

**A STUDY ON “REPETITIVE MOTIFS” IN SELECTED
BILLBOARD TOP CHARTERS FROM 2000-2013**

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KUALA LUMPUR**

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2013**

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**DISSERTATION SUBMITTED IN FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
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**CULTURAL CENTRE
UNIVERSITY OF MALAYA
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ABSTRACT

Literature review informs the usage of repetitive motif in music composition and one of its functions in structuring musical hook in music composition reveals the factors contributing to the popularity in popular music. Past studies examined the effects of repetition in retrieving listeners' preferences and most studies had proven positive results. However, the term "repetition" was perceived as repeating the complete music over and over again on a macro level. Thus, there is still a lack of research looking into the smaller unit of repetition within a larger frame; and in this study, repetitive motif is examined. Chart-topping hits which were taken from Billboard Year End Hot 100 from 2000-2013 were selected and analysed. Methodology includes qualitative and quantitative approaches: listening and score analysis, and measurement of the repetitive motif duration and frequency of appearance. The outcome reveals how a repetitive motif is employed in a popular song context based on various musical parameters, its density in terms of occurrence, and its construction and repetition within a larger frame of structural repetition.

ABSTRAK

Kajian literatur yang lalu mendedahkan penggunaan pengulangan motif dalam komposisi muzik dan salah satu fungsinya berperanan sebagai daya tarikan muzikal dalam muzik. Fungsi sebegini merupakan penyumbang yang penting dalam peningkatan populariti sebuah popular muzik. Kajian-kajian lepas telah mengkaji kesan-kesan pengulangan terhadap para pendengar dan kebanyakannya telah membuktikan hasil yang positif. Akan tetapi, istilah “pengulangan” selalunya didefinisikan sebagai pengulangan yang lengkap bagi sesebuah lagu untuk menarik perhatian para pendengar. Oleh itu, penyelidikan tentang pengulangan dalam unit yang berseghmen masih berkurangan. Dalam kajian ini, keberkesanan bagi penggunaan pengulangan motif dalam popular muzik di peringkat mikro telah ditelitikan. Subjek kajian telah dipilih daripada carta popular muzik *Billboard* Year-End Hot 100 dari 2000-2013. Metodologi termasuk pendekatan secara kualitatif dan kuantitatif: pendengaran dan analisis skor, serta pengukuran terhadap penempohan dan kekerapan dalam pengulangan motif. Hasil penyelidikan ini mendedahkan fungsi pengulangan motif dalam konteks lagu popular berdasarkan parameter muzik, ketumpatan dari segi kekerapan penggunaannya dan penstrukturannya dalam komposisi muzik.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

The aim of this study is to look into the functional value of repetitive motifs in western popular music composition and arrangement. The effectiveness of repetitive motifs in western popular hits as one of the positive features in gaining listeners' attention and preference is primarily focused in this study. This chapter provides an overall view on the development of repetitive motifs in popular music composition while the function of repetition in shaping musical hook within listeners is also discussed in this section. By referring to the previous researches that had been done on the usage of repetition in music and also taking into account on the current information which surrounds on this particular issue, the relevance in moving towards a hypothetical statement that concerns the significance of repetitive motif in popular music is ideally outlined. Consequently, all the fundamental information that had been gathered is also able to assist in further developing the framework of this research.

1.2 Background of Study

“Pop songs do not write their own history; they do not have a ready-made place in history, nor do they make their own rules” (Hennion, 1983, p. 162). Yet, popular music is still regarded as a growing subfield in musicology and sometimes its position is questioned in higher educational institution. It has initiated various critical discussions in term of its analysis, audience, reception, industries, interpretation and repertoire. Moreover, it is rather a fact that the art of popular music undoubtedly reserves its allocation in the terrain of economical, social and political contexts (Hawkins, 1996). Hence, as many decades ago, popular music analysis has been gradually conducting dialogue in between musicology either implicitly or explicitly (Middleton, 1993). As the

act of inserting repetitive idea in modern-day music gains popularity in popular music composition nowadays, this research therefore utterly focused on and utilised the contextual study of thematic and motivic analysis in popular music from 2000-2013.

Repetition must always repeat originality, must always depend on something or idea that is by definition pre-existing, autonomous and self-identical. Repetition is therefore subordinated to the idea of the original, as something secondary and inessential. (Connor, 2006, p. 3)

In the world of music, the term “repetition” can simply be defined as “the repeating of a passage or note”, while sometimes it can be correlated with other terms such as sequence or imitation, where most of the times these musical elements are important in functioning as the restatement of a musical idea or one of the sections in musical work and to act as one of the principal elements in the perception of musical form (Randel, 2003). Additionally, the word “motif” is suggested as a brief rhythmic or melodic idea that is adequately well defined to preserve its identity when elaborated, transformed or even combined with other material and thus it is able to serve as a basic element in a composition; the length of a motif should consist of at least two pitches and above while the capability in generating into a more extended ideas is often regarded as essential; passages that modulated are habitually constructed from a motif (Randel, 1999, p. 436). As a result, the suggested concept of “repetitive motifs” in this research can be defined as independently designated musical unit or subject that keeps recurring within a piece of music at a constant mode (Randel, 2003, p. 531).

As this research is studying the occurrence of repetitive motifs in western popular music from 2000-2013, the functional value of repetitive motifs as musical hook is also being discussed in the study. According to Smith (2009), “hook” is commonly known as rhythmic figures that can be inducible, a concise refrain line enclosing the song’s title

and also it can be performed as the melodic filler which is sonically distinctive among the obvious. While Hurst and Delson (1980, as cited in Burns, 1987) have stated that hooks may involve repetition as it usually appears in the title or key lyric line and it will keep on replicating. However, it is crucial to distinguish the dissimilarity between hook and repetitive motif particularly since both of these elements are not completely sharing the same facets. A hook is “a musical or lyrical phrase that stands out and is easily remembered” (Monaca & Riordan, 1980, p. 178, as cited in Burns, 1987). Therefore, Burns (1987) has affirmed that a hook can be repetitive but sometimes it can be presented in another way such as modulation and variation rather than repetition. Moreover, a hook can also be presented visually in popular music culture by using discernible images, reflections and expressions (Hawkins, 1996). Hence, repetition that has outstanding musical design in composition structure will certainly be characterised as a musical hook but not all of the hooks have to be recurring given that the occurrence of other distinguishable features can also create the hook effect. Although there is no “universal hook” that certainly works on every listeners but a popular song that has prominent market value in music industry will always need the establishment of hook in its composition (Austin, Peterik, & Lynn, 2010). Therefore, the studied repetitive motifs in this research are perceived as hook in correlation.

Aligned with the findings provided by the previous researches, my early virtual fieldwork and listening analysis reveal that there are a number of possible factors contributing to great popular songs, which enable them to attain ‘massive popularity’ in popular music market. In fact, it is found to have a traceable similarity between all these top charting popular songs which secured high rank on the Billboard chart consecutively for weeks. A popular song that contains repetitive motifs has potential in capturing attention or even positive preferences. The term, “attention” has been used in this statement, since it might refer to a like or dislike. For instance, if a song that contains

repetitive motifs is able to stimulate a large proportion of listeners' preferences, the negative ones are also included unfortunately. However, if all the likes and dislikes are included, the impact can still be significant because after all a wide range of attention is generated among the popular music consumers. Moreover, Dunsby (2002) has also indicated that "motive" has been a crucial element that figures the modern music-analytical enterprise. Hence, I posit that repetitive motifs may be one of the factors contributing to the popularity of chart-topping or best-selling hits. Therefore, a comprehensive learning is needed for motivic analysis in the selected top charters as well as finding evidence to substantiate this popular cultural phenomenon.

Some examples from the West are *Ice Ice Baby* (1989) by Vanilla Ice, *Barbie Girl* (1997) by Aqua, *Bad Romance* (2009) by Lady Gaga, *Like a G6* (2010) by Far East Movement feats Dev and The Cataracs; and there is also one of the significant westernised K-pop examples which cannot be left out, *Gangnam Style* (2012) by Psy. The "Gangnam Fever" was burning high in the second half of 2012 and it went viral throughout the world. Within three months, this Korean music video has received over 600 million viewers from everywhere around the world (Rio, 2012). In the meantime, all the "Gangnam style" flash mobs and parody videos which have gone beyond regions and boundaries have been posted on the social media. In spite of everything, its simple yet repetitive music and dance movements contribute to the easy character of the song which at the same time it is still distinct enough to grab listeners' attention (Bucholz, 2012). Hence, it is pivotal to examine thoroughly the credibility of the role and the functional value of repetitive motifs in popular music composition as this feature could be seen as one of the credits in gaining attention or preferences.

In accordance with that, all the research subjects in this study are taken from Billboard Year-End Hot 100. According to Utsler (1998), Billboard started on 1

November 1894, where it first appeared in bill posters and advertisements but slowly turned into something dominant among all music magazines in the end of twentieth century as radio and recorded music began to rise as a global sensation. In 1934, Billboard Hot 100 which originated from the “Network Song Census” in *Billboard*, which was the major US trade paper at that moment had evolved gradually to the “Hit Parade” programs starting from 1935 onwards (Parker, 1991). In the early 1900s, the magazine introduced Billboard Airplay Monitor, which included music charts that covered the “Top 40”, “Country”, “Rock” and “Rhythm & Blues” while a platform was also provided for record companies to establish their new releases (Utsler, 1998). As time goes by, Billboard magazine has developed into a deeper review of new singles and albums with the collaboration of producers, radio music programmers, record distributors and the jukebox industry. Other than records, Billboard also expanded its home entertainment coverage through four agencies in United States, one in London and one in Tokyo while Billboard Bulletin - a publication material - was started in February 1997. It was meant to provide the latest industry news on areas ranging from radio station mergers to marketing, legal and technical issues (Schlager, 2006). As a result, Billboard Year End Hot 100 has been chosen as the main resource for electing the research subjects when taken into consideration the recognition of this popular music chart as the prime ranking scheme that is supported by the American music industry where it also stipulates sales in the vast recorded music market in the world (Parker, 1991).

Therefore, whether or not repetitive motif is a similar phenomenon in all top charting and bestselling singles, it is necessary to obtain sufficient evidence to ascertain this hypothetical statement. Hence, this study is fundamental in its nature to conduct an analytical research over repetitive motifs, its usage, its frequency, and how it is

employed in selected chart topping hits in the 2000s, while theories and data delivered from this study serves as a reference for further studies stated in Chapter 5.

1.3 Justification of Research

As discussed in Moore (2003), the need of popular music analysis is important to inform an in-depth understanding of the construction, conception and reception of popular music that moves away from the 'popular modernism' view. Taking the seventh apothegms of popular music analysis and its function in aestheticising and historicising popular music, Walser (2003) states that,

Analysis maps, and like any map, it reduces and abstracts in order to show particular relationships more clearly... Still, maps are useful because they conceal certain relationships in order to reveal others. All maps are drawn to serve specific purposes, to show relationships at a particular scale (p.25).

Thus in this study, the author seeks to study a specific element in popular song – repetitive motif, in terms of how it is used in the construction of a popular song and its effect in terms of duration, repetition and its role and weight that occupy a song. The effect of repetition in music towards individual preferences has been scholarly discussed since 1960s. In fact, most of the studies reveal that repetition has been proved to have positive results in acquiring listeners' preference referring to the fact that familiarity is able to generate anticipatory arousal (Ali & Peynircioğlu, 2010). However, the researchers often indicate repetition as repeating the music completely to gain listeners' familiarity and thus enhance their preference towards the song. There is a neglected section where a lack of research in examining the function of repetitive motifs which emerge as a segmented unit and the repetition of it in a consistent manner to obtain positive preference among listeners. In terms of how motifs were repeated, their

frequency, the placement of motifs, the relationship between these motifs and the overall song structure were unanswerable based on the existing studies.

This research attempts to fill the gap in the present literature by examining into repetitive motif in popular song. As what Moore and Walser attest to, an analytical driven outcome may contribute new knowledge to the historicisation and aestheticisation of popular music; and in this study, new knowledge may be provided for the purpose of popular music education, composition, and as well as further research. On the other hand, the result obtained from this research can also be correlated with the study of human brain activities which corresponds to the “Mere Exposure Effects” written by Janiszewski in 1993 as the sensitivity of human brain towards repetitive features could be further explored. Conclusively, once the result of this research is proven, the findings can be receptively contributed to the marketing design of popular music industry and the study of human psychology as well.

1.4 Problem Statement

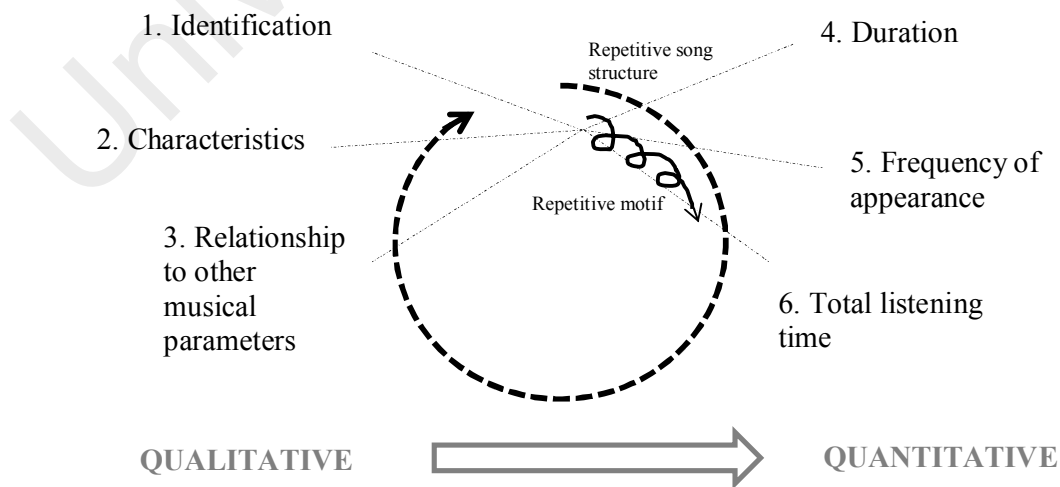
In the past, researchers were more inclined to study the analogous experiment between the effectiveness of repetition as a whole and the intensity of preferences from a positivist’s perspective. Most of the experimental researches that scrutinise the preferences generator via repetition are, in the meantime, defining the term “repetition” as repeating the music over and over again. However, there are not many scholars who study about the value of repetitive motifs, which here refers to the smaller, segmented and repeating units within a larger repeating entity, which here refers to the study of repetition in popular music (such as Verveer, Barry and Bousfield, 1933, as cited in Hargreaves, 1984; Serrà, Corral, Boguñá, Haro, and Arcos, 2012).

What are the characteristics of these motifs, how are they employed in a song, the frequency of repetition and in what ways are they governing the overall song structure

become the problem statements of this research. Consequently, the question of whether if it is true to attest that songs with repetitive motifs top the charts while a popular music that has no traceable or obvious repetitive motifs might have received less affection from the consumers are not yet studied in past literatures. Therefore, there is a need to provide a fundamental study into repetitive motif in popular song. The outcome may also provide a further enquiry to the gap in the studies conducted by scholars such as Burns (1987) on repetition in popular music and Serrà et al. (2012) on musical homogenisation and its influence in the mainstream of popular music where repetitive motif was not included. The approaches on motivic analysis in western popular music were not clearly stated in past researches. Therefore, this study conducted a qualitative investigation by using an analytical method to study the repetitive motifs in a popular song context that comes with the following research objectives.

1.5 Conceptual Framework

This study is based on both qualitative and quantitative measure. The main aim is to examine the smaller repetitive unit within a larger frame of repetition as in a popular song structure and an even larger context of song repetition:



The main theoretical framework for analysis employed in this study is Philip Tagg's hermeneutic-semiological model (1982; see Section 3.3.2). Middleton's gesture-analysis model (2000) was adapted and used as a framework in looking at the characteristics of the repetitive motifs. The repetitive motifs are identified, transcribed, and then analysed.

1.6 Limitation of Study

This research focused repetitive motifs in western popular songs, relationship between the repetitive motifs and other musical parameters, and its duration and frequency of appearance that govern a song's listening duration. To limit the research subjects, all the selected songs were taken from Billboard Year-End Hot 100 from 2000 to 2013 while only the popular hits which were rounded up as year-end number one single were selected. Billboard Year End Hot 100 was chosen from a wide range of western popular music charts because of its consistent predominant figure in popular music chart ranking system at the present time. The ranking of this music chart is based on the singles sales, streaming online and airplay tracking, which will be compiled and issued weekly (Trust, 2013). Hence, 14 popular hits were taken from the Billboard Year End Hot 100 as the research subjects. Consequently, the data and results concluded in this research might only be able to show a rather brief outcome regarding the effectiveness of repetitive motifs towards listeners' preferences since the study only covered a total of 14 years of the billboard.

1.7 Research Objectives

1. To identify repetitive motifs in selected chart topping popular songs from 2000-2013.

This study looked into the occurrence of repetitive motifs in selected western popular music and their effectiveness in preserving positive preferences. Hence, the identification process of repetitive motifs is the first phase of act. Selected songs

based on Billboard Year-End Hot 100 top singles from 2000 to 2013 were chosen as the research subjects. The occurrence of repetitive motifs among the selected western popular songs is determined whether the repetitive motifs are significant or otherwise. Furthermore, the regularity of the harmonic pattern is examined as a comparative subject alongside the repetitive motifs in the selected popular music as to detail the general structure of identified repetitive motifs.

2. To investigate the frequency of appearance of the repetitive motifs in the selected popular songs.

The frequency and the intensity of listening duration of the identified repetitive motifs are inspected thoroughly. The density of a particular repetitive motif in a song is measured via centiseconds. This study investigated the level of frequency of appearance and compared to the songs' total duration.

3. To analyse the use of the identified repetitive motifs in the selected popular songs.

The identified repetitive motifs in selected 2000-2013 top singles from Billboard Year-End Hot 100 are examined by the delivery of a musical gesture-analysis adapted from Middleton (2000), and further analysis of musical parameters based on Philip Tagg's Hermeneutic- semiological method (1982). This analytical model is able to present a checklist of parameters of musical expression that is practically complete with suggesting sections in view of the fact that a more detailed outlook can be studied from the selected repetitive motifs as the analysis objects (Tagg, 1982).

1.8 Research Questions

This research addressed the following questions in relation to the aspects that need to be concerned in the identification of the effectiveness of repetitive motifs in obtaining personal preference.

