Music, musicians and information seeking behaviour

A case study on a community concert band

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Abstract

Purpose – The purpose of this paper is to examine information seeking behaviour targeted to music information seeking by amateur musicians, accompanied with empirical evidence from a survey on a community concert band. While several studies in the literature have examined information seeking in the context of hedonic motives (e.g. entertainment oriented), music information can also be used for utilitarian purposes by providing amateur musicians the necessary tools to improve their skill and become better in their practice.

Design/methodology/approach – A review of the literature on music information seeking and an empirical study on members of an amateur concert band are presented. The theoretical construct of the survey is informed by Wilsons' macro model of information seeking behaviour. This is employed in order to understand information motives and needs, as well as obstacles in information seeking of musicians.

Findings – Musicians seek information not only for entertainment but for educational purposes as well as for the acquisition of certain music works. The use of the internet for information seeking as well as the gradual adoption of online social networks has provided access to new musical resources within the digital music networks.

Originality/value – A person-centred approach for information seeking behaviour is studied and adapted for musicians. The survey provides new information behaviour results for designers of music information spaces which in turn are creating a new model of the relationship between music and society.

Keywords User studies, Information behaviour, Information research, Concert band community, Music information, Survey

Paper type Research paper

1. Introduction

Modern information technologies and the rapid availability of information resources on the web, has changed beyond doubt the way musicians express themselves, communicate and seek information in order to enhance their practice (Pierce, 2004). Studies related with the management and retrieval of music-related information include theoretical perspectives, among others, from information science, musicology and

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music theory as well as acoustics and digital signal processing (Downie, 2001; Futrelle and Downie, 2002). As information technology evolves, access to music information has become more convenient and many systems have become available for managing (preserve, access and retrieve musical information) collections of musical information material (Downie, 2003). Information provided online is changing the traditional music learning practices and the way musicians get informed (Kratus, 2007).

A particular characteristic of the web is the fact that it can support music students and amateur musicians in developing their musical knowledge and performance skills by using multimedia tools, libraries and online databases supplementing their studies (e.g. finding teaching materials). The main advantage is that it provides ubiquitous access to music information so students can search for information in their free time from any place and/or device with an internet connection. Nonetheless, modern digital information mediators and the internet, although they become more and more popular, can act as both a facilitator and a barrier (Coleman, 2005). Musicians, as well as educators, and music students can only benefit from the internet if they actually adopt these types of practices and develop appropriate information literacy skills. Therefore, the study of information seeking behaviour of musicians is becoming prominent in understanding how modern music information technologies and the internet can be incorporated in the educational practice.

In that context and for the purposes of this study, we adopt a person-centred approach related with information seeking behaviour by utilizing Wilson's theory of information behaviour in relation with user studies (Wilson, 1997, 2006). The goal of this study is to examine music information motives and needs in relation to the information resources employed as channels of information and the barriers/obstacles a person faces when seeking information. The comprehension of music information seeking behaviour becomes important in the design, implementation and management of musical information services focusing on perceptions, abilities, expectations, prejudices and customary practices of musicians (Laplante and Downie, 2011). The contribution of this study in the literature is the examination of information seeking behaviour of amateur musicians who participate in a community band. Although information seeking behaviour and information needs is a widely explored area, few studies (e.g. Weigl and Guastavino, 2011) have focused on specific groups of musicians such as amateur musicians who find a utilitarian nature in this information rather than hedonic.

This study focuses on investigating the different information behaviours exhibited by the different members of an amateur concert band community which includes standard performers (amateur musicians with some years of experience with an instrument), music students and educators. In that context, music information needs, preferred information resources and information barriers are identified and their relation is analyzed and discussed. To this end, this paper is structured as follows: Section 2 provides the theoretical model used in our study, a review of the relevant literature and an analysis of hypotheses effects to be evaluated. Section 3 provides the empirical analysis of the theoretical model with analysis and results discussed in Section 4. A subsequent discussion of the findings is outlined in Section 5. The paper concludes in Section 6 with limitations and issues for further research.

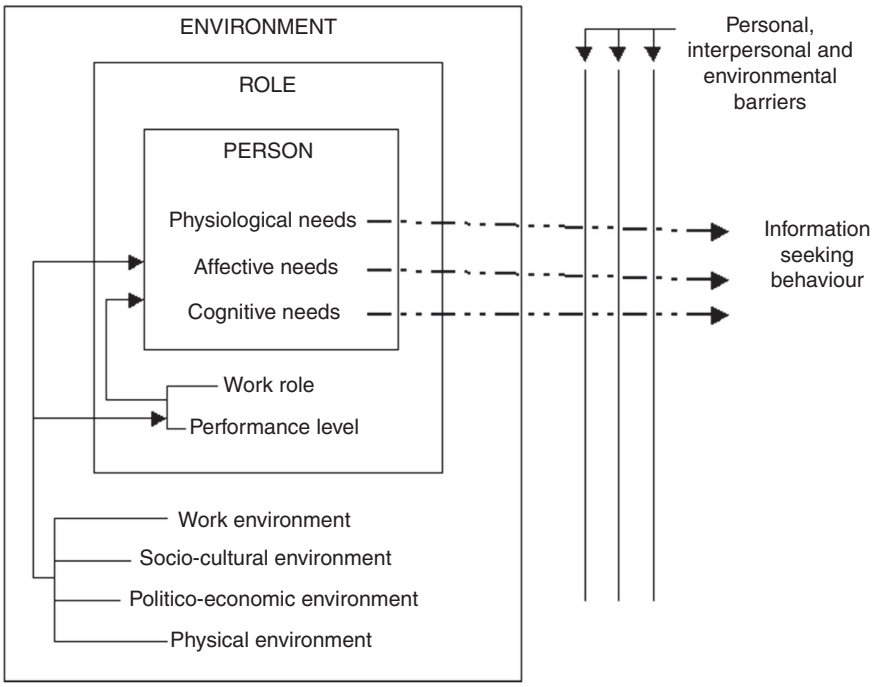
2. Theoretical background and construct outline

