Opera streaming: perceived value as an explanatory factor for loyalty and intention to attend an opera in an opera house

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Abstract

Online streaming has become more widespread in the opera sector as in other performing arts. This broadcasting technique can help opera houses reach a wider audience and achieve greater loyalty from lovers of the genre. Moreover, streaming could encourage patrons to attend an opera performance in an opera house. This piece of research, which can be used as a reference for other performing arts, analyses the links between the value sources of the streamed opera consumption experience, loyalty, and intentions to attend an opera in an opera house. Our results show that hedonic, epistemic, and functional values have a significant impact on loyalty but through differing behavioural intentions. Nonetheless, epistemic value is the only value that influences viewers' intention to visit an opera house.

Keywords: experience, perceived value, loyalty, opera, streaming

Summary Statement of Contribution

Our research, carried out on an international scale, makes several important contributions. It first tackles perceived value in the streaming context which has not been previously analysed, moreover, in an eminently direct-contact setting, such as opera. It also provides keys to improving opera patrons' loyalty and bringing this performing art closer to new audiences. The results may assist managers in facing the new digital context in an otherwise very traditional sector.

Introduction

Thanks to the boom of new technologies, customers have the choice of consuming a product or a service through a physical or virtual channel. Companies are trying to adopt the best strategy to take into account the existence of these two channels and respond to these new uses (Verhoef et al., 2015). The digital revolution has profoundly changed the cultural industries as well in just a few years, from the systems of creation, of broadcast and of content promotion, to the use that audiences make of that content (Villanueva, 2017).

In particular, streaming has changed the way that cinema is consumed, which now challenges the whole economy of the sector (Clement et al., 2018). Similarly, the dematerialisation of recorded music has changed the consumption patterns and altered the entire value chain of the sector (Chaney, 2012). In performing arts, streaming makes it possible to attend a performance remotely. In

recent years, this technology has been applied in other sectors such as retail (Wongkitrungrueng & Assarut, 2020), education (Hartsell & Yuen, 2006, p. 33), and tourism (Zhang et al., 2021). In the opera sector, the New York Metropolitan Opera House was the first to launch a streaming platform, in 2008 (Lacasa-Mas & Villanueva-Benito, 2012). It was followed by prestigious opera houses such as the *Bayerische Staatsoper* in Munich, the *Teatro Real* in Madrid and the *Wiener Staatsoper* in Vienna, amongst others. Simultaneously, specialised opera platforms, independent from opera houses, have emerged, such as *Operavision*[1].

Online streaming constitutes a real innovation, and possibly even a revolution, for the opera houses and for their patrons as well. In short, opera patrons can now enjoy a performance outside the opera house, at the place of their choice, on any device. They can interact with other patrons during the performance without physically meeting them (Ouazzani, 2020), or with the platform community manager, be it on live chats provided by the streaming platforms or on social networks; they can thus virtually get the sense of a shared experience that they would have got in a physical venue (Hudson, 2017). Consumers are increasingly connected and frequently share their experiences and perceptions online (Leroi-Werelds, 2019). Streamed opera viewers are no exception.

On another level, streaming can (virtually) extend the limited capacity of opera houses which, aside from trying to attract new audiences (Kemp & Poole, 2016), are seeking new means of creating turnover through the development of digital technologies (King, 2018; Mueser & Vlachos, 2018). The opera sector is indeed currently undergoing major changes. It is adapting to a new context, of which the rise of new cultural consumption modes is one aspect. Thus, the production costs are still high and hardly sustainable (Roll et al., 2017; Tubillejas et al., 2020). Attendance is declining (Voss & Kannan, 2021), and demand is changing (Bermbach, 2018). In addition, opera houses face stiff competition from other leisure activities (King, 2018; Troilo et al., 2014). Consequently, because of the difficulties it is facing, the opera sector needs to find new sources of income. In this context, opera houses are exploring new broadcast techniques to satisfy this renewed demand (Villanueva, 2016) and develop their own resources.

Hence, opera houses are wondering if they should develop streaming, which can be expensive to implement (Mueser & Vlachos, 2018), and whether to adopt a multi-channel strategy by offering a multiform offer (Elberse, 2010). They are currently in the process of embracing the innovation represented by this channel, in the same way that the retail sector was confronted with the transition to an omni-channel offer a little over a decade ago (Collin-Lachaud & Vanheems, 2016). This new way of consuming opera might redefine the relationship between opera houses and patrons. It is therefore necessary to understand how viewers perceive the streamed opera experience, which, unlike an 'in-situ' opera experience, can be enjoyed alone as well as collectively, in a familiar environment. Opera houses and opera streaming platforms also need to understand how they can hold on to these patrons, and how they can encourage them to attend a performance in an opera house after they have watched a streamed opera.

Securing viewers' loyalty is one of the biggest challenges that performing arts managers who stream their performances are facing (Neira et al., 2021). To ensure that patrons want to repeat their experience, it is essential to understand how the loyalty of streamed opera patrons operates (Kurniawan & Aversia, 2021). In the field of live streaming services, Singh et al. (2021) have found a positive relationship between the perceived value of the streaming experience and repurchase

[1] https://operavision.eu/

intention. Some studies have also shown that perceived value is an antecedent of loyalty in the field of performing arts (Han & Kim, 2021; Hume & Mort, 2010), and in the field of streaming as well (Lai et al., 2021; Singh et al., 2021). On the other hand, while some papers studied digital innovation in the performing arts - theatre plays and operas broadcast in cinemas in particular - (e.g. King, 2018; Villanueva & Lacasa, 2017), no literature has tackled the perception of the experience of streamed operas, and more generally, of performing arts streamed over the Internet. Nor is there any analysis of the relationship between the perceived value and the intention of repeating a performing arts experience via a streaming service. Furthermore, while some papers compare opera consumption via a streaming service and in an opera house, we have found none showing how the use of streaming prompts the enjoyment of a physical performance.

The objectives of this research are therefore to analyse how the perceived value of streamed opera experience impacts, on the one hand, on the viewer's loyalty and, on the other hand, on their intention to attend an opera in an opera house after watching a streamed performance. To do so, we submitted a questionnaire to 213 streamed opera viewers and used PLS structural equation modelling. We will first present the theoretical framework, the hypotheses, and the methodology used. We will then look at the results obtained and present a discussion. Lastly, we will look at the limitations of our work and suggest further research paths.

Literature review and hypothesis development

Streaming

Consumption in streaming has been the subject of recent studies in the fields of retail (e.g. Wongkitrungrueng & Assarut, 2020; Wongkitrungrueng et al., 2020; Zhang et al., 2020) and gaming (e.g. Qian et al., 2020; Sjöblom & Hamari, 2017). Sun et al. (2019) found that IT (information technology) affordances have a positive impact on live streaming shopping engagement (measured through immersion and presence), that further influences the customers' buying intentions positively. Following from this, Wongkitrungrueng and Assarut (2020) investigated how live streaming shopping helps build trust between customers and sellers. They showed that symbolic value created by live streaming shopping influences customer engagement, directly and indirectly, through trust in sellers. Utilitarian and hedonic values impact customer trust in products, that influences trust in the seller, which has a positive effect on engagement. Researchers have also investigated customers' motivations to use this retail channel. For example, Ma (2021) demonstrated that hedonic, utilitarian, and social gratifications are antecedents to live streaming shopping intentions, and that the perceived network size positively influences these gratifications.

