constantly on the lookout for new bands might enjoy using a streaming service, such as Spotify or Tidal. Amazon Music Unlimited and Pandora will be sufficient for

less ambitious customers to expand their musical tastes. iTunes Music is somewhere in the middle, offering a healthy mix of mainstream and underground tunes.

The exclusivity of streaming services is another feature that makes them different. In addition to signing exclusive deals and partnerships with major artists like Taylor Swift, Drake, and Frank Ocean, Apple Music has been the first service to offer those artists' songs (Carter, 2020). Thus, the user's choice of streaming services is influenced by the number of songs and exclusive content offered by those services.

### 5.9.3 User experience

A new study has found that many music consumers use multiple streaming platforms to get their favourite songs. The study, which the RBB Economics Research conducted, found that 13% of respondents listen to songs on at least two different streaming services. Recently there has been a shift in the way people consume music. Streaming platforms such as Spotify and Apple Music have made it incredibly easy for listeners to find new artists and create playlists based on genre, mood, and activity. This change can be attributed to three factors: low cost of services, increased access to mobile service devices, and the ease of listening/ sharing.

Nevertheless, not all services are available on all devices. Despite Spotify, Amazon Music Unlimited, Tidal, and YouTube Music being supported and consistent across all Android, iOS, and Windows devices, Apple Music is noticeably different on non-Apple devices and is more difficult to use. It is clear from the ease of use found across streaming services' websites and apps that they are accessible to a wide

demographic. The ease of use of streaming services allows consumers to access and listen to music on various devices (Carter, 2020).

### 5.9.4 Discovery of new music

Over the past few years, music streaming services have become popular among consumers. However, these platforms are continuously evolving and improving themselves. Nowadays, most of them offer personalised playlists to help users discover new songs they would like to listen to. These recommendations are based on the user's taste in music and their activities on the platform (likes, comments and many more)

Streaming services are all about algorithms. Today's streaming services have over 60M songs in their catalogues, and recommendation algorithms have become indispensable tools for helping users navigate this virtually endless stream of songs and artists. A few of the most prominent examples are Spotify's Discover Weekly and Release Radar or Deezer Flow; however, streaming personalisation goes far beyond these discovery features. On most streaming platforms, the home page layout and search results are customised. Furthermore, algorithms are also used to offer users similar content, determining which artists or songs are displayed next to the ones the users view (Knibbe, 2020). With such personalised features, the relationship between these services and their users is strengthened, strengthening the customer relationship.

A radio feature is another way for streaming services to aid in music discovery. Each of the four major streaming services, Spotify, Apple Music, YouTube Music, and Amazon Music Unlimited, features a Radio tab that lets users make stations based on their favourite artists. By providing new music on personalised and pre-made playlists and radio streaming services, consumers can discover new music they might not have known about previously. With the rise of streaming services, music discovery has become easier than ever. While digital radio existed for a while, it was limited to terrestrial radio stations only today, though; the Internet has opened up so many doors regarding what we can listen to and whom we can discover. It is easy to forget about all the new songs that come out each week when one does not have time to listen to the radio or is not actively seeking out new artists.

### 5.9.5 Social interactions

A big part of the reason why people enjoy music is to feel connected with other people. The more we can share in this experience, the better it feels. Moreover, the more we want to engage socially and emotionally with our artist and their music, the more we want to engage socially and emotionally. In the age of social media, consumers need to share their experiences with others. The music streaming social sharing feature enables users to share songs, playlists, and stations with their friends via social networks like Facebook, Twitter and Google Plus. This is possible within the website smartphone apps for Android and iOS, or even through emails.

Various streaming services allow subscribers to listen to and follow playlists created by other subscribers. Spotify goes one step further. The Friend Activity tab shows what

Spotify users' friends are listening to in real-time, thanks to its P2P technology. Due to Spotify's ability to integrate with Facebook, users can easily find their friends that are already connected (Bizzaco et al., 2021). Users on Apple Music, Apple Music Unlimited, Amazon Music Unlimited, Tidal and YouTube Music can also share their favourite songs and playlists on other social media platforms or text messages or email. Creating a community of users who share a common interest in music grows the user base and connects others.