1. What are the repetitive motifs in the selected songs?
2. How are the selected repetitive motifs used in a song?
3. How do these repetitive motifs related to other musical features?
4. What is the duration of a particular repetitive motif?
5. What is the frequency of the appearance of these repetitive motifs in a song?
6. To what extent do these repetitive motifs and their appearance govern the percentage of listening time in a song?

To define the term repetitive motifs, a list of requirements should be set when classifying the existence of repetitive motifs in selected popular songs. Only repeating element that fulfils the listed requirements, where it is presented as an intentionally designed musical unit that keeps repeating at a constant mode within a music piece while it can also be independently stood out as one of the musical aspects in a song which it can be appeared in melody, harmony, rhythmic or any features other than these elements (Randel, 2003, p. 531), will be identified as significant repetitive motifs.

1.9 Organisation of Study

The present study consists of five chapters. The first chapter forms the foundation of the study by introducing the intended scope of this research. The research background confers about the underlying comprehension of related musical context in this study such as repetition, motif and hook. Subsequently, this chapter illustrates the existing research gap which needs to be filled based on references from the past researches and literatures. The purpose and possible outcomes of this research have been outlined to

foresee the entire construction of this study. On the other hand, the involved aspect that is associated in the research is explained in the research limitation section.

The second chapter is the literature review of the suitable reading materials that is associated directly or indirectly with the study of repetitive motifs. Sufficient surveillance on practical information and data can be paradigmatic in conceptualising the framework of this research. Moreover, the inconsistency in this research is identified by reviewing on the past literatures and studies. Consequently, this research will merely focus on the functional value of repetitive motifs on listeners specifically in gaining their attention or preference.

The third chapter is the methodology section where the conceptual framework of this research is explained. The purpose of selecting particular approaches is further justified in this chapter while the potential pros and cons that are somehow likely to be resulted from the selected methods are justified concurrently.

The fourth chapter is the data analysis and discussion segment in this study. This research particularly referred to the classification system of “Hermeneutic-semiological method” suggested by Philip Tagg. All the gathered data served as a concise observation done throughout the chart ranking in the 2000s which was taken from reliable billboard resources. Followed by that is a brief analysis done on the structure of the selected compositions and the detailed formation of the repetitive motifs that have emerged in the music.

The fifth chapter presents the conclusion of the entire research. Limitations that are encountered in this research serve to prepare the future researchers to construct a more comprehensive and wholesome research. The results obtained from the data analysis

and some recommendations given in this chapter can also be applied in the prospective researches regarding this topic.

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CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In this chapter, literatures from a few key areas of popular music studies were reviewed to gain a fundamental knowledge prior to this research and also to search for the gap in the previous studies in order to justify the significance of this research. Popular music can be generally defined as a piece of music which has its own “designated popular appeal” and it is rather commercial, ephemeral and accessible (Simpson & Weiner, 1989; Warner, 2003). Hence, the purpose of gaining substantial popularity is strongly correlated with its own designation structure.

The results gained from this research relate to studies which look into the occurrence of repetitive motifs in popular music as a primary subject to gain consumers’ preferences. To comprehensively study the functional values of the selected repetitive motifs that appear in popular music composition, imperative details and previous studies that are involved in this research such as analyses, motifs, familiarity, consumers and preferences need to be referred thoroughly (Boyle, Hosterman & Ramsey, 1981; Hennion, 1983). Therefore, the literature review begins with a rather fundamental scope, where the theoretical studies on popular music analysis and repetitive motifs are initially discussed. In accordance with that, the associative aspects which correlate with repetition and its recognisable effect on enhancing listeners’ or consumers’ familiarity and preferences are also pinpointed as one of the dominant references. On the other hand, studies on the issues of popular music chart and popular music compositional structure are also discussed in this section since the selected subjects are taken from the *Billboard* popular music chart. Conclusively, the literature review is divided into five major components which are popular music analysis, typological studies in repetitive

motifs, correlation between familiarity and the mere-exposure effect, the evolution of popular musical preference, and western popular music chart phenomenology.

2.2 Popular music analysis

Scholars such as Tagg (1982), Hennion (1983), Middleton (1993), Clarke (2012) and Serrà et al. (2012) have discussed on different methodology for popular music analysis together with their suggested methodological context. Pragmatically, the eligible achievement of popular music analysis particularly for academic purposes has always been debated from time to time. According to some scholars, it is somewhat undeniable that hesitancy might occasionally arise in the field of popular music analysis in providing beneficial scholarship and theoretical value in musicology since there is still lack of a relatively well-structured analytic scheme (Middleton, 1993; Tagg, 1982).

First of all, Tagg (1982) has suggested the “Hermeneutic-semiological method” as a methodological tool to engender the parameters in musical expressions. In his study, he has clearly stated a few main reasons why popular music should not be analysed only using the customary apparatuses of musicology. This is because popular music is often distributed in a mass and non-written form where the consumers are generally constructed from a diversified sociocultural population while its value is generally built upon the monetary benefit rather than the aesthetic one (Tagg, 1982). Hence, it is insufficient if we only inspect the notation in popular music analysis and we always have to get back to the real audiences in the form of consumers whereas the real meaning of popular music creation in terms of voice, sound, colour, the intensity of volume and also the density of the compositional structure often emerges at the juncture of orchestration, recording and sound mixing (Hennion, 1983). On the other hand, Hennion (1983) has also agreed that the musicological assessment is not able to clarify the popularity proportion for a certain song occasionally. Hence, popular music analysis

should always look into not only its theoretical aspect but also the social perspective of consumers since the expressive value of a popular song might not come purely from its form. However, arguments might appear if one focuses mainly in the area of consumers' preferences and the popularity of the popular songs in analysis since these two areas can be described as an empirical study where the discussions tend to be somehow ephemeral. Therefore, traditional musical assessment is still needed apart from the socio-cultural point of view to establish a well-grounded framework in popular music analysis.

Furthermore, Middleton (1993) has idealised the initiative of connecting musical structure with human kinetic aspects (body movements) as a rudimental correlation between the cognitive and affective process. To reveal the musical structure with the aid of body movement, he has generalised the phrase-relationship into open or closed, complementary or iterative, antiphonal, musematic and discursive. In Middleton's study, he merely focused on the element of rhythm as one of the vital facets in popular music analysis. He has justified that rhythm functions as the prime controller in supervising the phraseology, chord and textural change, patterns of accent and intensity, vibrato and sustain, vocal breathing and also tonal tension (Middleton, 1993). Therefore, this ideology can be applied in the data analysis section in this research whereby its purpose is to see whether or not there are similarities between the rhythmic designs of the identified repetitive motifs in the selected popular songs. Thus, the structure of the efficacious repetitive motifs can be sketched out even more completely. Besides, Middleton (1993) has also affirmed certain types of form in melodic intonation and chord sequences that frequently recurred in popular music when one comes to the element analysis. Therefore, he has summarised three main features in his own methodological context which are gesture, connotation and argument. However, popular music analysis that uses body gestures to explain the music structure as its

methodological setting might not be able to present concrete inferences since the clarification can be subjective towards different people. This situation is equivalently similar to the act of deciding a particular phrasing pattern in a piece of music when the choices can be varied. For that reason, Middleton (1993) has also agreed that the gestural analysis is still determined as a weak consideration in the field of musicology. Correspondingly, there is also an unconventional suggested methodological scheme which is defined as the “narrative theory” in popular music analysis (Nicholls, 2007). Nicholls (2007, p. 301) has suggested five fundamental levels in popular music texts that are undergoing the narrative theory:

- i. popular music that contains no narrative element
- ii. popular music that only has narrative element in its lyrics
- iii. popular music that contains narrative element in lyrics and it is strengthened by the musical settings
- iv. popular music that contains narrative element in lyrics and music where both of these can be employed independently or subserviently
- v. popular music that contains rather complex narrative elements in lyrics, music, artwork and multiple media

Next, Clarke (2012) has focused on the analysis of electro acoustic music which has been in the upper trend since the 1990s; while the research subjects in this research are mostly falling under the category of electro acoustic music. One has to understand that electro acoustic music is presented with no written score and specific instrumentation, hence, Clarke (2012) has listed numerous technologies such as graphic scores, sonogram and interactive aural approaches - alongside their pros and cons - that can be utilised for transcribing the timbre, texture, pitch and rhythm of electro acoustic music. Conversely, Serrà et al. (2012) divulged different patterns and metrics that have

commonly appeared in western popular music. They have divided their analysis on three main musical components such as pitch, timbre and loudness. As a result, their study has proved that the presenting structure for timbre, loudness and pitch in western popular music has been constantly stable for more than fifty years (Serrà et al., 2012).

On the other hand, Dunsby (2002) has indicated the importance of theme and motivic analysis in modern music. He has suggested that the motivic analysis can be divided into three identifiable areas, which are developing variation, set theory and semiotics (Dunsby, 2002). He has stated the elemental structure and contour of the identified motif that is presented in its minimal extracted form should be scrutinised so that the possible semiotic that is represented by the motif can be figured out and hence the directionality of the motif towards the probability of variation can be perceived. Besides, Dunsby (2002) has also conceptualised the function of theme and motive to bridge the disparity in between the “poietic” (creation) and “esthetic” (reception) which is the effectual sequel that is brought by the motifs towards human epistemological experience.

In summary, this section is taking on a broad view towards the different possible methodologies that can be considered in popular music analysis. Conclusively, the conventional significance in popular music analysis can be divergent, some methodologies are more converging into justifying the outer meaning or elemental explanatory of a popular song, while there is also methodology which tends to look into the inner context, which scrutinises the reflective semiotic elements in a song. Hence, considerations need to be taken in performing a well-structured framework when one is engaged in the process of encoding popular music. As Tagg (1982) has stated, to establish a dependable structure in popular music analysis, it should always complement

the components between extrageneric (hermeneutic and multidisciplinary) and congeneric (formalist and uni-disciplinary) rather than making them contradictory.

2.3 Typological studies in repetitive motifs

Hennion (1983) once said, “A song without a personality attached is a disaster (p. 186)”. Hence, it is vital for a prominent popular song to have distinguishable personas. Therefore, this research has viewed the occurrence of repetitive motifs as one of the recognizable personas. In western music culture, the term “theme” was first implied in the seventeenth century, and later on, the musical term was slowly adapted to the word “motif” - which has been comparatively a common term in art, literature and music criticism where its term of usage has been declared typical since two centuries ago. In the earlier modern music theory, the motivic analysis did not have the intent to break the music into its most segmented components, but to scrutinise how those components were used (poetically) to form musical structure and apprehended (esthetically) in structuring (Dunsby, 2002). Conversely, the occurrence of repetitive motifs can also be intermittently correlated with other musical facets such as hook, riff, repetition, vamp, lick and so forth in current popular culture (Burns, 1987; Kronengold, 2005; Middleton, 1983; Floyd, 1995, as cited in Monson, 1999; Traut, 2005).

Middleton (1983), Monson (1999) and Neil (2002) have indicated the generalisation of repetition in popular music and how it is associated with other elements. Middleton (1983) has justified two types of repetition - musematic repetition (which is stemmed from the Afro-American musical practice) and discursive repetition. Musematic repetition is the repetition in smaller units and it can be correlated with “riffs” which is unlikely to be varied while discursive repetition is the repetition in longer units and it can be mixed with other divergent units. These two types of repetition are often presented in popular song that has the “monad” structure which directionality moves in

circular motion whereby the units frequently repeat from the beginning again and again (Middleton, 1983). In accordance with that, he agreed that a significant rhythmic repetition is able to create sedative effect and it is somewhat common in popular music culture. Nevertheless, the statements regarding repetition that are discussed by Middleton (1983) are mostly describing the repeating sequences that are arranged in same contour but presented in various intervals.

Moreover, Monson (1999) has deliberated the origination of “riff” and “repetition” in popular music which can be drawn parallel with Afro-African rhythmic structure is similar to the “musematic repetition” (Middleton, 1983) which has been mentioned above. The elements of riff and repetition have played an indispensable role in structuralising “catchiness” in popular music culture and they can function as melodies, call and response, continuous ostinatos and in layers (Monson, 1999). Furthermore, Monson’s study has also revealed that the rhythmic organisation always brings a rather extensive effect to a well-designed riff. According to Neil (2002), the action of utilising repetitive motifs is an act of practicing minimalism. However, the minimisation process in composing popular music has to be controlled within a certain expansion to generate great responsive outcomes.

On the other hand, Burns (1987) and Traut (2005) have discussed about the correlation between the usage of repetition and hook in popular music. A hook can be defined as an easily remembered musical event that stands out from what surrounds it, whereby the song can be discerned from others of its kind as hook is intentionally designed to be the song’s locus of control. (Burns, 1987; Kronengold, 2005). While a significant musical hook can be presented musically, visually or verbally, it would be ideal if it contains at least one of the following principles: (a) danceable rhythm with driving movement, (b) melody that is able to stay in listeners’ mind and (c) lyrics that

are able to define a person or place (Kasha & Hirschhorn, 1979, pp. 28-29, as cited in Burns, 1987; Smith, 2009). Burns (1987) has also testified that repetition can act as a subset of hook, which means a repetition can produce the hook effect in listeners but a hook itself does not have to be totally repetitive since variation and modulation can also generate hook. Apart from that, he has introduced various types of hooks which can be established through textual or non-textual elements such as rhythmic hook, lyrical hook, instrumentation hook and so forth. On the other hand, Traut (2005) has indicated that syncopation is a vital property in building rhythmic pattern to form a hook. Syncopation is also the main device to induce interest against “strong-weak” alternation of underlying pulse. At the same time, he has also found out that the unity of a distinctive accent pattern and a clear pitch pattern can certainly create a strong hook (Traut, 2005, p.71). When juxtaposed with Burns (1987), Traut (2005) preferred the act of repetition in providing musical hooks instead of the musical hooks that are generated by modulation and variation (p. 70). Identically, a hook in a popular song might be created accidentally without any intention, but the corresponding artists will consciously make use of it eventually as there is no universal factor for designing a hook that is qualified for catchiness, memorable and distinctiveness (Burns, 1987, p. 15; Kronengold, 2005, pp. 389-392). Additionally, Kronengold (2005) has also listed out five general moments where hooks will usually come across solitarily or concertedly. These five general moments are, (a) the section when the arrangement or texture becomes thicker; (b) short melody within restricted interval degree, (c) lyric which originates from conventional expressions, (d) key position at the beginning of the chorus and (e) voice rhythm that is emphasised by instruments (p. 393).

According to Peretz, Gagnon, Hébert and Macoir (2004), “systematic form, discrete pitches and repetition of rhythmic plus melodic contours are able to help our brain to form a clear musical structure” and hence it shows the significance of repetition in

music (p. 374). In brief, this section has discussed the pivotal discourses on motif, repetition, riff and hook along with their correlated intersection between each other. In popular music culture, the usage of repetition and its interrelationships are indisputably essential. Their efficacy in defining and holding markets, in directing types of consumption, pre-establishing response and making listening easy are certainly applicable in music industry (Middleton, 1983, p.235). However, the term “repetitive motif” has yet to be declared as an official denomination in popular musical composition. Consequently, it is crucial to justify the dissimilarities between repetitive motif and its correlation (particularly from riff, lick and vamp) since they are peculiarly identical in certain manners.

2.4 The development of familiarity and preference through repetition and the mere exposure effect

Scholars such as Getz (1966), Bradley (1971), Coppock (1978), Hargreaves (1984) and Saville (2011) have suggested that repetition in music plays an essential role in inducing familiarity and positive preferences among listeners. Most of the studies have revealed that sufficient familiarity towards a subject will enhance adequate acceptance with the fact that the corresponding repetition that is used for generating familiarity has the equivalent specific range of complexity that is subjected towards different age group (Bradley, 1971; Coppock, 1978; Getz, 1966; Hargreaves, 1984). According to Coppock (1978) and Getz (1966) specifically indicated that suitable duration and music compositional structure is primarily involved in the context of complexity. For example, the act of repetition will be less effective if an identified repetitive unit is rather short in duration wise. On the contrary, if an identified repetitive unit is too long in duration, it will certainly be complicated to make one get hold of that particular phrase (Janiszewski, 1993). Additionally, if the complexity level of the repetitive unit is too

extreme or trivial, there is less impact in building up preferences among listeners (Coppock, 1978; Hargreaves, 1984).

Getz's (1966) study which focused on attaining listeners' preference by using repetition has justified that music that is composed with lively tempo, rhythmic emphasis and easily recognised melody generally obtains more preferences when compared to music that is fixed with slow, indefinite rhythm, loud dynamic and high pitches (p. 191). However, his study was referring to the repetition as replaying the complete music in different intervals of time. According to Verveer, Barry and Bousfield (1933) (as cited in Hargreaves, 1984, p. 38), the experiment of using repetition by replaying the music to gain listeners' familiarity and preference can be divided into two categories which are the "continuous repetition" and "repetition at intervals". They discovered that preferences that were induced by continuous repetition tended to ascend and descend in a quicker manner (which correlated with the inverted-U theory which will be discussed in the next section) while preferences that were stimulated by repetition at intervals were likely to be intensified in a gradual mood but they were able to stay for a elongated time at the positive peak point.

Apart from that, Hargreaves (1984) has brought up the point that repeated playing of popular hits by disc jockey on radio plugging session will rapidly increase listeners' preferences but it will soon decline after it has reached at the critical peak point and he has advocated this phenomenon as the inverted-U theory (p. 35). In spite of that, Hennion (1983) has already differed before time that the number radio-plugging is indubitably not the key point for the success of a song. He has clearly quoted that, "Success is born during the early stages of a song's production, and no amount of 'plugging' on the radio can force the public to adopt it if it was a failure on that level" (Hennion, 1983, p. 190). From Hennion's (1983) point of view, the production process

of a popular song as in orchestration, instrumentation, recording and sound mixing is the determining key of success in gaining popularity rather than focusing on the process of publicising a popular song using radio stations where the song is played repeatedly. Nonetheless, these studies are still denoting repetition as playing the entire song repeatedly to gain positive fondness from the listeners.

