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THE IMPACT OF CUSTOMER EXPERIENCE ON THE INTENTION TO PURCHASE LIVE STREAM TICKETS IN THE MUSIC INDUSTRY

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ABSTRACT

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The purpose of this master's thesis is to investigate the factors which influence a customer's decision to purchase a live stream experience in the music industry. The need for this research became quickly necessary during the spring of 2020 as the music industry was forced to adapt to the new climate caused by the Covid-19 pandemic. Previous research largely focuses on customer experience, purchase intention, and live stream experience – the latest from an eSport perspective. Previous research shows that the intention to buy is chiefly motivated by – among other things – customer experience dimensions, attitudes, and commitment. The study of live streams emphasizes the interaction between the streamer and viewer.

The empirical part of this study was conducted as a quantitative study. The study data was collected as a survey from people who had participated in a live stream music event at least once in 2020. In a regression analysis, the impact of customer experience dimensions, attitudes, engagement, and implementation of live-stream events on purchase intent was investigated. The results indicate that customer engagement and attitudes have a positive impact on the intent to purchase live stream tickets in the music industry.

TIIVISTELMÄ

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Tämän Pro Gradu -tutkielman tarkoituksena on tutkia asiakkaan ostoaikomukseen vaikuttavia tekijöitä, kun kyseessä on live-stream -kokemus musiikkialalla. Tarve tälle tutkimukselle tuli nopeasti, kun keväällä 2020 elävän musiikin ala pysähtyi koronapandemian vuoksi. Aiempi tutkimus keskittyy asiakaskokemuksen, ostoaikomukseen ja live-stream kokemukseen, viimeisin lähinnä eSportin näkökulmasta. Aiemmat tutkimukset nostavat esille, että ostoaikomukseen vaikuttavat muun muassa asiakaskokemus dimensiot, asenteet sekä sitoutuminen. Live-streamien tutkimuksessa korostetaan vuorovaikutusta striimaajan ja live-streamin katsojien välillä.

Tämän tutkielman empiirinen osio suoritettiin kvantitatiivisena tutkimuksena. Tutkimuksen data kerättiin kyselynä ihmisiltä, jotka olivat vähintään kerran osallistuneet live-stream musiikkitapahtumaan vuoden 2020 aikana. Regressioanalyysissä selvitettiin asiakaskokemus dimensioiden, asenteiden, sitoutumisen ja live-stream tapahtuman toteutustavan vaikutusta ostoaikomukseen. Tulokset osoittavat, että asiakkaan sitoutumisella ja asenteilla on positiivinen merkitys asiakkaan ostoaikomukseen elävän musiikin live-stream tapahtumiin.

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In Helsinki, 19th May 2021

Tuovi Hämäläinen

TABLE OF CONTENTS

1. IN	NTRODUCTION	1
1.	.1 Background of the Study	1
1.	.2 Research Objectives and Questions	3
1.	3 Previous Research	5
1.	.4 Theoretical Framework	8
1.	.5 Definitions of Key Concepts	9
1.	.6 Delimitations	10
1.	.7 Research Methodology	11
1.	8 Structure of the Study	11
2. L	ITERATURE REVIEW	13
2.	.1 Factors influencing live stream participation	13
2.	.2 Dimensions of Customer Experience	15
2.	3 Creating Customer Experience	17
	2.3.1 Creating a Virtual Customer Experience	24
2.	4 Customer engagement	26
3. R	ESEARCH MODEL AND HYPOTHESES	29
4. R	ESEARCH DESIGN AND METHODOLOGY	32
4.	1 Research Design	32
4.	2 Data Collection	33
4.	.3 Questionnaire Development	33
4.	4 Defining Measures	34
	4.4.1 Defining Scales and Tests	34
4.	5 Factor Analyses	
	4.5.1 Creating Index Variables	44
4.	.6 Reliability and Validity	45

5. RESULTS	48
5.1 Descriptive Statistics	48
5.2 Regression Analysis	51
5.3 Testing Hypotheses	55
5.4 Other Results	56
6. DISCUSSION AND CONCLUSIONS	58
6.1 Theoretical Contributions	58
6.2 Managerial Implications	60
6.3 Limitations and Future Research	62
REFERENCES	64
APPENDICES	
Appendix A. Customer Engagement Cycle (Sashi 2012)	
Appendix B. Measures	
Appendix C. Regression Standardized Residuals	
Appendix D. Correlations matrix	
LIST OF FIGURES	
Figure 1. Theoretical Framework	8
Figure 2 Conceptual model of customer experience creation based on Verhoef et	
Figure 3. Model of customer's purchase and consumption behavior with e-comme	
(Petre et al. 2006)	21
Figure 4. The process model for customer journey and experience (Lemon and Vo	
2016)	23
Figure 5. Reality-virtuality continuum. (Flavián et al. 2019; Milgram and Kishino	1994).25
Figure 6. Customer engagement matrix (Sashi 2012)	27
Figure 7. The gender distribution, n=99	48
Figure 8. Age, n=99	49
Figure 9. Work situation, n=99	49

