MEDIA & COMMUNICATION STUDIES | RESEARCH ARTICLE

The importance of e-service quality in the livestreaming music concert business

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Abstract: The live music concert business was one of the economic sectors most affected by mandatory quarantine and social restrictions due to COVID-19. The quarantine forced this industry to reinvent itself through digital communication, to be able to continue offering this type of shows, but in a completely virtual way. Taking this into account, this research analyses the adaptation of the live music concert business through e-service quality management in digital communication, and how the consumer of this type of shows responded to this new commercial strategy. Through the PLS a sample of 294 consumers was processed in the city of Bogotá, (Colombia), who, once the mandatory quarantine ended, attended some kind of live music concert, but completely in a virtual way. The results allow us to show the positive relationships between study variables, thus demonstrating the emergence of a digital consumer in this sector.

Subjects: Events Marketing; Marketing Communications; Services Marketing; Marketing Management

Keywords: e-service quality; e-loyalty; e-repurchase intention; e-WOM; live music concerts

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PUBLIC INTEREST STATEMENT

The live music concert business was one of the economic sectors that suffered the most with the appearance of covid-19, due to the inability to offer live concerts during the quarantine period. However, through digital communication, artists began to adapt to this situation, managing to offer their concerts but through various online platforms. Although this situation was a contingency measure during the quarantine, it has been observed that, at present, virtual concerts did not disappear when face-to-face concerts were resumed. On the contrary, they are already part of a new reality within the leisure sector. In this way, it can be identified the appearance of a new type of consumer after covid-19, which can now attend a live music concert considering it of high quality, but from the comfort of their home.
1. Introduction

COVID-19 accelerated the presence of millions of people in the online world, due to the restrictions on the mobility imposed by the governments during the quarantine periods. This social distancing was one of the strategies used to prevent contagion. For this reason, a boom in the consumption of various online communication platforms such as Zoom, Teams, Telegram, WhatsApp, Google Meet, Skype, Cisco WebEx, Facebook Live and YouTube Live occurred. In this way, during quarantines people were forced to perform many activities via this digital communication, that were previously performed in person (Lu et al., 2021; Yang & Koenigstorfer, 2020).

Zdonek and Król (2021), showed how the pandemic increased the use of different platforms online in an exponential way. It can be said that the COVID-19 helped the emergence of new digital communication, due to the rise of this type of connections that promote social interactions without physical contact. In fact, digital communication are easily accessible through any smartphone or computer. On the other hand, although previous studies by Sahni and Sharma (2020), indicated that by the end of 2019, 53% of the world’s population used the internet; for this research it is considered that this figure had to increase dramatically after the COVID-19. This is because the pandemic forced most people to have a greater presence on the internet. In this way, although the use of digital communication was something new and unusual to apply in activities that were previously face-to-face; after the pandemic, these same tools are already part of people's daily lives.

Through this digital communication, it is possible to transmit virtually anything live from anywhere in the world. Although these tools are not new since they have more than 20 years; the increased use of the internet and the better connection through bandwidth, have allowed live-streaming broadcasts to be democratized, Smith et al. (2013). For this reason, once mandatory quarantine has been lifted, people have continued to routinely use these types of digital communication for various aspects of their lives.

Taking this into account, and due to the high dependence, that is generated towards this digital communication, it is evident that today there is a new context of consumption which was not imaginable in the short term before the COVID-19. In this way, this technology has impacted much of the day-to-day lives of people on a personal, professional, academic and leisure level, among others. Nevertheless, the literature on this topic have focused on how these technological tools have been incorporated in work and educational environment of people (Bao, 2020; Spurk & Straub, 2020), but there is little literature on the application of digital communication in the leisure business, and more precisely live music concerts, especially in the context of COVID-19.

Within the leisure and sports sector, the studies of Areiza-Padilla et al. (2021), allow us to observe how social networks and digital communication became communication channels in a bidirectional way, that allowed gyms and sports centers to continue operating in quarantine and after quarantine by COVID-19. In this way, these tools allowed them to offer their customers, a sports training through virtuality, in an economic sector that did not usually do this before the pandemic. For this reason, these gyms were forced to adapt their services through this digital communication, so as not to disappear into the market.