### 5.9.6 Payments for Royalty

Music royalties are payments made by music users to copyright holders. The royalties are intended to compensate the copyright holder for the commercial use of their work. The copyright holder is typically the composer, lyricist, or musician. However, copyright holders also include those who record the music, those that publish the music and those that distribute the music. Those that use or distribute the music are called music users. These music users include radio stations, televisions, bars and restaurants and even personal devices.

Music streaming royalties are fees that are paid to the owners of the music that is being streamed by the music streaming service. Royalties are calculated by the number of streams of each song and are paid out based on the type of service being used. The royalty rates differ for each service, so songwriters and *omaskandi,* in particular, should get to know them all. The royalties are important to musicians because they are a significant source of income, and they must be paid fairly.

Several streaming royalties are due to the artist, such as mechanical royalty, performance licensing, and master licensing. First, mechanical royalties come from reproducing music compositions either physically or through digital services such as on-demand streaming or downloading to own. The mechanical royalty is paid to composition owners (songwriters and their publishers) whenever their music is played on the radio or online. This is one of the ways that artists are compensated for using their art. This concept is important to understand because mechanical royalties are one of the most misunderstood parts of the industry. These are paid to the artist directly by the licensee. For instance, every time the user presses play on the song on the streaming service, the streaming service will have to compensate the composition owners in mechanical royalties.

Secondly, in a master-use licence, the copyright owner of the sound recording is paid a royalty. This is often the record company. A master-use licence holder pays royalties to the record company, and the record company, in turn, pays the artist a portion of the revenue. In the case of self-releasing artists, the music distributor pays the royalty to the artist. As it has been pointed out, there are two methods for awarding master royalties to artists and labels depending on whether streaming services are interactive. First, to use the master sound recording for interactive use, streaming services will negotiate directly with labels and copyright holders. The negotiation allows both sides to decide what rate streamers pay per interactive on-demand stream. The second-way master licence royalties are given to artists is for non-interactive streaming. For non-interactive use, there is no need to negotiate with the artist or label.

Lastly, the type of royalty is the performance royalty, which is the royalty paid to the artist for using their music on a digital music service. This is paid to the artist by the collection agency. Music publishers and songwriters receive performance royalties when a copyrighted composition is broadcasted or performed publicly. It includes radio airplay, TV broadcasts, live performances in bars and clubs, and interactive digital streams. Because listeners do not own the songs we listen to under the streaming model, each stream from a digital service provider counts as a public performance, even if it is broadcasted in the privacy of the consumer's headphones (Soundcharts Team, 2020).

Public performance royalty rates should be determined by local legislation for streaming services. The streaming services negotiate performance royalty rates with PROs and then deduct this amount from their All-In Royalty Pool to calculate how much they must pay to songwriters and publishers, including mechanical and public performance royalties.

Because pay-outs are based on streams, streaming has a unique opportunity since there is an essentially unlimited pay-out from their tracks. Almost all streaming services, including Spotify, Apple, and Google Play, use a pro-rata pay-out model. South African artists/musicians earn about $3,800 (roughly R52,000) per million plays on Spotify and $7,800 (roughly R108,000) per million plays on Apple Music, according to de Villiers (2018). The cost per stream on Spotify is around 5 cents. The cost per stream on Apple Music is around 11 cents. As pay-out rates fluctuate each month based on how much revenue is generated and how many times the music is listened

to, it is impossible to give a clear answer to how much revenue an artist receives per stream.

Discoverability is a significant concern for artists of all ilk. In the past, the only way an artist could be discovered was through a radio play, word-of-mouth, or a chance encounter with a music aficionado at the record store. Today new media has created channels to expose new and emerging artists to large audiences.

The new music streaming services may draw many users and offer great opportunities, but they have not always been a boon for musicians. Many artists feel that the algorithms are not fairly weighing their streams or downloads against those of other artists, which leads to lower discovery for their music.