Figure 10. Live stream service providers in which respondents have participated, n=9	950
Figure 11. Histogram of Regression Standardized Residual	55
LIST OF TABLES	
Table 1. Summary of previous research on customer experience dimensions	16
Table 2. Consumer Decision Process (Puccinelli et al. 2009)	17
Table 3. Summary of Hypotheses	31
Table 4. Factor Analysis of Intention to Purchase	37
Table 5. Factor Analysis of Attitude	37
Table 6. Factor Analysis for Engagement	38
Table 7. Factor Analysis for Dimensions	39
Table 8. Factor Analysis for DIM 1, DIM3 and DIM 6	39
Table 9. Factor Analysis for DIM 2, DIM4 and DIM 5	40
Table 10. Factor Analysis of Loyalty	41
Table 11. Factor Analysis of WOM	42
Table 12. Factor Analysis of Ease of Use	43
Table 13. Factor Analysis for Behavior	43
Table 14. Factor Analysis for Artist Brand Engagement	44
Table 15. Index Variables	45
Table 16. Cronbach's alpha values from factor analysis to measure reliability	46
Table 17. Statistics of music event participation, n=99	50
Table 18. Regression Analysis, dependent variable: Intention to Purchase	53

1. INTRODUCTION

Music is listened to every day. It plays in streaming services, cars, malls, TV, and social media. Music is listened to both for joy and sorrow while writing a master's thesis or playing sports. Music unites people worldwide. What is more, it sounds even better live at events. Proof for that is thousands and thousands of tours and festivals every year. Culture is a necessity – living without it deprives people from the joy of life as well as a myriad of jobs and livelihoods. When exceptional global circumstances arrive, the music industry needs to adapt and find ways to make music still available to everyone.

1.1 Background of the Study

The music industry consists of institutions such as record companies, studios, and independent artists and bands that receive salary by creating new songs and organizing live concerts and music festivals, audio and video streaming's, compositions, and sheet music, as well as the organizations and associations that aid and represent music creators. The industry involves various professionals such as musicians, promoters, marketeers, record company employees, A&R (artist and repertoire) people, sound engineers, and many more. (Scott 2007)

In 2019, the total value of the music recording industry was 20.2 billion US dollars, excluding the revenue from the live music industry. In the same year, its global growth was 8.2 percent. (IFPI 2019) In 2018 the revenue of the global live music industry was 5.77 billion US dollars (Statista 2020).

The music industry has suffered immensely since the Covid-19 pandemic spread all over the world. Nowadays music industry makes the income from tours, events, and festivals, and since music streaming is online, people buy less and less CDs and vinyl records. However, the interesting fact is that the customers buy more vinyl records than CDs the first time since the 1980s (Dean 2020).

The first events that got canceled during the Covid-19 pandemic were music festivals and tours. They will also most likely be last on the list to get permission to be organized again. This is why the music industry needs to find solutions to keep artists close to the fans and consumers as well as finding solutions in getting revenue so that artists, managers, promoters, marketeers, financing people, etc. can be paid. Globally the event industry has suffered significant losses. Gensler (2020) estimated that only the concert industry will lose more than 30 billion dollars worldwide. According to a study by Tapahtumateollisuus ry, Finnish events made approximately 2.35 billion euros in 2019 and the losses are approximately 1.5 billion in 2020. What is more, the Finnish event industry grew rapidly between 2012 and 2019 in almost doubling its revenue. (Wiren, Westerholm and Liikamaa 2020)