2.1 Wilson's model of information behaviour

Music information includes music material or material for music, which appears in different forms within different media through various dissemination practices

(Byrd and Crawford, 2002; Rauber and Frühwirth, 2001). The need for effective utilization of musical information is important for musicians, relates to all their roles as composers, performers, educators, students, etc. and can support all activities a musician can assume. The present study examines the musicians' information needs, sources and musical information seeking barriers. Our approach is informed by Wilson's information behaviour model (Wilson, 1999) which focuses on the "human aspects of use", information needs and the context (Figure 1). However, certain components of Wilson's macro model of information seeking behaviour (Wilson, 2006) were adopted whereas others were not employed. As such, the distinction of information needs into physiological, affective and cognitive was not used in our approach although it is crystallized in Figure 2. On the other hand, along the same lines of Wilson's information behaviour model, information seeking is conceptualized as an effort to satisfy a set of needs which are triggered by the demands created within a set of contexts (e.g. individual, work/life, or the wider physical, socio-cultural and politico-economic environment).

As derived from Wilson's information behaviour model, individuals play a range of intertwined roles (composers, performers, educators, students, etc.) and utilize information resources (internet, library, colleagues, web sites, etc.) which can be digital, conventional and/or interpersonal in order to satisfy their diverse information needs. In addition, during information seeking the musicians may encounter a variety of different barriers (e.g. lack of skills, cost, lack of time, unfamiliarity with specific information resources, etc.), which can be of personal, interpersonal or environmental nature.



Source: Wilson (2006)

Figure 1.
A model of information-seeking behaviour

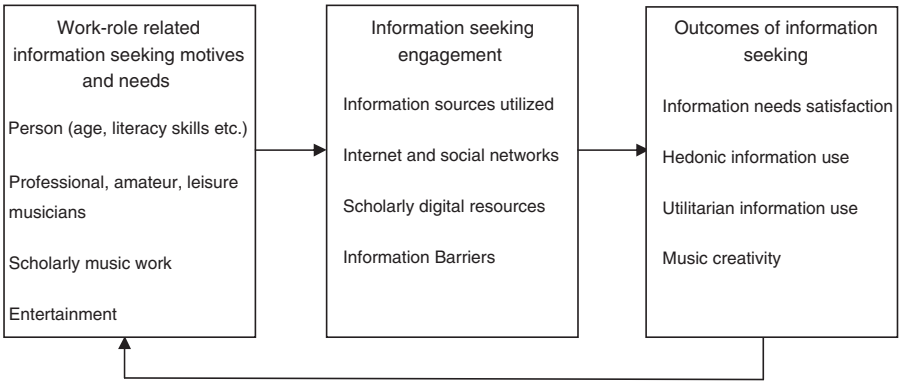


Figure 2.
A general perspective of music information seeking

These act as hindrances to information seeking and obstruct the progress towards addressing their primary needs.

Studies of information seeking behaviour in specialized contexts are interdisciplinary in nature and although they pose additional difficulties they are encouraged in the literature (Wilson, 2006). The resulting efforts provide crucial information when developing specialized information systems for specific groups of individuals, i.e. the musicians. In the same spirit, although the existing research provides some interesting results (an overview is provided in the following subsections) it has not yet probed into the information seeking behaviours of amateur musicians who participate in community bands. In a broad sense, this study seeks to explore the information behaviour of amateur musicians under the theoretical lenses of Wilson's model and therefore the following research questions are addressed:

RQ1. What are the information motives and information needs of amateur musicians?

RQ2. Which are the information resources amateur musicians employ in order to satisfy these information needs?

RQ3. What are the information barriers that prevent amateur musicians to seek information in offline and online information sources?

A broader aim of this work includes the adaptation of the theoretical approach by Wilson to the musicians' context. This includes four main study dimensions, i.e. the information motives, the information needs, the information resources and the obstacles when seeking information. Our adaptation is grounded on selected items which are derived from the relevant literature for information seeking in the musicians' context. These are portrayed in Table I and the following subsections provide a selected literature review for the axes of music information seeking behaviour, i.e. the information motives and needs, the information resources employed and the barriers obstacles to information seeking.