Music listeners have access to an almost unlimited amount of music streams, which allow them to discover music they would never have otherwise discovered. Furthermore, streaming services give artists more opportunities to be discovered than ever before. It has been noted in the forgone discussion that most music streaming services offer playlists that promote the discovery of new music and artists. All of these services, except YouTube Music, offer radio features that produce songs based on the songs or artists an individual already likes, increasing the possibility of discovering new music or artists. This option allows consumers to discover music they might not have discovered otherwise, allowing artists to build new fan bases. Even though streaming services provide tools for discovering new artists, not everyone can benefit from them.

## 5.10 Conclusion

This chapter has demonstrated that social networking platforms have already become essential for music marketing and promotion in the digital age. The Digital Revolution has not only changed the way we communicate, but it is making an impact on how people discover new music. Since the dawn of the Internet, social media has been a significant force in shaping how people interact with one another. It is now arguably the most important way that *omaskandi* reach their audiences. Music distribution has changed because of social media, allowing for broader access to music than ever before. Now with the Internet at our fingertips, it is easier than ever to promote music online. As a result, *omaskandi* are constantly looking for ways to get their music heard by as many people as possible. It is easy to assume that social media is the perfect venue for this, but it has its own unique set of challenges and opportunities.

Social media allows artists to communicate with their fans and reach a global audience directly. With social media, *omaskandi* can promote shows, new music, merchandise, and other opportunities for fans to interact with the brand. In addition, *omaskandi* can create websites and Facebook pages for their brand to engage potential fans before they release an album or single. By maintaining regular contact with fans through social media channels, *omaskandi* can build relationships and increase awareness of upcoming projects.

This chapter also discusses the role of aggregators, or digital warehouses, who are at the core of digital music delivery. They distribute content in various formats for media and retail distribution. Aggregators also help digital music service providers obtain

much needed content through agreements with record labels and independent artists. Music aggregators and digital warehouses play a vital role in the music industry. These companies offer services that allow users to store, share and stream music online through their service. Through this process, they also collect data that is very useful for record labels and other players in the industry. No matter how often an album or song is played on different platforms, a particular artist counts as one performance. Record labels use these aggregators' reports to determine which songs perform well over time. The role of these companies is vital in the streaming segment as they carry out many functions which can help facilitate access to music.

The topic of music streaming and downloads was also discussed. By far, streaming represents the most significant industry shift in the last ten years, and it is still happening. Today, streaming services are searching for ways to expand their user base, develop their product, grow their revenue, and develop a sustainable long-term business model. There has already been a seismic shift in the music industry, which might not be over yet. Streaming has already changed the way we consume music, share it, and experience it. Consumers of *umaskandi* are consuming music differently thanks to streaming and downloading services. As a whole, the discussion explored how streaming services are affecting the music industry. It explored the positives and negatives of today's top streaming services from the consumer's and *omaskandi*'s perspectives.

# 6 **Chapter Six:** Remarks and Recommendations

## Introduction

To conclude, the primary purpose of this study was to examine the implications of the Fourth Industrial Revolution on *umaskandi* in terms of threats and opportunities. Globally, with its technological advancement, the Fourth Industrial Revolution has become one of the biggest threats to the music industry value chain, especially indigenous music. This development owes its cause to our dependency as a society on technology, which has reached unprecedented levels. Recent decades have seen the most significant technological advancements, like creating machines that mimic human Intelligence, particularly computers.

The purpose of researching the impact of the Fourth Industrial Revolution on *umaskandi* was to identify the threats and opportunities that are possible to ensure that cultural industries like *umaskandi* continue to adapt, survive, and flourish. The Fourth Industrial Revolution, characterised by the integration of information and communication technologies (ICT) with traditional industrial systems, resulting in intelligent systems and networks, has significantly impacted the music industry, particularly *umaskandi*. As a result, Artificial Intelligence and other new technologies are transforming the recording, composition, promotion, distribution, and consumption of *umaskandi*.