Taking into account that at the beginning of the quarantine, many economic activities had to stop and close their doors during this time, one of the worst affected business was live music concerts. Indeed, stadiums full of thousands of spectators were completely harmful to people in times of pandemic. In this way, thousands of musicians had to cancel their live concerts in all the countries around the world, until the authorities gave permission for this type of leisure activities again (Parsons, 2020; Schaap et al., 2020).

Although some previous studies, such as those by Danielsen and Kjus (2019), allow us to know the impact of live music concerts through streaming, most of these studies were conducted in a world without COVID-19. Until before the pandemic, the number of concerts that use streaming
were few, because this business focused on selling tickets for face-to-face show, and not a show without an audience. For this reason, there is very little literature that studies the use of digital communication, in the live music concert business.

In view of the above, the live music concert business had big losses of money, which affected its business directly. In this way, this economic sector was forced to adapt to this new reality, in which they could not hold events with face-to-face assistance of spectators. However, through digital communication tools, this type of business found a way to address this complex situation. In this way, the artists were able to broadcast their concerts in real time, reaching viewers from anywhere on the planet through the internet, and without the need for face-to-face assistance to those shows. In this way, many artists began to offer concerts in streaming, either looking for a commercial or social purpose, but with logistics adapted to a new pandemic reality (Ambler et al., 2020; Vandenberg et al., 2021).

With this in mind, there is a need to study how live broadcasted concerts via internet are perceived but without the presence of the public. In this way, this study focuses on knowing the e-service quality management of live concerts through digital communication in the context of COVID-19, and in this way, to understand the new consumer behavior for this type of activities.

Based on the above, this research presents two specific contributions. The first one, is based on studying the use of digital communication in the leisure sector; and how these technological tools contribute to the digital culture by allowing the realization of concerts without public. The second is based on understanding changes in consumer behavior in the context of COVID-19, but in the cultural, arts and music sector. In this way, it will be possible to develop business strategies adapted to a new reality in a world in pandemic.

Given the above, the structure of this research is as follows: After presenting the introduction, the theoretical framework is developed of the e-service quality as the main variable of this research. Similarly, it presents the theoretical framework of the three variables that we consider e-service quality results. These variables are: (1) e-loyalty, (2) e-repurchase and (3) e-WOM. In addition, it is considered that, the e-loyalty as an antecedent of e-WOM. With this in mind, the research model is presented with their respective hypotheses. Finally, it presents the results of the statistical analyses, conclusions, recommendations and future lines of research.

2. Theoretical background

2.1. E-service quality

The assessment of quality of service made by consumers are based on the result of the services they received, in addition to the subjective evaluation of the different intangibles, the capacity to respond, and the supplier’s empathy (Rather & Camilleri, 2019). The same concept can be applied to transactions on the Internet. For Zeithaml et al. (2002), the e-service quality refers to the way in which a digital site facilitates the purchase and delivery of its different products or services to its consumers online.

Thus, for Jia and Reich (2013), the e-service quality is the general perception of superiority or inferiority of a given service. For example, this can be seen in how consumers perceive the quality of online service, through a set of factors such as the quality of the network, the promptness of the customer service in the information via its website, and in the level of security and privacy of their transactions (Quach et al., 2016). In this way, for Bueno and Gallego (2021), the e-service quality depends on the evaluation made by a consumer of the service he received online, which includes factors such as reliability, responsiveness, warranty personalization and type of messages between the consumer and the online platform.

According to Jeon and Jeong (2017), when an online site offers useful and relevant functions to its consumers, these consumers often recognize the quality of this online site and
facilitates its dissemination on another online platforms and social networks. For this reason, the availability, compliance and privacy that a user feels on digital communication, has a significant and positive influence on the overall quality of service of these same media (Gavaza et al., 2019) Given this, the present research adopted the definition of Wang et al. (2021), who defines the e-service quality as the way online services communicate effectively with customers and how the needs of these users are met through frequent interactions regardless of the location.

In this way, for this research it is considered that e-service quality in live concerts through digital communication refers to the expectation that spectators had before the virtual concert compare to the final result of the show. Hence, they compare the experience of the virtual concert and previous experience of consumption face-to-face concert or similar events.