The event industry is making significant investments in ensuring even experiences are as safe as possible. Nevertheless, because the restrictions and instructions for events come from the government, it usually is not the event organizers' decision if the event can be held or not. Therefore, the music industry has started to invest more in live streams and the possibilities that live streaming can give to the event industry (Peisner 2020). The live streams are not new invention - the sports industry, live tv-shows, seminars, and many more industries are using live streams all the time. The music industry has also streamed a lot of gigs and festivals to the internet and the television, but mostly for free because the event has the revenue already from advertisers on YouTube and other sponsors and from customers who have gone to the venue (Gomatam 2017; UMF 2017). Live streams have been a way to show something special to customers who are not capable to go to see it physically on site. There have been multiple reasons why people choose live streams instead of the actual event, for example, the event could be sold out, too far away or customers do not have time to participate in the whole event. Live streams also increase the brand awareness of the event and make the event more in demand to potential customers. (Schumaker 2018; UMF 2017) An apt example of this is festival after movies which are videos made by festival organizers after a festival is over to show others what they have missed out on and also to visitors as a reminder of all the event highlights and as a way to leave a positive imprint on people's minds which in turn increases the idea of buying the ticket to the next event.

Live streams have been studied to some extent from the perspective of eSports, influencers, and celebrities (Tang, Venolia and Inkpen 2016; Chen and Lin 2018; Wohn and Freeman

2020). Twitch and YouTube are the two biggest live streaming services (Streamer Magazine 2021) and have been academically researched (Hilvert-Bruce, Neill, Sjöblom and Hamari 2018; Hamilton, Garretson and Kerne 2014; Chen and Lin 2018). Music events and customer attitudes to participate in them have also been studied (Martensen, Grønholdt, Bendtsen and Jensen 2007) especially attending to sports events (Funk, Toohey and Bruun 2007; Filo, Funk and O'Brien 2011) but academic research that would combine music and live stream has not yet been done, therefore a potential research gap has been found. The idea of this thesis is to find out what previous research on the topic could be found and with the help of quantitative research to find out the factors influencing particularly the purchase intention.

1.2 Research Objectives and Questions

The purpose of this thesis is to find the factors which influence a customer's purchase intentions and participation in live stream events in the music industry. Many companies are not used to thinking of live streams as a core business, and therefore practices and expectations are not fully known or understood. The change happened in a matter of weeks thus most of the businesses had to face it in haste. In fact, there are a lot of companies that only canceled their events without thinking of an alternative experience for their potential customers. The event industry must adjust so that it can respond to exceptional circumstances especially because these kinds of circumstances can occur again in the future. In the end, this research is expected to make theoretical and practical contributions to the understanding of customer the points of view on live streams and how to implement the experience and customer journey and finally find the factors that affect a customer's intention to purchase.

From an academic point of view, live streams in the music industry are a new research area. Before the Covid-19 pandemic, there was no need for mere online music live streams. Historically many shows and festivals have been recorded in different formats, nevertheless they have mostly been recordings of live-shows where the main focus has been on the customers' who are in the venue, and the live stream has merely been extra service or/and product for those who cannot otherwise access the event. In this research, the new research objectives look into the new academic research area of live streams and music and how to make the most of them. One of the most interesting aspects is the investigation on the intention to participate and purchase the tickets to a live stream event.

Based on the above research objectives, the main research question of this thesis is:

What factors influence a customer's purchase intentions for live stream music events?

The main research question is divided into four sub-questions to help understand the whole live streaming journey from the customer's point of view. The first sub-question brings customer engagement into focus.

How does customer engagement affect a customer's purchase intentions for live stream music events?

According to previous studies, customer attitudes to reform vary (Martensen et al. 2007; Funk et al. 2007; Filo et al. 2011). The second sub-question seeks to determine whether the customer's attitudes influence the purchasing decision.

Do customer attitudes effect a customer's purchase intentions for live stream music events?

The customer experience and its dimensions has been extensively studied (Schmitt 1999; Verhoef et al. 2009; Grewal et al. 2009). Their implications for purchasing decisions and participation are remarkably interesting. Therefore, the third sub-question of this thesis is:

How does positive customer experience dimension (excitement, happiness, surprise) effect a customer's purchase intentions for live stream music events?

Several different possibilities have been seen in the implementation of music live stream events. Some service providers want to use virtual implementation by using technology and some providers have remained in a real environment. The last research question examines whether this is important to the customer in the purchase decision.

Does the way the music live stream event is implemented affect the customer's purchase intentions?

1.3 Previous Research

The studies of the live streams are limited. Most of the research is on the live stream platform Twitch. The biggest live streaming content in Twitch is streamers broadcasting themselves playing video games. A broadcaster might also stream when they are eating, painting, dancing, answering questions, and so on. Knowledge of viewers motivations and engagement is lack in the expeditiously growing live streaming aspect. (Wohn, Freeman 2020) Hilvert-Bruce, Neill, Sjöbolm, and Hamari's (2018) linear regression analysis propose that two key elements for live stream engagement are entertainment and information seeking, but also social interaction, feeling to be part of the community, meeting new people, and weak external support in real life explains live stream engagement.