The Fourth Industrial Revolution redefines how people make, produce, and distribute their music and how they consume it. This technology change also changes how musicians promote themselves to new audiences and how fans find new music from established musicians. This study has explored how the Fourth Industrial Revolution is changing *umaskandi* as we know it. It has also examined how some *omaskandi* embrace these new technologies to create novel sounds and innovative ways to distribute and consume their work.

A phenomenological approach was identified as the most suitable method for such an investigation. A combination of unstructured phenomenological interviews, literature reviews, analysis of diaries, transcription, and other personal texts was employed in data gathering. Interviews were conducted according to a schedule that was formulated beforehand. Interviews were conducted adhering to mandatory protocols when attending gatherings and meetings to limit the spread of covid-19. Thus, the safety of all participants in the study was ensured.

Furthermore, literature from previous studies provided additional information. The literature reviewed provided the perspectives of the Industrial Revolution and the Fourth Industrial Revolution, the evolution of the music industry value chain and its associated technologies, and Artificial Intelligence's role in music composition, production, and performance in the digital age. Through this exercise, the study gained a broader perspective on the impact of the Fourth Industrial Revolution on *umaskandi*, exploring both threats and opportunities.

## 6.1 Review of research objectives

According to the findings of this study, the study's objectives were achieved, and the research questions were answered. As outlined in chapter one of this study, the investigation described in this report has met the research objectives. These tools have helped the researcher determine if the study is on track and explain what information or knowledge will be gained as a result of the study. The following discussion looks at each objective and how they were met during this study.

### 6.1.1 Exploring the Fourth Industrial Revolution Phenomenon

On the objective of exploring the Fourth Industrial Revolution phenomenon, the findings concluded that the term had been a buzzword for a while now. It is a time when technologies have developed to the point that they can be used for the betterment of society. The term has been used to refer to the impact of new digital technologies across industries and their future. The Fourth Industrial Revolution is a phenomenon that has caused unprecedented levels of disruption in every industry's supply chains, markets, and business models because it changes the way we think about processes, products, and production. Artificial Intelligence plays an essential role in the Fourth Industrial Revolution. Artificial Intelligence has been integrated into each industry's design and manufacturing process, including distribution and service. Disruptions and innovation are, therefore, so acute today because of the scale and scope of changes. As a result, the development and diffusion of innovations are happening at a much faster pace than ever before.

However, the Fourth Industrial Revolution is not solely about intelligent, connected machines and systems. There are many aspects to it. Several breakthroughs are occurring simultaneously, spanning areas ranging from gene sequencing to nanotechnology, from renewable energy to human quantum computing. Fundamentally different from previous revolutions, the Fourth Industrial Revolution is the result of the fusion of these technologies and their interaction across the physical, digital, and biological domains that have been taking place over the past decade (Radley, 2021).

The findings further support the observation that technologies that have emerged due to the Fourth Industrial Revolution, amongst others, have to an extent, rendered the music industry value chain absolute. Digital products have replaced physical products, just as digital music stores have replaced physical music stores. The music industry is rapidly changing with the advent of new technologies. From YouTube and Spotify to virtual reality and augmented reality, there are plenty of opportunities for artists and record labels to expand their reach in the digital realm. *Omaskandi* now have access to tools that allow them to easily publish their music online and reach wider audiences, all without having to use intermediaries such as radio stations or labels. However, this efficiency comes at a cost: musicians who rely on streaming services often face low pay-outs for streams because royalty payment policies are questionable.

The impact of the Industrial Revolution on music is undeniable. The invention of the phonograph in 1877, followed by the invention of the radio transmitter in 1898 and the transistor in 1947, all contributed to music's popularity and success. However, some fundamental changes are occurring during this current Industrial Revolution. This

study has explored innovations that impact how music is created, distributed, accessed, and monetised.

This is because the technology sector is an ever-changing industry that disrupts several sectors simultaneously. From mobile applications to cloud computing, new technologies are being invented every day. We depend on technology to such an unprecedented extent as a society that this development has occurred. Our time has seen an era when machines are able to perform tasks better than humans. Artificial Intelligence and robotics are already here today. Intelligent robots perform tasks that used to be performed by humans. Companies, for example, use robotic arms to manufacture cars. In the near future, these robots may operate delivery vehicles and serve as receptionists.