Likewise, in the gaming sector, literature analysed the spectators' motivations to watch e-sports. Through the analysis of interviews and an open-ended survey with e-sports fans, followed by a quantitative study, Qian et al. (2020) identified eight motives to watch e-sports (skill improvement, vicarious sensation, friends bonding, dramatic nature, game knowledge, competition excitement, entertaining nature, and competitive nature) that are similar or analogous to those of the traditional sports audience, and two others (skill appreciation and socialisation opportunity) that are specific to e-sports consumers. Despite the development and the growing importance of the online consumption of live performances, research on this topic is still at a very early stage (De la Vega et al., 2020).

Customer experience

Customer experience is a key concept in marketing and is of major managerial interest, as proven by the sheer number of books and practitioner press articles on experience marketing, written by practitioners and consultants for marketing professionals (Tynan & McKechnie, 2009). Lemon and Verhoef (2016, p. 71) define it as a 'multidimensional construct focusing on a customer's cognitive, emotional, behavioural, sensorial, and social responses to a firm's offerings during the customer's entire purchase journey'. Experience building is at the core of the strategy of many companies, as it represents an important source of competitive advantage for them (Kranzbühler et al., 2018). Experience positively affects key variables such as customer satisfaction or loyalty (Kranzbühler et al., 2018). It is not insignificant that an institution such as the Paris Opera House recently renamed its marketing department as the 'Spectator Experience Department' (Thiellay, 2019). Tynan and McKechnie (2009) view customer experience as a process during which customers create and judge value. It is holistic and multi-dimensional.

Customer experience has been undergoing profound changes over the past 15 years due to the rise of digital technologies (Bolton et al., 2018; Lamberton & Stephen, 2016). Consumers interact with companies through a myriad of online and offline touchpoints, across multiple channels and media (Barwitz & Maas, 2018; Lemon & Verhoef, 2016), and with each other through social networks (Roederer & Filser, 2015). They may not react the same way in a virtual space as they do in a real space (Bilgihan et al., 2016), because they have for instance much more information at their disposal, or less constraints (Bleier et al., 2019). Other parameters such as the permanent and instant access to internet enabled by mobile devices, or the user-friendliness of a website could also affect the consumers' behaviours in the virtual sphere (Bilgihan et al., 2016). Technological upheavals could deeply alter the interactions between companies and customers as well (Van Doorn et al., 2017). In addition to this, online consumption is growing. This phenomenon is facilitated by the development of new technologies (Fernandes et al., 2021). The cultural sector has been affected by these changes as well (Ben Nasr et al., 2017). Interactive technologies, including mobile apps, impact museum visitors' experience. They make each visit unique and enhance interactivity between the museum and the customer (Clauzel et al., 2019; Jarrier & Bourgeon-Renault, 2020). Likewise, in the fields of music and cinema, since the advent of streaming, consumers are no longer enjoying music and movies in the same way that they used to (Clement et al., 2018; Maubisson et al., 2019).

Despite ongoing empirical work (Kawaf, 2019), the online consumer experience, understood as 'a customer's subjective, multidimensional psychological response to a product's presentation online' (Bleier et al., 2019, p. 98), still requires further exploration (Ballantyne & Nilsson, 2017; Kranzbühler et al., 2018; McLean & Wilson, 2016), and even more so with technologies continuing to evolve (Bolton et al., 2018).

Opera is a highly experiential product (Pulh et al., 2005). This field is therefore ideal for understanding the consumption experience, especially as it has been scantly studied. The limited academic research on the opera consumption experience has focused on satisfaction (Jobst & Boerner, 2011), perceived quality (Boerner & Jobst, 2008), and servicescapes (Tubillejas et al., 2020). Furthermore, the opera sector is currently facing the challenge of digitalisation and the shift to multichannel, following the recent and progressive development of streamed opera (De la Vega et al., 2020; King, 2018). Clearly, consumption is increasing. Like other performing arts structures (Bakhshi & Throsby, 2014; De la Vega et al., 2020), opera houses are questioning the development of this new channel. They are wondering if it is a competitor or a complement to 'in-house' opera (King, 2018; Mueser & Vlachos, 2018).

Perceived value

Perceived value is defined by Holbrook (1999, p. 5) as 'an interactive relativistic preference experience'. It makes it possible to understand the customer's experience and its characteristics (Holbrook, 1999; Rivière & Mencarelli, 2012), and to predict the buyer's behaviour at the end of this experience (Leroi-Werelds, 2019), as well as the adoption of an innovation (Abaidi et al., 2020). It allows the researcher to place themselves at the core of this experience, of which it is a lasting reflection (Filser, 2008), and provides a holistic view (Mencarelli, 2008). This notion is particularly relevant to study experiences with products with high emotional value (Gallarza et al., 2017), as various studies on consumer experiences in performing arts show. For instance, Derbaix and Derbaix (2010), Kunkel et al. (2017), and Mencarelli (2008) studied the perceived value of the experience of concerts, sports events, and live performances, respectively.

As a 'cornerstone of marketing' (Leroi-Werelds, 2019), the notion of perceived value is of major managerial interest (Filser, 2008). It is important for companies to understand how consumers assess the products or services offered (Derbaix et al., 2010). Identifying the experience value sources thus provides companies with criteria for segmentation, differentiation and positioning (Gallarza et al., 2011; Rivière and Mencarelli, 2012). They can improve the existing offer or optimize their new product launch strategy (Abaidi et al., 2020). By delivering value to consumers, firms can increase their profitability and thus create value for themselves (Kumar & Reinartz, 2016). Besides, the perceived value, which is multidimensional (Leroi-Werelds, 2019), generates loyalty through one or more of its components (Leroi-Werelds et al., 2014). It is therefore a source of competitive advantage (Zauner et al., 2015), and an undeniable success factor (Babin & Krey, 2020) for companies.

Research on perceived value in the virtual domain is still underdeveloped (Carlson et al., 2015). Yet, as technological developments continue to disrupt the consumer experience and consequently the resulting perceived value (Ruiz et al., 2018), further research is needed to gauge and interpret this perceived value, be it on its conceptualisation, its measure or its nomological network (Leroi-Werelds, 2019; Picot-Coupey et al., 2021). This is particularly the case in the field of streaming (Singh et al., 2021).

Opera streamed over the Internet is a performance experienced remotely through a medium and using streaming technology. A few studies have analysed the experience of a live performance broadcast in a cinema (e.g. Bakhshi et al., 2010; King, 2018), the consumption of streamed music (e.g. Maubisson et al., 2019), entertainment (e.g. Singh et al., 2021) and video games (e.g. Shen, 2021), live streaming shopping (e.g. Wongkitrungrueng & Assarut, 2020; Wongkitrungrueng et al., 2020), and social live streaming (e.g. Bründl et al., 2017). They help to understand streaming consumption experiences. However, these have not been addressed in the performing arts domain.

