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Reinventing Symphony Orchestras and Music Education Through Leading Hungarian and International Examples

Summary

The article highlights the importance of business model innovation and digitalization in the case of symphony orchestras and music education. In order to "survive" and prosper in the future as well, orchestras need to be able to respond to the changing needs of consumers, adapt to changes in the world and fundamentally rethink their business models. Similarly, music education has to be tailored to the 21st century: taking personal lessons is not a prerequisite anymore for learning a musical instrument, and there are many opportunities offered by digitalization that can make home practice more efficient and enjoyable.

After conducting secondary research, reviewing 50 leading applications in music education, and analyzing 24 of them in details, and conducting interviews with ten symphony orchestra managers, ten symphony orchestra musicians, and five music teachers, we have identified some novel aspirations to provide excellent examples of how the business model can be redefined.

Journal of Economic Literature (JEL) codes: L19, L30, L82, M19, Z19

Keywords: culture management, business model innovation, symphony orchestra, music education, digitalization

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Introduction

Regardless of the industry, in today's ever-changing world no business model is permanent: it has to be tailored to the current needs, market, social and environmental conditions in order to prosper in the future as well. The importance of business model innovation is also highlighted by the current COVID-19 situation: only those organizations can survive or succeed during the pandemic are the ones who can renew their operation. The situation parallelly gives an opportunity to the organizations and simultaneously forces them to change and fundamentally rethink their operation. The pandemic causes an extremely difficult situation for symphony orchestras, as they have to cancel their performances and redefine how to reach their audience. Orchestras which can react quickly – or can react at all – to the new circumstances will be able to survive this period and may gain competitive advantage. In the case of those which cannot tailor their operation to the present situation – and in a broader sense, to the changing needs of the 21st century their survival is questionable.

Similarly, music education has to be renewed as well. Digital solutions, applications can break down the barriers of time and space and with their help, we can take part in the master classes of the best artists in the world, with whom we would probably never be able to meet in person, and we can even inprove the pace of our development. In the pandemic situation, digitalization has become essential in the world of music as well, both in orchestral life and in music education. Naturally the transition to an online operation is accompanied by many difficulties and challenges, but there are many technologies and applications that can make it easier.

Theoretical Background

Although the first appearance of the term 'business model' dates back to the 1950s, the concept of the business model became popular only around the mid 1990s, with the advent of the internet and information technologies (Zott et al., 2011; Downs – Velamuri, 2018). Though Porter (2001) interpreted business modeling as a useless concept, several studies have pointed out its practical benefits. Nowadays, in a rapidly changing world, fast responsiveness to challenges, adaptability to changes, and the ability to dynamically renew the operation of an organization are gaining even more importance. It provides an opportunity for fast, focused, real exploration and learning with little use of resources (Horváth et al., 2018).

Business models represent the operational logic of the organization, in other words, the system of "business" ("how the organization creates, delivers and captures value," Osterwalder – Pigneur, 2010:14), and focuses on the way that value is created. According to these three dimensions, the authors have developed a business model canvas with nine building blocks (BMC: Business Model Canvas, see Table no. 2).

Business modeling tools are not only suitable for reviewing the operation of for-profit organizations. In the case of non-profit organizations, serving social goals as well, value creation has a dual focus: in addition to economic value, they also have to create social value (Weerawardena et al., 2019). Although these organizations do not focus on maximizing profits,

they cannot ignore economic considerations. A business model is only viable and an organization can only pursue its social or cultural goals if it generates increase in revenue and not by reducing costs.

Digital transformation is fundamentally changing how organizations operate and deliver value to customers. The advancement of technology inevitably affects competition and strategies (Mészáros, 2020). According to the list by Forbes (2020), the most valuable companies have platform business models (e.g., Apple, Google, Microsoft, Amazon, and Facebook). In recent decades, platforms have become the new management paradigm and have been studied widely (Csontos – Szabó, 2018), for example in the case of smart cities (Csukás – Szabó, 2019) or in connection with Industry 4.0 (Szabó et al. 2019). Platforms are often considered 'network orchestrators' (Libert et al., 2014) and can facilitate value creation by providing opportunities for content producers ('creators') to present their offers to other segments (Van Alstyne, 2016, Gawer – Cusumano, 2014, Eisenmann et al., 2011). It is important to emphasize the significance of ICT in knowledge transfer and on-the-job learning (Hortoványi – Ferincz, 2015) in connection with platform business models as well; it can be an internal development barrier if some employees are unable to use the platform.