Since 1960s, psychology-based researchers have often quoted the receivers' positive behavioural reaction towards repetitive stimulus as "mere-exposure effect" (Zajonc, 2001). According to Zajonc (2001), every individual's sensory receptors are fond of familiarity and hence when the subject is performed with repeated exposure to a particular stimulus the probability of him/her developing positive preference as the end result is higher. Therefore, the mere-exposure effect mainly justifies the cognitive progress and effect between the music (emitter) and the listener (receiver) in the aspect of using repetitive motifs to gain positive preference. However, some particular researches that were focused on the mere-exposure effect had proved that the affection of repeated exposure is more efficacious towards the receiver if it is unconsciously conveyed compared to the repeated exposure that is consciously emitted (Hansen & Wänke, 2009; Zajonc, 2001). Consequently, the usage of repetitive motif in a popular hit might have not been truly recognised by the listeners as one of the factors in gaining their preferences since the repetitive motif is attained subconsciously from their listening. In contrast, the mere-exposure effect can be still intentionally structured by the emitter such as the composer or song producer of the music composition (Janiszewski, 1993). Furthermore, Janiszewski (1993) has also stated that background music that is compiled with beats is able to stimulate pre-attentive processing of a pictorial or verbal information in our brain, thus one will be able to pay more attention to a particular type of information as the familiarity towards the information has been increased (p. 390).

According to Saville (2011), although repetition is a strategic enforcement in gaining familiarity and attention but we also have to realise that weak-structured repetition can also become the main cause in provoking boredom since it may sound too monotonous for listeners (p. 71). To combat this issue, Tan, Spackman, and Peaslee (2006) have discovered that variability in certain dimensions to prevent a musical work from sounding too repetitive. They have justified that a repetition can only reach its optimal influence if it interplays with varieties. Hence, the significance of complexity is once again stressed in this section when placed alongside a direct and undemanding repetition since the purpose of a repetition is to capture more listeners' preference. Nonetheless, repetition might cause reduction in listeners' emotional intensity for the music but Ali and Peynircioğlu (2010) have insisted on the function of repetition in generating familiarity and they have proved that increased familiarity may enable listeners to speculate the flow of music, to expect what is coming up next and this eventually results in anticipatory arousal.

In a nutshell, most of the studies have proved the ability of repetition in proliferating familiarity and inevitably the positive preferences. However, most of the studies have taken the term "repetition" as repeating the whole song hence the functional value of repetitive motif is yet to be discussed. On the other hand, a significant repetition should have decent complexity and duration to generate its effectiveness in gaining positive inclination from receivers. Furthermore, some studies also show that inapposite repetitions can also create apathy within listeners. In other words, not every single repetition will trigger similar positive effect. Lastly, the constructive behaviour of one's brain sensitivity towards repetition has been denominated as the "mere-exposure effect". This section has summarised the correlation between repetition, familiarity and preference as the possible connection that could transpire between popular hits and the respective listeners.

2.5 The Evolvement of Popular musical preference

Popular music is easily made available because of the convenience brought about by technological transmission nowadays whereby it can be distributed in large quantity and be replayed at consumers' will. Studies have proved that most of the young teenagers who have been described as dominant in pop production where statistics from a study showed that almost three quarters of worldwide singles sales comprises consumers who are aged below 25 whereas adults spend approximately three hours a day on music in average and their sources are usually from radio stations, television, records and so forth (Parker, 1991, pp. 206-212; Rösing, 1984, p. 119). Hence, the accessibility of technology in this age has made the original region of a particular song production practically boundless for consumers' listening behaviour and musical preference. Concisely, this section will review the literatures which have discussed the interconnection between the consumers of popular music and their popular music preferences.

According to Hargreaves and Colman (1981) and Brittin (1991), one's personal musical preference might be founded on a particular musical genre. Furthermore, Hargreaves and Colman (1981) have also classified listeners' responses into five categories which are categorical, objective analytic, objective-global, affective and associative. Similarly, Lacher and Mizerski (1994) have done a comparable classification where consumers' responses have been divided into the sensorial response, imaginal response, emotional response and analytical response. At the same time, they have also outlined the constructs that may affect music purchase into experiential response and overall affective response. However, this section will merely focus on the Hargreaves and Colman's (1981) listeners' responses categorisation since the structure is relatively clear in describing consumers' attitudinal perspective towards popular music culture. Among all five categories of consumers, the *categorical* tends to

classify music into genre; the *objective-analytic* favours analysing the technical elements of music; the *objective-global* prefers to understand music as a whole rather than focusing on specific elements; the *affective* correlates music with one's personal feelings; the *associative* characterises music using descriptive features (Hargreaves & Colman, 1981, p. 16). All these responses in music listening play an imperative part in denoting consumers' will and purpose of purchasing popular music. Hence, the statements above generate another variable which is yet to be justified - the variable which concerns the effectiveness of repetitive motifs towards consumers who favour particular genres. For instance, query can be exemplified as the following: "Will repetitive motif still have its influences if it were to appear in a genre which does not belong to that respective listener's preference?"

In association with consumers' preferences, LeBlanc's (1980) hierarchical model (as cited in Boyle, Hosterman, & Ramsey, 1981, p. 48) has distinctly defined them into two major components which are the music stimulus and cultural effects whereby music stimulus includes physical properties, complexity, referential meaning and performance quality while the cultural effects encompass media, peer group, family, educators and authority figures and incidental conditioning. Adults and peer approval as influential factors have also been cited in Brittin's (1991) study. Moreover, in term of preferential percentage in musical element, the melody, mood and rhythm have been rated as the most influential factors in impacting one's musical preferences (Boyle, Hosterman & Ramsey, 1981). Additionally, fast tempo is still predominantly preferred (Getz, 1966; LeBlanc, Colman, McCrary, Sherrill, & Malin, 1988). According to Rösing (1984), the maximum information intensity of our reception capacity is a single unit in every 100-150 milliseconds. However, when a unit becomes thoroughly static for more than 200 milliseconds, it would become rather tedious and tiresome for a receiver and it is suggested that a motif should be designed in the length of 5 to 7 seconds to gain positive

responsive feedback (p. 129). Besides that, listeners who are musically experienced respond more positively towards popular styles (Brittin, 1991, p. 149).

On the other hand, Hennion (1983) has stated that socio-political dominance tends to induce global sensation and it also happens in popular culture. All of the sociological subjects can be classified into age, sex, socio-professional group and preferences. Thus, he has presumed the popularity of a popular song as socio-sentimental since it is socially constructed by certain norms. Hence, popular music irrefutably modifies certain effects on the receivers leastwise in two respects, the communicational/social sphere and the individual/psychological sphere where listeners will customarily experience three phases - perception, localisation and interpretation (Rösing, 1984, pp. 123-131).

Conclusively, this section has reviewed two important components, the categorisation of listeners' responses and the factors that are involved in structuralising musical preferences. These two components have generally constituted the main proportion in understanding consumers' preferences towards popular music culture.

2.6 Western Popular Music Chart Phenomenology

Breen (1990), Parker (1991) and Hakanen (1998) have discussed the historical issues and evolution in western popular music chart while Breen (1990) and Hakanen (1998) have both agreed that popular music chart has defined the art too easily today as it emphasises more on the quantifiable aspect of a song – the number of sales, its frequency of occurrence, its accessibility – rather than its artistry value. Besides, Parker (1991) has implied that popular music chart has the ability to create a sense of belonging among the consumers of popular music because of the affiliation it shares between the economic and social aspects and that both aspects are often mutually dependent on each other in the music industry. Since the popular music chart ranking is taken into account as a representative to show the degree of popularity of a particular

popular hit, Jones and Rahn (1977) have clearly defined twelve criteria in defining the popularity of a popular song: (a) number of people involved, (b) combined homogeneity and heterogeneity of audience, (c) unpredictability of listeners, (d) size of the business which markets the product, (e) efficiency of transmission, (f) aural rather than visual transmission, (g) secular or entertainment function, (h) simplicity of the aesthetic object, (i) emphasis on performer rather than composer, (j) standardisation, (k) range of variability, and (l) degree of ephemerality (p. 85).

Breen (1990) has asserted the Billboard ranking system as a predictable system which aligns with the marketing strategy of the popular music industry. This ranking system could be biased since the ranking system is based on consumers' favour in majority and so it may have some restrictions to the overall options for music and creates a deception of its diversity when it may not be actually so (Hakanen, 1998). An authoritative publishing company may control or even capitalise the selling record to establish it as a viral figure so that a more profitable venture can be achieved. For example, the "pay to play" system between radio station and production companies certainly plays a critical role in determining the selling record and thus, it is still questionable whether the results on popular ranking chart are veritable or not (Breen, 1990).

On the other hand, Parker (1991) has presented two related debates from popular music chart which are the nature of consumers' engagement with the charts and the implications of the popular music chart analysis. He has also listed out the dominant themes that develop in the structure of hit parade which consist of hierarchy, mobility, youth, technology, the new and surveillance (Parker, 1991, p. 214). He has taken the popular music charts from the United States and United Kingdom which are reputed as the symbolic centre in western popular music ranking. He also stated that popular music

charts favour singles that are able to sell fast rather than gradual long-term selling. The stardom of popular hits in popular music chart is rather ephemeral occasionally since the older a particular popular music is, the less significant it becomes.

Hakanen (1998) has stated that a popular music chart can be described as a multifaceted signifier of relationships among business, musicians, music and consumer, and these features are strongly correlated (p. 97). Moreover, he has introduced the historical issues of popular music chart from the dominance of publishers' recognition till the centralisation of artists by going through three phases - counterfeit, production and simulation. He also concurred that the ranking system which works in the way of contrasting, comparing and ordering tends to have oversimplified the inner art structure beneath popular music as a cultural product. However, the value of popular music nowadays still primarily depends on its exposure and recognition (Hakanen, 1998).

Concisely, this segment has been inspecting the causes and consequences that could engender in the phenomenon of popular music chart. However, most of the literatures were taken into account on the speculation which relates popular music chart with business in the music industry.

2.7 Conclusion

In conclusion, the literatures above outline the study of popular music analysis where various suggested methodological contexts that can be used in scrutinising the structure of popular music are discussed. Secondly, the correlations of repetitive motifs have been delivered while the significant deviation on the definition of repetitive motif and other related repeating element still needs to be further explored. Thirdly, the influential effects of repeating elements in generating familiarity and preferences are reviewed. However, most of the scholars tend to denote "repetition" as a whole on a macro level as they often quoted "repetition" as repeating the music all over again and this inversely

brought up the issues of inconsistencies in the theories or findings about repetitive motifs. Thus, there is a lack of establishment in inspecting the significance values of repetitive motifs in popular music. Fourthly, the development of popular music preference from the consumers' point of view is assessed. Finally, the prevalent issues on western popular music chart phenomenology are discussed. Therefore, there is a gap in the literature and absence of analytical study which looks into how repetitive motifs were employed and its frequency of appearance. This query can be further investigated so that the gap in the related literatures can be filled.

University of Malaysia

CHAPTER 3 METHODOLOGY

3.1 Introduction

This research is aimed to develop an in-depth study and analysis into repetitive motifs in popular music. Both qualitative and quantitative approaches were employed. Methods and framework from popular music studies which specialise in statistical and phraseology analysis were included.

Qualitative research can be conceptualised as an interpretive, detailed explanatory approach to its subject matter such as personal experience, events, life story and so on (Newman, 1998). Hence, the qualitative research is said to be more introspective and observational in taking quotation from one's experiences, thoughts and attitudes as the occurring process. The conceptual and methodological framework of this study is based on motivic analysis (Dunsby, 2002) and Philip Tagg's popular music analytical model (Tagg, 1982). In this study, the selected research subjects were chosen from Billboard top charters from 2000-2013 and the identified repetitive motifs were labelled as AO (analysis object) in the perspective of Tagg's analytical model. In addition, the hermeneutic, semiotic and ideological contexts in the identified repetitive motifs were inspected. Subsequently, the possible relation between the functional value of repetitive motifs as the emitter and the consumers' persona as the receiver was further discussed in chapter 5. Thus, the research methodology had been subdivided into three phases as follow:

3.2 Secondary data

3.2.1 Literature study

According to Goddard and Melville (2004), literature study can be generally divided into two phases, a preliminary study allows researcher to acquire the surrounding issues

that are involved and hence to have a better idea in proposing a suitable research framework while further sources that are needed to be consulted is also able to specify through this phase. A full study is relatively comprehensive where it is one of the research processes rather than a preparation for the research and it can be considered as one of the steps to embark on experimentation or data collection (Goddard & Melville, 2004). Literatures such as journals, articles, books, documentary sources (survey data, transcripts of interviews, etc.) which are related directly or indirectly to repetitive motifs were reviewed. Additionally, other periodicals that correlate with music, tonality, or other musical elements and their effects on listeners were referred as well.

All the literature studies were intended to obtain a wider scope of understanding towards the research subjects, which are the repetitive motifs, and also other elemental features that associate with them. As a consequence, the viability of the research can be corroborated as narrowing down the research into a more specific framework by accessing the topic-related secondary resources.

Readings of Tagg (1982), Hennion (1983), Middleton (1993), Clarke (2012) and Serrà et al. (2012) provide a baseline in understanding methodological concern in the study of popular music analysis. Writings from Burns (1987), Kronengold, (2005), Middleton (1983), Monson (1999) and Traut, (2005) provide discussion on repetitive motifs and further nomenclature of features such as riff, vamp, repetition, hook and so forth. It was Serrà et al. (2012) in their positivistic research on the homogenous nature of popular music motivated this research as the author think that there is a need to delve deeper for an analysis on repetitive motifs, which is a factor contributing to the homogenous characteristic of this particular musical genre.

3.2.2 Online Sources

Hewson, Yule, Laurent and Vogel (2003) believe that the Internet makes longitudinal study more conveniently practicable where it allows a wide range of searched objective, given that any topic or subject can be researched. This research takes the occurrence of repetitive motifs in western popular music as the research subject. Therefore, far-off region resources such as the result of Billboard chart, the grand total of a particular single sale and so forth are needed to be regained from the Internet. Thus, online sources was endeavoured to obtain those materials which cannot be extracted from reading sources. Latest and updated information was attained promptly from the Internet. Besides searching on online published academic papers, more information on the structure of repetitive motif was retrieved from reliable online databases and websites. However, it is vital to attain the best web sources since the net information are opened to public, hence the credibility and reliability of online publication should be double checked, which is indeed essential (Fielding, Lee & Blank, 2008, p. 73).

3.2.3 Billboard Year-End Hot 100

Billboard has been distributing various chart categories, such as Billboard 200 (weekly ranking chart that publicises Top 200 best selling album and EPs in United States), The Hot 100 (weekly music ranking chart for best selling singles) and also numerous music charts which are divided into different genres, such as Latin, Dance/Electronic, R&B/Hip-Hop, Pop and so forth (Charts, n.d.). Though, Billboard Year-End Hot 100 has been chosen as the paradigmatic chart for selecting the research subjects in this study. This particular popular music chart produces year-end best performing singles across all genres in United States by using the accumulative system which follows a ratio of sales (35-45%), airplay (30-40%) and streaming (20-30%) while YouTube (a video sharing website) data was recently added to this equation (Trust, 2013, p. 55). The compilation for the result of Billboard Year-End Hot 100 is

done by Nielsen SoundScan and Nielsen Broadcast Data System, as its chart year is calculated from December (previous year) up to November (present year), which the result will be published in the Billboard magazine (Petroluongo, 2013).

Billboard Year-End Hot 100 has been elected out from other international or local popular music charts is because of its comparatively balanced ratio scale in generating the annual ranking result. On the other hand, it is important to distinguish the difference between “Billboard Hot 100” and “Billboard Year-End Hot 100”, both of them are two different Billboard charts. “Billboard Hot 100” is a weekly popular music ranking chart and it has the same methodology as “Billboard Year End Hot 100” in engendering the chart ranking (Petroluongo, 2013). However, Billboard Hot 100 is somehow having a certain level of inconsistency if this particular weekly popular music chart ranking is referred as the research model. For example, *Blurred Lines* by Robin Thicke featuring T.I. and Pharrell (2013) had stayed as number one on Billboard Hot 100, the weekly music chart for twelve straight weeks (June 22 to September 7, 2013) while *Thrift Shop* by Macklemore & Ryan Lewis featuring Wanz (2013) served as number one for accumulative six weeks (February 2 to 23 and April 6 to 13, 2013) (Trust, 2013). On the contrary, Billboard Year-End Hot 100 had shown the reversed result, *Thrift Shop* was positioned at the first place with a total of 7,208,000 copies sold in United States and then only followed by *Blurred Lines* which amassed about 6,380,000 copies (Trust, 2013). Hence, it is comprehensible that a popular song might have stayed at the high peak of Billboard Hot 100 for weeks just because its accumulative result is slightly higher among others around that time period, so it would be rather imbalance if taking in the “who gets the most week” as the methodological outline in contrast to observe the annual compilation as a whole. Hence, Billboard Year-End Hot 100 is selected as the source of research subjects in this study. However, this ranking chart scrutinises only the performance of western popular singles in United States. As a result, if the

effectiveness of repetitive motifs in attaining listeners' attention is proven, the principle can only be applied to that specific region.

On the other hand, there is also deficiency across the chart year of Billboard Year-End Hot 100 that has been mentioned in the previous section. Annual chart year for Billboard Year-End Hot 100 is counted from December (previous year)-November (present year), the grand total of the popular songs that happen to be ranked on November or December might have been cut off. For instance, the ranking result of November 2013 will be concluded in Billboard Year-End Hot 100 in the year of 2013, while the data for December 2013 will only be included for the following year, which is year 2014. Thus, the overall total of some particular popular songs will be split into two different years. As a consequent, the year-end accumulation of a popular song that places on the music chart around November or December might have been lower than expected since their result is disconnected from what it should be as a single summation (Petroluongo, 2013). Figure 3.1 is shown to explain the possible incompetence derives from Billboard annual chart year as in generating the year end result for popular singles.