3. E-loyalty
According to Arsenis Thomas (2020), loyalty is the perceived belief regarding the ability of a brand, in its dedication and its willingness to fulfill its sale promise to its customers. This generates in the consumer a behavior that is expressed over time and which can be measured through the frequency of purchase of that consumer with respect to a specific brand (Christodoulides & Michaelidou, 2011). In this way, loyalty is a purchasing process with a completely biased behavior towards a particular establishment, resulting from a psychological process, which influences the decision-making of the consumer. For this reason, loyalty arises when favorable attitudes towards the brand are visible in a buying behavior repeatedly (Anderson & Srinivasan, 2003; Hwang et al., 2021).

According to Jin (2016), the loyalty is a relationship that benefits both the company and the consumer, because a loyal consumer does not usually make additional efforts searching for other suppliers, but remains faithful to its brand or company of preference. In this way, a loyal consumer will continue to use the same product always. For Nikhashemi and Valaei (2018), loyalty manages to generate emotional ties with the client, which allow him to identify himself with the values and attributes that the brand or organization represent. In this way, for example, brand loyalty can be based on the theory of complacency, where consumers are loyal to those brands that allow them to highlight their own self-concept.

By bringing this concept to the online world, for Srinivasan et al. (2002) the e-loyalty is the favorable attitude that the consumer has towards a specific establishment or brand but in the digital world. For this reason, the customer feels the need to re-visit, re-use or re-purchase in this online site (Cyr et al., 2010). According to Al-dweeri et al. (2019), e-loyalty is divided into two types of loyalties: a behavioral form, where it is evident that customers recommend an online site, and an attitudinal form, where customers repeat purchases from the same online provider. In this way, e-loyalty ends up being a positive attitude that the customer has as a result of a continued purchasing behavior in a given online site, (Anderson & Srinivasan, 2003).

Taking this into account, for this research the e-loyalty towards live concerts through digital communication, refers both to the behavioral and attitudinal attitudes that the users of these type of shows have, which allow them to recommend it and also to consume it again in the future. Based on studies by Ting et al. (2016); Kaya et al. (2019), loyal customers generate more revenue than occasional customers do, and for this reason, online sites put a lot of effort into retaining their customers. In this way, a high degree in the quality of service of the online site will generate customer loyalty, and also persuade them to return to the online site. For this reason, we formulate the following hypothesis:

**Hypthesis 1 (H1):** e-Service quality of live music concerts through digital tools, positively affects customer e-Loyalty towards such virtual shows.
4. E-repurchase intention

Internet has changed the way customers make their purchases, for example, the consumers can access many online stores from anywhere in the world, generating in turn, a new type of supply and demand. In this way, the consumer can compare the characteristics, functionality, and price of a certain product, without leaving their home. This has also been possible thanks to the increase in the use of smartphones among the world population, which has facilitated daily navigation on the internet and therefore commercial transactions online. On the other hand, e-purchase can be increased through a positive perceived utility, which means to attract people through easy navigation, ease of placing orders, ease of payment, product warranty and highlighting time and money savings with respect to face-to-face sales (Moslehpoor et al., 2018).

In this way, the greater the quality of online sites, the greater the purchase intention generated by users. For this reason, each store must evaluate their quality and facilitate navigation on it (Tarkang et al., 2020.) Shim et al. (2021), defines e-purchase as the degree of willingness in which a consumer is willing to buy a certain product or service through electronic channels. For this reason, all the strategies developed by online sites should be based on being able to increase that degree of desire to buy; since the objective of any business is to generate sales and gain market share. For this reason, the e-purchase intention is the result of a subjective judgment from the consumer, in which an evaluation of the product or service is made, based on the previous knowledge that one has of this product or of the store where one wishes to buy (Balakrishnan et al., 2014).

However, for Wen et al. (2011) the e-repurchase context is slightly different from the repurchase intention face-to-face. E-repurchase refers to consumer behavior where the customer is not only a user of the online site, but is also an active consumer of the site, where he has an intention to return and continue shopping on is that same online site. Considering this, online shopping behavior can be classified in two stages: the first stage is to convince people to buy on the online site, while the second stage consists of encouraging buyers to buy back on that same online site. In this way, for an online establishment it is more complex to get new customers than to keep those that already have. For this reason, the intention to e-repurchase is a manifestation of customer loyalty on the online site (Zhang et al., 2011).