2.2 Music information motives and needs

In the context of this study, music information seeking behaviour is approached as a socio-economic phenomenon which is related to the professional and amateur roles

Wilson's dimensions	Definition/explanation	Commonly studied items	Selected references
Information motives	Involves musicians' work-related events/motives that activate specific music information needs	Collection development; digital signal processing; education/teaching; information for musical material; music study; performance; scholarly academic work	Bainbridge *et al.* (2003), Dougan (2012), Downie and Cunningham (2002), Inskip *et al.* (2008, 2010), Lai and Chan (2010), Lee and Downie (2004), Lee *et al.* (2005),
Information needs	Involves specific information needs that are engaged when musicians are seeking information	Artist; collection title; music collectors; composer; genre; hardware and programming; instruments; music links; music material location; lyrics; manuscripts; meaning of lyrics; music styles; orchestration; performer; production; recordings; related work; reproduction; score; social context of the material; software; songs; music statistics; tempo; music title; translation of lyrics; tunes; version; vocal; volume	Lee (2010), Liew and Ng (2006) Taheri-Panah and MacFarlane (2004)
Information resources	Involves specific information resources that are employed by musicians when seeking information within their work-roles. The information resources can be interpersonal, conventional and digital	Academic library catalogue; advertisements; archives; blogs; books; colleagues and professors; community; concert/recital; conferences; cultural events; databases; electronic books; electronic journals; institutions' libraries; music stores; internet services such as Napster and Kazaa; listen to streaming/online radio; Listservs; message boards; movies; museums; music library; newsletters; printed material; professional associations; radio; recordings; search engines; social networks; TV; visiting music forum; web sites; Wikis	Dougan (2012), Hunter (2006), Inskip *et al.* (2008), Lai and Chan (2010), Laplante and Downie (2006), Lee and Downie (2004), Liew and Ng (2006) Taheri-Panah and MacFarlane (2004)
Obstacles towards seeking information	Involves the perceived obstacles when musicians are seeking information. The obstacles can arise	Copyright; cost; difficult to comprehend information presented in foreign language; lack of scholarly	Hunter (2006), Liew and Ng (2006) and Taheri-Panah and MacFarlane (2004)

(*continued*)

Table I.
A select literature review for adapting in the music context the Wilson's information seeking behaviour macro model

Wilson's dimensions	Definition/explanation	Commonly studied items	Selected references
	from the work environment or can be related to musician's skills	information available on the internet; lack of familiarity with computers/software; lack of familiarity with ways to search for information; lack of specific information services; foreign language; mistrust on electronic information; the speed on the type of internet connection; the type of files the users share; time constraints; unreliability of the internet	

Table I.

of musicians. Each person seeks\music information under specific social roles subject to context and individual information needs. A basic parameter is associated with understanding the music information motive as the cause or the event what creates the need for music information. Based on this view, when a motive for music information is activated, at the same time information needs are created. This interrelation between "information motives" and "information needs" has been clearly implied in Wilson's (2006) work, where, for example it is stated that individuals are driven to seek information due to their wider living and working social circumstances which create their own motivations to seek information. In the music information context, the work role of musicians (Stebbins, 2013) may involve: professionally active musicians, amateur musicians and leisure musicians, which refers to individuals who perform or listen to music as a hobby as a casual or volunteer activity, but who do not declare themselves to be musicians. Although professionals set the standards of excellence that orients the amateurs, the amateur musicians' activity may be intense and have similarities to the one of professionals (Stebbins, 1977, 1982). Juniu *et al.* (1996) also studied the differences in perceptions between the professional and amateur musicians. The authors suggested that professionals viewed their music performances as their work and were motivated by extrinsic factors in contrast with amateurs who considered their music performances to be as leisure and were motivated by intrinsic factors. In turn, the information needs drive individuals to seek information to satisfy them in various information resources. Therefore, the information seeking behaviour perspective may in fact involve a holistic view of the information user (individual) which is includes an exploration of the role of information in reducing uncertainty in various decisions (see, e.g. Wilson 2002) related to the user's personal activities, work-role and social-environmental setting.

A general categorization of information needs of individuals is provided by Case (2012) and includes: personal needs, social needs and unclear needs. Therefore, potential users of music information services can also be categorized based on their needs for information seeking (Orio, 2006) as follows: casual users, who want to enjoy the music they listen to and collect music they like; frequent users, whose needs for

music are suitable for specific uses on their activities; students, educators, music theorists, musicologists, composers and music performers, etc. In contrast with others, the last category has a unique characteristic from the perspective of information behaviour (Liew and Ng, 2006) since all those involved (e.g. students, educators, music theorists, musicologists, composers and music performers) are able to express much more clearly their music information needs.

Table I provides an overview of studies for musicians' motives and needs for information seeking. In the second and third columns of the table a short explanation for each of the information seeking behaviour dimensions is provided and a indicative selection of items is exhibited, while in the last column a selection of relevant papers is provided. As can be seen in Table I, the major reasons which motivate musicians to search for music information is to develop music collections, to obtain specific and specialized scholar knowledge on certain musical works and academic issues, to study, etc. In the papers reviewed in Table I, a number of information need items are exhibited including information about artists and composers, instruments, lyrics, scores, music styles, history, orchestration, performers' biographies, recordings, translations of lyrics and additional musical information such as the title of a piece of music, the musical style, composers, performers, musical instruments, duration, etc.

2.3 Music information resources

The information resources employed by musicians to satisfy specific information needs represent a dimension of the music information behaviour framework adopted. According to Jorgensen (2003), music information can be accessed in printed media and digital environments (e.g. TV and radio), informal networks (friendly environment, colleagues, etc.) as well as networks of organizations providing information services (libraries, databases, etc.). Table I provides an overview of studied information resources which includes the internet, digital resources, databases, online systems for communicating with other colleagues, partners, etc. In the study of Laplante and Downie (2006), however, participants reported that the most important resources of music information are friends, and colleagues in general. On the other hand, the study of Inskip *et al.* (2008), concludes that the library staff and the music stores are important information resources. Similarly, in the study of Lee and Downie (2004), survey participants express their preferences for music information resources in favour of both the record shop and their friend's opinion, rating lower more formal information resources such as the academic institution, etc. Furthermore, both in the studies of Hunter (2006) and Liew and Ng (2006), the preference of participants for official digital information resources over conventional, as well as the use of email and social networking technologies with a view to communicating with each other and exchanging information, is evident.