In a rapidly changing world, no business model is permanent, it needs to be continuously improved and updated in order to survive and operate successfully. Thus, in the case of symphony orchestras, it is not enough to rely on the existing repertoire and follow traditional models. One of the biggest challenges for symphony orchestras is the question of the next generation of concert-goers (Bibu et al., 2018). Concerts can only reach a narrow section of the population, as opposed to cinemas or theaters which are much more popular. Art that no one wants to pay for cannot survive according to Alexander (2015). Orchestras must therefore strive to reach and address a wider range of consumers. Today's consumers value creativity, innovation, active involvement and multi-sensory experiences (Ercsey, 2014). These factors have to be taken into account in order to address potential customers.

Without innovatively rethinking their operation and "services", orchestras will find it difficult to win against other segments of the entertainment industry (e.g.,, pop music concerts, cinemas) in the competition for people's leisure time (Radbourne – Arthurs, 2007). Similarly, music education has to be renewed as well. In our digitalized world, personal presence does not have to be a prerequisite for learning to play a musical instrument. New solutions are needed which can fulfill the changing needs of students.

Business model innovation is therefore very much needed to ensure the prosperity of orchestras and to meet the needs of music students in the 21st century. Business model innovation means that there is a significant change in one or more elements of the organization's business model (Horváth et al., 2018). In order to successfully commence the business model, entrepreneurial managers are needed who can drive economic growth (Hortoványi, 2012) and can "develop and play an altogether different game" instead of "playing the game better than the competitors" (Markides, 1997:9). Borgulya and Kovács (2020) also highlight the impact of leadership on business success and innovation: without

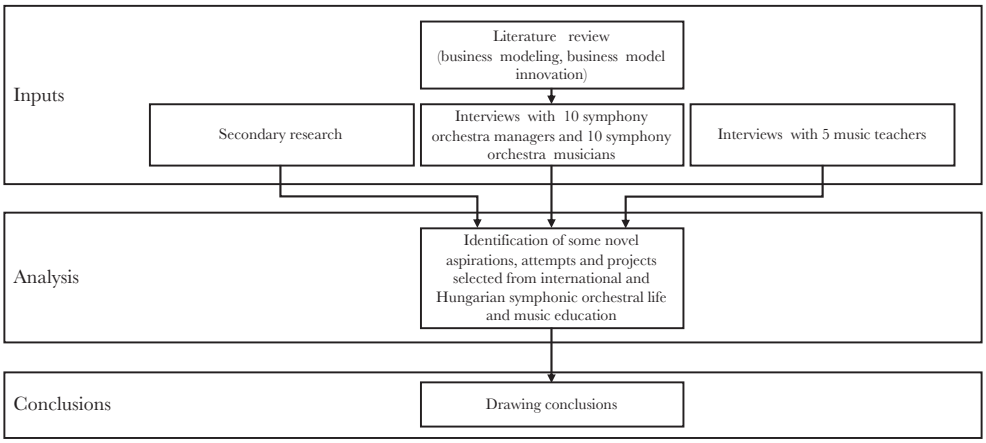
effective leadership communication management, there is no innovation and change.

By redefining the business model and the standards of an industry, the organization can achieve a more customer-oriented approach and address potential future customers as well. This article aims to give an overview of some novel aspirations selected from the international and Hungarian orchestral life and music education in order to provide examples of how the business model.

Methodology

In order to answer our research question (What kind of novel aspirations and innovative projects can be identified in the case of symphony orchestras and music education?), we have conducted a primary and a secondary research. Figure 1 summarizes the main steps of our research.

Figure 1: Methodology



Source: own editing

In the frames of the primary research, we have conducted interviews with ten symphony orchestra managers and ten symphony orchestra musicians. Our main questions were focusing on the challenges of orchestras, the effects of COVID-19 on the symphonic orchestral life, and the novel projects and ways how they are trying to reach more people, especially the youth. We were also interested in their opinions about the international scene; however, in the case of foreign orchestras, our research mainly relies on existing documents, and articles.