In this way, for this investigation the e-repurchase can be defined as the desire of consumers to continue shopping some product or service through electronic channels, which have previously being used and given a positive consumption experience. In this way, in the literature you can find studies that allow us to show how e-service quality has a direct impact on e-repurchase. In this way, the higher the quality of the service received by the customer, the greater the loyalty of this user, and for this reason there will be more reasons to continue to buy such products or services in the future, through the same online site (Shin et al., 2013; Srivastava & Sharma, 2013; Tandon et al., 2017). Taking this into account, we formulate the following hypothesis:

**Hypothesis 2 (H2):** e-Service quality of live music concerts through digital tools, positively affects customer e-Repurchase intention towards such virtual shows.

5. E-WOM

According to Westbrook (1987), the word of mouth (WOM) is a way of communication by and for consumers in which favorable or unfavorable opinions are exchanged based on the previous experiences of consumption of each specific consumer. In this way, they freely share their thoughts and feelings, uses and benefits of various products, services, brands and companies. Given this, and in case of a positive perception by a consumer, WOM can be considered as a reflection of the customer’s attitudinal loyalty. This attitude is manifested through a way of expressing to other people the preferences towards a company or brand, with which the customer feels satisfied (Chiu et al., 2013).
That is, WOM is considered a direct communication that people have through which they exchange opinions about a specific product or service. This exchange of opinions, usually generates an influence on the opinion of other people due to the confidence they feel from other user's opinions who has previously purchased the product (Clare et al., 2018; Dwidienawati et al., 2020).

This same concept can be taken to the online world. For Park and Lee (2009) electronic word of mouth (e-WOM), unlike traditional word of mouth (WOM), is based on the fact that for electronic word-of-mouth, recommendations are made by people which exchange opinions through different platforms online. With this in mind, Hennig-Thurau et al. (2004), defines e-WOM as all positive and negative reviews and comments made between current and potential customers of any product, service or brand, over the internet.

For this reason, e-WOM becomes one of the most influential sources when it comes to making online purchasing decisions. This is because consumers can obtain information from other consumers around the world, based on the previous experiences of these consumers (Naujoks & Benkenstein, 2020). In this way, consumers who are more committed to a specific brand or product in the online world, are also more likely to share their previous consumer experiences, thus generating a positive word-of-mouth (Molinillo et al., 2020).

With this in mind, for this investigation it is considered that the characteristics of e-service quality will make customers to have a positive opinion about live music concerts through digital communication. In this way, these same customers will express their own experiences about these types of concerts on other digital communication and on social networks, thus generating a positive e-WOM towards this type of show (Gholipour Soleimani et al., 2018; Jiewanto et al., 2012), we formulated the following hypothesis:

**Hypothesis 3 (H3):** e-Service quality of live music concerts through digital tools, positively affects customer e-WOM towards such virtual shows.

According to Hsu et al. (2013), loyal consumers generate emotional ties with the company, in this way the greater the degree of loyalty to a brand, the greater the opportunity to share a positive opinion about it. For this reason, it can be determined that loyalty positively affects the e-WOM.

Considering this, previous studies by Eelen et al. (2017) showed that brand loyalty has a positive impact on online word of mouth. That is, there is a connection between the brand and consumers loyalty, who feel the desire to promote it to other people through the electronic channels he uses.

Taking into account previous studies by Hsu et al. (2013), Eelen et al. (2017), Rialti et al. (2017), and Giao et al. (2020); for this research it is considered that the e-loyalty of live music concerts through digital communication positively influences the e-WOM of the customers of these shows, who will speak positively about these concerts in their social networks and in other platforms online. Taking into account, we propose the following hypothesis:

**Hypothesis 4 (H4):** e-Loyalty of live music concerts through digital tools, positively affects customer e-WOM towards such virtual showsfigure 1

Source: Author's own compilation

6. Materials and methods

6.1. Sampling procedure and collection of data

For this research, a convenience sampling was conducted through the internet during the second half of 2021, in the city of Bogotá, Colombia (South America), to customers of live music concerts.
Participants stated that they had attended a live concert of any musical genre, either with a national or foreign artist, but 100% online. In other words, this type of live concerts could not have spectators physically present during the show but only through digital tools such as Zoom, Teams, Telegram, Meet, Cisco WebEx, among others.

