Seeking Creativity: A Case Study on Information Problem Solving in Professional Music

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Abstract. This study explored the information problem solving behavior of a professional jazz musician during creative work. It aimed at revealing information seeking activities necessary to execute present-day musical projects. A single case was studied in depth. First, a narrative interview was conducted to reveal project phases and corresponding information seeking behavior. Second, hereupon a semi-structured interview was taken to identify information seeking activities per phase. Results indicate that the musician deliberately searched for musical information especially in the first project phases. The internet was used as main source. Both data and goal driven strategies were applied, of which the latter were relatively scarce. This means that in this case the musician sporadically searched information based on a contemplated search plan. Future research should aim at generalizing findings. It should further validate the underlying analytical framework that proved to be useful for describing and categorizing musical information seeking behavior.

Keywords: Information problem solving · Information seeking · Creativity · Music

1 Introduction

Do professional musicians deliberately seek information when they work on a musical project? Or, do they solely rely in such contexts on knowledge and skills developed across the lifespan through formal and informal learning activities, such as by means of enculturation? With the proliferation of the internet one would expect that musicians–like professionals in many other domains–increasingly make use of online sources for musical inspiration and creative problem solving [1, 2]. Although the likelihood is high that musicians intentionally make use of the web for such activities, little is known on the exact way they use the web in their present-day professional work. Studies on information-seeking behavior in musical experts are scarce [3]. Most research and development projects concentrate on musical information seeking in education [4] or non-professional every-day life [5]. In these contexts information needs relate to learning and leisure, which are unarguably important themes in professional work [6]. In order

S. Kurbanoğlu et al. (Eds.): ECIL 2016, CCIS 676, pp. 428–436, 2016.
DOI: 10.1007/978-3-319-52162-6_43

to reveal musical information seeking behavior that addresses information needs in work-related contexts we initiated the present study. Our aim was to scrutinize this behavior in project-based work, which is the most prominent type of work in music [7]. Results of this study are of interest for conservatoires to prepare future professionals for musical practice in an information-rich society. In addition, providers of musical information (i.e., musical scores, (video) recordings, documentaries, interviews, and (historical) analyses) may benefit of better insight in seeking behaviors of professionals to optimize both products and services.

Since there is not much literature on musical information seeking in professional musical contexts, we built on conceptual studies of Lavranos et al. [3, 8] on musical information seeking of aspiring musicians in general settings. Based on a literature review, Lavranos et al. [3, 8] proposed a model that connects musicians' information seeking behavior and creative processes in music. Their model merges Wilson's [9] model of information seeking behavior and Webster's [10] model of creative thinking in music. Figure 1 shows Lavranos et al.'s model.

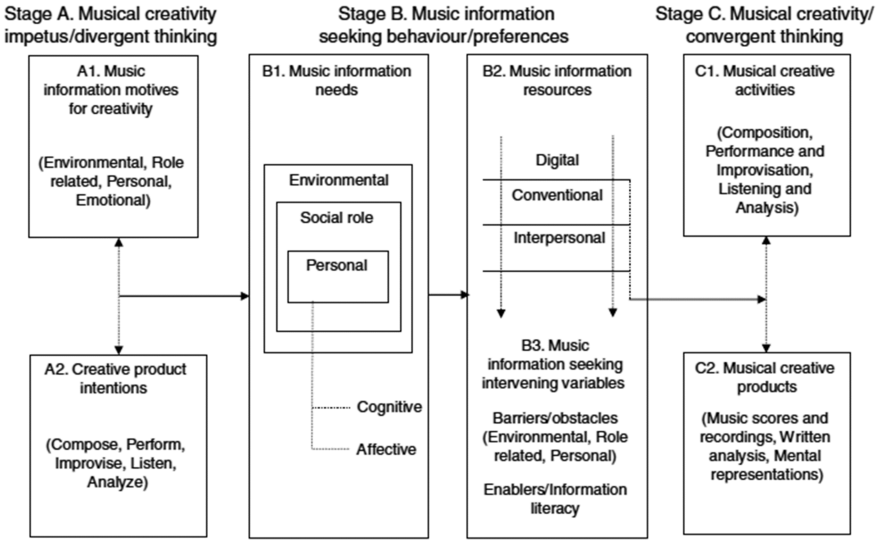

Fig. 1. A conceptual information seeking behavior model for musical creativity (Source: Journal of Documentation, 71, p. 1084)