In order to identify the main trends in music education, we have also conducted five interviews with music teachers. During these interviews, we were interested in their opinions about how digitalization can change the sector and how it is possible to encourage more students to learn music.

We have worked with semi-structured interviews: we have prepared a guideline in advance, however, during the interview we have deviated from it if necessary, in order to go into more details on some topics. This interview technique has given us a fairly high degree of freedom and as a result – by following the recommendations of Agee (2009) – it has allowed us to identify new, unexpected, previously unexplained phenomenon by not sticking to a pre-designed set of questions. The interviews lasted 60–90 minutes, respectively. For recruiting interviewees, we have used snowball sampling (Naderifar, Goli – Ghaljaie, 2017). We have reached the theoretical saturation point after ten interviews both in the case of managers and musicians and after five interviews in the case of music teachers: new topics have no longer emerged (Constantinou et al., 2017).

As part of the secondary research, we have also reviewed 50 leading applications in music education and analyzed 24 of them in detail in order to define the main advantages and disadvantages. Furthermore, we analyzed the customer segments that these apps would like to address and the value proposition that they offer to customers.

Based on the interviews and the secondary research, we have identified some novel aspirations and innovative attempts which are detailed in the following section.

Results

Online Streaming Through Platforms

Digitization opens up new ways for orchestras to rethink their value proposition and also to reach and address audiences in an unusual way. Nowadays, "digital thinking" is essential in the field of cultural management as well (Hunt, 2019). Live concert streaming is no longer a novelty. However, the Berlin Philharmonic's Digital Concert Hall project was the first initiative that used social media to broaden the audience globally by making the orchestra's concert recordings available to consumers around the world via the Internet (Digital Concert Hall, 2019). Thus, the audience can access the orchestra's recordings or even live concerts at all times and places. Nowadays, almost all orchestras – both international and Hungarian – make available previous concert recordings and live performances by online streaming, which is currently gaining even more importance in the pandemic situation.

According to the research of the Association of Hungarian Symphony Orchestras (2020), Hungarian orchestras have previously used the Internet to share their productions; however, no content has been created specifically for the online space. In 2020, as a result of the pandemic, it has fundamentally changed, the vast majority of orchestras have started to use social media to stay in touch with their audiences, and due to the closure of concert halls, online, live concert streaming has become a popular way to perform. Streaming typically serves a dual purpose: on the one hand, it helps to keep in touch with the audience, and on the other hand, it can also generate income, if the orchestra makes its "products" available in exchange for a "ticket". For online streaming, most orchestras use YouTube Live, Facebook Live, or Instagram Live which are widely known and easily accessible platforms. Although it is worth examining some further options which are more professional and give better opportunities for the monetization of the

productions (e.g., Dacast used by the Royal Academy of Music or Brightcove used by the Metropolitan Opera, the Sydney Symphony Orchestra, and the San Francisco Opera). Some of these platforms are specialized for music (e.g., Stageit) and besides ensuring the conditions of streaming; they also market the performer and their show (Corton, 2020).

LOLA – a software to decrease latency and a platform to connect musicians

Nowadays, there are many technologies and applications which make it possible to teach and play music online (e.g., Skype, Messenger, Viber, Teams, Google Meet). These are widely known, easily accessible, and free solutions that do not require any special tools. In many cases, however, latency and the poor quality of sound cause serious problems. In contrast, LOLA (low latency AV streaming system) can reduce latency to less than 30 milliseconds and as a result, it is suitable for distance musical interactions, even in the case of a very 'tempo sensitive' repertoire where timing is a critical factor (Drioli et al., 2013). Thanks to LOLA, several successful productions have taken place in recent years, even if the performers were thousands of kilometers apart (LOLA, 2021). The ease of use of the software is proven by the fact that concerts were successful even in cases when the musicians started to get to know each other and the software just one day before the concert (without any special training).

Interactive Productions with Gamification

As previously mentioned, one of the main problems for symphony orchestras is that they can hardly address the youth. The Australian Discovery Orchestra has responded to the challenge with an excellent idea: as part of its digital strategy, it has turned its previous recordings into "virtual experiences". The audience can listen to the piece by playing a video game: they have to solve various challenges and complete tasks in order to earn points and „keys" which unlock the next part of the piece (Grasmayer, 2017). In another video game, the orchestra focuses on music education in a similar way, by using a virtual environment, short videos, and audio materials (ADO, 2021).