On the other hand, this online music concert should have been held once the local authorities lifted the restrictions for face-to-face concerts, which in the case of the city of Bogota was from July, according to Decree 227. In other words, only virtual concerts that were held from July 2021 were taken into account.

In addition, in order to participate in the survey, it was necessary that such a music concert was not free. However, not all participants were required to have purchased the ticket, since this type of activities can be attended by several people through special access invitations. For example, at a meeting of friends, only one person could have bought the ticket, but the concert could be seen by four people on the TV or computer of the person who had the access code.

Finally, the participation of minors under 18 years of age was not valid, because this is the legal age in Colombia for a person to be considered a legal adult. In this way, a sample of 294 valid questionnaires was obtained, of which 42.5% were men and 57.5% were women, in addition 60.2% were between 26 and 35 years old, and 69.7% were working. Table 1 shows the details of the sample.

6.2. Questionnaire design and variable measurement
The questionnaire was based on scales previously validated in the literature, which were adapted to the objective of this research and translated into Spanish, preserving their grammatical sense.
For this, we used a Likert scale of 7 points in this way: 1 was “totally disagree” and 7 “totally agree”. To measure the e-service quality, the Blut scale (2016), was used, adapting the three items of website design and the three items of general quality, obtaining six items for this scale; while the three items of the Cyr et al. (2007) were used for e-loyalty. On the other hand, to measure e-repurchase the three items of the scale of Chao-Min et al. (2009) was used. Finally, to measure the E-WOM the three items of Yadav and Rahman (2017) was used. Table 2 summarizes the scales applied in this study.

### Table 1. Sample distribution

| Gender | | |
| --- | --- | --- |
| Man | 125 | 42.5% |
| Woman | 169 | 57.5% |

| Age | | |
| --- | --- | --- |
| 18–25 | 74 | 25.2% |
| 26–35 | 177 | 60.2% |
| >36 | 43 | 14.6% |

| Occupation | | |
| --- | --- | --- |
| Student | 61 | 20.7% |
| Worker | 205 | 69.7% |
| Self-employed | 17 | 5.8% |
| Unemployed | 8 | 2.7% |
| Housekeeping duties | 3 | 1.0% |

Source: Author’s own compilation

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### 7. Results

#### 7.1. Confirmatory factor analysis

The data collected were processed through the PLS-SEM technique, due to the predictive nature of the study and taking into account the adaptation and precision that this type of technique allows in comparison with another statistical tools (Barroso et al., 2010). For this, the results were analyzed as follows: First, the measurement instrument was checked through the validity and reliability of the measurement model; and then the structural model was estimated by evaluating the weight and magnitude of the relationships between the different variables.

For the prior validation of the measuring instrument, the reliability of the variables was analyzed, through individual reliability (Cronbach α) and also through composite reliability (CR) with values greater than 0.7. Moreover, the extracted average variance (AVE) was used for convergent validity. Thus, all the loads of the variables were significant and greater than 0.7, while the value of the extracted variance (AVE) is greater than 0.5.

### Table 2. Sources of measured items

| Study variable | Authors | Item |
| --- | --- | --- |
| e-Service quality | Blut (2016) | 6 |
| e-Loyalty | Cyr et al. (2007) | 3 |
| e-Repurchase | Chao-Min et al. (2009) | 3 |
| e-WOM | Yadav and Rahman (2017) | 3 |

Source: Author’s own compilation
The results shown in Table 3 allow us to confirm the reliability and convergent validity of the scales used to measure the variables in this study. Also, the descriptive results of the variables analyzed express how the sample have a high e-Service quality where all its items are above 4. This allows us to show that the live concerts managed to offer a quality service through digital communication. In other words, the artists and musicians managed to retain their clients through these kinds of virtual technologies. On the other hand, a high level of e-loyalty can also be observed, meaning that customers consider that these services managed to adapt to COVID-19 context. These results on this sample also demonstrate that customers tend to generate an e-repurchase to live music concerts through digital communication. Similarly, these clients generate a positive e-WOM, in which they end up recommending this type of concert and talking about their own experiences in different online media.