Literature on performing arts as well as on cinema and streamed entertainment or music has suggested that consumers experience hedonic benefits when they attend a performance (e.g. Sohier & Brée, 2014), watch a movie - in a cinema (e.g. Aurier et al., 2004) or via a streaming service (e.g. Singh et a., 2021) -; or listen to music via a streaming service (e.g. Maubisson et al., 2019). Previous research also showed that epistemic benefits play a central part for the customer in the cultural sector (e.g. Aurier et al., 2004; Mencarelli, 2008). Consumers have a strong desire for knowledge, enrichment and intellectual stimulation. Whether they attend a performance or listen to music via a streaming service, functional aspects are also key to them, be it the core service (e.g. Hume & Mort, 2008) or the peripheral elements (e.g. Maubisson et al., 2019). In the context of streaming, convenience is also valued (e.g. Singh et al., 2021) since this consumption mode makes it possible to

watch a video or listen to music easily, on any device (e.g. Singh et al., 2021). These elements, which have been reinforced by the results of a qualitative study of streamed opera experiences and of an immersion into the digital service of the Vienna State Opera (Ouazzani, 2020), prompt us to consider three value sources of the streamed opera consumption experience (Table 1):

- **Hedonic**: watching a streamed opera allows viewers to relax, escape and forget the daily realities. The performance gives them the opportunity to experience emotions that range over a wide spectrum, from joy to sadness and even fear, and these can be intertwined. These emotions are triggered by the music and voices, the staging or the plot. They are all the more intense that the patrons feel immersed into the opera. Besides, viewers also like to be surprised and to discover unexpected things during the performance. At another level, they value the beauty of the work and the performance which is expressed through the music and voices, the staging, the sets and the costumes.
- **Epistemic**: watching a streamed opera allows viewers to enrich themselves intellectually, to reflect, and to indulge in introspection. This can occur during the performance but also before and/or after, while they search for additional information, mostly about the work and the artists, or while they read reviews. Enjoying a streamed opera is also an opportunity for the patrons to analyse the work itself or the performance. This analysis can be a way of pursuing the experience after watching the opera, when the performance has left them with a lasting memory. The artists and the production are at the core of this evaluation. More generally, the experience of streamed opera can offer a real intellectual stimulus for the viewers.
- **Functional**: streamed opera viewers also assess functional elements. Traditionally, operagoers evaluated intrinsic features of the performance. The patrons of streamed opera are sensitive to the quality of the singers– (to their voice, their technique, as well as to their acting and charisma), the conductor, and the orchestra. Apart from this, when viewing a performance via a streaming service, they must consider new elements in their functional assessments. They pay attention to the technical and practical peripheral elements that allow them to fully enjoy the performance, such as the ease of use of the platform, the quality of the stream, the sound, and the picture. In this sense, streaming offers a clear advantage compared to 'in situ' performances. It allows viewers to have a much better view of details which are impossible to appreciate in an opera house because patrons are usually seated too far from the stage. Zooming can be successfully combined with an overall view, hence offering additional enjoyment. In short, streaming makes it easier to see and enjoy the facial expressions of the lead singers, on whom audio-visual production tends to focus. Lastly, streaming viewers appreciate the convenience of watching a streamed opera, thanks to the flexibility of the schedule it provides. For the aforementioned reasons, functional value should be considered as a multidimensional construct.

Table 1. Proposed value sources of for streamed opera (authors' own elaboration)

Value sources	**References**	
	Authors	**Field of study**
Hedonic	Bourgeon-Renault & Bouchet (2007)	Cultural products
	Addis & Holbrook (2001); Mencarelli (2008); Pulh (2002); Tubillejas et al. (2019)	Performing arts
	Boissel et al. (2018) ; Derbaix et al. (2010); Kunkel et al. (2017); Sohier & Brée (2014)	Sports events
	Aurier et al. (2004); Marteaux (2006)	Cinema
	Ouazzani (2020)	Opera streamed on the Internet
	Bakhshi et al. (2010); King (2018); Villanueva & Lacasa (2017)	Screenings of opera and theatre performances in a cinema
	Mäntymäki & Islam (2015); Maubisson et al. (2019)	Streamed music
	Chen et al. (2017); Singh et al. (2021)	Streamed entertainment
	Shen (2021); J. Kim & M. Kim (2020)	Streamed video games
	Ma (2021); Wang & Chou (2020); Wongkitrungrueng & Assarut (2020); Xu et al. (2020)	Live streaming shopping
	Bründl et al. (2017)	Social live streaming
Epistemic	Mencarelli (2008); Pulh (2002)	Performing arts
	Boissel et al. (2018) ; Derbaix et al. (2010); Kunkel et al. (2017)	Sports events
	Aurier et al. (2004); Marteaux (2006)	Cinema
	Ouazzani (2020)	Opera streamed on the Internet
	Bakhshi et al. (2010)	Screenings of opera and theatre performances in a cinema
	Mäntymäki & Islam (2015)	Streamed music
	Hamilton et al. (2014); J. Kim & M. Kim (2020); Shen (2021)	Streamed video games

Value sources		References	
		Authors	**Field of study**
Functional	*Quality of the artists*	Hume & Mort (2008)	Performing arts
		Kunkel et al. (2017)	Sports events
		Ouazzani (2020)	Opera streamed on the Internet
		King (2018)	Screenings of opera and theatre performances in a cinema
		J. Kim & M. Kim (2020)	Streamed video games
	Quality of peripheral elements	Mencarelli (2008)	Performing arts
		Kunkel et al. (2017)	Sports events
		Aurier et al. (2004)	Cinema
		Ouazzani (2020)	Opera streamed on the Internet
		Barker (2012); King (2018)	Screenings of opera and theatre performances in a cinema
		Maubisson et al. (2019)	Streamed music
		Chen et al. (2017); Oyedele & Simpson (2018); Singh et al. (2021)	Streamed entertainment
		Shen (2021)	Streamed video games
		Scheibe et al. (2016)	Social live streaming
		Ouazzani (2020)	Opera streamed on the Internet
	Convenience	Ouazzani (2020)	Opera streamed on the Internet
		King (2018)	Screenings of opera and theatre performances in a cinema
		Mäntymäki & Islam (2015)	Streamed music
		Oyedele & Simpson (2018); Singh et al. (2021)	Streamed entertainment
		Ma (2021); Wongkitrungrueng & Assarut (2020)	Live streaming shopping
		Bründl et al. (2017)	Social live streaming

Hypotheses development

Perceived value and loyalty

Loyalty is defined by Oliver (1999, p. 34) as 'a deeply held commitment to rebuy or repatronise a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour'. It plays an important role in customer relationship management, especially for cultural institutions as it is essential for their financial health and sustainability (Troilo et al., 2014; Tubillejas et al., 2020). In the performing arts, typical behaviours like involvement, season subscription and attendance are usually considered as strong indicators of loyalty (Guillon, 2011; Hume et al., 2007). Nonetheless, focusing on these behaviours, which only have a few months of income impact on the venues, is a short-term vision of loyalty (Hume et al., 2007). Loyalty needs to be considered in the long run, beyond one performance season. This requires a deeper analysis of its various antecedents (Tubillejas et al., 2016, 2021). In this sense, Han and Kim (2021) found that positive perceived value assessments of a ballet performance by the attendants positively influence the re-watch intention through trust in the ballet performance and satisfaction. Additionally, loyalty has evolved as a result of changes in consumer habits due to the digital revolution and increased communication between consumers on social networks (Ruiz et al., 2018). Its determinants could be different from those identified in the physical sphere. Online loyalty has thus been studied, in the field of retail in particular (e.g. Cachero & Vázquez, 2021; Carlson et al., 2015). However, it has not been analysed in the context of a streamed cultural consumption experience.

Perceived value has been shown to be an antecedent and a good predictor of attitudinal loyalty in many contexts (e.g. Leroi-Werelds et al., 2014; Mencarelli & Lombart, 2017), including the service industry (Cronin et al., 2000; Ruiz et al., 2018), performing arts and sports events (e.g. Hume & Mort, 2010; Kunkel et al., 2017). Oyedele and Simpson (2018) and Singh et al. (2021) more recently confirmed this relationship in the field of entertainment streaming services. Bakhshi et al. (2010) and then King (2018) showed that a majority of viewers of a play broadcast in a cinema intended to watch more shows of this type. The link between perceived value and loyalty, which has not yet been studied in the case of a live performance streamed over the Internet, can be direct (e.g. Ng & Dagger, 2006), or indirect through loyalty (e.g. Cronin et al., 2000; Derbaix & Derbaix, 2010). However, not all components of perceived value have the same influence on loyalty (Mencarelli & Lombart, 2017; Willems et al., 2016).