The Fourth Industrial Revolution is the current era in music history characterised by a fusion of technologies blurring the physical, digital, and biological spheres. The fourth Industrial Revolution is shifting from traditional manufacturing to more personalised mass customisation and greater emphasis on efficacy and sustainability versus mass production.

While most music industry professionals, including *omaskandi,* are aware that the Digital Revolution has changed how music is produced, distributed, and consumed, they do not necessarily understand its implications. The Fourth Industrial Revolution is an upcoming phase in the development of the information society. Technology-based Artificial Intelligence, robotics, big data, and new material are expected to change how music is produced and consumed. The days of musicians making a living

off their music all over. The reality is that the Internet has made music free, and most people will either choose to listen to some popular artist or listen to something for free. This does not mean that everyone will stop listening to music altogether though. In fact, *omaskandi* can make money from their passion in several ways.

### 6.1.2 Investigate the impact of the Fourth Industrial Revolution on *umaskandi*

To investigate the impact of the Fourth Industrial Revolution on *umaskandi,* the result of this study indicates that the music industry has seen its fair share of changes over the years. These technologies have had positive and negative effects on how *umaskandi* is produced, distributed, and accessed. With each new development, it may have felt that the recording industry was being taken into uncharted territory. However, with this latest wave of change that the Fourth Industrial Revolution has ushered in, it seems as if the music industry may finally be prepared for these disruptions.

Many devices and gadgets make up the Fourth Industrial Revolution, but what does this mean for *umaskandi*? The first three Industrial Revolutions all had a direct impact on the way people listened to music. For example, the invention of vinyl records created a new form of listening to music. With each Industrial Revolution comes new technology that changed the way we consume music and its production. In addition, the Digital Revolution is changing how people discover and listen to music. How have social platforms influenced music discovery habits?

The result illustrated how technological advances have affected the production, dissemination, distribution, and reception of music in general and *umaskandi* in particular through the descriptions of processes involved in its production. The advent of music production software has been of utmost benefit to *omaskandi,* who wish to make music but do not have access to a large studio. Creating music was prohibitively expensive in the days of analogue technology. Over time, technology progressed, and hardware and software became more powerful and efficient, resulting in more complex music programs. By combining synthesis and sampling, they created a more prosperous and higher-quality sound. A laptop and a software package are all that is required to produce a professional recording in the digital age.

As music became readable by computers, the dynamics and economics of the music industry changed dramatically (Deaux, 2017). In the world of music, technology has been a double-edged sword. Technology allows musicians to create sounds and songs whenever possible before, but it has also led to an upsurge in copyright infringement. At first, one might think this is an excellent thing if more people are exposed to their music, but there is a problem if they listen without paying for the privilege of doing so.

Combining the most popular social networking platform with music playing capabilities has turned our phones into powerful musical instruments. Indeed, these devices are becoming an essential tool for music marketing and promotion in the digital age. Be it for listening to songs at their leisure or creating new ones on the go.

On the positive side, technologies have improved *umaskandi*. The advancements in home recording software help *omaskandi* record at a low cost. Additionally, digital distribution platforms allow *umaskandi* to bypass large industry-controlled distribution channels. *Omaskandi* can connect with fans directly through social media and video streaming, which reduces the need for expensive PR campaigns. Overall, the digital era led to a democratisation of the music industry, which has improved opportunities for *umaskandi* and other professionals. The use of innovative music technologies also contributes to the creation of a great deal of modern music. MIDI technology and software-based virtual instruments allow *omaskandi* to program and manipulate thousands of sounds in their music. Using the Fourth Industrial Revolution technologies has made the process of creating *umaskandi* more straightforward and efficient.

With the advancement of technology, cross-cultural interactions have become more accessible, which has exposed *omaskandi* to new forms of music. In the process, *omaskandi* have been able to mix elements of different genres in order to create new and exciting music.