Hamilton, Garretson, and Kerne's (2014) study interprets there to be two main reasons in engaging with live streams: interest in the unique content of a particular stream, and interaction with the community. In Twitch, viewers participate and build a community during the live streams. Twitch uses a chat box where viewers can talk, and the broadcaster can join in on the conversation as well. Viewers in Twitch expect streamers to use webcams to see and relate to the player reactions. (Hamilton et al. 2014) Twitch has, on average, 2.4 million viewers a day and 93 000 broadcasters. Interestingly, though Twitch is generally a live stream platform for gaming, the biggest live stream concept is 'Just Chatting' which comprise more than 10 percent of all broadcasts. Statistics are from September 2020. (Twitchtracker 2020)

Seeking a definition for 'customer experience' has deep roots. In 1955 Abbott made a notice that people are looking for satisfying experiences instead of products (Abbott 1955, 40). The importance of design, marketing, and delivery during the delivery experiences are crucial before charging admission from the consumer have noticed in 1998 by Pine and Gilmore. It is because of them that experiences were regarded across two dimensions. The first dimension is customer participation which can be either passive or active depending on the context. The second dimension which affects the experience is the connection that merges customers with the event or performance. (Pine and Gilmore 1998) Many researchers have

expanded the number of dimensions on the definition of experience. Several studies mention customers' cognitive, sensory, social, physical, and emotional dimensions. Other dimensions include affective, social-identity, intellectual, and spiritual dimensions. (Schmitt 1999; Verhoef et al. 2009; Brakus et al. 2009; De Keyser et al. 2015; McCarthy et al. 2004)

In previous studies the issues related to customer experience in the business world are predictable. Some companies do not understand why they should care about how their customer experience is built. Other companies collect data but do not know how to use it or cannot locate the findings. (Meyer and Schwager 2007) Studies have been made on what the impact of the atmosphere where the purchase is being made has, for example in a store (Grewal et al. 2009; Verhoef et al. 2009). Though the studies of customer experience when purchasing via the internet is lacking.

When a firm is creating a customer experience it is important to understand the value of a successful customer experience and be aware of how to deal with feedback. In their paper, Meyer and Schwager (2007) discuss customers' contact with the company. It can be either direct or indirect. The difference is that direct contact generally includes purchase, usage, and service. The indirect contact might be that one company will forget or do not give enough attention to it. It can be unplanned and spontaneous when a customer represents a company's products, services, or brands to others, using the form of word of mouth, criticism, recommendations, or some other ways to give the information; good or bad to other potential buyers or existing customers. (Meyer and Schwager 2007)

Companies should understand the competitive advantages of the customer experience. Understanding the customer experience strategy and the idea of the create value for the customer and the company is critical. By optimizing customer experience interaction and searching the strategies which result in the most positive influence without forgetting to seek the best financial returns at the same time makes the company reach a competitive advantage. (Verhoef et al. 2009) The holistic nature of customer experience is notably difficult for competitors to copy than many products or services. In addition, service marketers need to understand customer's feelings, satisfaction, and service brand attitudes which a significant impact on the service experience (Grace and O'Cass 2004)

According to Manthiou, Lee, Tang and Chiang (2012) study results on festival experience can be defined by using four dimensions: education, entertainment, aesthetics, and escapism. The results are found through regression analysis. The first-dimension education is explained as possibility of customers self-growth – for example developing skills, gaining knowledge, or exploring a new thing. The second-dimension entertainment is the most common experience dimension in music festivals. The third-dimension, aesthetics, illustrate facilities, atmosphere, and attractions of the venue. And finally, escapism experience defines the attendee's opportunity to change their routine life and feel the freedom a while. (Manthiou et al. 2012)

Another interesting aspect of previous studies is virtual reality since in music live streams there have been also various levels of virtual effects during the streaming. Virtual reality (VR) is an environment that is created by using computers and the user can navigate and interact inside of the simulation by using users one or more senses. (Guttentag 2010). Flaviáns, Ibáñez-Sánchezs, and Orús' (2019) proposal was to divide the reality virtuality continuum into five different parts. Two extremes were real environment and virtual environment and between them were augmented reality, pure mixed reality, and augmented virtuality. The virtuality continuum proposal was founded in 1994 by Kishino, when he was already then researching mixed realities. Kishino (1994) explained the difference between the real environment and virtual environment to be that the virtual environment is computer generated and the real environment is the reality itself. In augmented reality, virtuality overlaps reality, and in augmented virtuality reality overlaps virtuality. The definition may be difficult to understand and therefore here is a direct quote:

"Augmented Reality (AR) is characterized by digital content superimposed on the users' real surroundings; Augmented Virtuality (AV) involves real content superimposed on the user's virtual environment. Finally, in Pure Mixed Reality (PMR), users are placed in the real world and digital content is totally integrated into their surroundings so that they can interact with both digital and real contents, and these elements can also interact." (Flavián et al. 2019)

In the music industry, normalized concept is to call events that are held via the internet in the name of a live stream, regardless if the show has been recorded before or at the moment during the live stream. If the performing artist cannot interact with the audience Flavian et al. definition says that Pure Mixed Reality is not completely valid.

1.4 Theoretical Framework

The theoretical framework is about using one explicitly defined perspective (Alasuutari 2011, 79). That is, the theoretical framework describes the key concepts of a research and the relationships between them. As a conceptual phenomenon, the framework can be divided into two parts: what is already known about the research topic and the methodology guiding the research. (Tuomi and Sarajärvi 2002, 18)

In this thesis, the theoretical framework explores consumer intention to purchase live stream-tickets for the music event and four factors that have an influence on the purchase decision (Figure 1). In this thesis, the factors are consumer engagement and attitudes towards live stream events, implementations of the live stream event, and customer experience dimensions (excitement, happiness, surprise).

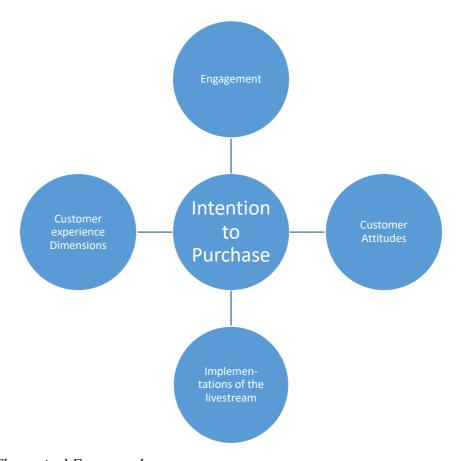


Figure 1. Theoretical Framework

1.5 Definitions of Key Concepts

Defining the key concepts, helps create an in-depth understanding of the theoretical framework. The literature review will expound deeper on the key concepts but it is good to start with basic definitions first.

Live streaming is broadcasting over the internet. The idea is to share a video stream through the internet and, unlike an event that takes place live in a particular place, there are no limits on how many can see a live-stream. Live streaming can now be seen as a competitor of traditional television. (Simon and Pires 2015) The live stream can be implemented in several separate ways. The implementation can add effects from virtual reality (VR) to it, or it can just be a live video or something in between (Flavián et al. 2019). Live streams in the music industry have in some cases been created in advance, in which case the name live stream can be misleading (e.g., cases JVG and Tomorrowland).

Customer experience comes into existence when customers interact with companies through various touchpoints in multiple channels, stimulations (e.g., environments, atmospheres, and layouts), and media. In these cases, customer experiences are more social in nature. As a result of experiencing, customers have different consciousness and act to these touchpoints. These factors require companies to combine multiple business functions and even make them buy services from external partners, in discovering and delivering positive customer experiences. (Lemon and Verhoef 2016; Yuan and Wu 2008)

Customer Attitudes are a compound of a person's beliefs, feelings, and behavioral intentions toward a firm. Marketers need to understand consumers' attitudes so that they can influence the way that consumers adopt more positive attitudes towards the products or services on offer. Consumers have attitudes towards objects for example very product-behaviors (which brand sports clothes you rather use) or more general consumption-related behaviors help determine what music you listen to or if you have preferences of the service provider you want to buy services. (Kotler and Keller 2012, p 170)

Customer engagement in this framework means emotional involvement or commitment

to a firm, product/service, or brand. (Merriam-Webster Dictionary 2021) According to Vivek, Beatty and Morgan (2012), customer engagement is the intensity of an individual's participation and connection with a company or company's actions, which either the customer or the company initiates.

Intention to Purchase is part of the buyer decision process. The other steps include recognition, searching information, evaluation of alternatives, (purchase decision), and post-purchase behavior. John Dewey first introduced the idea of the buyer decision process, in 1910.