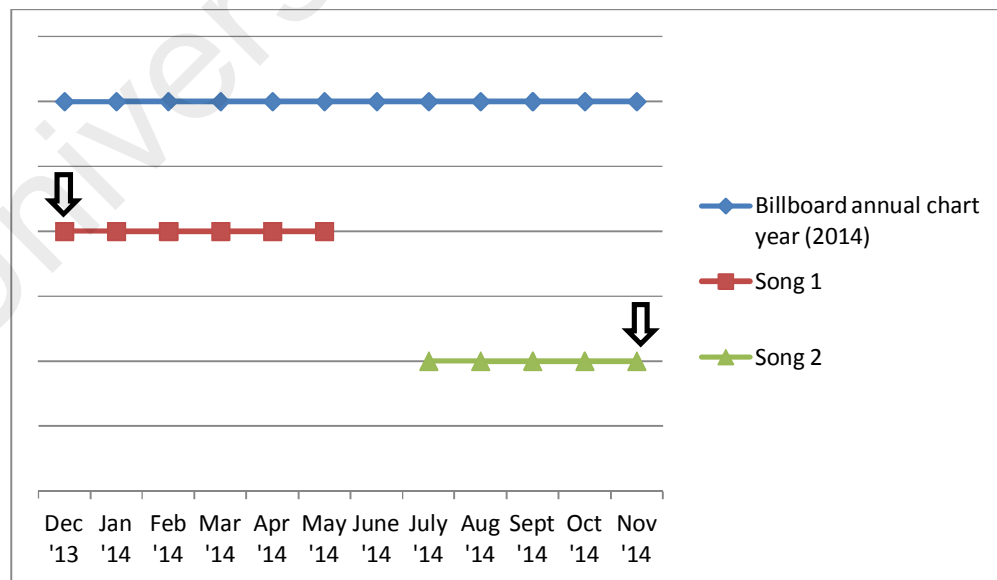


Figure 3.1: *Billboard* annual chart year (Timeline)

From Figure 3.1, Song 1 is released before December 2013 hence the accumulation results before December will be concluded in Billboard Year End Hot 100 in year 2013 while the rest will be calculated in Billboard Year End Hot 100 in year 2014. On the contrary, the accumulated results for Song 2 after November 2014 will be concluded in the next Billboard Year End Hot 100 in year 2015. Arrows are marked for Song 1 and Song 2 to highlight the disconnected accumulation. Both Song 1 and Song 2 show the possible deficit that could be generated from Billboard Year End Hot 100. In spite of all the insufficiencies that have been indicated above, Billboard Year-End Hot 100 still can be described as one of the most prominent and all-rounded ranking systems in assessing the popularity among the western popular music.

3.3 Analysis

First of all, the identified repetitive motifs were transcribed into score. The analyses on the identified repetitive motifs had included quantitative analysis on their frequency of appearance, gesture-analysis based on Middleton, phraseology analysis based on “Hermeneutic-semiological model” by Philip Tagg and the correlation between the occurrence of repetitive motifs and their regularity of chord progression.

3.3.1 Quantitative analysis on Frequency of Appearance (AO)

Research by Serrà et al (2012) shows a quantifiable output in proving the homogeneity of popular song. In this research, quantitative approach was taken into consideration in measuring the impact of repetitive motif in governing a song’s duration. Mapping of frequency of appearance using a quantitative approach was designed. In terms of looking on how frequent a repetitive motif occurs, a quantifiable approach was involved by marking the total duration of a repetitive motif. The total duration of the selected research subjects were shown in centisecond (unit of time)

while for those popular songs that are having significant repetitive motifs were further investigated.

In order to look at the utilisation of an identified repetitive motif occurring in a particular popular song, the duration of the identified repetitive motif in a single unit was then multiplied with its frequency of appearance. Correspondingly, the percentage of occurrence of the identified repetitive motifs were calculated by using the total duration of the identified repetitive motifs divided by the total duration of that particular popular song. For example, $(\text{Identified repetitive motifs (cs)} \times \text{Frequency}) / \text{Total duration of the song (cs)} = \text{Percentage of occurrence (\%)}$. Hence, the domination of an identified repetitive motif in a song can be shown particularly. Consequently, the variance of the percentage of occurrence for the identified repetitive motifs ranging from 2000-2013 was outlined and compared. The outcome of this approach can be possibly contributed to new methodological concern in the area of popular music study.

3.3.2 Hermeneutic-semiological model

According to Phelps, Sadoff, Warburton, and Ferrara (2005), data analysis is a persisting process, the period follows instantaneously for each of the data collection segment, and continues after a fieldwork is completed, as the collected data will be organised, reduced, discussed, prioritised and interpreted; while they have also simplified hermeneutics as the field of interpretation theory. Hermeneutic-semiological method, which also refers as Tagg's model (Tagg, 1982), it was the principal theoretical framework in phraseology analysis for the identified repetitive motifs. The significance of repetitive motifs in No. 1 popular songs which were taken from Billboard Year-End Hot 100 from 2000-2013 were determined while the identified repetitive motif were analysed by using the divisions below based on Tagg's model:

- A) Duration of the repetitive motif (AO)
- B) Melodic aspects
- C) Orchestration aspects
- D) Aspect of tonality and texture
- E) Dynamic aspects
- F) Acoustical aspects
- G) Electro musical and mechanical aspects

AO was referred as the “Analysis Object”, which was directed to the significant repetitive motifs that appear in the research subjects, the analysis object were analysed by going through these parameters. This checklist is able to provide a precise description of the identified repetitive motifs as in the structure of museme. However, the list does not need to be applied mindlessly in determining the structure of repetitive motifs since some parameters might be absent or vary with other elements (Tagg, 1982). On the other hand, this model might have stimulated result that is rather subjective, since it is still not a common methodological analytic model in popular music analysis. In addition, this method is generated mainly based on interpretation across the selected western popular top charters. Therefore, personal interpretation can be one sided unintentionally sometimes. Nevertheless, this analytic model is yet the most complete paradigm that can be found, which specialises in motivic analysis since it is able to fully delineate the repetitive motif as in the structure of museme (Tagg, 1982).

In this study, the author carried out a listening analysis across the fourteen top charting songs selected from Billboard Chart from 2000-2013. The AO or repetitive motif in this research was identified. For the purpose of analysis, the identified AO was transcribed by the author in the earlier section in chapter 4 to carry out further analysis using Tagg’s model as mentioned above. Figure 3.2 shows an example of an identified

repetitive motif in *Hanging by a Moment* that topped the Billboard Chart in 2001 transcribed by the author. The { } symbol is marked on the transcription to indicate the identified repetitive motif as in a single unit.

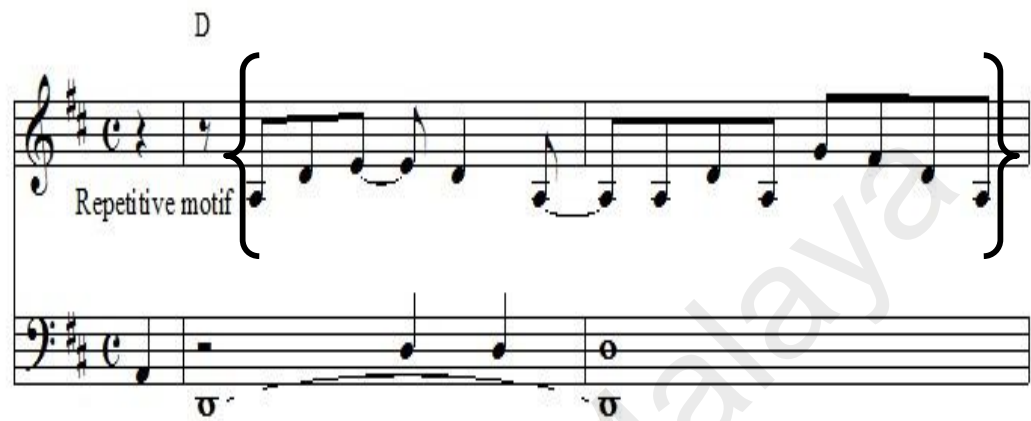


Figure 3.2: AO from *Hanging by a Moment* (transcribed by author)

After the analysis section of “Hermeneutic-semiological method”, the details that were listed under the category of “Orchestration aspects” in Tagg’s model were illustrated as in the form of graphic representation. The purpose of this illustration process was to clarify the relationship between the identified repetitive motifs and other specified instrumentation. Each outlined orchestration contour was scrutinised and studied on the placement of the identified repetitive motifs in their composition layer respectively. Hence, the function of the identified repetitive motif in its motivic or musematic context can be perceived. Figure 3.3 shows one of the examples from the graphic representation section written in chapter 4.

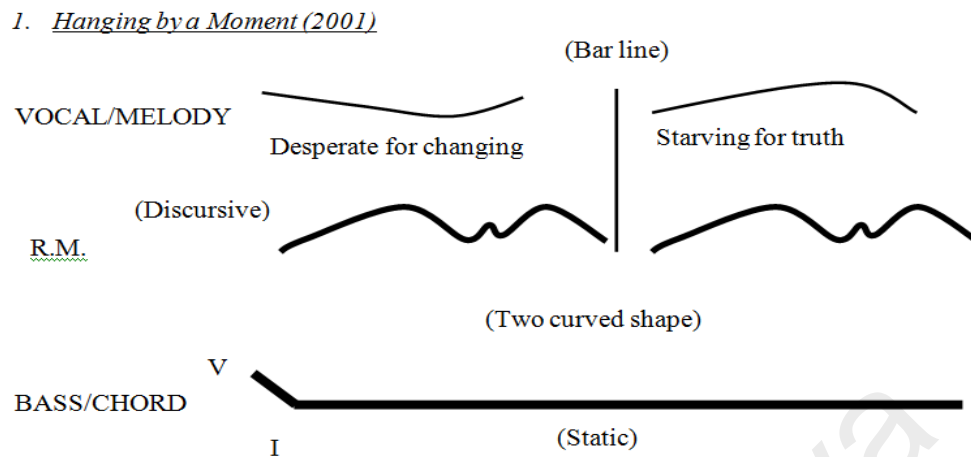


Figure 3.3: Graphic representation for *Hanging by a Moment* (Illustrated by author)

3.3.3 Correlation between the occurrence of repetitive motifs and the regularity of chord progression in selected popular hits

In accordance with the previous analyses, the regularity of chord progression of the research subjects were scrutinised and categorised. Two categorisations were structured, the chord progression of 14 popular songs were identified as either in the category of common or uncommon. A popular song that consists of a set of ordinary chord progression such as three or four chords riffs, customary chords alternations and circle of fifth sequences was classified under the category of common chord progression; while a popular song that is supported by untypical chord progression such as one-chord song, unconventional chord alternations and so forth was categorised under the category of uncommon chord progression (Burns, 1987; Middleton, 1993). The purpose of doing this classification is to have a comprehensive learning on the relationship between the identified repetitive motif and its harmonising chord structure. As a consequent, the conventionality of the supporting framework of the repetitive motif can

be recognised since the proportion of common or uncommon chord progression that are used in the repetitive motifs is revealed.

3.4 Discussion and Writing up

According to Sahu (2013), the discussion section in research writing can be subdivided into nontechnical and technical part where the latter one supposed to be drawn with more scientific logic and references given that generalisation of the inferences should follow the supported analytical tool (p. 418). The previous stages identified and analysed on the combination of the repetitive motifs along with other elements while the synchronisation of all musical aspects at a micro level was scrutinised. The next level further discussed the issue by looking into both musical and extra-musical discourse based on the results from the analysis. Consequently, analysis outcome was related to musical and extra-musical elements. The discussion of its emitters and receivers from the homogenous and heterogeneity context was generated. Lastly, the collected data was categorised into each section clearly for readers' understanding.

3.5 Conclusion

All the phases are tended to formalise the in-depth understanding about the repetitive motive in popular music and its effect towards listeners. While the intention and predilection for constructing the repetitive motifs was scrutinised. These approaches taken in this research helped in generating outcomes as reported in Chapter 4. Tagg's model was helpful as an analytical framework in delivering outcome to meet with the research objectives. While the schematic summary of Serrà et al. became a reference for the author to carry out a mapping of the duration and frequency of repetitive motifs in a song. In a summary, the approaches taken were considered suitable and helped the researcher in meeting with the research objectives stated in Chapter 1.

CHAPTER 4 DATA ANALYSIS & DISCUSSION

4.1 Overview

The chapter has reviewed the collected data and analysed with various types of data analysis technique. Data collection is managed according to the methodological framework presented in Chapter 3. The data analysis and discussion section is aimed to identify the occurrence of repetitive motifs in selected western popular top charters which are taken from Billboard Year-End Hot 100 ranging from the year 2000-2013 and to scrutinise on the musical parameters of the identified repetitive motifs. The focal point of the whole data analysis process converged on utilising the analytical model that is suggested by Philip Tagg, the “Hermeneutic-semiological model”. This chapter discusses on the structure of the identified repetitive motifs and their impacts via a few approaches: transcriptions, analysis, and measurement of listening duration. The classification on the regularity of chord progression is listed in section 4.5. A quantitative analysis on the identified repetitive motifs and their listening duration is reported.

4.2 Song selection for identification on repetitive motif

The research subjects were selected from Billboard Year-End Hot 100 ranging from year 2000-2013. The number one singles for each respective year were retrieved as the analysis objects, with a total of fourteen popular songs examined. First of all, a list of Billboard Year-End Hot 100 first-positioned singles from year 2000-2013 is gathered in this chapter under section 4.2.3 the list is named as Table 4.1.

4.2.1 Billboard Year-End Hot 100

Billboard Year-End Hot 100 generates the most favoured or marketable performing singles that can be positioned in top 100 in the end of every year.

According to Petroluongo (2013), this popular music chart follows a particular cumulative measurement as it will accumulate the weekly digital and physical sales, number of airplays and streaming whereas the annual year calculation for Billboard Year-End Hot 100 is run from December of the previous year up to November of the current year. Subsequently, all the results will be compiled by Nielsen SoundScan and Nielsen Broadcast Data System, which is later published by the Billboard magazine (*ibid*). In fact, there are various music ranking charts under Billboard. Among all these charts, Billboard Hot 100 and Billboard Year-End Hot 100 are rather similar. However, the result of Billboard Hot 100 is weekly based while Billboard Year-End Hot 100 is based on the total accumulation annually. The purpose of choosing Billboard Year-End Hot 100 rather than Billboard Hot 100 has been explained in chapter 3 previously.

4.2.2 Number-one singles from 2000-2013 in Billboard Year-End Hot 100

The first stage of the research was the songs selection. A total of fourteen songs were selected based on their position as the No. 1 top charter in Billboard Year-End Hot 100 for each respective year starting from year 2000-2013 (see Table 4.1).

Table 4.1: List of number one singles in Billboard Year-End Hot 100 from 2000-2013 (Billboard.com, 2014; with permission)

Year	Title	Artist(s)
2000	<i>Breathe</i>	Faith Hill
2001	<i>Hanging by a Moment</i>	Lifehouse
2002	<i>How You Remind Me</i>	Nickelback
2003	<i>In da Club</i>	50 cent
2004	<i>Yeah!</i>	Usher featuring Lil Jon & Ludacris
2005	<i>We Belong Together</i>	Mariah Carey
2006	<i>Bad Day</i>	Daniel Powter
2007	<i>Irreplaceable</i>	Beyoncé

Table 4.1, continued

Year	Title	Artist(s)
2008	<i>Low</i>	Flo Rida featuring T-Pain
2009	<i>Boom Boom Pow</i>	The Black Eyed Peas
2010	<i>Tik Tok</i>	Ke\$ha
2011	<i>Rolling in the deep</i>	Adele
2012	<i>Somebody that I used to know</i>	Gotye featuring Kimbra
2013	<i>Thrift Shop</i>	Macklemore & Ryan Lewis featuring Wanz

There are some exceptions arise in the list of Table 4.1. Most of the number one singles in Billboard Year-End Hot 100 had been achieved as No. 1 in weekly Billboard Hot 100 but this standard principle did not imply on *Breathe* (2000) by Faith Hill and *Hanging by a Moment* (2001) by Lifehouse, both of the popular songs never made it to No.1 on weekly Billboard Hot 100 but they are still able to establish as number one single in Billboard Year-End Hot 100 in year 2000 and 2001 respectively (Bronson, 2003).

According to Bronson (2003), although these popular hits had never reached at the first position weekly but they were able to stay on Billboard Hot 100 for more than 50 weeks consecutively before they left the chart. Consequently, both of these particular popular songs have a slow progress in ascending to the peak position, however, their accumulative outcome are rather prominent since they have the ability to get hold in Billboard for so many weeks.

4.3 Classification on the occurrence of repetitive motif and the phraseology analysis on its musical unit

Subsequently, a listening analysis was done whereas Table 4.2 is constructed for the classification on the occurrence of repetitive motifs for the number one singles of Billboard Year-End Hot 100 from year 2000-2013. To specify on the definition for the

term “repetitive motifs” based on a theory by Randel (2003), a significant repetitive motif should be presented as an intentionally designed musical unit that keeps repeating at a constant mode within a music piece while it can also be independently stood out as one of the musical aspects in a song which it can be appeared in melody, harmony, rhythmic or any features other than these elements (p. 531). Hence, popular songs that contain repeating designated motifs in certain complexity level and duration will be labelled as “Yes” while “No” will be referring to the music (i) with no obvious repetitive motif, (ii) that has repeating element but it does not reach certain level of frequency (repetition less than 10 times) and (iii) the repetitive component is too short and it is hardly to define this as a significant repetitive motif.

Table 4.2: Classification on the occurrence of repetitive motif

Title	Repetitive Motifs	
	Yes	No
<i>Breathe (2000)</i>		●
<i>Hanging by a Moment (2001)</i>	●	
<i>How You Remind Me (2002)</i>		●
<i>In da Club (2003)</i>	●	
<i>Yeah! (2004)</i>	●	
<i>We Belong Together (2005)</i>	●	
<i>Bad Day (2006)</i>		●
<i>Irreplaceable (2007)</i>		●
<i>Low (2008)</i>	●	
<i>Boom Boom Pow (2009)</i>	●	
<i>Tik Tok (2010)</i>	●	
<i>Rolling in the deep (2011)</i>	●	
<i>Somebody that I used to know (2012)</i>	●	
<i>Thrift Shop (2013)</i>	●	

Ten out of fourteen selected popular hits are consisting significant repetitive motifs. The following section first identifies the repetitive motifs used in the selected Billboard chart toppers, and other proceeding sections reveal a phraseology analysis on the repetitive motif which has been identified where Philip Tagg's Hermeneutic-semiological model is principally referred.

Musical parameters that have been mentioned in chapter 3 are listed and described. However, the "Acoustical aspects" section in the hermeneutic-semiological model is omitted since this section is merely focused on the descriptive qualities of musical elements on the recordings. Furthermore, the musical parameters which are taken from Hermeneutic-semiological method in descriptive section are varied according to the compositional structure for these ten popular hits that have been identified as consisting significant repetitive motifs.

4.3.1 Transcriptions of repetitive motif

In this section, a total of ten out of fourteen popular songs that topped the billboard chart from year 2000 to 2013 were identified as consisting significant repetitive motifs via listening analysis. The identified repetitive motifs were transcribed by the author shown in this section as a first step before analysis was carried out (see Section 4.3.3 and 4.3.4 for analysis). Subsequently, brackets "{ }" are marked on the transcriptions to indicate the identified repetitive motifs as in one single unit.