On the other hand, to verify the discriminating validity, the square root of the AVE was used, in which the result must be greater than the correlations that the rest of the model has (Fornell & Larcker, 1981). Table 4 shows the square roots of the AVE of each variable, which are greater than the correlations of the model. For the ratio (HTMT), 0.9 is considered as the appropriate maximum cut-off value. In this way it can be observed that all the values of the relation (HTMT) are below 0.9.

7.2. Estimation of the structural model
After this process, the estimation of the structural model was performed to verify the hypotheses. Through the PLS-SEM, a Bootstrapping analysis was performed with 5000 subsamples of the original sample size. Table 5 shows that the trajectory coefficients were significant and in the same sense as all the hypotheses presented in this research. In addition to this, the predictive capacity of the structural model could be verified through the coefficients of determination R².

These coefficients determine the amount of variance of the endogenous variables explained by the constructs through Q², which are greater than 0. In this way, the predictive value of the model can be explained, which has significant value in the previously established causal relationships.

8. Conclusions and discussion

8.1. Theoretical implications
The social and mobility restrictions imposed by the world’s governments abruptly disrupted the daily lives of live music fans, who were forced to lock themselves down in their own homes as a preventive measure to avoid the spread of COVID-19. In this way, during the quarantine all live music concerts were cancelled, until the authorities allowed to attend again this type of massive events in person. Faced with this, many musicians and artists had to face a new reality, where they could no longer perform music concerts in a traditional way, that is to say in person.

Due to this, the live music concert business was forced to try to continue providing its services by using virtual platforms; and although digital communication already existed before the COVID-19, its use in this type of leisure activities was almost zero. This study has sought to contribute to the scarce literature that exists, on how musicians have adopted digital tools, as a new strategy to be able to remain valid in the leisure market, even after the mandatory quarantine caused by COVID-19 has been lifted.

Taking this into account, this research presented two specific contributions. The first was based on being able to demonstrate how digital platforms have allowed artists to perform music concerts in a 100% virtual way, which are considered of high quality by their viewers. In this way, we can witness how COVID-19 allowed the emergence of a new form of spectacle between artists and their fans through digital platforms.
### Table 3. Measurement model evaluation results

| Variables/Items                                                                 | Mean | St. Dev | Loadings Factor |
|--------------------------------------------------------------------------------|------|---------|-----------------|
| **F1. e-Service quality (α = 0.703; CR = 0.814; AVE = 0.719)**                      |      |         |                 |
| Overall, my experience at live music concert through digital communication is excellent | 4.91 | 1.34    | 0.777*          |
| Overall, the quality of the live music concert through digital communication is excellent. | 4.26 | 1.47    | 0.739*          |
| I am generally very satisfied with the live music concert through digital communication | 4.73 | 1.12    | 0.855*          |
| Overall, my purchase experience with this live music concert through digital communication is excellent. | 4.89 | 1.21    | 0.749*          |
| The overall quality of the service provided by this live music concert through digital communication is excellent. | 4.39 | 1.24    | 0.702*          |
| My overall feelings toward this live music concert through digital communication are very satisfied. | 4.99 | 1.78    | 0.813*          |
| **F2. e-loyalty (α = 0.846; CR = 0.776; AVE = 0.737)**                               |      |         |                 |
| I would attend these live music concerts transmitted through digital communication again. | 3.94 | 1.74    | 0.769*          |
| I would consider purchasing these live music concerts transmitted through digital communication. in the future | 4.43 | 1.89    | 0.745*          |
| I would consider using these digital communication to music concerts in the future. | 3.89 | 1.89    | 0.745*          |
| **F5. e-Repurchase (α = 0.7229; CR = 0.743; AVE = 0.799)**                          |      |         |                 |
| If I could, I would like to continue using the digital communication to witness live music concerts | 3.12 | 1.39    | 0.762*          |
| It is likely that I will continue to e-repurchase live music concerts through digital communication in the future | 3.77 | 1.23    | 0.707*          |