Except for a few exceptions (i.e. Tubillejas et al., 2016, 2020), hedonic perceived value has not been examined separately from the utilitarian perceived value in the performing arts. Nonetheless, focusing on the utilitarian value alone is not sufficient in the artistic sector (Shiau & Hu, 2020); even less if we consider the millennials' consumption habits, which are more inclined towards the hedonic compared to the previous generations' (Hyun et al., 2018). Chiu et al. (2014) showed the positive influence of the hedonic component of perceived value on loyalty in online shopping. On the other hand, Hsu and Lin (2020) showed the influence of hedonic benefits derived from the use of *Online to Offline* (O2O) entertainment applications on intentions to continue using these applications, while Mäntymäki and Islam (2015) found that the enjoyment provided by the experience of streamed music influences the intention to continue using the online music streaming service used.

Furthermore, Derbaix (2008), in her research on performing arts, and Leroi-Werelds et al. (2014) in their study on experiential fast-moving consumer goods, showed that epistemic value and

loyalty are positively related. Similarly, Mäntymäki and Islam (2015) found that the discovery of new music impacts on the intention to continue using a streaming service.

Besides, Chiu et al. (2014) showed in the online shopping domain that the utilitarian component of perceived value has a positive influence on loyalty. Meanwhile, Oyedele and Simpson (2018) highlight that the convenience of a streaming app or a streaming platform is a good predictor of intentions to recommend. Mäntymäki and Islam (2015) conclude for their part that being able to consume streamed music anywhere influences loyalty to the streaming service. We therefore propose the following hypotheses:

H1.a Patrons of streamed opera who obtain positive hedonic value will exhibit loyalty

H1.b Patrons of streamed opera who obtain positive epistemic value will exhibit loyalty

H1.c Patrons of streamed opera who obtain positive functional value will exhibit loyalty

Perceived value and intentions to attend an opera in a theatre

Literature on the relationship between performing arts consumption, experienced via a streaming service on the one hand and experienced in a physical venue on the other hand, is limited (De la Vega et al., 2020; Mueser & Vlachos, 2018). However, some research works show that streamed music consumption increases CD sales (Lee et al., 2016) and concert attendance (Nguyen et al., 2014) for artists present on streaming platforms. Therefore streaming can serve as a discovery tool (Aly-Tovar et al., 2020; Lee et al., 2016;). For his part, Chen (2015) highlights a positive relationship between mobile cultural participation and physical participation in a cultural event. Meanwhile, the spectators of a play broadcast in a cinema, interviewed by Bakhshi et al. (2010), report that their experience inspires them to visit a theatre in the future. Mueser and Vlachos (2018) suggest in their findings that attending a live performance broadcast in a cinema may encourage the most engaged spectators to visit a theatre. Given the streamed opera value sources identified and their influence after a streamed performance has been watched, we therefore propose the following hypotheses.

H2.a Patrons of streamed opera who obtain positive hedonic value will exhibit positive intentions to attend an opera in an opera house

H2.b Patrons of streamed opera who obtain positive epistemic value will exhibit positive intentions to attend an opera in an opera house

H2.c Patrons of streamed opera who obtain positive functional value will exhibit positive intentions to attend an opera in an opera house

The set of hypotheses is summarised by the following research model (Figure 1)

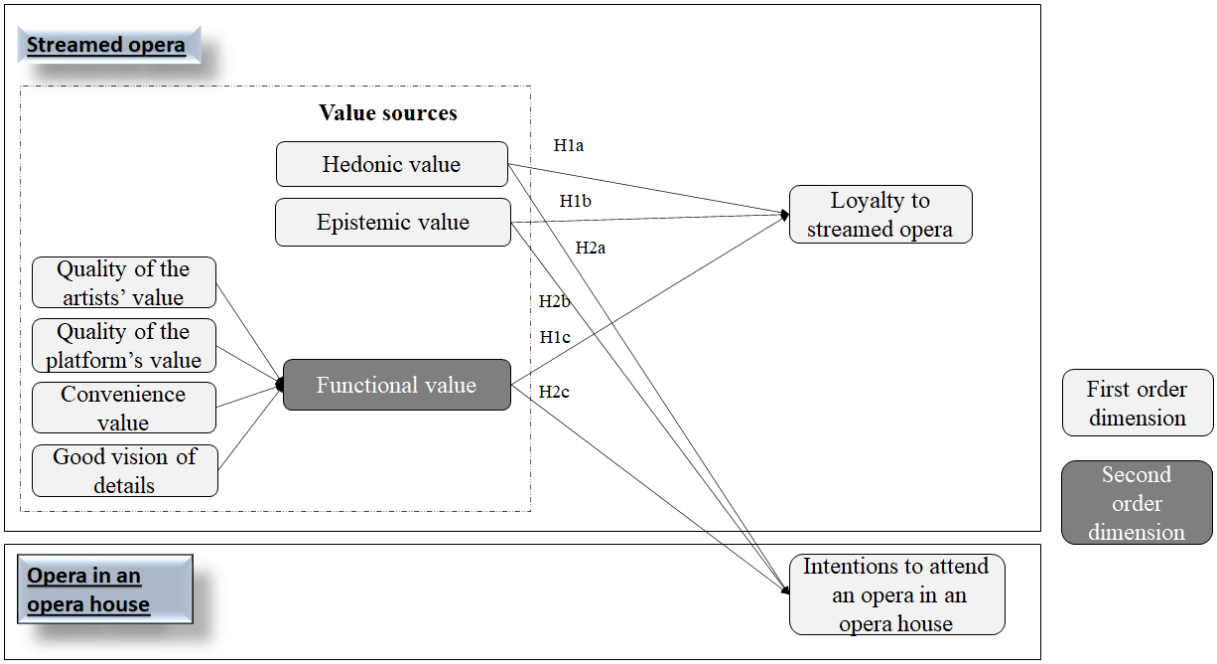

Figure 1. Research model

Empirical research

Data collection

We tested our hypotheses with a questionnaire. This questionnaire was administered electronically, in three languages (French, English and German), to viewers of two major opera streaming platforms: *Staatsoperlive.com*[2] and *Operavision*[3]. *Staatsoperlive.com* was the paid streaming service offered by the Vienna State Opera, launched in 2013. It broadcasted 50 live operas in HD every season, which made it the virtual opera house with the largest repertoire in the world. The platform also offered a video library of some 30 operas and its content was reviewed every month. The number of viewers for a live streamed performance was equivalent to a capacity audience at the Vienna State Opera. Viewers could access the service through a subscription or packages. They could also buy single live performances or videos on demand. *Operavision* is the digital platform of the European opera association, Opera Europa. It is the major stakeholder of free opera streaming. It broadcasts operas - mostly live - from its more than 25 partner opera houses, on its website and on YouTube. More than 40 operas per season are available for replay for several weeks or months. During a live broadcast, *Operavision* viewers can interact by taking part in a chat available on YouTube.

The links to the questionnaires were sent in the newsletters of both institutions. 213 responses were collected (153 for *Staatsoperlive.com* and 60 for *Operavision*). 60% of the surveyed people are men. The respondents are usually older and predominantly highly educated, as it is the case of the 'in-situ' opera audience (Agid & Tarondeau, 2010). 62% are over 60 years of age and 58% of them hold at least a bachelor's degree, while only 8% did not complete secondary education. Besides, more than half of the sample (56%) have taken music or singing lessons. On another level, a substantial majority of the respondents, three quarters of which watched the streamed performance alone, enjoy opera frequently; like the spectators of Live HD operas in cinemas as Villanueva and Lacasa (2017) detected and analysed. In all of the channels we considered, almost three quarters of respondents (73%) enjoy watching at least one opera per month and half of them enjoy more than 20 operas per year. The surveyed viewers are regular streamed opera patrons, since 60% of them watch an opera at least every two months. They are also mostly opera houses customers (92%): more than half of the sample (54%) attends more than 5 operas in a theatre each year (Table 2).