2.4 Barriers to music information seeking

Another important issue that affects information behaviour includes the barriers encountered by individuals during music information seeking. These can be distinguished into personal, individual, interpersonal and environmental barriers. As can be seen in Table I, barriers for information seeking include the lack of time, the lack of familiarity with ways of efficiently searching information, the lack of availability of certain information resources, language limitations, the large volume of uncontrolled information

in the internet, the unavailability of reliable information resources, the difficulty of evaluation information prior to its use, etc. Indeed, some barriers above are related to the music information seeking process which requires specialized knowledge and a new set of skills, the "music information literacy" skills. Music information literacy indicatively includes skills (Manus, 2009) for the determination of the music information needed; the formulation of questions through key concepts and terms; identification, location and retrieval of information; development and implementation of searches in the appropriate information resources, use of libraries and information systems efficiently and effectively, etc.

2.5 Music information needs on the context of a community concert band

From an organizational perspective and considering the long history of music, we can say that the community concert band is a relatively new music ensemble. Community concert band began to appear by the end of the eighteenth century and is directly associated with the military band, in the sense that this type of ensemble was inspired by the military band concerts that were taking place in the capital cities of Europe (Hansen, 2005). However, subsequently, the community concert band evolved and grew into its own tradition, with a larger and more varied instrumentation and repertoire. By the middle of the nineteenth century, community life throughout Europe was characterized by frequent popular concerts which were given by amateur and military bands. That period highlighted the beginning of the modern concert band (Goldman, 1974).

The concert band, also called wind band, is a large instrumental performing music ensemble composed of a variety of instruments consisting of many members of wind (woodwind, brass) and percussion musicians (Kennedy and Bourne, 2004). The number of members in a concert band may vary, but it is often between 40 and 100. As a term, community concert band is used to identify a multitude of music ensembles with differing characteristics of woodwind, brass and percussion players with variety in size and instrumentation to meet different information needs and behaviours, depending on the number of members that constitute the band (Cavitt, 2005). While the instrumental makeup of a concert band may differ based on culture (e.g. brass band) or service (e.g. military bands), many have similar instrumentation and structure. Most of the community concert bands are adult amateur bands and may also include high school and college students as their members. These consist of both professional and amateur musicians, giving in this way the opportunity to the amateur musicians to be involved in music and to the professional musicians to sharpen their skills, providing them with a variety of responsibilities, challenges and playing experiences (Kreitner, 2003).

The main purpose of a community concert band is usually the satisfaction of performance, exerting great influence for good from a cultural and educational point of view. The specificity of a community concert band is that music education is offered, specifically band education, usually for free. There takes place the learning of music theory and instrument playing (woodwind, brass, percussion), with the aim to produce skillful non-professional musicians and providing the opportunity to create a competitive music ensemble of particularly high music capacities (Mantie, 2012). Generally, there are two differences between the community concert band of the type we are examining and those in other cultures around the world. One difference is about the band instrumentation, as well as the types of instruments used and the number of each which may vary from place to place and one country to another (Veblen, 2007).

Another difference is about the use of the concert band repertoire which is directly related with the general culture and the topic music characteristics of each nation around the world (Hebert, 2012).

3. Data, method and results

3.1 Participants recruitment

The community band that was selected for recruiting participants for this study was the "Kapodistrias" community concert band located on the Island of Corfu, Greece. The band was founded in 1980, and is one of the several concert bands that are present on the Island of Corfu. Their objective is to maintain, improve and cultivate the music culture that is a characteristic of the island and provide free music education and instruction on wind and brass instruments. In addition, the band gives a minimum of five concerts per year with repertoire consisting of classical and modern works, such as excerpts from operas and operettas as well as musicals and movie soundtrack music. The band is managed by a governing board and has an artistic director. All the musicians are amateur from the point of view that apart from the instructors, they do not receive any compensation for their services.

3.2 Methodology and survey instrument

The data of this study were collected by means of a questionnaire survey which was distributed to all band community members of the concert band music assembly between February and April 2012. The survey was approved by the concert band board as well as by the artistic director. In addition, prior to its distribution, focus group sessions were carried out with potential participants and experts in order to improve the clarity of the survey instrument. A pilot test was facilitated within January 2012 which included ten experts (members of the band board, the band director and academic staff members from the Ionian University) and a small number of band members. After receiving feedback and requests for clarification, the questionnaire was finalized and distributed to all 180 band members, from which the 147 agreed to participate in the survey and completed the questionnaire, achieving a response rate of 82 per cent ($n = 147$).

As aforementioned, the survey instrument was based on the constructs suggested by Wilson (2006) adapted to the specific information seeking behaviours of the members of the studied concert band. The questionnaire included questions related to the information needs, motives for seeking information on the internet, the resources used and the barriers musicians encounter in this process. The questionnaire flow was structured as follows:

- the first section contained questions about demographics of concert band members, i.e. gender, member's age category and role (i.e. educator, student or band member);
- the second section consisted of questions related with the needs for information seeking identified in terms of the motives importance for seeking music information (five-items), and the frequency of seeking specific music information types (15-items);
- the third section contained questions targeted on the importance of music information resources (nine-items), i.e. digital (including the internet), conventional and interpersonal resources; and

- the fourth section assessed the importance of intervening variables (barriers/obstacles) to music information seeking (eight-items) which may be personal, interpersonal and environmental.