With the Internet, *omaskandi* can distribute their music worldwide without transferring large volumes of hard copies. Through streaming services such as Spotify, Apple Music, Amazon Prime and Tidal, *omaskandi* have been able to sell their music digitally to a worldwide audience with just the click of a button. Websites that provide information about the latest trends in *umaskandi* and the music world take this one step further. As such, a new album by one of fans' favourite *umaskandi* does not require buying an expensive magazine anymore.

As far as music streaming is concerned, the downsides of the Fourth Industrial Revolution are evident. According to McIntyre (2016), ‘150 streams of a song equals one paid download, and ten paid downloads equates to an album download. So, an artist's music will have to be streamed on any of the approved, included services 1,500 times for an album ‘sale’ to be counted' (para.3). Obtaining these many streams just for a single sale can be overwhelming to *omaskandi*. One of the most significant issues in streaming is what counts as a sale and how each stream is paid out. The pay-out per stream is less than 15 cents since streams are so easily accessible. Additionally, each streaming service has a different payout per stream.

Sibiya, (2021) explains that *omaskandi* make records from their own pockets and that the streaming service depends on that product. Despite the continued profits made by streaming services, *omaskandi* remains dissatisfied with the return on their work. Because of the lesser pay-out per stream, some *omaskandi* shift to alternative revenue-generating methods. For example, *omaskandi* prioritises ticket sales, merchandise bundles, TV and movie appearances, and other revenue streams. Currently, the industry does not always help *omaskandi* financially in the most significant way possible, at least not when starting.

The rise of big data has led to the explosion of information about every aspect of human life, from economic activity to social interaction. These developments have come at a time when much indigenous music is threatened due to globalisation. The current technology that we use has caused the music industry to evolve into something new. Many people opposed the new way of life with this new technology like CDs, download sites and movies on demand. Some people believe that these things will

create better music because it allows musicians to make better quality music. While others see this as a bad thing because they think there is not enough money for them in the business anymore.

Ultimately, technology will continue to evolve regardless of how we feel about it. Music consumption has changed so much over the years. It all started with vinyl, cassettes, CDs, and now streaming. Technology is growing so fast that this won't be the last form of music consumption either. While the Fourth Industrial Revolution technology has improved on many flawed instances and situations that existed throughout the history of music, it also has its flaws (Mcintosh, 2019).

### 6.1.3 Examining the implication of Artificial Intelligence in the compositional, production, distribution, and consumption of *umaskandi*

Among the endless possibilities of Artificial Intelligence, one that has long been speculated is its impact on music. For example, Artificial Intelligence can be used to produce musical songs, which could then be sold as complete original or cover songs. Some music giants have already tested this technology. However, it can also be used in other ways, such as changing existing songs not to violate copyright or creating matchups between multiple compositions to create new works.

Artificial Intelligence is becoming more and more important in our modern society. Therefore, it is essential that *omaskandi* are aware of Artificial Intelligence's implication on *umaskandi's* compositional, production, distribution, and consumption. Understanding how Artificial Intelligence works can help *omaskandi* be

better by producing *umaskandi* with it or marketing themselves to consumers interested in purchasing their music.

The analysis shows that Artificial Intelligence affects the composition, production, distribution, and consumption of *umaskandi*. Like in other industries, Artificial Intelligence in the music industry automates services, discovers patterns and insights in massive data sets, and helps create efficiencies (Marr, 2019). Artificial Intelligence revolutionises a wide range of sectors and has ramifications for many products and services. It also affects the music industry's business structures and companies. Artificial Intelligence poses a challenge to every industry, from artists and repertoire to marketing. It is possible that new distribution channels and digital copyright enforcement may disrupt all we know about record labels. Artificial Intelligence enhances our human capabilities by complementing and augmenting them. By providing us with the insights and support we need to make better choices and become more effective and efficient, Artificial Intelligence can spur growth and innovation. The creative process is probably undergoing a change as a result of Artificial Intelligence.