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[2] www.staatsoperlive.com/.

Staatsoperlive.com has become play.wiener-staatsoper.at. It broadcasts some major performances of the Vienna State Opera live for free during the performance season.

[3] www.operavision.eu

Table 2. Sample description

		Percentage
Gender	Female	40.4%
	Male	59.6%
Age	Under 25	1%
	25 - 44	10.6%
	45 - 59	26.6%
	60 - 75	44.4%
	Over 75	17.4%
Highest level of education	Did not complete secondary education / high-school diploma	8.3%
	Secondary education / Mature-age qualifications or equivalent	15.5%
	Higher education without diploma	7.8%
	Bachelor's degree / + 3 years after high-school diploma	14.6%
	Master's degree / + 5 years after high-school diploma	27.2%
	Holding a degree higher than a Master's	16%
	other	10.7%
Has taken music or singing lessons	Never	43.8%
	Yes they have taken lessons	56.2%
Total number of operas watched per year (via all types of media)	Less than 2	1.4%
	2 to 5	9.4%
	6 to 10	15.6%
	11 to 20	24.5%
	More than 20	49.1%
Total number of operas attended in an opera house per year	None	8%
	1 to 2	14.2%
	3 to 5	24.5%
	6 to 10	25.5%
	More than 10	27.8%
Total number of streamed operas watched per year	None	0.5%
	1 to 2	14.6%
	3 to 5	24.9%
	6 to 10	23.9%

		Percentage
	More than 10	36.2%
Watched the performance alone / with other people	Alone	74.2%
	With other people	25.8%

Measuring instruments

Streamed opera experience perceived value

None of the existing scales of perceived value in the literature seemed to correspond completely to the sources of value that we had identified for the streamed opera consumption experience. We therefore built a scale adapted to our context. To develop the items, we relied on existing scales of perceived value (e.g. Chen et al., 2017; Derbaix, 2008; Kunkel et al., 2017; Pulh, 2002; Singh et al., 2021), for our literature review, as well as for the exploratory qualitative study we had previously conducted (Ouazzani, 2020). The scale items were submitted to academic experts (4 professors in marketing, amongst which one person specialised in experience and perceived value and another one specialised in perceived value in performing arts) to ensure content validity.

To study the structure of the scale and reduce its items, we performed a principal component analysis (PCA) using the IBM SPSS (Statistical Package for the Social Sciences) version 22 statistical data processing software. The size of our sample and the results of the KMO test and the Bartlett tests ensured us that we could perform the PCA.

After this analysis, we obtained, at the end of the purification phase, a scale of 21 items and 6 first order dimensions, the details of which are set forth in an appendix. This scale comprises hedonic, epistemic, and functional dimensions. Hedonic value was measured by a seven-item scale (Derbaix, 2008; Pulh, 2002). Epistemic value was measured by a four-item scale (Derbaix, 2008; Pulh, 2002). Finally, functional value was defined as a second order construct containing four dimensions: a three-item ‘artists’ quality’ dimension (Kunkel et al., 2017); a two-item ‘platform quality’ dimension (Chen et al., 2017); a three-item ‘good vision of details’ dimension (Ouazzani, 2020); and a two-item ‘convenience’ dimension (Singh et al., 2021).

The psychometric qualities of the scale are satisfactory: the quality of the variables and the loadings are higher than the respective thresholds of 0.5 and 0.4 recommended by Hair et al. (2009) given the size of our sample, and the Cronbach's α of the six dimensions are higher than the threshold of 0.6 recommended by Nunnally (1978) to ensure good reliability of the instrument.

Loyalty

From an operational perspective, attitudinal loyalty is often measured in the form of behavioural intentions (Leroi-Werelds et al., 2014; Mencarelli & Lombart, 2017), which can take various forms.

We measured loyalty through three behavioural intentions which seemed the most interesting for streaming platforms and opera houses, used in several studies in the cultural sector (e.g. Derbaix, 2008; Garbarino & Johnson, 1999):

- The intention to recommend/word of mouth. Word of mouth is defined by Westbrook (1987, p. 261) as ‘informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers’. Word of mouth is particularly important for performing arts (Chaney, 2012), since they are experience products, according to Nelson's (1970) classification, which can only be assessed during their consumption.

- The intention to watch a streamed opera again, comparable to repurchase intentions in other sectors, that Hellier et al. (2003, p. 1764) define as an 'individual's judgement about buying again a designated service from the same company, taking into account his or her current situation and likely circumstances'. Repurchase intentions are key to the success of performing arts organisations (Hume e& Mort, 2010).
- The intention to subscribe, which indicates an even higher desire of involvement from the spectator (Derbaix, 2008), since spectators cannot rely on critics or word of mouth to make their decision on the purchasing of a subscription, before the season begins (Guillon, 2011).

Intention to attend an opera in an opera house

There is no scale in the literature that measures the intention to attend a performance in a physical venue after viewing the same type of performance streamed over the Internet. We therefore created a single-item measurement scale for this intention.

For every scale, respondents were asked to express their level of agreement with the proposal on a 7-step Likert scale, 1 corresponding to 'strongly disagree' and 7 to 'strongly agree'.

Results analysis

The model was tested using PLS structural equations, which is recommended when reflexive indicators - in the case of the first order dimensions – are combined with formative indicators - in the case of the second order functional dimension (Diamantopoulos & Winklhofer, 2001). To that end, we used the *SmartPLS* version 3.3 software. We first ensured that we had a sufficient sample size by performing a power test using the G*Power 3.1.9.7 software. With an F-test, linear multiple regression, a size effect of 0.15, and with a fixed model of 4 predictors per construct, the software indicates a minimum sample size of 129, which provides a power of 95.05%, higher than the minimum 80% recommended by Cohen (2013). The sample size collected in this research (213) is therefore sufficiently powerful to allow us to draw reliable conclusions from the results.

We then analysed the measurement model and the causal relationships between the 3 components of perceived value on the one hand, and the intentions to recommend watching a streamed opera again, to subscribe to a streaming platform and to attend an opera in a theatre on the other hand.

Measurement model

To estimate the measurement model, given the presence of first order reflective constructs and second order formative constructs, we followed the two-step approach of Wright et al. (2012).

All first order, reflexive constructs, which psychometric qualities are shown in Table 3, are correctly defined.

All but one of the outer loadings (that of HV5) are superior to the 0.7 threshold recommended by Carmines and Zeller (1979). The outer loading of HV5 is equal to 0.67, a value that is very close to that threshold and above the limit that Falk and Miller (1992) suggest. Besides, it is significant and has a 55% communality. We therefore kept this variable.

On the other hand, Cronbach's α and composite reliability (CR) are all superior to the respective values of 0.7 and 0.8 recommended by Nunnally (1978), which ensures the reliability of the constructs. Furthermore, the average variances extracted (AVE) are all greater than 0.6: the convergent validity of the constructs is therefore satisfactory (Hair et al., 2019).