Effective Workflows Enhanced by Virtual Reality

The cooperation of two Finnish VR pioneers (Zoan and Varjo) and the Finnish National Opera and Ballet (FNOB) points out that new technologies have a *raison d'être* in the field of culture as well, by contributing to more efficient workflows. In the frames of the collaboration, FNOB has the chance to pre-visualize the upcoming productions without much investment. As a result, FNOB can save stage time and make the processes more effective (Teivainen, 2020).

Applications in Music Education

Nowadays, applications are available for almost all types of instruments, with instructional videos, real-time feedback, and – in some cases – with gamified challenges, in order

to help students to learn music in a playful, enjoyable, and interactive way. As Buzás (et al., 2021) emphasize, it is important to create a flow experience and deliver interesting and valuable content to students. The applications introduced below keep these principles in mind. Many apps are developed by professional musicians and the video lessons are produced by well-known artists which guarantee high quality. Moreover, customer reviews highlight that the apps are suitable for all levels of proficiency from beginners to advanced musicians, and can fulfill the needs of all students by containing songs and lessons for all genres.

Table 1: Applications in Music Education

		Main advantages	**Main disadvantages**
Piano	Playground Sessions	– Developed by professional musicians – Interactivity – Video lessons produced by well-known artists and teachers – Lessons for all levels of proficiency – User-friendly, easy-to-use interface – Customizability – Tempo can be adjusted to the skills of the student – Real-time feedback – Statistics about the performance and progress – Gamified challenges – Songs and lessons for all genres – Opportunity for consulting with teachers (e.g., weekly Skype conferences)	– Some applications are not free and/or there is no free trial or the free version is limited to a few songs – Some applications are only suitable for Android and/or iOS products – Some applications have problems with recognizing correctly the notes being played – In some cases, there are technical problems, bugs (e.g., logging in)
	Flowkey		
	Skoove		
	ArtistWorks Piano with Christie Peery		
	Pianoforall		
	Piano Marvel		
	Piano With Willie		
Guitar	Fender Play		
	ArtistWorks Guitar		
	TrueFire		
	JustinGuitar		
	Jamplay		
	Orange Learn		
	Jamorama		
Violin	Trala: Learn Violin		
	MyOngaku		
	Scales Practice		
	Modacity		
	PlayAlong Violin		
	Violin Notes Flash Cards		
	Classical Violinist		
Cello	Cello Coach		
	PlayAlong Cello		
	Cello Racer		

Source: own editing

It is important to emphasize that these applications cannot replace a music teacher and personal lessons, as they cannot put enough emphasis on the artistic details, nor can they correct for example the posture, fingering, or bowing. However, they can help students learn the basics, make home practice more effective, and also have a motivating effect: learning in a playful way can encourage young people to start their music education. As a result, these applications can also contribute to building the next generation of music-lovers and concert-goers. Table 1 summarizes the main advantages and disadvantages of the analyzed applications.

It is clear how the applications try to address the students; they have a well-formulated value proposition for them (e.g., providing a convenient, customizable and entertaining way to learn music usually at a cheaper price than taking private lessons). However, the value proposition for music teachers is not defined, although – as previously detailed – the applications could contribute to the success of their work as well. According to the interviews conducted with music teachers, they do not see how these applications could complete their work. The overall opinion of teachers is that the apps are not suitable for learning to play an instrument and the only way is to take personal lessons. In the future, it would be beneficial to address and involve teachers as well as they could be a channel to students and help promote the apps.

Conclusions, Suggestions

Compared to the „traditional" symphony orchestra performances, the previously detailed innovations, novel aspirations renew the value proposition: the orchestras add new elements (e.g., gamification and interaction) and raise convenience and accessibility. By leveraging digital opportunities, orchestras can redefine the concert experience, reach audiences in a novel and perfectly convenient way, and can overcome the barriers of geographical distance; location is not restricted to concert halls anymore. The applications focusing on music education also significantly enrich the value proposition; they add new elements (e.g., real-time feedback or gamified challenges), and make music education available to all, everywhere. By adapting to the demographical and social changes of the 21st century, these above-mentioned orchestras and app developers can address new customer segments, including younger people also. Besides renewing the value proposition and expanding the customer segment, they also significantly change other building blocks of the Business Model Canvas (Table 2).