The basic assumptions of this 'merged' model are as follows. First, information seeking behavior in a musical creative context includes three stages. In the first stage an impetus for a musical product is identified. This product can be a musical composition, performance, analysis, or recording. The second stage includes an identification of a need for musical information that relates to the wish for a creative product and a subsequent search for sources. This search can be enabled or hampered by environmental and personal factors. In the third stage musical activities emerge that may benefit from the information found in the previous stage. Kostagiolas et al. [11] identified musical information seeking behaviors among a community of amateur musicians. Their results

showed that this group of musicians sought information for learning and leisure using internet sources like online social networks. The question is whether professional musicians have similar information needs and whether they use the same tools and sources to fulfill this need.

In the present study we focused on information seeking within the context of project-based work. This type of work is predominant in the domain of professional music making and is characterized by diversity and a high degree of self-directedness and independence in performance of activities [7]. Project-based work in the arts features four core phases, namely preparation, conceptualization, realization, and evaluation [12]. For reasons of simplification, project-based work is often defined as linear (see Fig. 2). However, when scrutinized in depth, activities in projects generally are erratic and iterative in nature. For instance, in a musical recording project, product conceptualization (i.e., ideation and composition) may frequently alternate with product realization (i.e., selection and recording). In the present study we used both Lavranos et al.'s model (Fig. 1) and Kolsteeg and Mulder's model (Fig. 2) as points of departure for the analysis of information seeking behavior of a professional musician. Since the domain of music is broad we decided to explore a musical project of an experienced professional who works on the intersection of popular, jazz, and improvised music. The project central to the case included various musical creative activities (C1, see Fig. 1), which makes it an appealing prototypical case in the realm of professional musical creativity. The case will be explained in detail in the method section of this paper.

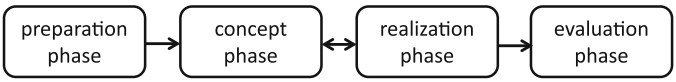

Fig. 2. Phases in art projects (based on [12])

The aim of our study was to identify musical information seeking behaviors in a project-based professional context and to validate existing conceptual models on both musical information seeking and project-based work. Our research questions (RQs) were:

- RQ1. What comprises musical information-seeking behavior of a professional musician when executing a musical project?
- RQ2. Does musical information-seeking behavior relate to specific project phases?
- RQ3. Does the professional's information seeking behavior identified in this study fit the conceptual model of Lavranos et al.?

2 Method

2.1 Case

In this case study we explored the information seeking behavior of a professional musician in the context of a musical project. This project, named 'Falco', was initiated, conceptualized, and executed by the second author, a professional Dutch pianist with

over 25 years of experience in popular, jazz, and improvised music; we will use the initials ED in the remainder of the article to refer to him. The core of the project consisted of both compositional and recording activities for a solo-piano album (i.e., Compact Disc). Although the production of an album has become a rarity in the musical domain [13], it still is regarded an important musical achievement for professionals [14]. As the work central to the project included various musical creative activities such as composition, improvisation, performance, recording, listening, and analysis, it was seen as good practice for exploration. For two other reasons, it was appealing to examine the project in depth. First, it was a solo piano project, which is a type of project that is highly valued by peers in the musical domain. Second, the project was crowdfunded, which is a relatively new and emerging way to obtain project funding [13]. In a crowdfunded project the originator of the project informs on a regular basis the funding crowd. This information was taken as additional source of data for the analysis (i.e., triangulation). The musical project took about eight months. During the project three recording sessions were conducted.

2.2 Procedure

We followed a two-step interview procedure [15, 16]. First, we conducted a narrative interview to reveal project phases and corresponding information seeking behavior on a general level. Second, we added a semi-structured interview to identify information seeking activities per phase. We compared results of the first interview to existing literature on conducting projects in artistic domains [12]. The first part of the second interview included a member check to improve narrative accuracy of the results. The second part of that interview specifically focused on revealing musical information needs and activities in the context of the project. We compared the results with the conceptual model of Lavranos et al. [3].