(1) *Hanging by a Moment* (2001)

The musical score for 'Hanging by a Moment' is presented in two staves. The top staff is in treble clef with a key signature of one sharp (F#) and a common time signature (C). It begins with a whole rest, followed by a quarter rest, and then a repetitive motif of eighth notes: F#4, G4, A4, B4, A4, G4, F#4, E4, D4, C4. This motif is enclosed in a large curly brace and labeled 'Repetitive motif'. Above the first measure of this motif is the letter 'D'. The bottom staff is in bass clef with the same key signature and time signature. It starts with a whole rest, followed by a quarter rest, and then a bass line consisting of a whole note F#3, a whole note G3, and a whole note F#3.

Figure 4.1: Repetitive motif in *Hanging by a Moment* (Transcription by author)

(2) *In da Club* (2003)

The musical score for 'In Da Club' is presented in four staves. The top staff is a drum line in common time (C) with a key signature of one sharp (F#). It features a 'Clap' pattern: a whole rest, followed by quarter notes with 'x' marks on the snare line, and quarter notes with 'x' marks on the hi-hat line. The word 'Clap' is written above the first measure, and 'simile' is written at the end of the staff. The second staff shows the chord progression: F#m, C#m, C#m/E, F#m, C#m/E, F#m. The word 'simile' is written below the last measure. The third staff is in treble clef with a key signature of one sharp (F#) and a common time signature (C). It features a repetitive motif of eighth notes: F#4, G4, A4, B4, A4, G4, F#4, E4, D4, C4. This motif is enclosed in a large curly brace and labeled 'Repetitive motif'. The word 'simile' is written at the end of the staff. The bottom staff is in bass clef with the same key signature and time signature. It features a bass line of eighth notes: F#3, G3, A3, B3, A3, G3, F#3, E3, D3, C3. The word 'simile' is written at the end of the staff.

Figure 4.2: Repetitive motif in *In Da Club* (Transcription by author)

(3) *Yeah!* (2004)

The image shows a musical score for the song "Yeah!". It consists of three staves. The top staff is labeled "Rap" and contains the lyrics: "Yeah - - - o kay Usher Ush er Ush er ah let's go". The middle staff is labeled "Repetitive motif" and shows a melodic line in G major with a key signature of one flat. The bottom staff is a bass line in G major with a key signature of one flat. The time signature is common time (C).

Figure 4.3: Repetitive motif in *Yeah!* (Transcription by author)

(4) *We Belong Together* (2005)

The image shows a musical score for the song "We Belong Together". It consists of three staves. The top staff is labeled "Vocal" and contains the lyrics: "Oh _____ oh _____ oh _____ sweet love _____ Yeah Yeah". The middle staff is labeled "Repetitive motif" and shows a chordal accompaniment in G major with a key signature of one flat. The bottom staff is a bass line in G major with a key signature of one flat. The time signature is common time (C).

Figure 4.4: Repetitive motif in *We Belong Together* (Transcription by author)

(5) *Low* (2008)

Vocal & Rap

Hm mm mm mm mm mm Let me talk to em mm letme talk

Repetitive motif

Figure 4.5: Repetitive motif in *Low* (Transcription by author)

(6) *Boom Boom Pow* (2009)

The image displays a musical score for the song "Boom Boom Pow" (2009). It is organized into three systems, each containing three staves: a vocal line in treble clef, a melodic line in treble clef, and a bass line in bass clef. The time signature is common time (C).

System 1:

- Rap:** The vocal line contains the lyrics "Boom boom_ pow_ Go tta get get Boom boom_ pow_ Go tta get get". The notes are quarter notes with stems pointing down. There are 'x' marks above the notes for "Go tta get get" in both phrases.
- Repetitive motif:** The melodic line shows a sequence of notes: G4, A4, B4, C5, B4, A4, G4. The first phrase is bracketed.
- Bass:** The bass line consists of quarter notes: G2, A2, B2, C3, B2, A2, G2.

System 2:

- Rap:** The vocal line contains the lyrics "Boom boom_ pow_ now Boom boom_ pow_ now".
- Repetitive motif:** The melodic line shows the sequence: G4, A4, B4, C5, B4, A4, G4.
- Bass:** The bass line consists of quarter notes: G2, A2, B2, C3, B2, A2, G2.

System 3:

- Rap:** The vocal line contains the lyrics "Boom boom_ pow_ now Boom boom_ pow_ now".
- Repetitive motif:** The melodic line shows the sequence: G4, A4, B4, C5, B4, A4, G4.
- Bass:** The bass line consists of quarter notes: G2, A2, B2, C3, B2, A2, G2.

Figure 4.6: Repetitive motif in *Boom Boom Pow* (Transcription by author)

(7) *Tik Tok* (2010)

The image displays a musical score for the song "Tik Tok" (2010). It consists of two systems of music. The first system features a vocal line with the lyrics "Wake up in the morning feeling like P... Did dy... Grab my glasses" and a piano accompaniment. The piano part includes a section labeled "Repetitive motif" which is a rhythmic pattern of eighth notes. The second system continues the vocal line with the lyrics "I'm out the door I'm gonna hit the city before I" and repeats the piano accompaniment, including the "Repetitive motif". The score is written in treble and bass clefs with a key signature of one flat and a common time signature.

Figure 4.7: Repetitive motif in *Tik Tok* (Transcription by author)

(8) *Rolling in the deep* (2011)

The image displays a musical score for the song "Rolling in the Deep" by Adele. It consists of two systems of music. The first system includes a vocal line and a repetitive motif. The vocal line starts with the word "all" and is followed by a long horizontal line, then "Rolling in the". The repetitive motif is a four-measure phrase in the treble clef, consisting of a series of eighth notes: G4, A4, B4, C5, D5, E5, F5, G5, with a fermata over the final G5. The lyrics "You're go nna wish you" are under the first four notes, and "ne ver had met me" are under the last four notes. The second system continues the vocal line with "deep" and "you had my heart in". The repetitive motif continues with "tears are go nna fall" and "rol ling in the deep". The score also includes piano accompaniment in the right and left hands, both in 4/4 time, with a key signature of three flats (Bb, Eb, Ab).

Figure 4.8: Repetitive motif in *Rolling in the deep* (Transcription by author)

(9) *Somebody that I used to know* (2012)

The image shows two staves of musical notation. The top staff is in treble clef, 2/4 time, and is labeled 'Intro'. It begins with a whole rest for two measures, followed by a sequence of notes: a half note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note D5, a quarter note E5, and a quarter note D5. The bottom staff is in bass clef, 2/4 time, and is labeled 'Repetitive motif'. It features a repeating eighth-note pattern: G3, A3, B3, C4, D4, E4, D4, C4, B3, A3, G3.

Figure 4.9: Repetitive motif in *Somebody that I used to know* (Transcription by author)

(10) *Thrift Shop* (2013)

The image shows three staves of musical notation. The top staff is in treble clef, 4/4 time, and is labeled 'Rap & Vocal'. It contains a rap line with lyrics: 'Ba da ba ba da ba ba da dum da__ ba da ba ba da ba ba da dum da__ whoa'. The notes are marked with 'x' for rap and have stems pointing up. The middle staff is in treble clef, 4/4 time, and is labeled 'Repetitive motif'. It features a repeating eighth-note pattern: G3, A3, B3, C4, D4, E4, D4, C4, B3, A3, G3. The bottom staff is in bass clef, 4/4 time, and features a repeating eighth-note pattern: G2, A2, B2, C3, D3, E3, D3, C3, B2, A2, G2.

Figure 4.10: Repetitive motif in *Thrift Shop* (Transcription by author)

3

ba da ba ba da ba ba da dum da___ I'm go nna pop some tags On ly got

3

3

Figure 4.10, continued

4.3.2 Quantitative analysis on Frequency of Appearance (AO)

The identified repetitive motif is scrutinised with its total duration and percentage of occurrence in the popular hit respectively. Fourteen top charters from *Billboard* Year-End Hot 100 between the years of 2000-2013 were listed. Tempo was measured based on number of crotchet beats per minute. Unit of time is fixed as in the unit of centisecond so that precision in analysing duration can be achieved. Hence, the total duration of the popular hit and the duration of repetitive motif as a single unit were presented in the unit of centisecond. Moreover, the frequency of repetitive motif was shown as to indicate the total number of appearance of the identified repetitive motif in the song. The significance of repetitive motif for each popular song was also shown in the table. The table below is named as Table 4.3.

Table 4.3*: Frequency and duration of the identified repetitive motifs

Title	Artist(s)	Tempo	Duration (cs)	R. M.	R.M.1/ (R.M. 2) Frequency	R.M.1 /(R.M. 2) Duration (cs)
Breathe (2000)	Faith Hill	69	24900	No	-	-
Hanging by a Moment (2001)	Lifefhouse	125	21000	Yes	22	387
How You Remind Me (2002)	Nickelback	86	22700	No	-	-
In da Club (2003)	50 cent	90	24900	Yes	47	530
Yeah! (2004)	Usher ft. Lil Jon & Ludacris	105	25100	Yes	54/ (12)	456/ (457)
We Belong Together (2005)	Mariah Carey	70	20400	Yes	28	686
Bad Day (2006)	Daniel Powter	70	22700	No	-	-
Irreplaceable (2007)	Beyoncé	88	25200	No	-	-
Low (2008)	Flo Rida ft. T-Pain	128	23000	Yes	52	375
Boom Boom Pow (2009)	The Black Eyed Peas	130	20900	Yes	26	185
Tik Tok (2010)	Ke\$ha	120	21400	Yes	39	401
Rolling in the Deep (2011)	Adele	106	23300	Yes	46	229
Somebody that I used to know (2012)	Gotye ft Kimbra	130	24300	Yes	66/ (20)	186/ (744)
Thrift Shop (2013)	Macklemor & Ryan Lewis ft. Wanz	96	23200	Yes	55	253

* Result in Table 4.3 is published in Chin & Loo (2015) as a graduation requirement.

From Table 4.3, 10 out of 14 popular hits contain at least one repetitive motif, which records a result of 71.43%. Furthermore, second repetitive motif was found in two popular songs among the ten top charters that had been identified as having significant repetitive motif, which proportions a result of 14.29%. Breathe (2000), How You Remind Me (2002), Bad Day (2006) and Irreplaceable (2007) were identified as no significant in repetitive motif, which fractionalised a percentage of 28.57%. These four popular hits are rather slow in tempo wise. There have been traces of repeating elements in theses four popular songs, however, the reoccurrence of the elements are not constant enough to achieve as a repetitive motif. As mentioned at the section of 4.3.2., the average duration of the main repetitive motif (R.M. 1) based on the ten recognised top charters is 368.8 centiseconds while the average of occurrence is 43.5 times.

Table 4.4: The total percentage of accumulated repetitive motif listening time (Chin & Loo, 2015)

Song	Tempo	R.M.1 % of occurrence	R.M.2 % of occurrence
Breathe	69	-	-
Hanging by a Moment	125	30.06	-
How You Remind Me	86	-	-
In Da Club	90	100.00	-
Yeah!	105	98.10	0.57
We Belong Together	70	94.16	-
Bad Day	70	-	-
Irreplaceable	88	-	-
Low	128	84.78	-
Boom Boom Pow	130	23.01	-
Tik Tok	120	73.08	-
Rolling in the Deep	106	45.21	-
Somebody I Used to Know	130	50.52	1.65
Thrift Shop	96	59.98	-

Table 4.4 shows the percentage of occurrence of the identified repetitive motif in the song respectively. Based on the ten identified repetitive motifs, 70% of them had achieved more than 50% of occurrence. In contrast, the second repetitive motif which had been recognised in *Yeah! (2004)* And *Somebody That I Used to Know (2012)* only obtained a total percentage of 0.57% and 1.65% correspondingly. The repetitive motif of *In da Club (2003)*, *Yeah! (2004)* and *We Belong Together (2005)* are extensively repeated since their percentage of occurrences are more than 90%. Contrarily, the percentage of occurrence of *Hanging by a Moment (2001)*, *Boom Boom Pow (2009)* and *Rolling in the Deep (2011)* are much lower. This is because the repetitive motifs are displayed primarily in the chorus section. From the table above, it shows that the tempo of a song is not directly related to the percentage of occurrence of the repetitive motif. Since the percentage of occurrences for the identified repetitive motif in the selected popular hits which have the tempo between 120-130 crotchet beats per minute are highly variable.

4.3.3 Gesture-analysis

Figure 4.11 to 4.20 show a gesture-analysis of the repetitive motif on the selected Billboard top charters based on Middleton's theoretical framework (2000). Although Middleton's gesture-analysis still evoke many questions in the scholarship of popular music analysis, however, its framework was found ideal here in showing the characteristic and directional features in the musical gesture of repetitive motif. Gesture, according to Hatten (2006), when applied to music, is a shaping of motion that induces energy within the capacity of time and space. Motivic gesture – the repetitive motif is seen as a motivic gesture that has become the carrier of force where its rhetoric was formed in its repetition.

1) *Hanging by a Moment* (2001)

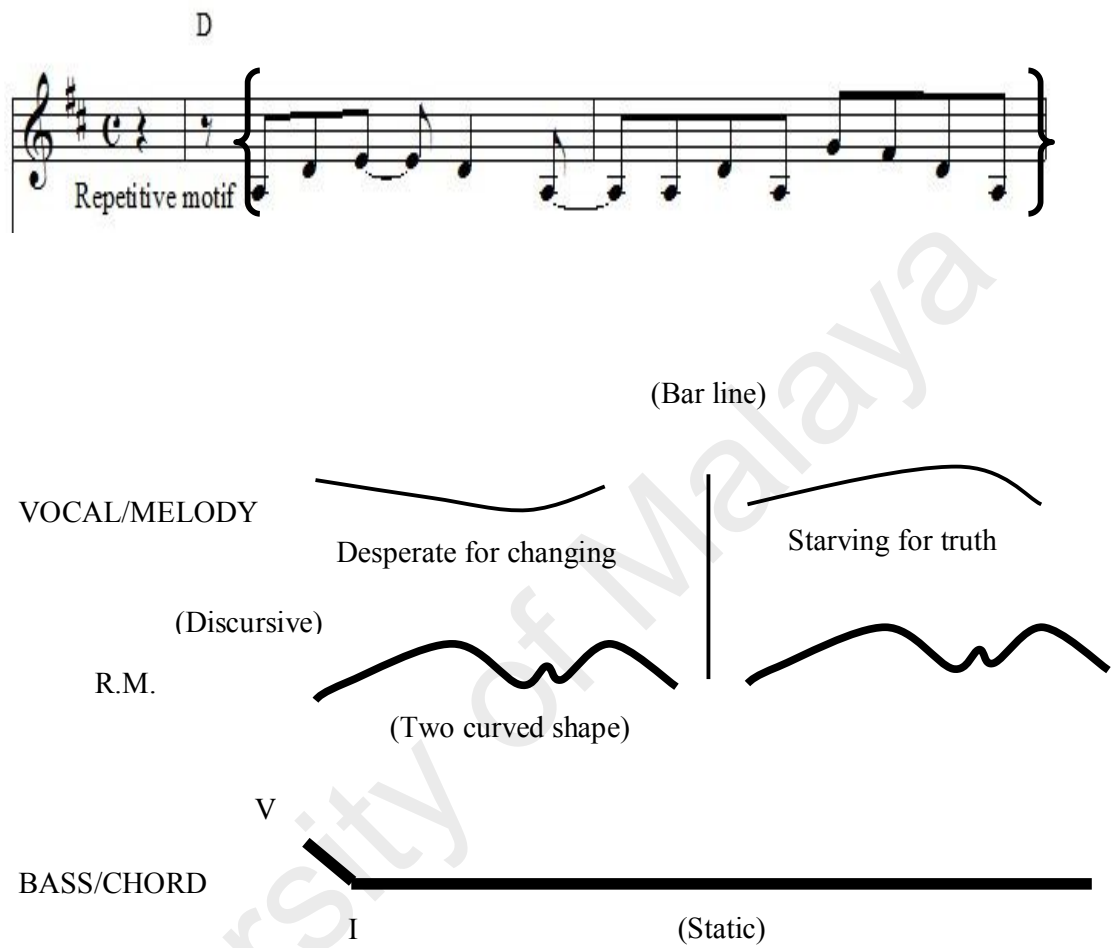


Figure 4.11: Graphic representation for *Hanging by a Moment* (Illustrated by author)

2) *In da Club* (2003)



(Museumatic, segmented)

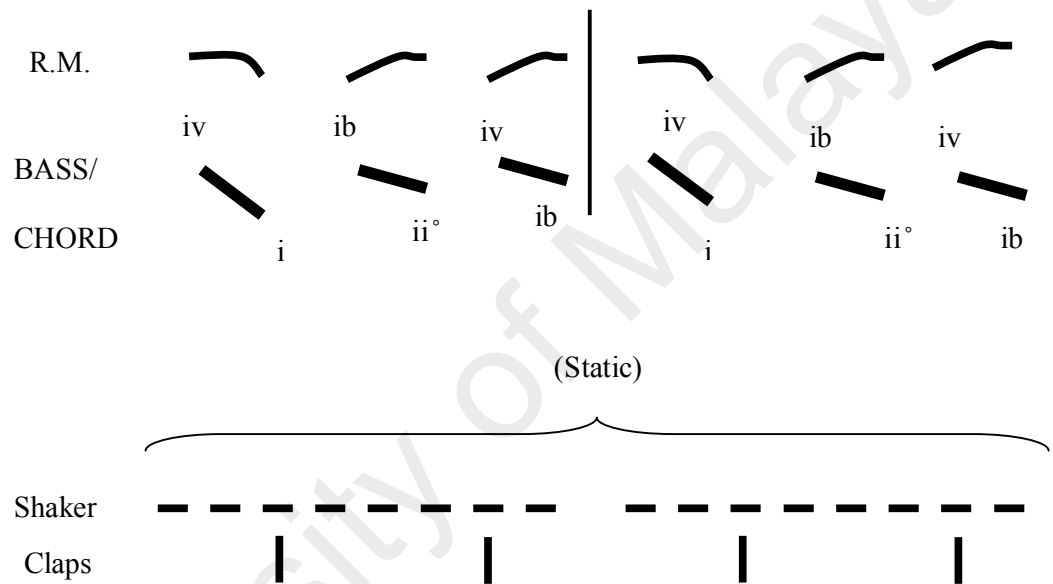


Figure 4.12: Graphic representation for *In da Club* (Illustrated by author)