Table 2: Business Model Innovation of Applications Focusing on Music Education and of Symphony Orchestras

Building blocks of BMC	**Applications in music education**	**Orchestras exploiting the opportunities offered by digitalization**
Customer segments	The youth and those who have never had a chance to take music lessons in person (e.g., due to geographical distances, costs, etc.)	Children, young people, and those who would be unable to attend the performance in person (due to e.g., geographical distance)

Building blocks of BMC	**Applications in music education**	**Orchestras exploiting the opportunities offered by digitalization**
Value proposition	Newness: real-time feedback, gamified challenges Convenience and accessibility: music education is available to everyone, everywhere Customization: learning can be tailored to individual needs Price: cheaper than private lessons	Newness: integrating gamification and adding interaction Convenience and accessibility: location is not restricted to concert halls anymore
Channels	AppStore, Google Play Store	Platforms, social media, the webpage of the orchestra
Customer relationships	Automated services, co-creation (reviews)	Automated services, co-creation
Revenue structure	Freemium model, in-app purchases, subscription fees (monthly, yearly)	Revenues from streaming
Key activities	Developing and marketing the application	Online concert streaming through platforms, turning the previous recordings into "virtual experiences" (video games), using VR for more effective workflows
Key resources	Technological, human, and intellectual resources: the technology of the app and the knowledge of the developers and founders	Technological, human, and intellectual resources: the platforms and technologies and employees who can use them
Key partners	Famous artists and teachers who promote the application	VR companies, platform owners
Cost structure	Cost of developing and marketing the app	Costs of using a platform or software (e.g.,, LOLA), recording productions, and creating video games
Social benefits	Music education is available for a wider range of people, the same amount of music teachers can teach many more students, music education contributes to building a more intelligent society	Delivering cultural values to a wider audience, including the youth, beneficial effects of classical music on health (e.g., stress-relieving effect) and society (e.g., contributing to an empathetic and tolerant society)
Social costs	App developers could use their knowledge for other (social) goals	Resources, subsidies used for supporting the operation of orchestras could be used for other social goals

Source: own editing

Limitations of Our Research

In the present study, we have reviewed 50 leading applications in music education and analyzed 24 of them in detail, by focusing on four instruments: piano, guitar, violin and cello. In the future, more musical instruments could be taken into account and further applications should be analyzed in order to get a wider picture of the industry. The results on business model innovation are based on interviews: the opinions of ten symphony orchestra managers, ten symphony orchestra musicians, and five music teachers. However, we reached the saturation point in the qualitative research; in order to get even more generable results, it would be useful to examine the topic by using quantitative methods. Finally, the study is centered around symphony orchestras and music education; other cultural segments (e.g., theater) are not reviewed and analyzed. These limitations show the possible directions for further researches.

Summary

In accordance with Horváth et al. (2018), Csontos – Szabó (2018), Hortoványi – Ferincz (2015), Van Alstyne (2016), Gawer – Cusumano (2014), Eisenmann et al. (2011), and Libert et al. (2014), our research has underpinned the importance of business model innovation and digitalization in the cultural sector as well and has highlighted how virtual reality, platforms, applications, and other software and technologies can contribute to the successful operation of an orchestra and the effectiveness of music education.

Although, business model innovation and digitalization raise some further questions and challenges for orchestras: they have to balance between serving economic goals (e.g., being profitable) and social goals (e.g., creating social value). Furthermore, when innovating the value proposition and creating productions that address the audience in an unusual way, they have to preserve the traditional values of symphony orchestras as well. Digitalization also poses great difficulties: previously, the operation of orchestras relied on live performances, while currently – as a result of the pandemic - they have to focus on the online space. It requires different models and productions: the previously successful performances are not necessarily popular in the virtual space. In order to overcome these barriers and achieve long-term success, orchestras have to continuously experiment, adapt to the changing needs of their customers and handle the changes of the world.

In the 21st century it is necessary for music education to be tailored to the needs of the students. In our digitalized world, taking personal lessons should not be the only possibility of how one can learn to play a musical instrument: new and innovative solutions are needed which can break down the barriers of time and space. During the pandemic, it has become impossible for most students to continue their music education in the same way as before: they had to look for alternative solutions and take advantage of the opportunities offered by digitalization.

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