As the study examined the effects of Artificial Intelligence on the composition, production, distribution, and consumption of *umaskandi*, it explored the following: What impact does Artificial Intelligence have on the creative process and the industry in which it operates? In particular, how does this technology affect compositional tasks? How is Artificial Intelligence used to support *omaskandi* during the production process? What different approaches to using Artificial Intelligence exist in *umaskandi* production? Lastly, how Artificial Intelligence influences not only creative practices but also the consumption pattern of *umaskandi* consumers.

Artificial Intelligence's extensive network of websites and custom software applications allows *omaskandi* to create, manage and optimise their social media presence across the most popular social networks and content-sharing websites on the Internet. Artificial Intelligence powers marketing campaigns. Through these efforts, *omaskandi* can reach a wider audience through social media insights. The use of Artificial Intelligence-based marketing is already widespread. When it comes to marketing, *omaskandi* have loads of options. There are hundreds of social media platforms to choose from, not to mention paid advertisements or even word-of-mouth marketing, all offering unique opportunities.

Technology advancements such as Artificial Intelligence and the platform economy transform how music is created, distributed, and consumed. This new world of Artificial Intelligence offers new tools and ways of doing things. Many of these tools will integrate into the existing workflow of digital creative life. There are more ways to use music today, and consumers are not just consumers but also creators. This requires more flexibility when using music. The Amper Score by Amper Music service exemplifies exemplary service for these needs. The service allows for composing and remixing music in projects such as videos, podcasts, or social media posts. Individuals can, therefore, easily create music that suits their own needs (Goldstein, 2020)

*Omaskandi* who are entering the industry need help to get discovered, and if it is not done effectively, talented *omaskandi* might go undiscovered. Artificial Intelligence can be used to determine which fans would enjoy an *umaskandi's* music. The Artificial Intelligence-inspired features on Spotify, such as Discovery Weekly, a curated list of

music for each listener, make it easier for music fans to browse through music streams to find new music they are interested in.

While Artificial Intelligence's rise may involve some disruptions to how we consume, it will also lead to several exciting possibilities for *omaskandi* and listeners alike. The future of the music industry is ever-changing. Increasingly, Artificial Intelligence is being used by consumers, and with that comes new opportunities for producers, distributors, and consumers. Therefore, it is essential to keep up with these things to prepare for what is in store in the coming years.

### 6.1.4 Explore *omaskandi's* understanding of the implications of the 4IR on their music.

The current study found that *omaskandi* do not believe Artificial Intelligence will end human creativity but will instead spur a new golden age of creativity. However, as far as Isizulu music-making is concerned, computers do not possess emotions or feelings. *Omaskandi*'s views are despite the recent study in which scientists developed machines with feelings and emotions. By reading people's writing, an Artificial Intelligence system could predict how they felt. Artificial Intelligence has made computers more human-like. How we communicate our emotions and feelings is one of the most critical aspects of human language. It is what makes us unique from other species on Earth.

Nevertheless, Artificial Intelligence can assist and help in the process, as has already been done for a few decades. *Umaskandi* is not just entertainment. It is also a form of

art that serves to communicate information. *Umaskandi* can be used to deliver political messages, social protests, and many other forms of communication. In South Africa, *umaskandi* has been an increasingly effective tool for social commentary for a very long time. *Umaskandi* songs have always served as a means for expressing their ideologies and opinions spreading their message and goals for the betterment of society. The use of *umaskandi* in this way has become more popular with the growth of technology and its ability to spread ideas quickly.

There is no question that the Fourth Industrial Revolution technologies, such as Artificial Intelligence, are being used for more than just making our lives easier. Today, it can create articles, music, pictures and even novels like the old masterpieces, all without human input. Some people are concerned that Artificial Intelligence will take over jobs one by one (Vassallo, 2018). However, people have found new jobs and ways to monetise their skills with each new technology wave. Humanity will benefit from Artificial Intelligence, but not in terms of creativity. Machines can enhance human creativity and improve efficiency, but they can never replace it.