1.6 Delimitations

To keep this master thesis within the given framework, this study needs some delimitations. The first delimitation is that this study will research live stream methods that are already accomplished by public companies. The virtual reality glasses and headsets aspect is interesting aspect to investigate but since it has not been implemented to the public, this thesis will focus on live stream methods that are from live image to full special effect / animated live stream and all the intermediate forms. Further, many of the live streams in the music industry are filmed before the actual stream. Since this is a used method that only the audience will be there at a certain time this study does not take a position on whether the event is properly called by a live stream or not although this issue has provoked debate.

Another delimitation is that this study will focus on the part of planning the live stream from the aspect of customer experience. This study may reveal implications that may be difficult or unprofitable to implement, but this study is done from a customer perspective, leaving it to the company to decide whether the implications are profitable or sensible to implement.

In the literature review, this study will deal with general live stream events and customer experience, yet the empirical part will focus on the music industry and its possibilities to improve live stream events. This is because there is a research gap as the academic research about music industry live streams. Important consideration is that in the music industry has differences from other live streams and the idea of empirical research is to better understand and find these differences and similarities.

1.7 Research Methodology

This thesis is comprised of two parts: theoretical and empirical. The first part is the theoretical part, which consists of presenting previous research and issues of the related topic. To keep this study academically reliable, the research is made by using Scholars Index by Chartered ABS and use the journals which are rated by AJG 2018 to 3-4* categories. The journals are mostly found from Google Scholar and by using LUT University's and Research Gate's licenses.

The empirical study studies an anonymous survey. The idea of the survey is to find out customers' attitudes to live streams and their preferences regarding what they expect in taking part in a live stream and what the factors are that affect their decision in buying a ticket to the event.

The empirical part of the study focuses on the live stream experience in the music industry and what factors affect the purchase of a live stream ticket. The study examines what type of live stream experiences Finnish consumers are looking for, and what factors are most important to them in making the experience successful. The research is a quantitative study and it uses data from the survey as the research material. The data from the survey is best option in this study because a larger number of respondents is better in quantitative study. Besides, quantitative studies help scatter the data and as follow the results are more generalizable instead of, for example, research being done through interviews.

1.8 Structure of the Study

This study consists of six chapters. The structure is made as easy as possible for the reader to follow. The first chapter defines the background of the study. It includes sub-chapters on previous studies, theoretical framework, definitions of key concepts, and delimitations of the study.

The second chapter looks at the literature. The main subjects in this study are the phases of creating a customer experience, and how to adapt it to make an excellent live stream experience.

After understanding the reliable literature the third chapter proposes Research Model and Hypotheses.

The fourth chapter focuses on the research design and methodology of an empirical study. It explains the data collection and analysis method. It includes results from factor analysis.

The fifth chapter discusses the results of the empirical study and results of regression analysis. Hypotheses are tested and other results are presented.

The sixth chapter will be an answer to the research questions and discussion of limitations of the research and present proposals for further research.

References and appendices can be found in the end of the study.

2. LITERATURE REVIEW

The need to create live streams became sudden in the music industry and the fact that customers needed to suddenly pay to see a live stream event was a new avenue in the music business. In any manner, quickly changing environments force companies to find new ways to profit and create value (Hurmelinna-Laukkanen, Sainio and Jauhiainen 2008). In 2017 Naveed, Watanabe and Neittaanmäki (2017) made a research where they used concept live concert streaming. The idea was that in the future virtual participants would be the consumers who are unable to attend a live event physically thus they would participate virtually by using streaming services. The need for music live stream was already known but it was more of a vision than reality. For years, the world's biggest festivals and artists have given the access to see the music live streams for free, for example in YouTube. In any case, the pandemic changed the game, as live stream gigs became the only viable way to see artists as public gathering was forbidden due to the restrictions caused by the Covid-19 pandemic. Service providers needed to understand how to sell tickets to concepts that had not been carried out before as a core business and advertise the events in a way that made customers want to buy the tickets to the event.

This chapter covers the literature review on live stream participation, customer experience, customer engagement. The first section discusses live stream participation, the second section examines customer experiences and their dimensions and how the customer experience has first been offline (retail environment) and nowadays increasingly online. The third section examines creating customer experience and management. Section three discusses on customer engagement. This field is interesting to investigate as it reveals that when customers make choices online their loyalty has a stronger positive impact on overall satisfaction. Further, Shankar, Smith, and Rangaswamy's (2002) study shows that online, overall satisfaction had a stronger positive impact on loyalty than offline.