We used other sources to triangulate data. We analyzed the weblog facility of the crowdfunding site used by the musician to inform the 'funding crowd' to validate project phasing. Furthermore, we read an autobiographical work [17] and a personal professional website to verify musical background variables.

3 Results

In this section we first present identified information seeking behavior. Subsequently, we categorize musical information needs and activities and relate these to project phases.

3.1 Musical Information Seeking

Within the context of the project 'Falco', we identified various musical information seeking activities. Some of them were intentional, planned, and goal-directed (see, for example [1, 18]). Other activities started with an obscure impetus and not necessarily a need that resulted in data-driven, opportunistic searches for musical information. We first present the goal-directed information seeking activities identified in this case.

In this musical project, goal-directed searches for musical information mainly focused on finding information about inspiring musicians. Most information seeking activities aimed at retrieving information on Falco, the central theme of the musical project. Falco was an Austrian musician, poet, and songwriter whose life fascinated ED: "Falco was someone whose life was uncompromising." This feature made him someone to feel a kinship with. "After seeing a movie about his life, last summer [2015], I wrote the solo piano piece 'Falco'. That song was also the motivation to write other new piano music, which altogether led to the idea to start the solo CD project." The interest for Falco resulted in a hunger for information about the artist. "I can't control myself. When a topic fascinates me, I can become absorbed by it.… I searched the Internet. For instance, I checked Amazon on written resources on Falco. I searched for interviews, websites." ED also visited Falco's birthplace Vienna, a trip he characterizes as "a pilgrimage to the places which are connected to Falco." The information gathered both in the virtual and real world inspired ED not only to write music, but to write a booklet for the solo piano album as well. For the latter, information had to be reliable and correct. On trustworthiness of (social) network sources ED for instance mentioned: "I always pay attention to the 'tone' of the site. This tone should be serious."

Another example of goal-directed information seeking was our search for information on Canadian piano player Paul Bley. ED started listening to this pianist again at some point in the middle of the project for no specific reason. Since ED had already planned to visit Canada for another musical project, he initiated the idea for meeting the pianist. Unfortunately, beginning January 2016, Paul Bley passed away. This tragic moment stirred up ED's interest in the musical work and life of Paul Bley and it was an incentive to deliberately search for music and information on the pianist. Besides using Google as a starting point to search information, 'direct' searches in musical sources like YouTube, Amazon, and Facebook were an important strategy to retrieve interesting information. For ED, 'Facebook Appreciation Groups' like those related to Paul Bley were important sites to find information. They contain links to other sources like interviews and music.

Both examples of goal-directed information seeking show that ED deliberately searched for information. However, the needs for information that underlay the information seeking activities were not related to severe problems that could jeopardize the progress of the musical project. Information needs were most related to curiosity and seen as influential to project content. "In the process of deciding what to record and what to improvise, I have listened much to free improvisation. To broaden my horizons. I started listening to Paul Bley, but I also started listening to Andrew Hill and Jasper van 't Hof. People who play a lot 'in the moment' and 'from the moment'. And I have taken over principles."

From the beginning of the project up to and including the recording sessions ED searched for solo piano music. As mentioned earlier, this was often intended and 'goal-directed' (for example, looking for music of a specific pianist or composer). However, ED regularly searched for solo piano music and information on this type of music in an opportunistic way. This was done both online and offline. The offline search included 'old fashioned' searches in record stores, a dying breed in retail business. Such searches for instance resulted in examples of how solo recordings sound. Interesting information

regarding sound was shared with the sound engineer. It could eventually lead to choices regarding sound.

3.2 Project Phases

The project phases as described in Fig. 2 can be regarded as 'anchors' to describe project activities. On a global level we concluded that the present musical project followed the sequence of the four phases. However, when analyzed in depth an iterative 'back and forth' phasing was a more accurate characterization of how the project ran. Especially between the concept phase and the realization phase iterations were common. The realization phase included the recording, selection, and producing of album tracks; the completion of the album definitely marked the end of this phase. Since the recording included three sessions, ED could (and did) decide to compose new material and alter existing compositions. New ideas (based on incidents) resulted in new material. The Paul Bley case described earlier is an example of this. Also activities between the preparation phase and the concept phase alternated. During the concept phase it became clear that the crowdfunding campaign was more successful than expected. The result was that a double album could be recorded. This success opened up new prospects for ideation and conceptualization of the musical product (e.g., to define a different sound for each album). The evaluation phase was clearly a demarcated end of the musical project and included reflection activities in addition to evaluation.