3) *Yeah!* (2004)

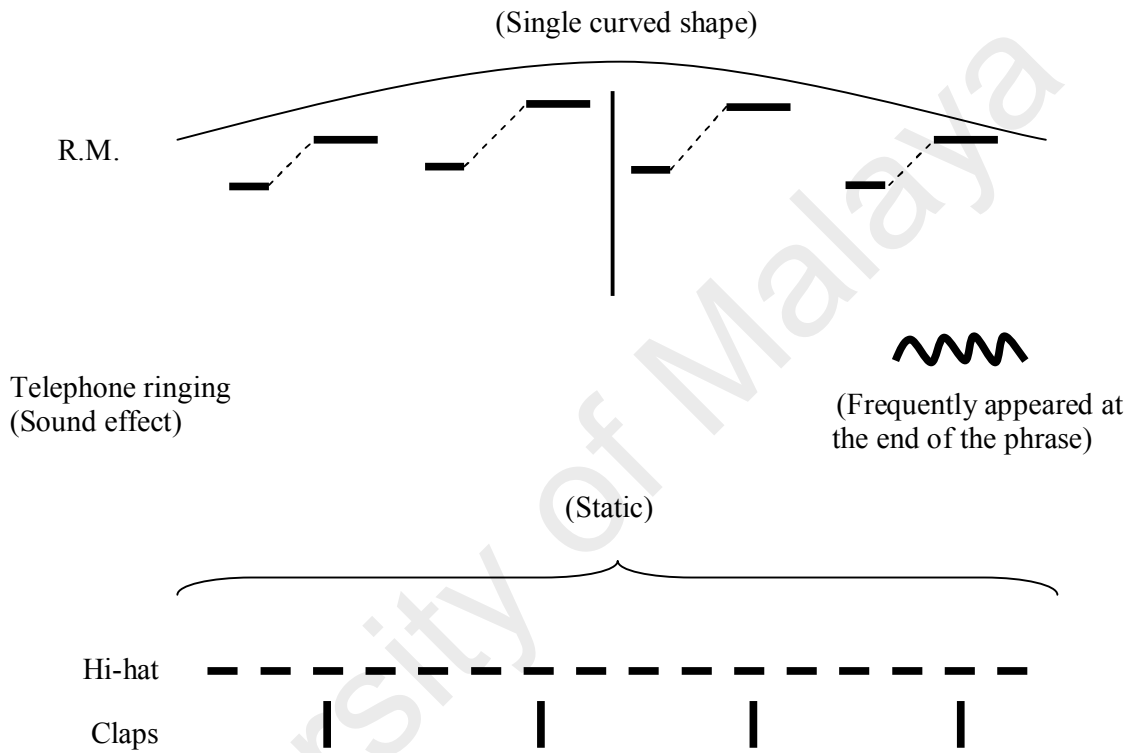


Figure 4.13: Graphic representation for *Yeah!* (Illustrated by author)

4) *We Belong Together* (2005)

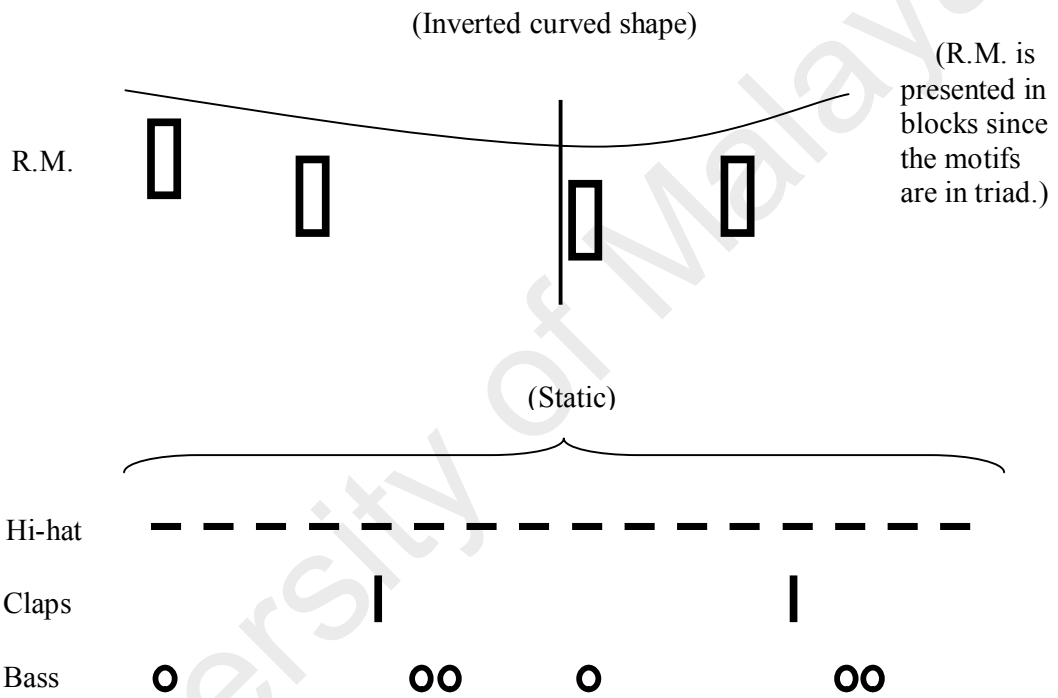
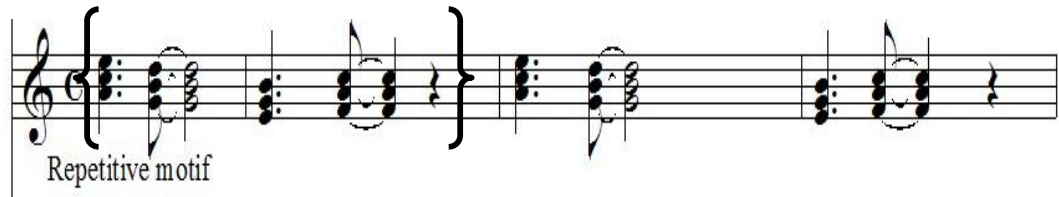


Figure 4.14: Graphic representation for *We Belong Together* (Illustrated by author)

5) *Low* (2008)

Repetitive motif

(Single curved shape)

R.M.

(Static)

Hi-hat

Claps

Bass drum

Figure 4.15: Graphic representation for *Low* (Illustrated by author)

6) *Boom Boom Pow* (2009)

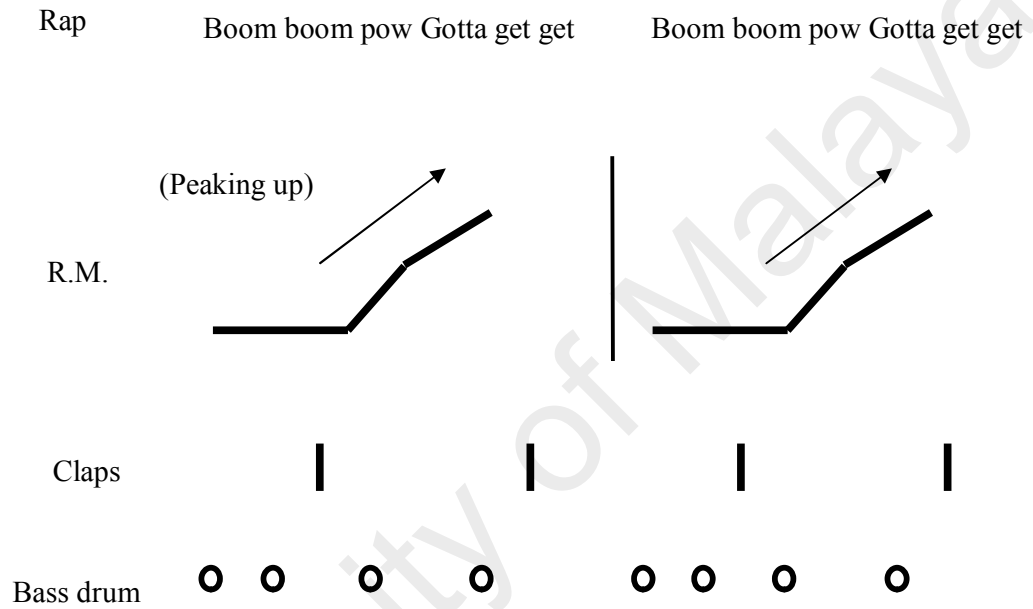


Figure 4.16: Graphic representation for *Boom Boom Pow* (Illustrated by author)

7) *Tik Tok* (2010)

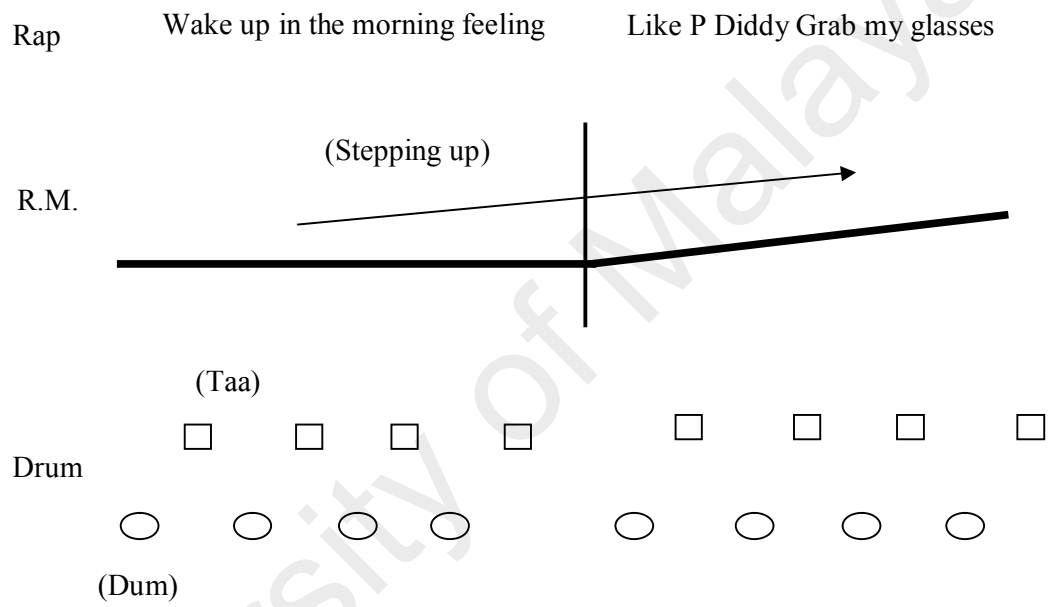


Figure 4.17: Graphic representation for *Tik Tok* (Illustrated by author)

8) *Rolling in the deep* (2011)

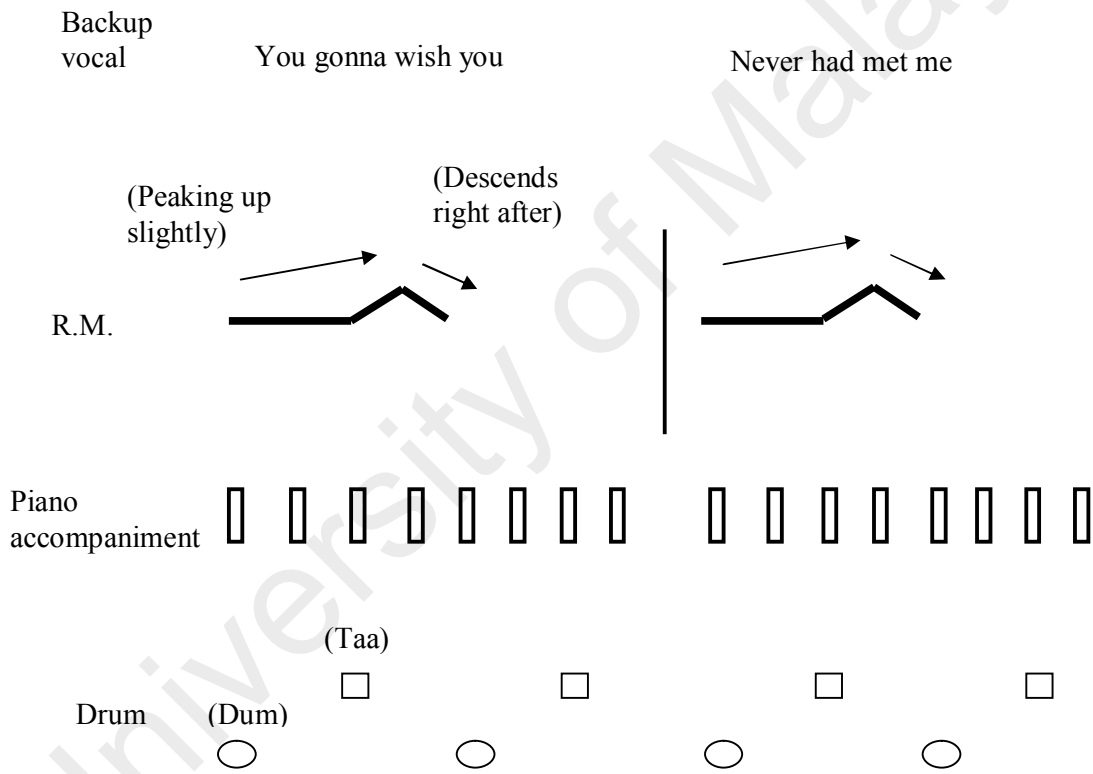
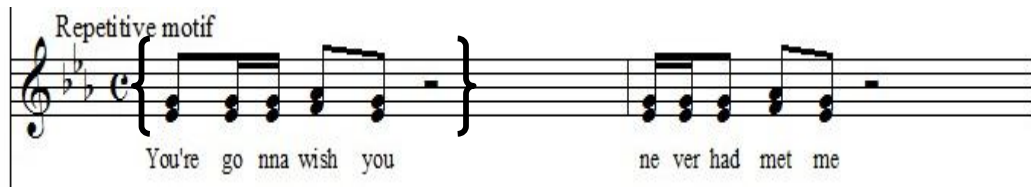


Figure 4.18: Graphic representation for *Rolling in the deep* (Illustrated by author)

9) *Somebody that I used to know* (2012)

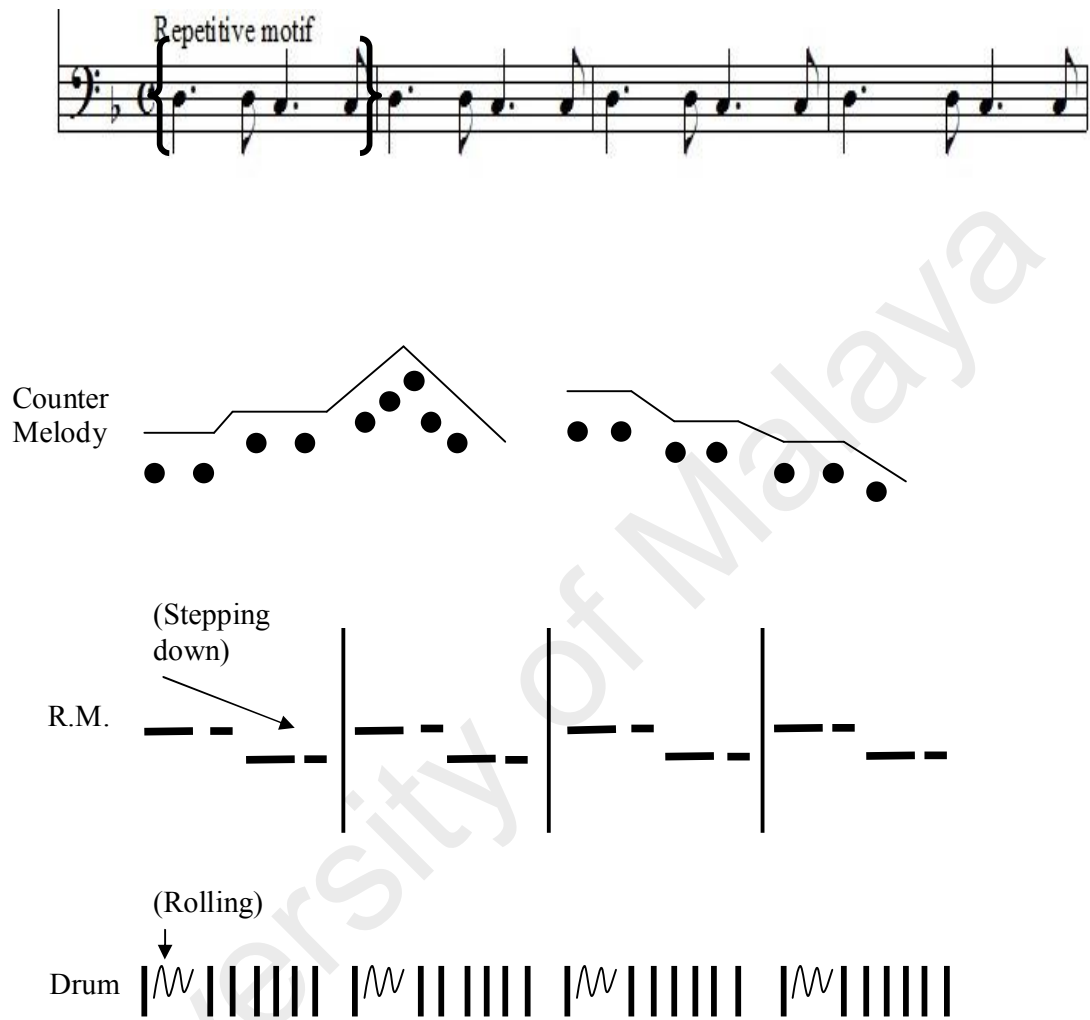


Figure 4.19: Graphic representation for *Somebody that I used to know*
(Illustrated by author)

10) Thrift Shop (2013)

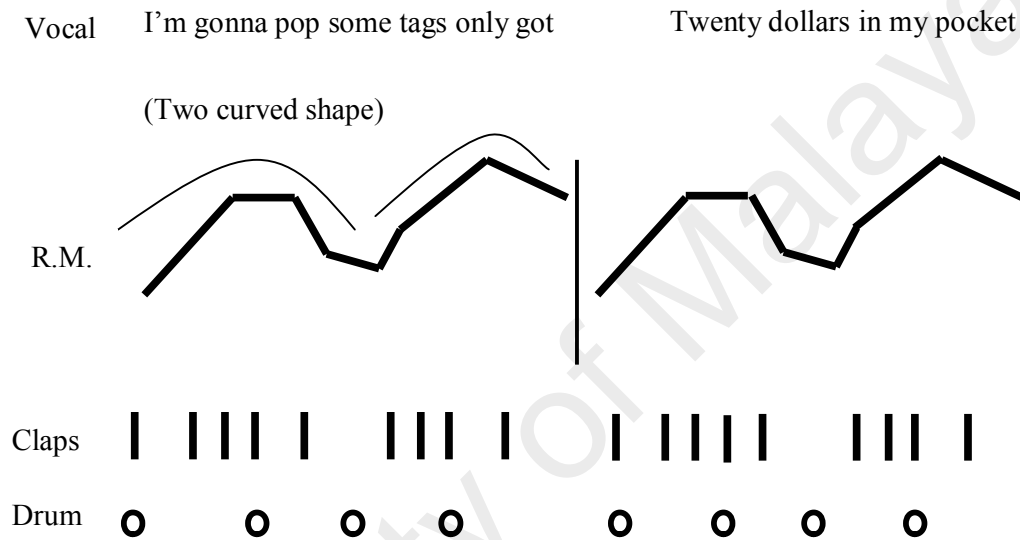


Figure 4.20: Graphic representation for *Thrift Shop* (Illustrated by author)

From the graphic representation of the ten selected popular songs, only four *Hanging by a Moment*, *Low*, *Somebody that I used to know*, and *Thrift Shop* consist a continuous driven gesture in contrast to the static base line and drumming pattern.