Table 3. Confirmatory analysis. First order factors

First order factors	Items	Outer loadings	t-Student	Cronbach's α	CR	AVE
Hedonic	HV1	0.86	35.19 *	0.89	0.91	0.60
	HV2	0.78	18.69 *			
	HV3	0.83	32.91 *			
	HV4	0.77	23.43 *			
	HV5	0.67	12.43 *			
	HV6	0.78	24.64 *			
	HV7	0.72	14.31 *			
Epistemic	EV1	0.84	28.70 *	0.86	0.91	0.71
	EV2	0.87	31.54 *			
	EV3	0.80	22.80 *			
	EV4	0.85	38.47 *			
Artists' quality	AQV1	0.86	26.48 *	0.77	0.87	0.69
	AQV2	0.87	35.32 *			
	AQV3	0.75	13.66 *			
Platform quality	PQV1	0.98	25.33 *	0.92	0.96	0.92
	PQV2	0.93	15.55 *			
Good vision of details	DV1	0.85	28.28 *	0.77	0.87	0.69
	DV2	0.79	16.84 *			
	DV3	0.83	23.26 *			
Convenience	CV1	0.91	27.15 *	0.86	0.93	0.87
	CV2	0.95	63.34 *			
Intentions to recommend	IREC1	0.90	62.04 *	0.83	0.90	0.75
	IREC2	0.81	24.99 *			
	IREC3	0.88	50.77 *			

* $p < 0{,}000$

Furthermore, the correlation of each indicator is stronger on its variable than on the others (Table 4); the square root of the AVE is greater than the correlations between latent variables (Table 5), and the coefficients of the HTMT correlation matrix are lower than 0.9 (Table 6). Thus, the cross-correlation analysis (Chin, 1998), the Fornell and Larcker (1981) criterion, and the HTMT criterion (Henseler et al., 2015) all ensure the discriminant validity of the constructs.

Table 4. Confirmatory analysis. Cross-correlations matrix

	Hedonic	Epistemic	Artists' quality	Platform quality	Details	Convenience	Intentions to recommend
HV1	0.86	0.53	0.55	0.33	0.38	0.33	0.53
HV2	0.78	0.48	0.43	0.18	0.36	0.14	0.52
HV3	0.83	0.56	0.50	0.31	0.44	0.28	0.49
HV4	0.77	0.56	0.47	0.18	0.27	0.22	0.52
HV5	0.68	0.37	0.44	0.16	0.38	0.18	0.37
HV6	0.78	0.66	0.57	0.27	0.49	0.20	0.39
HV7	0.73	0.64	0.54	0.30	0.34	0.23	0.36
EV1	0.48	0.84	0.40	0.29	0.36	0.10	0.28
EV2	0.58	0.87	0.52	0.27	0.42	0.18	0.31
EV3	0.56	0.80	0.44	0.36	0.39	0.20	0.32
EV4	0.68	0.85	0.58	0.36	0.37	0.26	0.40
AQV1	0.56	0.54	0.86	0.25	0.35	0.25	0.30
AQV2	0.53	0.55	0.87	0.33	0.33	0.30	0.33
AQV3	0.50	0.35	0.75	0.32	0.33	0.31	0.26
PQV1	0.30	0.35	0.35	0.98	0.23	0.35	0.23
PQV2	0.31	0.41	0.32	0.94	0.23	0.35	0.15
DV1	0.36	0.40	0.25	0.16	0.85	0.06	0.32
DV2	0.42	0.36	0.32	0.09	0.80	0.10	0.22
DV3	0.43	0.38	0.45	0.33	0.83	0.16	0.29
CV1	0.25	0.20	0.32	0.33	0.17	0.92	0.23
CV2	0.29	0.22	0.33	0.35	0.08	0.95	0.29
IREC1	0.53	0.33	0.35	0.23	0.31	0.29	0.90
IREC2	0.44	0.37	0.32	0.18	0.34	0.16	0.81
IREC3	0.56	0.34	0.27	0.12	0.25	0.27	0.88

Note: in each row, the shaded cell represents the highest value in the row.

Table 5. Confirmatory analysis. Correlations between latent variables and square root of AVE, Correlation matrix HTMT

	Hedonic	Epistemic	Artists' quality	Platform quality	Details	Convenience	Intentions to recommend
Hedonic	**0.78**	0.79	0.78	0.35	0.59	0.33	0.68
Epistemic	0.69	**0.84**	0.70	0.44	0.56	0.25	0.46
Artists' quality	0.64	0.59	**0.83**	0.42	0.53	0.43	0.45
Platform quality	0.31	0.39	0.36	**0.96**	0.28	0.41	0.22
Details	0.48	0.46	0.41	0.24	**0.83**	0.16	0.42
Convenience	0.30	0.23	0.34	0.36	0.13	**0.93**	0.32
Intentions to recommend	0.60	0.40	0.36	0.20	0.34	0.28	**0.87**

Note: the diagonal in bold represents the square root of the AVE; moving downwards along the diagonal are the estimated correlations between the latent variables. Moving upwards along the diagonal, the HTMT matrix is shown.

We then analysed the ‘functional value’, which is a second order formative construct formed by the variables ‘details’, ‘convenience’, ‘artists quality’, and ‘platform quality’. The variance inflation factor (VIF) values for each of these variables are lower than 2.5, which ensures there is no substantial collinearity (Hair et al., 2019). The weights of the variables ‘details’ and ‘artists’ quality’ are not significant. However, the loadings of the variables ‘convenience’ and ‘platform quality’ are significant; the values of the loadings are greater than 0.5. It is therefore recommended to keep these two variables (Hair et al., 2019) (Table 6). Hence, the psychometric qualities of the construct “functional value” are satisfactory.

Table 6. Variance Inflation Factor (VIF), Outer weights and outer loadings of the variables 'details', 'convenience', 'artists' quality' and 'platform quality'

	VIF	Outer Weights		Outer loadings	
		Average	t-student	Average	t-student
Details -> Functional	1.24	0.34	2.59 **	0.67	6.59 **
Convenience -> Functional	1.33	0.18	1.28	0.51	4.61 **
Artists' quality -> Functional	1.21	0.55	3.85 **	0.85	11.37 **
Platform quality -> Functional	1.33	0.27	1.77*	0.61	5.42 **

** p< 0.01 * p < 0.1

In consideration of the results obtained, we can conclude that the second order 'functional value' construct is correctly defined by the proposed dimensions.

Structural model

According to the results presented in Table 7, 4 relationships are significant. We have no data to conclude that the other relationships are significant.

Thus, hedonic value is an antecedent of intention to recommend only (β=0.58; t=6.45) but not of any intention to watch another streamed opera (β=0.09; t=1.18) nor of intention to subscribe (β=0.07; t=0.80); hypothesis H1.a is therefore partially supported.

The epistemic value is an antecedent of intention to subscribe (β=0.19; t=2.01) but not of any intention to recommend (β=-0.06; t=0.58) nor of intention to watch another streamed opera (β=-0.07; t=0.73); hence, hypothesis H1.b is partially supported.

Lastly, functional value is an antecedent of intention to watch a streamed opera again (β=0.33; t=2.45) but not of any intention to recommend (β=0.08; t=0.64) nor of intention to subscribe (β=-0.07; t=0.53); hypothesis H1.c is thus partially supported.

Furthermore, only the epistemic value is an antecedent of intention to attend an opera in a theatre (β=0.37; t=3.74); hedonic value (β=0.05; t=0.50) and functional value (β=-0.06; t=0.69) are not. Therefore, hypothesis H2.b is supported. Hypotheses H2.a and H2.c are not supported.

The predictive relevance of the model is ensured by the positive sign of the Stoner-Geisser Q2 (Henseler et al., 2009), that we calculated for each of the four dependent variables. Figure 2 summarizes the main results of our model.