A five-point Likert scale was used to rate the importance of music information motives, i.e. "how important are the following motives for searching music information?" (Table III); the frequency of information needs, i.e. "how often do you search for the following music related information?" (Table III); the frequency of music information resources employed, i.e. "how often do you use the following music information sources?" (Table IV); the importance of barriers involved in music information seeking, i.e. "how important are for you the following obstacles in relation to music information seeking?" (Table V). The actual question items are presented in Tables III through five which include the survey results. The values assigned to the five-item Likert scale were ranging from 1 = "not at all" which was indicating the lowest score, to 5 = "a lot" which was assigned to the highest score.

The analysis consisted of descriptive statistics in order to summarize the data on reported music information behaviours. Further analysis, centred on the differences in reported behaviours by demographic characteristics was performed. The Mann and Whitney (1947) *U* test was employed for assessing if two groups are the same against the alternative that one of them tends to have larger values; while the non-parametric Kruskal and Wallis (1952) one-way analysis of variance by ranks was employed for assessing if more than two groups are independent. Moreover, the Kruskal and Wallis test lead to significant results if at least one of the population groups under consideration, is different from the others.

4. Results

Internal consistency of survey items

The 38-item questionnaire scales had very good internal consistency reliability with overall Cronbach α of 0.879; while no variable was influencing the scale mean and the overall Cronbach α if it was removed from the model. The reliability of each subscale was as follows: "motives for music information seeking" = 0.700; "frequency of music information needs" = 0.844; "importance of music information resources" = 0.808; "importance of the barriers involved in music information seeking" = 0.795. The subscales were good or very good in terms of their internal consistency with no problematic variables in terms of Cronbach α reliability coefficient.

Demographic data

A number of 180 members were contacted, given the questionnaire and asked to participate in the survey. Finally, 147 of them responded positively and completed the questionnaire, i.e. a response rate of around 82 per cent. Table II summarizes the demographic characteristics of the concert band members, i.e. gender, age and role. As can be seen, the music concert band community studied includes almost equal proportions of musicians of both genders, with one third of them being below or equal to 18 years of age and the other two-thirds are below the age of 46. Moreover, 64.6 per cent are considered to be "music students", so they are associated to the various concept band music classes, 12.2 per cent are music educators and 23.1 per cent are performers who are actually taking part in various band activities. This synthesis is rather characteristic in music bands of this type and portrays the diversification of a concert band music community.

Variables	*n* (%)
Gender	
Male	88 (59.9)
Female	59 (40.1)
Age (*years*)	
⩽18	49 (33.7)
19-26	42 (28.6)
27-35	28 (19.7)
36-45	21 (14.3)
⩾46	7 (4.8)
Role	
Music student	95 (64.6)
Music educator	18 (12.2)
Music performer	34 (23.1)

Table II. Survey demographics

Information motives and needs

By looking at the survey results, it is evident that information seeking of music information resources has a duality of motives, ranging from hedonic (e.g. entertainment), as well as utilitarian (e.g. the acquisition of particular and specialized music knowledge) in accordance with the study of Laplante and Downie (2011). This actually portrays the first dimension of the Wilson's information seeking behaviour model, including information motives and information needs. Table III provides results for the motives that drive concert band members to seek musical information. High percentages where actually given to all the different motives examined with the ones for "work/study activities" (64.0 per cent) and "performance" (62.6 per cent) prevailing. In terms of their music information needs, the concert band members search more frequently for information about "music instruments" (55.8 per cent) and sheet music (53.1 per cent) for a particular piece; while high frequencies are also given to information needs associated with entertainment such as electronic music files (55.1 per cent) and multimedia information (52.4 per cent). While information needs associated with hedonic objectives are part of personal and emotional needs of individuals, "work/study activities" and "music performance" activities are part of the specific and mandatory requirements for participating in the band, whose satisfaction is also necessary in the course of an educational process. On the other hand, historical, theoretical and scholarly information needs are not that frequent among the whole concert band community, which is expected due to the nature of the study group.

For the importance of motives in information seeking, no gender effects have been identified using the Mann and Whitney *U* test or by the Kruskal and Wallis test for the different age groups. The Kruskal and Wallis test, however, identified significant differences among concert band members having different roles in terms of the importance given to most of the motives examined, i.e. "work/study activities" ($H(2) = 12.767$, $p = 0.002$), "education" ($H(2) = 16.225$, $p < 0.001$), "performance" ($H(2) = 7.502$, $p = 0.023$) and "information for a music piece" ($H(2) = 7.138$, $p = 0.028$). The differences for the importance given to the motives were actually identified by examining the mean rank values between the group of educators and the other two groups (students and performers).

No significant differences have been identified by the Mann and Whitney *U* test for the frequencies of the different information needs among genders. However, the Kruskal and Wallis test identified differences between the different age groups for