2.1 Factors influencing live stream participation

Previous research on live stream services focuses on Twitch, the largest live stream provider. A lot of eSports is streamed in Twitch, but also the number of streaming just chatting is also significant. (Twitchtracker 2020) While this cannot directly be compared to live music streaming, the attitudes and reasons for participating are interesting and possibly the same

as when attending live livestream gigs – after all, the way is the same when viewers watch online when players or internet influencers are in front of the camera and entertain viewers.

Nevertheless, the motivations in the background of the viewer engagement of this expeditiously growing live streaming phenomenon has not been studied much (Hilvert-Bruce et al. 2018). Live streaming begun as a niche. First, it was non-mainstream media platform for video game players where the players shared their gameplay and interacted between each other's. As a result of live streaming, eSport has become more approachable and the range of eSport goes from bedroom livestream to professionally organized stadium tournaments. (Wohn and Freeman 2020; Hilvert-Bruce et al. 2018)

There are several studies about the motivation behind participating in live streams in platforms such as Twitch. The main motivations for this second-hand experience (e.g., watching others play) are considered to be social interaction, community involvement, meeting new people, sharing the experience, entertainment, seeking information, and a lack of external support in real life (Hilvert-Bruce et al. 2018; Sjöblom and Hamari 2017). Viewers' enjoyment is contributed by parasocial relationships, the suspense of the video game outcome, and using the chat function (Wulf, Schneider and Beckert, 2020). As stated in Chen and Lin's (2018) study, live streams make people happy and relieve stress. They also mention the charm of the streamers, but the attraction of the gender has a slightly greater effect if the viewer is a woman. Several studies emphasize that the interaction between the viewer and streamer and other audience members is a significant motivator to watch live streams (Chen et al. 2018; Hamilton et al. 2014; Hilver-Bruce et al. 2018)

Streamer attitudes are said to consist of developing their brand. Streamers should maintain their enthusiasm and during the live stream they should interact often with the audience since a successful streaming experience and pleasure are stimulated indirectly through interaction. To reach the goal of social interaction and even increase the activity the platform itself should target their development to make sure that the interaction tools are good enough. (Chen et al. 2018; Tang, Venolia and Inkpen 2016)

2.2 Dimensions of Customer Experience

Seeking a definition for 'customer experience' has long roots. Table 1 showcases the main authors and dimensions of customer experience. In 1955, Abbott noted that people are looking for satisfying *experiences* instead of products (Abbott 1955, 40). Pine and Gillmore noticed that the importance of design, marketing, and delivery during the delivering of experiences are crucial before charging an admission from the consumer. They developed the idea of thinking of experiences across two dimensions. The first dimension is customer participation, which can be passive or active depending on the context. The second dimension is the connection that band together customers with the event or performance. (Pine and Gillmore 1998)

In 1999, Schmitt explained the difference between traditional marketers and experiential marketers. According to Schmitt (1999), traditional marketers saw consumers as rational decision-makers who value functionality and benefits. Experiential marketers on the other hand understand that consumers are concerned with achieving pleasurable experiences. For creating the holistic experience, Schmitt created a model of five diverse types of experiences: sensory experiences, affective experiences, creative cognitive experiences, physical experiences, behaviors and lifestyles, and social identity experiences. In this model, experience providers are such as communication, visual and verbal identity, product presence, and social media (at that time electronic media).

According to Verhoef et al. (2009) the customer experience idea is holistic in nature and involves multiple dimension (see table 1). The idea is that it is not only elements what retailer can control instead of there is also elements that retailer cannot control for example control of others and purpose of purchasing. Furthermore, customer experience includes the total experience including the search, purchase, consumption, and after purchasing phases of the experience, and may connect multiple retail channels. Verhoef et al. (2009) noticed that most of the customer experience studies have concentrated on elements of the retail environment, which are under the control of the company and made to the specific customers. (Verhoef et al. 2009)

Table 1. Summary of previous research on customer experience dimensions

Author(s)	Dimensions	Online or Offline experience
Schmitt (1999)	Sensory, affective, cognitive, physical, socialidentity	offline and online, customer experience
Verhoef et al. (2009)	Cognitive, affective, emotional social, physical	offline (retailing context)
Brakus, Schmitt, Zarantello (2009)	Sensory, affective, intellectual, behavioral	brand experience
Grewal, Levy, and Kumar (2009)	promotion, price, merchandise, supply chain, and location	offline (retailing context)
De Keyser et al. (2015)	Cognitive, emotional, physical, sensorial, and social elements	online, technology as an experience
McCarthy and Wright (2004)	Sensual, emotional, compositional, spatiotemporal	online, technology as experience
Vivek, Beatty, and Morgan (2012)	cognitive, emotional, behavioral, and social elements	online, customer engagement
Gentile, Spiller, Noci (2007)	Rational, emotional, sensorial, physical, spiritual	offline and online, customer experience