(Continued)
### Variables/Items

| I will definitely attend these live music concerts through digital communication in the future | 4.11 | 1.31 | 0.866* |

**F4. e-WOM (α = 0.809; CR = 0.729; AVE = 0.897)**

| I would encourage my friends and acquaintances to witness live music concerts through digital communication | 4.88 | 1.82 | 0.698* |
| I would encourage my friends and acquaintances to use the digital communication for live music concert | 5.64 | 1.47 | 0.721* |
| I would like to share my experiences on live music concerts through digital communication with friends and acquaintances | 5.39 | 1.39 | 0.766* |

*α = Cronbach’s Alpha; CR = Composite reliability; AVE = Average Variance Extracted; *p < 0.01.
Source: Author’s own compilation

### Table 4. Discriminant validity

|          | e-Service quality | e-Loyalty | e-Purchase | e-WOM |
|----------|-------------------|-----------|------------|-------|
| e-Service quality | 0.829 |           |            |       |
| e-Loyalty | 0.567 | 0.788     |            |       |
| e-Purchase | 0.455 | 0.568 | 0.794     |       |
| e-WOM | 0.341 | 0.638 | 0.568 | 0.710 |

On the diagonal: square root of the AVE values. Below the diagonal: correlations.
Source: Author’s own compilation

### Table 5. Results of the structural equations model

| Hypothesis and Relationship | β      | t      | p-Value | Contrast |
|----------------------------|--------|--------|---------|----------|
| H1: e-service quality/ e-loyalty | 0.236 | 0.670 | 0.009 | Accepted |
| H2: e-service quality/ e-repurchase | 0.357 | 6.960 | 0.000 | Accepted |
| H3: e-service quality/ e-WOM | 0.302 | 7.597 | 0.004 | Accepted |
| H4: e-loyalty/ e-WOM | 0.259 | 3.040 | 0.000 | Accepted |

R²(e-Loyalty) = 0.278; R²(e-Purchase) = 0.187; R²(e-WOM) = 0.365; Q²(e-Loyalty) = 0.412; Q²(e-Purchase) = 0.323; Q²(e-WOM) = 0.326; **p < 0.01; *p < 0.05
Source: Author’s own compilation
For this reason, for this research we consider that, although it is already allowed to perform live concerts, now artists can use digital platforms as a tool simultaneously to their live concerts, reaching many more viewers in various parts of the world. On the other hand, this research has revealed some changes in consumer behaviour in the context of COVID-19, in the cultural sector, artistic and musical, as evidenced by the emergence of a new consumer who positively values virtual shows.

Based on the above, this study was able to confirm the positive relationship between e-service quality and e-loyalty ($\beta$: 0.236; p-Value 0.009). In this way, the quality of this virtual live music concerts through the various digital communication, managed to maintain and generate in their fans a loyalty towards this kind of concerts. That is to say, that these music concerts reach their fan’s expectations despite the virtuality and novelty of this method. Therefore, and taking into account previous studies of Ting et al. (2016); Kaya et al. (2019), has been confirmed Hypothesis 1 (H1).

On the other hand, this study confirmed the positive relationship between e-service quality and e-repurchase ($\beta$: 0.357; p-Value: 0.000); hence, it can be verified how fans consider that the quality of music concerts on this type of online platform is positive, and how this experience generates an intention to buy again in the future. In the context of COVID-19, many people will continue to prefer this type of virtual concerts over face-to-face concerts due to a possible fear of catching the virus in face-to-face concerts, because of a larger number of attendees. It could also present the possibility that a spectator decides to pay for a virtual concert, which may also perform live but in a city or a country different from the spectator’s location. Considering the above, as well as previous studies by Srivastava and Sharma (2013), Shin et al. (2013), and Tandon et al. (2017), it is possible to confirm Hypothesis 2 (H2).