Table III.
Information motives and needs for music information seeking

	Low (1 and 2) (%)	Medium (3) (%)	High (4 and 5) (%)	na (%)	Median value
Motives for music information seeking	*Level of importance (the value 1 in the scale indicates low importance and 5 high importance)*				
Develop a music collection	17.0	20.4	57.9	4.8	4.0
Work/study activities	20.4	15.0	64.0	0.7	4.0
Education	37.4	17.0	40.2	5.4	3.0
Performance	19.0	14.3	62.6	4.1	4.0
Information for a music piece	18.4	19.0	57.1	5.4	4.0
Music information needs	*Level of frequency (the value 1 in the scale indicates low frequency and 5 high frequency)*				
Information for the history of music	53.1	21.8	23.1	2.0	2.00
Musicological, theoretical information	39.5	23.8	34.6	2.0	3.00
Music genre	26.5	25.2	44.9	3.4	3.00
Music score (of a particular piece)	26.5	19.7	53.1	7.0	4.00
Information for a composer	25.2	24.4	49.9	1.4	4.00
Information for a performer	19.7	28.6	49.6	2.0	4.00
Information for music instruments	27.9	15.0	55.8	1.4	4.00
Music editions/publications	29.3	21.1	46.9	2.7	3.00
Scholarly work (journals, etc.)	53.7	25.9	17.0	3.4	2.00
Music news	30.6	27.2	38.1	4.1	3.00
Music editing software	45.6	17.0	31.2	6.1	3.00
Multimedia information (VLC player; media player; classic home cinema, etc.)	26.5	17.7	52.4	3.4	4.00
Electronic music files	30.6	10.2	55.1	4.1	4.00
Information for music seminars	53.7	19.7	20.4	6.1	2.00
Information for music conferences	63.3	15.0	14.9	6.8	2.00

the frequency of the "information for a composer" ($H(3) = 9.346$, $p = 0.025$); while the same test identified significant differences between the different roles and some frequencies of information needs, such as "historical information" ($H(2) = 6.464$, $p = 0.039$), "music publications" ($H(2) = 8.921$, $p = 0.012$) and "conferences" ($H(2) = 7.340$, $p = 0.025$). Once again statistical differences were identified among the group of music educators and the other two, i.e. the groups of students and performers.

Importance of information resources for seeking musical information

There were three major types of resources that participants preferred to use when searching for music-related information. These can be classified as: digital resources, conventional resources and interpersonal resources. Table IV summarizes the descriptive statistics for the importance given by the concert band members to the different information resources for searching music information. As we have noted, within the Wilson's model of information seeking behaviour the musicians are actually employing a combination of information resources in order to satisfy their specific information needs. Evidently, internet search engines are rated as very important (70.0 per cent) followed by information exchange through "contact with colleagues-friends" (63.2 per cent). In addition, looking at the pages of other "music institutes" (58.5 per cent) and "music stores" (50.3 per cent) followed; while other resources for music information followed with lower preference.

The Mann and Whitney U test identified gender effects on this sample on the aspect that men consider more important the "personal library" ($p = 0.039$) than women, while women consider more important the "internet/search engines" ($p = 0.040$) than men. Moreover, the Kruskal and Wallis test identified differences between the different age groups for the importance given to some information resources such as the "personal library" ($H(3) = 15.570$, $p = 0.001$) and "music organizations" ($H(3) = 10.052$, $p = 0.018$). Indeed, the "personal library" was considered less important in the youngest age group ($\leqslant$18 years of age), while the same age category considered more important than the other age groups the "music organizations". Significant differences have also been identified for the groups expressing different roles with the information resources "personal library" ($H(2) = 11.855$, $p = 0.003$), "electronic journals" ($H(2) = 6.800$, $p = 0.033$) and "databases" ($H(2) = 6.073$, $p = 0.048$) being considered more important for the music educators than the other two groups.

Music information resources	Level of importance (the value 1 in the scale indicates low importance and 5 high importance) Low (1 and 2) (%)	Medium (3) (%)	High (4 and 5) (%)	na (%)	Median value
Personal library	25.2	18.4	53.7	2.7	4.00
Public library	39.5	18.4	37.4	4.8	3.00
Music store	22.4	25.2	50.3	2.0	4.00
Music institutes	17.7	22.4	58.5	1.4	4.00
Contact with colleagues - friends	14.3	20.4	63.2	2.0	4.00
Printed music journals	33.3	27.2	35.4	4.1	3.00
Electronic music journals	29.9	29.3	34.7	6.1	3.00
Databases	33.3	16.3	41.5	8.8	4.00
Internet/search engines	10.9	15.6	70.0	3.5	5.00

Table IV. Importance given to different information resources when seeking music information

Barriers/obstacles to information seeking

While music information seeking is a frequent activity sometimes it can also be unsuccessful. This may happen due to the intervention of factors that constitute a "barrier/obstacle" to a high relevant result of music information. A general categorization of information barriers/obstacles of individuals is provided by Wilson (2006) and includes: personal, individual barriers; interpersonal barriers as well as environmental barriers. Table V provides the survey results for the importance given by the concert band members to the different barriers when seeking music information.

The lack of accessible organized "libraries and information services" has been identified as the most important barrier (56.4 per cent) followed by the "large volume of unorganized electronic music information" (48.3 per cent), the "cost" (48.3 per cent), the "lack of time" (47 per cent) and the "computer skills" (42.9 per cent). The Mann and Whitney *U* test identified gender effects on our sample in the sense that men consider more important the "language" ($p = 0.014$) barrier than women, whereas, no differences have been identified by the Kruskal-Wallis test among the different age groups for the barriers when seeking music information. On the other hand, significant differences have been identified for the groups expressing the different roles within the concert band community in regard to the importance of "lack of libraries and information services" with the educators giving higher importance when compared with the other two groups.