In these digital times, the music industry is constantly changing. Before digital marketing, major record labels would sign artists and then handle their music marketing strategies. The situation has changed, however. Social media platforms are an integral part of today's marketing mix, with billions of users worldwide. It is common for record labels and agencies to encourage artists to use social networks to attract loyal fans and encourage prospective audiences to buy their recordings or attend their events. Social media has grown to such an extent that artist management

firms have created positions for digital media managers and specialist PR firms fully implement social media marketing strategies.

There is a high level of competition and saturation in the music industry today. More and more *omaskandi* are trying to get out there and share their art since social media and opportunities to get noticed have risen. Hence *omaskandi* and promoters have all emphasised the benefits of social media marketing.

### 6.1.5 Investigating possible opportunities that the 4IR will present moving forward

The Fourth Industrial Revolution music industry has already evolved massively, and it will continue to do so. Digital technology is changing how people make music, how people enjoy music, and even how musicians are discovered. Research suggests that intelligent algorithms might be able to create more original pieces of music than humans alone. There are also many opportunities for collaboration between music creators and machines to take advantage of each other's strengths. The future of the Fourth Industrial Revolution in the music industry is bright, depending on how it will be used.

The music industry is one of the few industries which are still not up to date with the technological changes. There are many opportunities in the music industry for technology to reshape it. Musicians can upload their recordings and videos more efficiently and better organise music libraries on streaming services and apps. Technology provides a platform for those who want to share their voice. It is a place

where people will be able to connect and share common interests. People will also find out more about what is happening in many spheres, including the music industry. Even though the Internet has already changed how people obtain information about the world around them, some aspects of life have remained untouched by these new developments.

The Fourth Industrial Revolution has created several opportunities for *umaskandi*. Technology can be used to produce music distributed to audiences and marketed effectively. The first opportunity is technology-assisted production. It is possible to make *umaskandi* with the help of virtual instruments, making the process more efficient and getting by without needing expensive equipment. The second opportunity is distribution through platforms like Spotify, YouTube, or Apple Music, to name just a few. These platforms are prevalent and provide an easy way for musicians to reach their audience. The third opportunity is marketing through sites like Facebook, Twitter, or Instagram, allowing *omaskandi* to cultivate their brand and reach out to potential fans by using hashtags or posting behind-the-scenes pictures of their work.

Artificial Intelligence is already affecting the music industry in several ways. One such example is that Artificial Intelligence has the ability to write music and compose melodies. At the same time, other applications like digital audio editing and mastering generate some textures and rhythms or even create compositions from scratch. However, while opportunities abound for musicians in the Fourth Industrial Revolution, we should be mindful of risks. It is possible that Artificial Intelligence could

replace musicians in the future, as it does not need to be paid royalties for using the work, and it lacks emotions that will affect the quality of any musical work.

The fourth Industrial Revolution created a new level of competition that *omaskandi* must face. However, as the Fourth Industrial Revolution progresses, it will be easier for *omaskandi* to produce, market and distribute their music. Therefore, there are many opportunities for *umaskandi* in the future.

Recognising the impact of the Fourth Industrial Revolution technologies on the music industry and, specifically, *umaskandi*, this study proposes a legislative intervention so that *omaskandi* have a right to equitable remuneration. The law in South Africa urgently needs to react to 21st-century challenges facing private owners of copyright in music, challenges brought about by technological advancements and the Internet. According to SAMRO (2019), the South African parliament last enacted the Copyright Act in 1978 (as amended), which is still in force today. A realignment of initiatives towards ownership of streaming rights and the introduction of compulsory copyright certificates for all musical compositions could achieve a fair reward for performers and creators.

Furthermore, this study recommends that further research be conducted to understand better the impact of the Fourth Industrial Revolution technology on the music value chain. According to this study, the Fourth Industrial Revolution serves as a springboard for future development in cultural industries like *umaskandi*. Innovative research could also shed light on the critical role stakeholders like the government and music industry

role-players should play to ensure *umaskandi*'s survival in the Fourth Industrial Revolution and offer solutions.

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