3.3 Validation of Models

The stage model of Lavranos et al. (see Fig. 1 for the legend) helped to identify information needs and subsequent information seeking behavior (Stage B) in the context of a musical creativity project (Stages A to C). Information needs (B1) in the present musical project were mainly 'personal' (i.e., cognitive and affective) and they were not perceived as 'problems' or 'threats' to the project's progress. Instead, they were regarded the starting point for seeking 'inspiring' and 'musically enriching' information. Music information resources (B2) used to find information were both digital (i.e., internet) and conventional (e.g., record stores). Barriers related to the information seeking process were not mentioned (B3). Goal-directed searches (as part of Stage B3) were mainly related to the concept phase of the project. Opportunistic searches were part of the preparation, concept, and realization phases of the project. ED described the motives for the musical project. He wanted to record a solo piano album, got inspired by the artist Falco, and started a successful crowdfunding campaign (cf. Stage A). He also elaborated on the outcomes of the musical project: (a) a double album and (b) additional services (e.g., a private concert) and products (e.g., a custom made composition) for those who financially contributed to the project (cf. Stage C).

Lavranos et al.'s stage model suggests linearity in creative musical projects. However, our data shows that the nature of a creative musical project is highly iterative, which in our view should be emphasized in their model.

4 Discussion

In this case study we analyzed information seeking behavior in the context of a professional musical project. It validated a conceptual information seeking behavior model for musical creativity and a model for project-based work in the domain of the arts. Our study showed that, within a professional project-based work context, musical information seeking is a constituent of project work. Information seeking in this case study consisted of goal-directed online searches in serious social network sites and websites and opportunistic, data-driven searches in both online and offline music information stores and databases. Information needs were present, though not always regarded 'problematic'. Not solving these information problems would most likely not jeopardize the progress of the musical project. As such, information problem solving or information seeking in musical projects of professionals might be not as important as one would expect. Expert professional musicians seem to have clear ideas on what to create and probably can rely to a large extend on their own 'resources'. In such cases, seeking for additional information is not a vital necessity. For musical students and amateur musicians this might be different. For them new musical information can be valuable for learning [4, 11].

This case study further showed that musical information seeking is something that is part of the 'daily repertoire' of an expert professional musician. Today, musical information is abundantly present on the internet and musical experts seem to make use of this presence. They often aimlessly go through it, seeking instances of creativity in order to get inspired. However, the question is whether this information seeking behavior is efficient and effective. It might be interesting to find out whether 'efficiency' and 'effectivity' is relevant in the context of creative work. Does having contemporary knowledge and skill about searching information in present-day professional musical databases for instance have a positive effect on creative processes and products? Future research could aim at revealing effects of musical information literacy on musical creativity.

Project-based work is a predominant way of work in music. This contemporary case showed that 'phase-related' activities in contemporary professional projects can alternate. Analytic, design, and developmental activities interchange during a project, making it iterative. Information seeking (both goal-driven and opportunistic) can be part of all project phases, although it is mainly manifest in ideation and conceptualization phases. Our study further aimed to validate the conceptual work of Lavranos et al. [3, 8]. The study showed that their model is helpful to analyze and describe professional musical creativity in projects. However, iterativity should be emphasized in their model's description. Future research should aim at generalizing our findings to other types of musical projects and other kinds of musical work.

This case study was a first attempt to understand information seeking behavior of professional musicians. However, several limitations applied and should be addressed in future research. First, although the retrospective interview data provided good insight in information seeking behavior of the professional musician, this insight could be improved when interview data is complemented with data collected by means of a diary instrument and computer log files. Second, such triangulation of data could be repeated in a study where several musical projects of one professional musician are studied. Third,

projects of various musical artists could be studied in multiple case study designs. Since musical creativity among musical genres differs [19] this is an important step to generalize findings.