Table 7. Summary of causal relationships between variables in the model

Hypothesis	Relationship	β	t	Result
H1.a	Hedonic -> Intention to recommend	0.58	6.45 **	Partially supported
	Hedonic -> Intention to view another streamed opera	0.09	1.18	
	Hedonic -> Intention to subscribe	0.07	0.80	
H1.b	Epistemic -> Intention to recommend	-0.06	0.58	Partially supported
	Epistemic -> Intention to view another streamed opera	-0.07	0.73	
	Epistemic -> Intention to subscribe	0.19	2.01 *	
H1.c	Functional -> Intention to recommend	0.08	0.64	Partially supported
	Functional -> Intention to view another streamed opera	0.33	2.45 *	
	Functional -> Intention to subscribe	0.07	0.53	
H2.a	Hedonic -> Intention to attend an opera in a theatre	0.05	0.50	Not supported
H2.b	Epistemic -> Intention to attend an opera in a theatre	0.37	3.74 **	Supported
H2.c	Functional -> Intention to attend an opera in a theatre	-0.06	0.69	Not supported

Q^2 (intention to recommend) = 0.26; Q^2 (intention to view another streamed opera) = 0.07; Q^2 (intention to subscribe) = 0.05; Q^2 (intention to attend an opera in an opera house) = 0.11

** $p < 0.01$ * $p < 0.05$

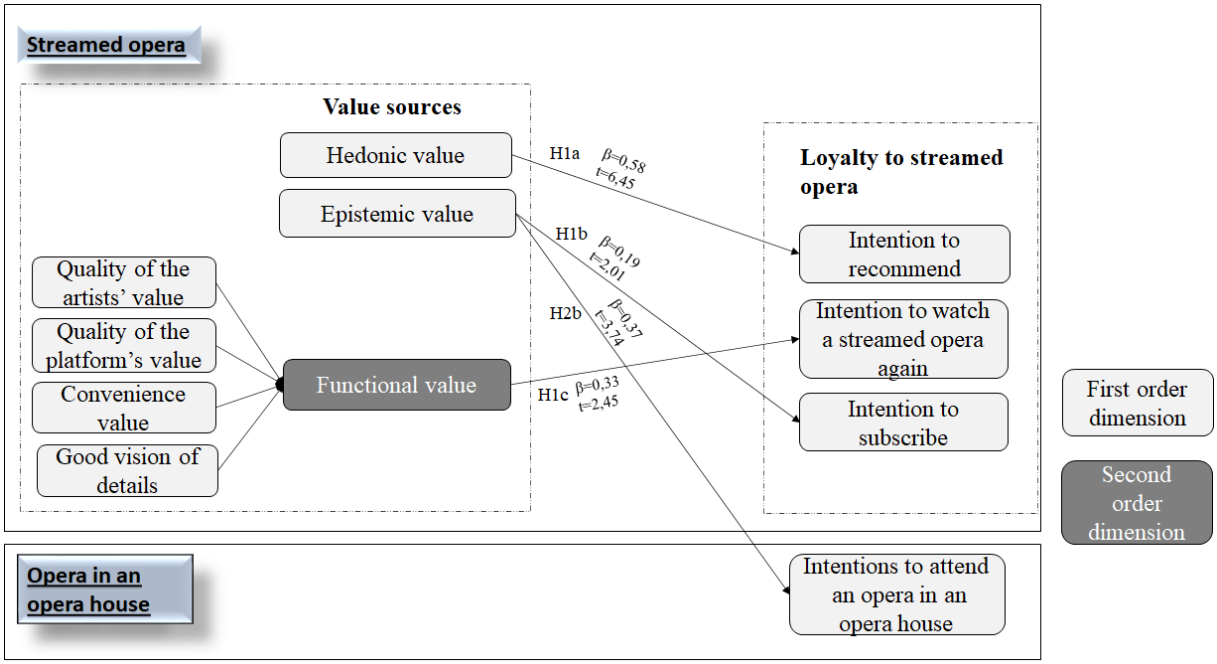

Figure 2. Summary of causal relationships between variables in the model

Discussion

First, this piece of research, which was carried out in the cultural domain, contributes to the overall reflection on consumer behaviour and on consumption experience in the era of digital technologies. It enriches research on perceived value, its dimensionality and its consequences, in the virtual domain, and particularly in streaming, a breakthrough innovation in the performing arts sector that changes the way that a spectator can enjoy a performance. It provides, in particular, insights into the components of the perceived value of streamed opera that are most likely to impact on loyalty as well as on the viewer's intention to attend a show in an opera house.

It appears that hedonic, epistemic, and functional values play a key and complementary role in the evaluation of the opera experience, since they all influence loyalty, but through different behavioural intentions.

Thus, hedonic value is an antecedent of intention to recommend. The emotions that viewers feel, the enjoyment they get from watching the performance, and the relaxation they experience while watching a streamed opera therefore encourage them to communicate about their experience. These results are similar to those obtained by Derbaix (2008) in the context of performing arts or by Leroi-Werelds et al. (2014) for high involvement experiential fast-moving consumer goods. However, it does not influence return intentions as has been shown in these two domains (e.g. Leroi-Werelds et al., 2014; Pulh, 2002).

Epistemic value impacts on intention to subscribe to a streaming platform. We can make the analogy between an opera streaming platform and a library and assume that in order to have almost unlimited access to knowledge and to quench their thirst for knowledge, viewers are willing to subscribe to an opera streaming platform. Such a subscription would give them the opportunity to learn more about this complex highbrow art, which is difficult to grasp completely during a single performance. The affordable price, which is not comparable to that of a subscription to an opera house, could contribute to this phenomenon.

Functional value influences the intention to watch a streamed opera again. The viewer is thus particularly sensitive to the technical quality of the opera that they watch on their screen, to such an extent that it affects their intention to repeat the experience. This implies in particular that poor performances by artists, poor viewing conditions or a poor quality production may discourage viewers from using the platform. These results are similar to those observed by Pulh (2002) and Leroi-Werelds et al. (2014) in the respective domains of festivals and high involvement experiential fast-moving consumer goods.

Lastly, it appears that the intellectual enrichment and the intellectual stimulation provided by watching a streamed opera encourages viewers to live the experience in an opera house. The epistemic dimension is thus particularly important for opera houses, given their objective to broaden their audience.

Managerial implications

From a managerial point of view, our piece of research provides opera houses and streaming platforms with a scale of streamed opera perceived value which is relatively short and therefore easy to implement. Managers can use it to assess the elements of their audience's opera experience either occasionally or on a regular basis if they intend to conduct longitudinal studies.

Streaming broadcasts will not replace live performances in an opera house, but they have changed the mentality of reluctant fans, who have understood that the offer of streamed opera actually brings them additional benefits. It allows them, for instance, to enjoy performances from theatres all around the world without leaving their home or to discover operas that they have never seen, singers that they have never heard or new productions. Opera houses must be ready to attract a new generation of fans who are digital natives, who equally value watching a performance in an opera house and a streamed performance.

Understanding the streamed opera experience value sources will offer opera houses and streaming platforms a variety of positioning possibilities. It will allow them to segment their consumers and to be more efficient at emphasizing the value components best suited to each target. They will be able to design distinct and personalised experiences for each type of audience, with clear benefits, as well as attractive and coherent messages.

Knowing the components of streamed opera perceived value that are most likely to influence loyalty and intentions to attend an opera house will also allow them to optimize their development strategy and reach new audiences. Thus, given the importance of the hedonic dimension, which impacts on intentions to recommend, opera house management will benefit from highlighting in their communication, the emotions, enjoyment and relaxation that watching an opera can provide instead of focusing their message on the performance itself – on the musical piece, the artists or the staging in particular. Enhancing the aesthetics of the interface will also prove beneficial.