5. Discussion

Overall, the results show that there is an increasing tendency and satisfaction in music information seeking for the subjects participating in our survey. The musicians of the concert band are motivated to seek information for their education activities, to improve their performance and to develop their music collection (Table V). Indeed, amateur musicians are mainly seeking information to determine or verify music works, scores, composers, performers and even to be entertained (Table V). On the other hand, scholar musical information, information for seminars and conferences as well as

Table V. Barriers/obstacles to music information seeking

Barriers/obstacles to music information seeking	Level of importance (the value 1 in the scale indicates low importance and 5 high importance) Low (1 and 2) (%)	Medium (3) (%)	High (4 and 5) (%)	na (%)	Median value
Lack of time	28.6	21.1	47.0	3.4	4.0
Cost	32.7	18.4	48.3	0.7	3.0
Lack of music libraries and information services	22.4	17.0	56.4	4.1	4.0
Lack of familiarity with music information seeking	32.7	21.8	42.2	3.4	3.0
Lack of computer skills	42.2	11.6	42.9	3.4	3.0
Lack of trust in electronic information	38.1	22.4	34.7	4.8	3.0
Large volume of unorganized electronic music information	27.2	19.0	48.3	5.4	4.0
Difficulty of understanding the information in a foreign language	44.2	24.5	27.9	3.4	3.0

musicology and music history information are low in their preferences. The above are consistent with other studies presented in Table I (e.g. Lai and Chan, 2010; Liew and Ng, 2006) which overall suggest that musicians that are more involved in performance require more often scores and other music works-related materials, while those involved in academic research seek more frequently music information in journals and books. It seems that music information seeking behaviour has increased importance and contributes to the enrichment of the music experience of the participants and to the cultivation of their music perception both inside and outside the site of the studied concert band community.

It should be noted that the majority of the respondents in our survey (Table IV) frequently use search engines (e.g. Google) and social networks (e.g. YouTube) when searching for music information. On the other hand, conventional resources such as printed material follow in their preferences. This is also evident in other studies presented in Table II including the studies by (Dougan, 2012) for the information behaviour of music students, and Dougan (2013) for the employment of YouTube by staff and students of music schools and conservatoires. Indeed, the use of the internet for information seeking has some advantages, such as anonymity, quickness, directness and easy access from any location, isolated or not and the large amount of information published. In addition, the continuous adoption of online social networks has provided access to new resources provided by the digital network of the individual who owns a profile (Korfiatis and Sicilia, 2007). In the related studies of Lee and Downie (2004), Laplante and Downie (2006), Cunningham and Nichols (2009), the majority of participants responded that they preferred searching online for music information and use the internet for music information seeking. However, in the work Hunter (2006) regarding information seeking behaviour of composers of electroacoustic music, it is suggested that the musicians employ internet resources together with other conventional information resources which helping them to organize the available online and offline music information.

The findings of our research indicate that there are some inhibiting factors that constitute a barrier/obstacle to music information seeking. Participants considered that the most important prohibitive factor is the lack of specialized libraries and music information services (Table V), something that can be also attributed to the specialized nature of a community band from an instrument/repertoire perspective. Nonetheless, one must not forget that the digital divide, just as in society, is structured in the same way when individuals play together in a band and search music information to improve their skills. Indeed, it is important for music librarians and information professionals who serve local communities of amateur musicians to be aware of their culture and specific information needs and preferences (e.g. Hunter, 2006; Lai and Chan, 2010). On the other hand, the potential for direct, fast and readily available online information transforms a social structure like a community band into a dynamic element for the diffusion of music information (Blandford and Stelmaszewska, 2002).

Although the contemporary music information space is quite rich, the abundance of online music information is considered to be a significant obstacle by the musicians when seeking information. Amateur musicians often feel overwhelmed by the enormous cost (time and money) and complexity of the web. Internet music information abundance may lead individuals to information overload and hence paradoxically to the erroneous perception that the appropriate music information is not accessible or is not available. Hence, the amateur concert band community is more likely to pay significant attention to special user-oriented, friendly, accessible and relevant to their work-lines organized

music information resources. Therefore, special music libraries and information centres are required for overcoming this type of environmental barriers (Lai and Chan, 2010).

A general framework for musicians' information seeking behaviour

The results of the empirical study conducted overall confirm amateur concert band musicians earlier studies on music information seeking behaviour. However, our study also suggests that the adaptation of Wilson's macro model provides a rigorous conceptualization medium for the distinctive amateur musicians' information behaviour context. In contrast with other settings where information is critical for performing tasks such as healthcare (Kostagiolas *et al.*, 2012), music information is a special information space that presents unique technical and socio-economic characteristics (Laplante and Downie, 2011).

Figure 2 encapsulates the three main phases of music information seeking in the lines of Wilson's model which considers information seeking as an active effort to obtain information in response to a relevant motive or event. Figure 2 suggests that personal work-role-related characteristics motivate an individual to seek for music information in order to satisfy specific information needs. For example, musicians' roles can produce similar or distinct motives for information seeking whether they are professionals, amateur or leisure musicians (Stebbins and Kaplan, 1979; Stebbins, 1977). Thereafter, the individual is engaged in information seeking and is utilizing the available information resources which may include information exchange (e.g. employment of interpersonal information resources, i.e. conducting a colleague or using a music information social network, etc.), conventional information resources (e.g. printed music material) and digital resources (e.g. internet, databases, etc.). In this process the individual may encounter barriers which may be of personal nature (e.g. lack of literacy skills) and/or of environmental nature (e.g. access to online databases, subscription costs).