Finally, this research was able to verify the positive relationship between e-service quality and e-WOM, ($\beta$: 0.302, p-Value: 0.004), and between e-loyalty and e-WOM, ($\beta$: 0.259; p-Value: 0.000). In this way, e-service quality and e-loyalty encourages fans to comment on their own positive consumption experiences. Considering that, at present, almost all fans have different social networks and communicate through different digital platforms, this is a very important factor since it generates a good online reputation, which translates as well into an effective e-repurchase. It becomes also an invitation from these fans to other people to attend this type of live music concerts through digital communication. In this way, and in the same line of the works of Jiewanto et al. (2012), Gholipour Soleimani et al. (2018), Hsu et al. (2013), Eelen et al. (2017), and Rialti et al. (2017), and Giao et al. (2020), this research can confirm Hypotheses 3 and Hypotheses 4 (H3, H4).

8.2. Managerial implication
This study has sought to contribute to the scarce literature that exists, on the use of digital communication in the live music concert business, taking into account the context of COVID-19. In this way, it has been possible to show how these technological tools contribute to the digital culture, since they allow the performance of concerts without public, which are valued by consumers as quality shows. For this reason, this type of event has adapted its economic sector to a new reality in a world in pandemic, through the development of commercial strategies, based on new information technologies.

Based on this, live music concert business had to implement various strategies to be able to directly reach consumer homes, but through virtuality. In this way, the musicians began to offer different services using digital communication trying not to lose their fans. These technological tools allowed the musicians to have a communication channel and direct sales with their customers, adapting in this way to a new form of virtual consumption. Once the quarantines have been lifted, it has been evident that many musicians have chosen to continue offering virtual concerts in addition to face-to-face concerts, or face-to-face concerts with streaming. In this way, it can be indicated that after the pandemic, consumers have greater alternatives for this type of musical shows.
Taking into account the results obtained in this study, this research considerate that the COVID-19 generated a new type of fans and in the same way, a new type of consumption towards music concerts, which reflect the trend of this type of business in the medium term. Although the quarantines were over and fans have been able to return face-to-face concerts, it has been observed that these live concerts have continued to use this virtual strategy.

These results allow us to complement other studies that show how consumer behavior has changed after the appearance of COVID-19, from the buying behaviour in grocery stores, Smith and Machova (2021); The way to receive training from the gym or sports schools, Areiza-Padilla et al. (2021), the buying process and receiving home deliveries Rydell and Suler (2021), and consumer confidence in the physical purchase and their perception of psychological risk, (Watson & Popescu, 2021). In this way it is evident the appearance of a new type of consumer, for which it is necessary to carry out the necessary strategies to be able to cover a new demand for products and services, oriented to the online world.

8.3 Limitations and future research
Finally, below are the limitations of this research, which could serve as future lines of research on this topic. On the one hand, the sample of this research is predominant in people between 26 and 35 years, for this reason, it would be interesting to replicate this study but in younger populations between 18 and 25 years and people over 36 years. In this way, it could be analysed if there are significant differences regarding the consumer’s age in this type of events. It could be said that perhaps the youngest have a greater negative perception of this type of online shows, preferring face-to-face concerts over virtual concerts. This might be because of their age since it is very important for them to live this type of experiences in person. However, it is possible that older people may prefer virtual concerts to face-to-face concerts, because they would value their self-care over the COVID-19 pandemic.

On the other hand, it would be interesting to analyse and compare consumer’s perception depending on the type of music, since for example, a concert of classical music, to one of reggaeton or electronic music is very different. Moreover, and based on the studies of Vargas-Gil et al. (2021), it’s necessary to continue researching the use of these digital communication in music training and how these technological tools contribute to the creativity of music students.

Finally, it should be possible to analyse and compare the perception of e-service quality customers of a free music concert vs a paid music concert, both made through digital communication; because it is considered that in paid concerts, expectations are higher and therefore the evaluation of the experience will also be higher compared to those free concerts.

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Ethics declarations
All participants were explained the general objective of this research, the procedure to be followed and the voluntary nature of the participation; in addition to the right to stop answering the questionnaires at any time, whose answers were completely confidential and anonymous. The ethical guidelines for data collection, and informed consent were reviewed and approved by the ethics committee of the Javeriana University with code FCEA-DF-0092-2021.

Correction
This article has been corrected with minor changes. These changes do not impact the academic content of the article.

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