While opera houses and streaming platforms must provide performances that feature quality artists, they must also ensure, even if they have to make the necessary technical investments, that they offer viewers a high-quality streaming, with close-ups, as these elements play a key role on the intentions to watch another streamed opera.

By offering viewers additional content, opera houses will take into account the influence of the epistemic dimension on intentions to subscribe and especially on intentions to attend an opera in a theatre. Potential additional content includes information pertaining to the musical piece, the performance, and the subject of the opera that will be made available on their website, in their newsletter, or on social networks. This is particularly important in a context of decline in attendance. Our research sample clearly shows a gap between patrons who attend an opera house (27.8% attending more than 10 operas per year in an opera house) and patrons who enjoy opera through any channel (73.6% who see more than 10 operas per year). Opera houses therefore have a significant margin at their disposal to increase their ‘in situ’ audiences, by using streaming to prompt opera fans who do not attend ‘in situ’ opera frequently to go to an opera house.

Paid streamed opera could be a way of generating additional income for opera houses, especially since the uncertainty generated by the Covid-19 pandemic crisis suggests a future in which streamed performances are bound to increase. At the beginning of the pandemic, when they were closed, opera houses broadcasted streamed opera for free. It was a way for them to stay in touch with their audiences. They are now increasingly starting to charge viewers. For example, the renowned Liceu in Barcelona has proposed for the first time in its history a paid subscription to streamed operas at the beginning of the 2021/22 season. It would nevertheless be necessary to assess the profitability of this broadcast mode, given the significant investment it requires. Opera houses and streaming platforms will also have to reflect on the pricing of the performances that they decide to stream and on the audience’s willingness to pay.

In any case, we can question if the long format of operas is the most appropriate one for streaming. It might indeed be difficult for viewers - except for the most passionate ones - to be excited for 3 to 6 hours in front of a screen, especially for the patrons less familiar with opera. On the other hand, streaming could be used to broadcast original content, in a short format, with the hope of prompting viewers to discover opera and encouraging them to attend a performance in an opera house. Opera is a rich and complex art form, to which neophytes need to be initiated before deciding to buy a ticket for a performance in an opera house. Streaming could play a key role in that regard.

These various managerial contributions have the potential to be extended or adapted to other types of performing arts (in particular to theatre, classical music concerts and ballet, which have also recently used streaming as a broadcast mode), which are questioning the opportunity to live-stream their shows, especially after the COVID-19 pandemic, during which streaming was and sometimes still is the only way for them to stay in touch with their audience and for patrons to enjoy a performance. The conclusions of our research are also of interest to retail managers who are considering developing live streaming as an additional sales channel.

Limitations and future research

First, we collected data before the COVID-19 pandemic started. The perception of a streamed opera experience may have changed for viewers after months during which streaming was the only way to access an opera and may appear in the foreseeable future as the safest way to enjoy this form of art. The dimensions of perceived value, their relative importance, or their relationship to loyalty may have changed. We believe it would be useful to extend this research after the Covid-19 pandemic subsides and thereafter, to compare the results with those of our work.

Besides, not all respondents had the same viewing conditions. A streamed opera can be enjoyed on different devices (computer, television, big screen), and in extremely different conditions of comfort, vision and sound quality. Watching an opera in a living room, on a large TV screen, with good sound quality, for example, cannot be compared to watching the performance on a laptop at a desk, with a small screen and built-in speakers. Controlling the multiplicity of viewing conditions experienced by respondents would help to address these shortcomings.

Another limitation relates to the nature of the respondents, who are mostly regular opera goers and tend to be older. The data we have collected in this piece of research does not allow us to draw any conclusion regarding the capacity of streamed opera to bring audiences to opera houses. The study of the perceived value of the opera consumption experience on neophytes or occasional patrons would enable the identification of the approaches that would make it possible to attract this public more frequently to theatres or to streaming platforms. These patrons represent the future of opera houses and are essential if any renewal of audiences is to take place. It would also be interesting to compare the streamed opera experience perceived value of this audience with that of staunch defenders of opera. Short telephone or video conference interviews, combined with generous and numerous incentives, would help to reach these less available and/or less motivated respondents.

In addition, we collected data from audiences from different countries and cultures. We therefore implicitly assumed that the streamed opera audience is homogeneous, as is the case for audiences of opera broadcasts in cinemas. It would be interesting to replicate our research with culturally homogeneous samples, and to compare the results between the samples.

The growing importance of social networks in society also suggests that the perceived value of the streamed opera experience may include a social dimension related to these social networks. We therefore encourage future research to delve more deeply into this dimension.

Lastly, we would suggest that scholars carry out research on other streamed events that may encourage patrons/clients to eventually venture into the physical realm, for instance streamed tourism or educational events. We believe that further work is warranted to extrapolate the results of this study to other sectors that are less experiential in essence than opera.

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Appendix. Scales items

Streamed opera experience perceived value

HV-Hedonic Value

HV1: I took great pleasure in seeing this show (Derbaix, 2008)

HV2: I enjoyed listening to wonderful music and looking at beautiful stage sets (Pulh, 2002)

HV3: I appreciated the beauty and aesthetics of the show (Pulh, 2002)

HV4: While watching this opera, I experienced intense emotions (Derbaix, 2008)

HV5: I didn't notice the time pass (Derbaix, 2008)

HV6: I enjoyed being surprised and amazed by what I discovered (Pulh, 2002)

HV7: I enjoyed living an exceptional moment (Derbaix, 2008)

EV-Epistemic Value

EV1: Watching this opera allowed me to learn, develop my culture (Derbaix, 2008)

EV2: Watching this opera allowed me to extend my knowledge of operatic art (Derbaix, 2008; Pulh 2002)

EV3: Watching this opera allowed me to analyse the work and the music (Derbaix, 2008; Pulh 2002)

EV4: Watching this opera allowed me to think, stimulate my mind (Derbaix, 2008)

AQ-Artists' quality

AQV1: Watching this opera allowed me to evaluate the orchestra's performance (Kunkel et al., 2017)

AQV2: Watching this opera allowed me to appreciate the work of the conductor (Kunkel et al., 2017)

AQV3: Watching this opera allowed me to appreciate the quality of the singers (Kunkel et al., 2017)

PQ-Platform quality

PQV1: I liked the fact that I could easily connect to the website that broadcast the performance (Chen et al., 2017)

PQV2: The internet platform that I used to watch the performance was easy to use (Chen et al., 2017)

Good vision of details

DV1: I enjoyed being able to observe details that I wouldn't have been able to see in an opera house (Ouazzani; 2020)

DV2: I enjoyed seeing the stage and artists close up (Ouazzani; 2020)

DV3: I liked the fact that I could see the stage and the artists perfectly (Ouazzani; 2020)

Convenience

CV1: The time of day that I watched the streamed performance was convenient for me (Singh et al., 2021)

CV2: Watching this representation was easy to fit into my time schedule (Singh et al., 2021)

IREC-Intentions to recommend

IREC1: I said positive things about the performance I saw to the people around me (Derbaix, 2008)

IREC2: I happily recommend this performance to the people around me (Derbaix, 2008)

IREC3: I told the people around me about the emotions I felt during the performance I watched (Derbaix, 2008)

IRET-Intentions to watch a streamed opera again

IRET1: I would willingly watch another opera on internet streaming (Derbaix, 2008; Garbarino & Johnson 1999)

ISUB-Intentions to subscribe to an opera streaming platform

ISUB1: In the future, I intend to subscribe to a paying platform that broadcasts streamed opera (Derbaix, 2008; Garbarino & Johnson 1999)

IOH-Intentions to attend an opera in a theatre

IOH1: Watching this performance made me want to attend an opera at an opera house