The stylistic feature of the musical gesture in these four shows continuous shading and shaping that sustain through. *In da Club*, *Yeah!*, *We Belong Together*, *Boom Boom Pow*, *Tik Tok*, and *Rolling in the Deep*, reveal shorter rhythmic figures.

The above outcome shows a gesture-analysis that transfer all ten songs' repetitive motifs' sonic movement first into notation (Refer to Section 4.3.1), and then to graphic representation, shows the shape and movement of the research subject

ranging from its curve in intonation, pitch contour, rhythmic component, direction, shading and intensity, that prompt a drive to its music as an energy driven element. The following section proceeds with further analysis into musical parameters.

4.3.4 Musical Parameters Analysis

This section shows an analysis on the musical parameters of the ten identified repetitive motifs based on Tagg's hermeneutic-semiological model (1982). The identified repetitive motifs had been scrutinised on the aspects of time, melodic, orchestration, tonality and texture, dynamic and electro musical and mechanical. These musical parameters analyses had been divided into two tables while all the details were listed under each category.

Table 4.5: References of number for tables of comparison

	Title
1.	<i>Hanging by a Moment (2001)</i>
2.	<i>In da Club (2003)</i>
3.	<i>Yeah! (2004)</i>
4.	<i>We Belong Together (2005)</i>
5.	<i>Low (2008)</i>
6.	<i>Boom Boom Pow (2009)</i>
7.	<i>Tik Tok (2010)</i>
8.	<i>Rolling in the deep (2011)</i>
9.	<i>Somebody that I used to know (2012)</i>
10.	<i>Thrift Shop (2013)</i>

Table 4.6: Analysis of musical parameters (i) based on the identified repetitive motifs (refer to Section 4.3.1)

No.	T	M	O
1	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 387 centiseconds for a single unit - 125 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Discursive repetition - Within an interval of minor 7th, ranging from A3 to G4. - Melodic contour presents two curved shapes, it ascends and descends for twice 	<p>AO is played by electric guitar, in the context of rock band style along with lead vocal, bass guitar and drum set.</p> <p>Rock band music</p> <ul style="list-style-type: none"> - Lead vocal - Electric guitar - Bass guitar - Hi-hat & drums
2	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 530 centiseconds for a single unit - 90 crotchet beats per unit - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of minor 3rd, ranging from F#3 to A3. - Melodic contour steps down for once and steps up for twice. 	<p>AO is played by synthesiser in the context of electronic music. It supports the composition and acts as a fundamental base interweaves with other instrumentation. However, it is chiefly paired with rapping section.</p> <p>Electronic music</p> <ul style="list-style-type: none"> - Rap

Table 4.6, continued

No.	T	M	O
2			<ul style="list-style-type: none"> - Vocal - Claps - Synthesiser - Shaker - Electric guitar - Drums - Computerised sound effects
3	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 456 centiseconds for a single unit - 105 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of minor 6th, ranging from G4 to E^b5. - Melodic contour presents as a curved shape. 	<p>AO is played by synthesiser in the context of electronic music. It layers along with other instrumentation and sometimes standalones specifically in the introduction part and instrumental sections between verses. Primarily correlated with rapping section.</p> <p>Electronic music</p> <ul style="list-style-type: none"> - Rap - Vocal - Claps - Synthesiser - Hi-hat & bass drum - Computerised sound effects

Table 4.6, continued

No.	T	M	O
4	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 686 centiseconds for a single unit - 70 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of perfect 4th, ranging from B4 to E5. - Melodic contour presents as an inverted curved shape. 	<p>AO is played by keyboard, in the context of standardise popular music form, which can be described as the verse-chorus form. It supports the vocal section throughout the whole song.</p> <p>R&B</p> <ul style="list-style-type: none"> - Lead vocal - Backup vocal - Claps - Keyboard - Acoustic guitar - Hi-hat & bass drum
5	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 375 centiseconds for a single unit - 128 crotchet beats per minute - Irregularity of strong beats (fourth quaver in every bar) indicates the usage of syncopation. 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of minor 6th, ranging from E^b4 to C^b5. - Melodic contour presents as a curved shape 	<p>AO is played by synthesiser, in the context of electronic music. It circulates as the fundamental base and acts as a supporting element for other instrumentation.</p> <p>Electronic music</p> <ul style="list-style-type: none"> - Rap - Vocal - Claps - Synthesiser - Hi-hat & bass drum

Table 4.6, continued

No.	T	M	O
5			- Computerised sound effects
6	<ul style="list-style-type: none"> - Common time (4/4) - Single-bar phrase - 185 centiseconds for a single unit - 130 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of compound major 3rd, ranging from F3 to A4. - Melodic contour peaks in the middle section. 	<p>AO is played by synthesiser, in the context of electronic music. Its structure is relatively short and segmented. It primarily fills between the gaps of rapping section rather than interacts with other instrumentation.</p> <p>Electronic music</p> <ul style="list-style-type: none"> - Rap - Vocal - Claps - Synthesiser - Drums - Clave blocks - Computerised sound effects
7	<ul style="list-style-type: none"> - Common time (4/4) - Two-bars phrase - 401 centiseconds for a single unit - 120 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of perfect 5th, ranging from D4 to A4. - Melodic contour steps up 	<p>AO is played by synthesiser, in the context of electronic music. It supports the whole music statically. Its directionality is rather parallel with other instrumentation.</p>

Table 4.6, continued

No.	T	M	O
7			<p>Electronic music</p> <ul style="list-style-type: none"> - Rap - Vocal - Claps - Synthesiser - Hi-hat & drums - Tambourine - Computerised sound effects
8	<ul style="list-style-type: none"> - Common time (4/4) - Single-bar phrase (with some variations in rhythmic pattern) - 229 centiseconds for a single unit - 106 crotchet beats per minute - No trace of syncopation 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of minor 2nd, ranging from G⁴ to A^{b4}. - Melodic contour steps up and descends right after. 	<p>AO is presented by backup vocal, in the context of soul and blues. It has been characterised as an answering verse in the call and response session with the main vocal.</p> <p>Soul & Blues</p> <ul style="list-style-type: none"> - Vocal - Backup vocal - Claps - Piano - Acoustic guitar - Electric guitar - Bowed string instrument - Hi-hat, cymbals & drums

Table 4.6, continued

No.	T	M	O
9	<ul style="list-style-type: none"> - Common time (4/4) - Single-bar phrase - 186 centiseconds for a single unit - 130 crotchet beats per minute - No trace of syncopation 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of major 2nd, ranging from C3 to D3. - Melodic contour steps down 	<p>AO is played by a plucked string instrument, in the context of indie pop. It circulates and interacts with other miniature repetitive motifs.</p> <p>Indie pop</p> <ul style="list-style-type: none"> - Vocal - Backup vocal - Xylophone - Acoustic guitar - Synthesiser - Drums
10	<ul style="list-style-type: none"> - Common time (4/4) - Single-bar phrase - 253 centiseconds for a single unit - 96 crotchet beats per minute - Syncopation is used 	<ul style="list-style-type: none"> - Musematic repetition - Within an interval of compound perfect 5th, ranging from A^{b3} to E^{b5}. - Melodic contour presents as a two-curved shape 	<p>AO is played by saxophone, in the context of electronic music. It underpins the whole composition while it is also able to be standing alone between the interludes.</p> <p>Electronic music</p> <ul style="list-style-type: none"> - Rap - Vocal - Claps - Saxophone - Synthesiser - Hi-hat & drums

Table 4.6, continued

No.	T	M	O
10			- Computerised sound effects

Note:

T= Aspects of time

M = Melodic aspects

O = Orchestration aspects

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Table 4.7: Analysis of musical parameters (ii) based on the identified repetitive motifs

No.	T&T	D	E&M
1	<ul style="list-style-type: none"> - D major - Static & moderate texture - Repetitive motif is played as the electric guitar riff 	Consistent	<ul style="list-style-type: none"> - Distortion effect (electric guitar)
2	<ul style="list-style-type: none"> - C[#] minor - Static & moderate texture - Repetitive motif is played as the bass line 	The chords of the repetitive motif (as it is shown as in its transcription) are accented throughout the song.	<ul style="list-style-type: none"> - Applause - Orchestra hit
3	<ul style="list-style-type: none"> - G minor - Layered and rather decorative texture - Repetitive motif is played as the supporting melody 	Consistent	<ul style="list-style-type: none"> - Applause - Telephone ring - Whistle - Synthesised brass
4	<ul style="list-style-type: none"> - C major - Static & moderate texture - Repetitive motif is played as the harmonic accompaniment 	Consistent and getting softer at the end.	<ul style="list-style-type: none"> - Applause
5	<ul style="list-style-type: none"> - E^b minor - Layered & decorative texture - Repetitive motif is played as the supporting melody 	Consistent	<ul style="list-style-type: none"> - Applause - Synthesised lead - Synthesised pad - Blown bottle (sound effect) - Sci-fi (sound effect) - Orchestra hit

Table 4.7, continued

No.	T&T	D	E&M
6	<ul style="list-style-type: none"> - A minor - Layered & multi-thematic texture - Repetitive motif is played as the counter melody 	<p>Begins from soft to loud at the introduction section and stays consistent throughout</p>	<ul style="list-style-type: none"> - Applause - Dubbing human voice - Auto-tuned human voice - Sci-fi (sound effect) - Synthesised sawtooth (sound effect)
7	<ul style="list-style-type: none"> - D minor - Layered & decorative texture - Repetitive motif is played as the supporting melody 	<p>Consistent</p>	<ul style="list-style-type: none"> - Applause - Synthesised square (sound effect) - Synthesised sawtooth (sound effect) - Sci-fi (sound effect) - Reversed cymbal (sound effect) - Buzzing effect
8	<ul style="list-style-type: none"> - C minor - Static but thick texture - Repetitive motif is played as the supporting vocal 	<p>Begins from soft to loud and stays consistent after the middle section</p>	<ul style="list-style-type: none"> - Applause
9	<ul style="list-style-type: none"> - F major - Extensively decorative texture with a number of miniature motifs - Repetitive motif is played as the harmonic accompaniment 	<p>Consistent</p>	<ul style="list-style-type: none"> - Synthesised Pad - Goblins (sound effect) - Echoes (sound effect)

Table 4.7, continued

No.	T&T	D	E&M
10	- A ^b minor - Layered & decorative texture - Repetitive motif is played as the supporting melody	Consistent	- Applause - Sci-fi (sound effect) - Synthesised sawtooth (sound effect) - Synthesised pad

Note:

T&T = Aspects of tonality and texture

D = Dynamic aspects

E&M = Electro musical and mechanical aspects

4.4 Repetitive Motifs and its Usage

From the analysis above, it shows that the usage of repetitive motifs in popular music composition is relatively conventional and elemental. The table below briefly shows both development and constant in the use of repetitive motifs in popular music culture. However, the findings are not able to represent the composition phenomenon in popular music industry since the analysis covered only the top charters which are taken from Billboard Year End Hot 100 ranging from 2000-2013.

Table 4.8: Timeline for the development of the ten identified repetitive motifs in Billboard top charters from 2000-2013.

2001	2003	2004	2005	2008	2009	2010	2011	2012	2013
Discursive repetition	Musematic repetition			Musematic repetition					
Repetitive motif was functioned as one of the introductory elements	Repetitive motifs were functioned as the supporting melody or harmonic accompaniment. Their characteristic were rather supportive than standing significantly as a distinctive phrase.			The functions of repetitive motifs had been expanded. Besides their usage as the supporting melody, the repetitive motifs were more melodious and distinctive. On the other hand, some of the repetitive motifs had been composed into the lyric section. The utilisations of repetitive motifs were gradually diversified from tune to text.					
	Inclusion of rapping section.			Inclusion of rapping section.			Inclusion of rapping section.		
Syncopated rhythm	Syncopated rhythm			Syncopated rhythm			Syncopated rhythm		

4.4.1 Repetitive Motifs and its Relationship with other Musical Elements

In table 4.6 and 4.7, ten identified repetitive motifs had been scrutinised on the aspects of time, melodic structure, orchestration, tonality and texture, dynamic and the usage of electro musical and mechanical. All these aspects were utilised based on Philip Tagg's "Hermeneutic-semiological model". The aspects of time focus on the tempo, metre, phrasing structure, duration and rhythmic texture; the melodic structure discusses about the repetition types, melodic contour and intervals; the orchestration lists out the instruments used and the genre that the music belongs to; the tonality and texture examines on the characteristic that is played by the identified repetitive motif; the dynamic is described based on the directionality of the loudness and softness in the songs; the electro musical and mechanical states the synthesised tone that had been used. However, the suggested "acoustical aspects" had been omitted in this study. This is because the research subjects were recorded music whereas the "acoustical aspects" discusses more on the value of resonance between the distance of sound source and listeners as in live performances. The section below deliberates about the connection between the listed musical aspects among the ten identified repetitive motifs.

i) Aspects of time:

All ten popular top charters that have been identified as consisting significant repetitive motif were composed in common time (4/4). Six of the identified repetitive motifs were designed as a two-bars phrase motif while the other four are single phrase repetitive motif. Hence, the phrasing structure of the repetitive motif is rather short and segmented. In the aspects of duration, the repetitive motif of *We Belong Together* (2005) has the longest duration, which is 686 centiseconds while the repetitive motif of *Boom Boom Pow* (2009) has the shortest duration, which is only 185 centiseconds.

The average duration of repetitive motifs as in single-phrase structure is 213.25 centiseconds whereas the average duration of repetitive motif as in two-bars phrase structure is 472.5 centiseconds. The total average duration for all ten repetitive motifs regardless their phrasing structure and tempo is 368.8 centiseconds. In the section of tempo, *Boom Boom Pow* (2009) and *Somebody that I used to know* (2012) have achieved the fastest tempo among all ten popular hits, which is 130 crotchet beats per minute approximately while *We Belong Together* (2005) have recorded the slowest tempo, which is 70 crotchet beats per minute. The average tempo for all ten popular songs is 110 crotchet beats per minute. Lastly, 8 out of 10 repetitive motifs have utilised the usage of syncopation in their rhythmic patterns and thus it shows that the essentiality of syncopation in making the repetitive motif as a musical hook to gain listeners' attention.

ii) Melodic aspects:

Nine out of ten identified repetitive motifs were classified as musematic repetition while only one identified repetitive motif which is extracted from *Hanging by a Moment* (2001) was clarified as discursive repetition. Eight of the identified repetitive motifs were perfectly characterised as a musical hook. This is because the motifs were used as an intro, supporting melody or riff in their songs respectively. On the contrary, the identified repetitive motifs in *We Belong Together* (2005) and *Somebody that I used to know* (2012) were discrete as musical hook since the motifs were arranged in the accompaniment section. Among the ten identified repetitive motifs, the highest register that have been recorded is E5 which came from the repetitive motif of *We Belong Together* (2005) while the lowest register is C3 which came from the repetitive motif of *Somebody that I used to know* (2012). The pitch range for 8 out of 10 repetitive motifs are not more than an octave. Curved shape and stepping either

up or down are commonly appeared in the section melodic contour section. However, the melodic contour of repetitive motif in *We Belong Together (2005)* was designed as an inverted curved shape while the melodic structure of repetitive motif in *Boom Boom Pow (2009)* was outlined as peaking up in the middle section. The timbres for most of the repetitive motifs were synthesised, whereas the rest were presented by string instrument, woodwind instrument or vocal.

iii) Orchestration aspects:

The timbres in the aspects of orchestration vary mainly according to the genres of the popular hits. 8 out of 10 popular hits utilise the synthesised “Claps” in the composition. 6 out of 10 popular songs are in the genre of electronic music hence rap, vocal, synthesiser, drums and computerised sound effects are inclusively appeared in the instrumentation. The rest of the songs are in the genres of rock, R&B, soul and indie pop. On the other hand, distinctive instruments such as xylophone, saxophone and clave blocks can also be traced in the composition.

iv) Aspects of tonality and texture:

7 out of 10 songs are in the minor tonality. *Hanging by a Moment (2001)*, *We Belong Together (2005)* and *Somebody that I used to know (2012)* are in major tonality. In the texture wise, most of the songs are falling into either static and moderate texture or layered and decorative texture. *Boom Boom Pow (2009)* has layered but multi-thematic texture, *Rolling in the deep (2011)* consists static but rather thick texture while *Somebody that I used to know (2012)* perceives an extensively decorative texture with a number of miniature motifs. The characters of repetitive

motifs deviate alternatively. They had been featured as riff, bass line, supporting melody, harmonic accompaniment, counter melody and supporting vocal.

v) Dynamic aspects:

Most of the popular songs remain consistent in the dynamical aspect. Only a few of songs varies in the introduction and ending section where they are either begin from soft to loud or getting softer gradually when they come in to the ending part. Nonetheless, the repetitive motif in *In da Club (2003)* was accented throughout the piece.

vi) Electro musical and mechanical aspects:

Most of the songs used sound effects such as applause, synthesised pad, synthesised lead (which includes sawtooth and square) and also the sci-fi effects. There were also some distinct special effects used such as telephone ring, whistle, goblins and echoes.