According to, different group of individuals will have different music information needs and therefore different music information seeking behaviour and will use a music collection and music information in different ways (Inskip *et al.*, 2008). The outcomes of information seeking (Figure 2) may indeed include the satisfaction (or not) of the information needs related to the original motive event which led the individual to seek for music information. Indeed, the outcomes of music information seeking in everyday life may be of hedonic nature and may enhance the individual's creativity and/or may be directed to utilitarian purposes. The utilitarian and hedonic usages of music information coexist (Laplante and Downie, 2011) and the largest part of general population seeks music information for recreational listening representing the hedonic view of music information seeking behaviour. At the same time utilitarian uses of music information includes the acquisition of music scores and the acquisition of information about music pieces. Music researchers and theorists, such as musicologists, composers, music students and performers, seek music information for utilitarian purposes which require precise and credible resources (Laplante and Downie, 2011).

The serious leisure perspective of music for information seeking behaviour

Music information is considered as a part of everyday life process of individuals and has a serious effect on a wide range of groups (Laplante and Downie, 2006). Indeed, music can be represented in a variety of ways, through symbols (music notation and scores), sounds or a combination of both (Futrelle and Downie, 2002). Mandl and Womser-Hacker (2003) consider music to be a cultural phenomenon which is

distinguished into different music styles and is classified as: music information existing as text (i.e. the music score) and music information existing as sound (i.e. as the conversion of the score into music sound). Moreover, it is also suggested that a wide range of individuals aim more at the search of music as a sound effect rather than the search for the music information as text (Weigl and Guastavino, 2011). On the other hand, a search term is a broader concept, which covers topics such as filtering, classification, imaging, which are becoming increasingly useful for the users. As a result, taking also into account the increasing availability of music information material, the development of tools supporting users on filtering and classification tasks of music information as text or as sound is becoming significantly important. Music information seeking is viewed as a multifaceted process and represents multiple features of music existing as text or as sound that enhance the complexity of music information seeking behaviour of the professional, amateur and leisure musicians (Wiering *et al.*, 2009).

The informational behaviour of individuals in music information seeking is determined by their personal objectives (Lee, 2010). The Serious Leisure Perspective can explicate the distinctions among the professional, amateur and leisure musicians in the domain of music information seeking (Stebbins, 1977). In the process of music information seeking, professional, amateur and leisure musicians interact with the music information space in order to seek out the information that is relevant to their needs. Case (2012) presents three main reasons for which individuals may seek music information: having heard a particular performance of a musical work, to create a musical collection, to verify and identify of musical works. The concept of leisure plays a significant role in the domain of music. Two types of leisure pursuits are identified, serious leisure and casual or unserious leisure (Stebbins, 2005). Amateurism, hobbyist pursuits, and volunteering are identified as three types of serious leisure which differ from casual leisure. Furthermore, serious leisure activity is described as pleasant and desirable priority for the individuals who participate in the activity with a high level of commitment (Stebbins, 2005). From that point of view, most leisure activities are based on internal commitment and reflect the importance of them in the individual's life (Shamir, 1988). Concerning the domain of music, both professional and amateur musicians consider music-creation as a part of their identity and if music activity in not part of their work, then it exists as a leisure activity. Indeed, the concepts of serious leisure and amateurism may both have a significant role in the identity of a community musician and the corresponding information seeking behaviour (Stebbins, 2013).

Study limitations

This study enhances the perspective with regards of studying particular groups of users in relation with information seeking of music information which is highlighted as a challenge early in the literature (Downie and Nelson, 2000). Through this research an overview of the problems, the dynamics and twists that may be offered during music information seeking was studied with focus on amateur musicians. A particular limitation of this study might rely on the cultural context where the study took place since the band movement in Corfu Island is quite strong and deep embedded in the local culture. Therefore, it is appropriate in the near future to carry out similar studies situated in different cultural settings from the one that this study took place in order to be able to enhance the external validity of this study.

6. Conclusions and future research

Our survey on information seeking behaviour of an amateur concert band community was motivated by the need to understand the information seeking behaviour of a special group of users who consider information in that context of utilitarian nature. In the case of an amateur community concert band as the one studied here, this double nature of music information needs to be disentangled further in order to be able to characterize the information behaviour of the individuals using a motivational perspective (Korfiatis, 2007). From the perspective of contributing to the literature of music information seeking, improving personal skills on finding specialized information is a lifelong process with psychological, social and cultural aspects (Lee *et al.*, 2005). It is a process encompassing various research and development activities that have as a common denominator the access to musical works. Moreover, it is also evident that each user context is a quite significant determinant of music information seeking behaviour and an adaptation of Wilson's macro model in a particular setting can actually enable to identify differences and similarities among distinct groups of musicians.

Music information seeking behaviour is not only a personal and individual research, but is engaging a public and common information seeking process. Through the results, we have seen that users also use the collective knowledge, or opinions about the music created by other users in the process of their research, thereby showing the importance of the public and social point of view in search of music information. Such practices are presented as a variant of the idea of collaborative music information seeking (Orio, 2006) and collaborative selection of music (Cunningham and Nichols, 2009). A particularly interesting aspect of studying collaborative information seeking could be through the use of collaborative e-learning systems where a user's information needs could be adjusted or based on the group where he/she belongs as well as incorporating trust towards these information resources (Kostagiolas *et al.*, 2014; Lytras *et al.*, 2003). New information behaviour standards for designers of music information spaces on the one hand and students and music educators on the other hand, can lead to a networked music world, creating a new model of the relationship of music and society (Futrelle and Downie, 2002). For this reason, it is our belief that the music community should stand positively towards adopting new communication technologies in the learning process and the subsequent dissemination of music information, and towards those engaged in it, in order to further enhance the development of personalities and societal structures through music.

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