5 Conclusion

Our study shows that 'seeking creativity' is in the first place an introspective endeavor for a professional musician. However, it also indicates that seeking musical information and inspiration online is an increasingly important activity in contemporary musical work. Insight in how experts solve musical information problems can be valuable for aspiring musical professionals. Knowing efficient, effective, and enjoyable ways to solve musical information problems in a professional context may positively effect the quality of creativity. We, therefore, advise continuing research on solving information problems in professional musical contexts as it can provide the necessary input for musical information literacy learning-teaching trajectories at music schools, conservatories, and professionalization programs.

References

1. Brand-Gruwel, S., Wopereis, I., Vermetten, Y.: Information problem solving by experts and novices: analysis of a complex cognitive skill. Comput. Hum. Behav. **21**, 487–508 (2005)
2. Brand-Gruwel, S., Wopereis, I., Walraven, A.: A descriptive model of information problem solving while using internet. Comput. Educ. **53**, 1207–1217 (2009)
3. Lavranos, C., Kostagiolas, P.A., Martzoukou, K., Papadatos, J.: Music information seeking behaviour as motivator for musical creativity: conceptual analysis and literature review. J. Doc. **71**, 1070–1093 (2015)
4. Meyers, A., Ishimura, Y.: Finding sound and score: a music library skills module for undergraduate students. J. Acad. Librarianship **42**, 215–221 (2016)
5. Laplante, A., Downie, J.S.: The utilitarian and hedonic outcomes of music information-seeking in everyday life. Libr. Inf. Sci. Res. **33**(3), 202–210 (2011)
6. Leckie, G.J., Pettigrew, K.E., Sylvain, C.: Modeling the information seeking of professionals: a general model derived from research on engineers, healthcare professionals, and lawyers. Libr. Q. **66**, 161–193 (1996)
7. Umney, C., Kretsos, L.: "That's the experience": passion, work precarity, and life transitions among London jazz musicians. Work Occup. **42**, 313–324 (2015)
8. Lavranos, C., Kostagiolas, P., Korfiatis, N., Papadatos, J.: Information seeking for musical creativity: a systematic literature review. J. Am. Soc. Inf. Sci. Technol. **67**(9), 2105–2117 (2016)
9. Wilson, T.D.: Models in information behaviour research. J. Doc. **55**, 249–270 (1999)
10. Webster, P.: Creative thinking in music: advancing a model. In: Sullivan, T., Willingham, L. (eds.) Creativity and Music Education, pp. 16–34. Brittania, Toronto (2002)
11. Kostagiolas, P.A., Lavranos, C., Korfiatis, N., Papadatos, J., Papavlasopoulos, S.: Music, musicians and information seeking behaviour: a case study on a community concert band. J. Doc. **71**, 3–24 (2015)
12. Kolsteeg, J., Mulder, N.: De Kunst van Projectmatig Werken (The Art of Project-Based Work). Utrecht Arts Management Press, Utrecht (2010)

13. Hracs, B.J., Leslie, D.: Aesthetic labour in creative industries: the case of independent musicians in Toronto. Canada. Area **46**, 66–73 (2014)
14. Wopereis, I.G.J.H., Stoyanov, S., Kirschner, P.A., Van Merriënboer, J.J.G.: What makes a good musical improviser? An expert view on improvisational expertise. Psychomusicol. Music Mind Brain **23**, 222–235 (2013)
15. Stroobants, V.: Stories about learning in narrative biographical research. Int. J. Qual. Stud. Educ. **18**, 47–61 (2005)
16. Yin, R.K.: Case Study Research: Design and Methods, 5th edn. Sage, Thousand Oaks (2014)
17. Derix, E.: De Muze Brengt Mij (The Muse Brings Me). Boekscout.nl, Soest (2015)
18. Marchionini, G.: Information Seeking in Electronic Environments. Cambridge University Press, Cambridge (1995)
19. Benedek, M., Borovnjak, B., Neubaurer, A.C., Kruse-Weber, S.: Creativity and personality in classical, jazz and folk musicians. Personality Individ. Differ. **63**, 117–121 (2014)