4.5 Correlation between the occurrence of repetitive motifs and the regularity of chord progression in selected popular hits

Table 4.9 is designed to include another musical feature as a comparison subject which is the structure of chord progression for each popular hit. The purpose of doing this comparison is to test the impact of the regularity of chord progression in creating a significant repetitive motif. Thus, the chord progression will be divided under the categories, which is either “Common” or “Uncommon”. According to Itzkovitz et al. (2006), there are some well known universal harmony patterns which always reoccur in diverse musical pieces from the Baroque to modern-day popular music and they

have constantly corresponded to the composition principles of western tonal harmony. In fact, there are a number of chord progressions which have been frequently used and this might have been caused by their higher directionality towards the tonic, which commonly signifies as the centre of gravity in a harmony sequence (Itzkovitz et al., 2006). To determine the regularity of chord progression for the selected western popular hits, the songs that contain (i) diatonic circle of 5th [I-V-ii-vi-iii-vii^o-IV-I] (Itzkovitz et al., 2006), (ii) well-known musical sequels such as the “Pachelbel sequence” [I-V-vi-iii-IV-I-IV-V] (Wright, 2013) and (iii) arrangement from frequently used chords such as I, ii, IV, V and vi to form a set of repeated chord progression, for example “I-vi-IV-V”, “vi-IV-I-V”, “I-ii-IVV”, “IV-V-vi” , “vi-V-I” and so forth (Johnson, 2009, p. 39) will fall under the category of the “Common” chord progression. On the contrary, if the selected western popular songs do not contain either one of these three types of chord progression that has been indicated above, they will fall under the category of “Uncommon” chord progression. Hence, there are four possible inferences that can be presumed on the selected western popular music.

Table 4.9: Classification on the occurrence of repetitive motifs and the regularity chord progressions in the selected Billboard top charters

Title	Repetitive Motifs		Chord Progressions/ Sequences	
	Yes	No	Common	Uncommon
<i>Breathe (2000)</i>		●	●	
<i>Hanging by a Moment (2001)</i>	●		●	
<i>How You Remind Me (2002)</i>		●	●	
<i>In da Club (2003)</i>	●		●	
<i>Yeah! (2004)</i>	●			●

Table 4.9, continued

Title	Repetitive Motifs		Chord Progressions/ Sequences	
	Yes	No	Common	Uncommon
<i>We Belong Together (2005)</i>	●		●	
<i>Bad Day (2006)</i>		●	●	
<i>Irreplaceable (2007)</i>		●	●	
<i>Low (2008)</i>	●			●
<i>Boom Boom Pow (2009)</i>	●			●
<i>Tik Tok (2010)</i>	●		●	
<i>Rolling in the deep (2011)</i>	●		●	
<i>Somebody that I used to know (2012)</i>	●			●
<i>Thrift Shop (2013)</i>	●			●

The research subjects might have contained:

- (a) Significant repetitive motifs with common chord progressions/ sequences
- (b) Significant repetitive motifs with uncommon chord progressions/ sequences
- (c) No significant repetitive motifs with common chord progressions/ sequences
- (d) No significant repetitive motifs with uncommon chord progressions/ sequences

Table 4.9 below shows the classification on the occurrence of repetitive motifs and the regularity of chord progression among the selected western popular hits which assembled as number one top charter in Billboard Year-End Hot 100 ranging from 2000-2013. Additionally, Figure 4.21 will be the diagram of compilation for Table 4.9.

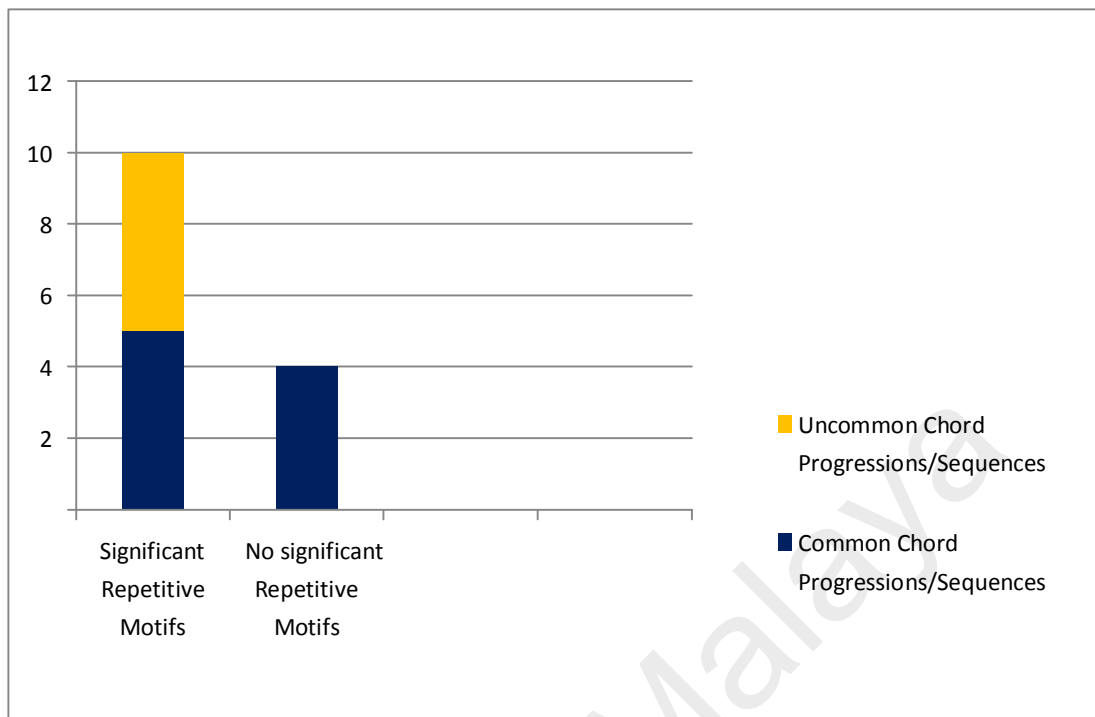


Figure 4.21: Compilation diagram for Table 4.9

4.5.1 Overview

According to Table 4.9 (may also refer to Figure 4.21), there are 10 out of 14 Billboard Year-End Hot 100 number one singles from 2000-2013 contain significant repetitive motifs. 5 out of 10 popular songs that contain significant repetitive motif are enclosing with common chord progressions/ sequences while the other 5 are formed with uncommon chord progressions/ sequences. Hence, this result shows that a significant repetitive motif does not have to be fully composed based on a set of uncommon chord progression to create a remarkable musical hook. Subsequently, there are only 4 Billboard top charters fall into the category of no significant repetitive motifs. Despite the fact that these 4 popular hits have no significant repetitive motifs, they are all composed by using common chord progressions/ sequences.

4.5.1.1 Significant repetitive motifs with common chord progressions/sequences

Hanging by a Moment (2001) by the American rock band, the Lifehouse employs the usage of riff in the beginning of the music. The main chord progression Bmin-A-D (vi-V-I) is used. As the designated riff played by electric guitar twice, the lead vocal came in and soon the riff turned its role into accompaniment. This riff is noticeable in introduction, verses and instrumental section between verses but not in the chorus parts as the harmony outline was changing. However, the repetitive motifs is rather unapparent if compares to the repetitive motifs in electronic music which will be inspected in the later section.

The repetitive motif in *In da Club (2003)* by 50 cent is characterised as the harmonic accompaniment. The chord progression F#min-C#min-D#min-F#min-C#min (iv-i-ii-iv-i) is used. This harmonic accompaniment which also features as the repetitive motif is repeated throughout the whole song.

The repetitive motif of *We Belong Together (2005)* by Mariah Carey is also played as the harmonic accompaniment. The chord progression Amin-G-Emin-F (vi-V-iii-IV) is used where it is also repeated throughout the whole piece.

Tik Tok (2010) by Ke\$ha has very significant repetitive motifs ever since the beginning of the music. The repetitive motifs which utilise on different instrumentation can be heard throughout the song. The musical phrase of this repetitive motif is formed from the chord progression B^b-C-Dmin (IV-V-vi).

Rolling in the deep (2011) by Adele uses the chord progression Cmin-Gmin-B^b-Gmin (i-v-bVII-v). The repetitive motif which presented as the backup vocal interweaves with the chord progression in the pre-chorus and the chorus section.

4.5.1.2 Significant repetitive motifs with uncommon chord progressions/sequences

There are 5 Billboard top charters fall under the category of significant repetitive motifs with uncommon chord progression/sequences. 4 of the popular hits are observably sharing the same features. These particular popular hits are, *Yeah! (2004)* by Usher featuring Lil Jon & Ludacris, *Low (2008)* by Flo Rida featuring T-Pain, *Boom Boom Pow (2009)* by The Black Eyed Peas and *Thrift Shop (2013)* by Macklemore & Ryan Lewis, these music can be classified into the genre of alternatively Synthpop and Hip Hop where rapping section acts as a fundamental division in the music. Additionally, their repetitive motifs are outstandingly noticeable while they are all repeating in an excessively manner. Moreover, their chord progressions are relatively simple since the tonic pedal (chord i) has been fully utilised where the bass line is mainly supported by the tonic while all these four popular songs are all in minor tonality.

Somebody that I used to know (2012) by Gotye featuring Kimbra enfolds with an assortment of miniature repetitive motifs and evenly distributed in an adequate style. It uses the repeated progression of Dmin-C (vi-V) which is rare to a certain extent given that the harmony pattern of popular music always follows a progression of chords complying with specified grammatical transition rules (Itzkovitz et al., 2006, p. 121).

4.5.1.3 No significant repetitive motifs with common chord progressions/sequences

The song structure of *Breathe (2000)* by Faith Hill is relatively standard for popular music form. It utilises the chord progression of Amin-G-C-G (vi-V-I-V). The musical phrase in the introduction part of *Breathe (2000)* can be rather described as a repeating harmony accompaniment only. It becomes imperceptible after the first verse

and it only reappears as a four bar phrase when the song comes to the end. This song does not contain significant repetitive motif while the song structure conventionally followed the pattern of Verse-Chorus form.

How You Remind Me (2002) by Nickelback, *Bad Day (2006)* by Daniel Powter and *Irreplaceable (2007)* by Beyoncé contain lyrical repetition as a selected measures of lyric is sang repeatedly. However, their repetition are mostly occurred in pre-chorus or chorus section only, therefore, there is lack of persistent to define these repetitions into the category of significant repetitive motifs. *How You Remind Me (2002)* by Nickelback utilises the chord progression of Cmin-F-B^b-E^b (ii-V-I-IV), *Bad Day (2006)* employs the chord progression of E^b-A^b-Fmin-B^b (I-IV-ii-V) and *Irreplaceable (2007)* makes use of the chord progression of B^b-F-Cmin-E^b (I-V-ii-IV).

4.6 Conclusion

As a summary, this chapter reveals the data collected in this study ranging from a transcription of the research subject from listening analysis, analysis based on Middleton's gesture-analysis and Tagg's model in relating the repetitive motifs to other musical parameters. The duration of each repetitive motif and the percentage of listening time governing a popular song was examined based on the total song duration. The impact of repetitive motif and its density within the space of a song are identified.

Results show the significance of the repetitive motif in the selected popular songs, the relationship between the selected top charters, which is either having repetitive motif or none, and their chord structures and also the percentage of occurrence of the identified repetitive motifs in the popular hits respectively. Most of the popular hits had shown the signification of the utilisation of repetitive motif in compositional

structure. However, the chord structure of a popular song does not bring a perceptible influence in making a prominent repetitive motif.

Lastly, the percentages of occurrence of the identified repetitive motifs are directly correlated with their deployment in the compositional structure. The density of repetitive motif within the space of its repeating popular song structure is huge, which may answers to the homogenous nature in popular music that has not yet been studied in past literatures. Still, the occurrence of repetitive motif is indeed essential but this may not be asserted as an exclusive factor to popularise a popular song since the outcomes had revealed that there is still possible for a song which has no discernible repetitive motif to show its reliable marketability in the domain of popular culture.

CHAPTER 5 CONCLUSION

5.1 Overview

This chapter provides a discussion of the results that were obtained in this study. The main purpose of the whole study is to scrutinise on the importance of the usage of repetitive motif in western popular music. Previous analysis section has shown the strong tendency in the utilisation of repetitive motifs in western popular music composition. The dissection has been looked into the three aspects of the identified repetitive motif, which are the frequency and the percentage of occurrence the identified repetitive motifs in the selected popular songs respectively, the musical parameters that have been structured in the identified repetitive motifs and the relationship between the identified repetitive motifs and the accompanied chord progressions in the selected popular songs.

5.2 Implication of Research

This research posits new theoretical findings in the signification of repetitive motif by examining into its construction within the framework of a popular song. As what it claims from the literature, repetition is an essential factor to form as an attraction or a musical hook towards listeners, however, quite often neglected is the issue of 'what else' is repeating besides the larger frame of song structure or song repetition as a whole. In comparison to previous researches, most of the studies were implied the repetition as to repeat the complete music to gain preferences. However, repetitive motif as a smaller component, that repeats in a much larger quantity within the larger frame of a popular song structure, equally deserve attention as to its significance as an internal smaller repetitive unit, and as what this study focused into. Thus, this research focuses on the repetitive motif as its main research subject for analysis.

In this study, the significance of repetitive motif from the selected popular hits was identified as to answer the first research objective. Selected top charters that contain intentionally designed motif with a certain extent of complexity and it is repeated in a particular duration were identified as having significant repetitive motif. The result shows that most of the selected Billboard top charters contain significant repetitive motif. Transcription as an approach was employed in providing a base – notation, for analysis.

Consequently, in answering the second research objective, the percentage of occurrence of the repetitive motifs in the popular songs was measured respectively where this section relates the frequency of reappearance of an identified repetitive motif in a song. This section gives an outlook on the proportional value of the identified repetitive motif in a song and its density. Subsequently, the main reason that makes the percentage of occurrence varies is primarily depended on the distribution of repetitive motif in a compositional structure. Repetitive motifs that achieved higher percentage are distinctly disseminated whereas repetitive motifs that were arranged in the chorus section get lower percentage eventually.

Table 4.3 presents an outcome of the research quantitative output in measuring the frequency and duration of the selected repetitive motif as research subjects. The average duration for the identified repetitive motifs in this research was calculated as 368.8 centiseconds for a single unit which is around 4 seconds for as an individual component. The average frequency for repetition of the identified repetitive motifs was listed as 43.5 times. These results cannot be marked as a standard inference since the duration and frequency are affected by the tempo of the song. In addition, the percentage of occurrence varies in all ten identified repetitive motifs but there was one identified

repetitive motif resulted as one hundred percentage of occurrence which means the repetitive motif is utilised for the whole song particularly.

In answering the final research objective, the recognised repetitive motifs were transcribed and analysed by using a list of musical parameters that were mainly referred from Philip Tagg's "Hermeneutic-semiological model" and an adaptation of Middleton's gesture-analysis. According to the analysis, electronic music was concluded as the popular musical genre that deploys the most in the usage of repetitive motif. Repetitive motif is often characterised as the supporting melody in electronic music while they were also orchestrated as harmonic accompaniment, riff, bass line and supporting vocal. It is frequently paired with the rapping section with the fact that it is built chiefly from the tonic chord. The identified repetitive motifs in this research was deduced that they are often supported by static pulse which usually instrumented by the percussion section. On the other hand, most of the rhythmic pattern of the identified repetitive motifs employs the usage of syncopation.

The relationship between the identified repetitive motifs with their chord structure was examined too. The result shows that the regularity of chord progression may not be significant in affecting the structure of repetitive motif as a prominent hook. This is because common and uncommon chord progressions were equally distributed among the popular songs that have significant repetitive motifs.

In terms of research scope and limitation, a larger sample size may give a different research output, however, the findings in this study and its methodological concern may be employed as a fundamental baseline for further research. Methodological framework based on Tagg (1982), Middleton (2000) and Serrà et al. (2012) forms an informative, collaborative and a rather holistic approach when employed together to examine the research subject in detail. These models helped to provide an outcome that examined

into the various angles looking at the research subject: identification, characteristics, relationship with musical parameters; and also other quantifiable measurement such as its duration, and frequency of appearance of the research subject in governing a song's listening time as per the total song duration.

As an outcome, this research examined into what is absent in the current literature where repetitive motif is seen here as the smaller but equally important repetitive unit in terms of answering to a few research interests: compositional technique in popular song, listening duration, and the homogeneity of popular song nature. The significance of the usage of repetitive motif was examined where the research outcomes illustrate its frequency of appearance, duration, and also its construction that involves pitch contour, direction, rhythmic drive, shading and intensity within a frame of time and energy driven shaping of sonic effect.

Repetitive motif alone may not contribute as the standalone factor in the popularisation of a song. However, the presence of repetitive motif certainly shows a great extent of dominance in a popular song setting. The outcome of this research contributes to a missing enquiry in the current literature, and may probe new research pathway that may question into a deeper and smaller context of study on repetition as oppose to the larger repetitive context of popular music structure in terms of generating attention and preferences, such as in Getz (1966), Hargreaves (1984), Ali and Peynircioğlu (2010) and Serrà et al. (2012).

5.3 Suggestion for Future Research

This research tended to examine the identified repetitive motifs in terms of their function and character in a music compositional structure. In contrast, the relationship between the effectiveness of repetitive motif and listeners preferences has not been thoroughly inspected.

On the basis of the results of this study, future research may provide a deeper analysis by extending the time range of the listing of research subjects. A wider perspective can be generated on the analysis of the occurrence of repetitive motif in popular music. Consequently, the function of the repetitive motif as in different popular music era can be discussed comprehensively while the development and evolvement of the repetitive motif in popular music composition can also be explored. Furthermore, research can also be applied on popular music other than western region.

On the other hand, the correlation between the effectiveness of repetitive motif and its engagement towards consumers' or listeners' preference can be suggested in further research to observe the influences possible influences that can be conveyed from the deployment of repetitive motif towards human senses.

5.4 Conclusion

In conclusion, this study examined the signification of repetitive motifs as one of the impacts in constructing a distinguished popular song. As a consequent, most of the research subjects had reflected their utilisation on the repetitive motif. Hence, the outcomes have met the objectivities in this research where the identification, analysis and discussion on the identified repetitive motif have concluded that the usage of the repetitive motif in popular music is indeed essential.

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