The focus in previous studies has largely been on the retail environment rather than the online sector. According to Grewal, Levy, and Kumar (2009) who made research on retail, highlights understanding the customer interaction with the business, product, or service. The strategy of customer experience management ought to be made through a solution where everyone benefits, as in both the customer and the retailer. To achieve a superior customer experience and customer satisfaction, Grewal et al. (2009) point a focus on a promotion, price, merchandise, supply chain, and location. The insights into customer behavior in the retail environment of Puccinelli et al. (2009) go deeper and their proposition includes seven dimensions: Goals, schema, and information processing, memory, involvement, attitudes, affect, atmospherics, and customer attributions and choices. Puccinelli et al. (2009) compared those seven topics to the five primary decision process stages (Table 2.) For example, involvement research investigates need recognition, information search, and evaluation, though it may inform other stages as well.

Table 2. Consumer Decision Process (Puccinelli et al. 2009)

Consumer Decision Process								
	Need Recognition	Information Search	Evaluation	Purchase	Post-Purchase			
Goals, schema, and information processing	х	х	х	х	х			
Memory		х	х					
Involvement	х	х	х					
Attitudes			х	х	х			
Affect	х	х	х	х	х			
Atmospherics			х	х	х			
Attribution and choices			х	х	х			

Recent research has already taken a stand on technology and through it on the customer experience. For example, De Keyser et al. (2015) defines customer experience as "comprised of the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect interaction with a (set of) market actor(s)." Their study describes furthermore that: "Customer experience is a multi-layered system that continuously and dynamically influences the way customers experience their interactions with companies."

The study of Vivek et al. (2012) focuses more on customer engagement and that way to its relationship to marketing. They defined customer engagement as an individual's participation in and connection with organizational activities that may come from a customer or organization. According to them, customer engagement consists of cognitive, emotional, behavioral, and social elements. In addition, they emphasized the importance of today's understanding of customer service. Smart companies should recognize that customers expect fast answers to their questions instead of emails that report that "we are busy, we will return to this later". (Vivek et al 2012)

2.3 Creating Customer Experience

Drucker encapsulated the matter well: "From a marketing perspective, customers are the reason for the firm's existence, and to satisfy the customer is the mission and purpose of every business" (Drucker 1973, 79). The positive customer experience plays a critical role across all industry sections – and firms are recognizing it. (Verma et al. 2012) Successful businesses create loyal customers who make purchases again and provides unforgettable experiences (Yuan, Wu 2008). Customer experience has a significant impact on loyalty intentions and positive word-of-mouth behavior. Further customer satisfaction significantly influences the customers' behavioral intentions. (Klaus and Maklan 2013)

Today's customers are technology-driven and digitally advanced. Customers know the power of word of mouth and firms are starting to understand it too. Customers expect that they get personalized experiences at every step of interaction. (Verma et al. 2012; Kandampully et al. 2018) It is vital to remember that without interaction, there is simply nothing to experience, no customer experience either. (Pollio, Henley and Thompson 1997; Keyser et al. 2015) Yet, satisfying the customer fully has limited effects on the company's competitive advantage on the market (Kandampully et al. 2018).

The customer experience is more than delivering food or entertainment. A myriad of other supporting features and processes play a big part as well such as website functionality, technology, online and offline interactions, facility designs, and interactions between customer and service provider. (Kandampully et al. 2018) Kandampully et al. (2018) relate an interesting example from one of their interviewees, professor Bonnie J. Knutson from Michigan State University: Even when two people go to the same movie and eat the same popcorn, as each consumer is unique, both walk out with uniquely different experiences. Each consumer has a different background, values, attitudes, and beliefs. To fully understand the customer experience, it requires capturing the customers interactions and every step of the information sharing with the service provider. In addition, it is necessary to understand what other service providers offer and how they support the overall customer activity. (Verma et al. 2012)

The customer's perception of the overall experience and the customer's journey are the most advanced part of measuring the customer experience. In the business world, many firms use simple metrics that are easy to use and most of the cases measure only a single item. Those metrics are easy to understand by tip management and can be included in marketing dashboards. The problem of measuring just a specific measurement for example a single transaction is, that it does not measure the full customer satisfaction. For years, the main customer feedback metric has been customer satisfaction. There are thousands of papers on the antecedents of satisfaction, the measurement of customer satisfaction, and as well in the behavioral and financial context of customer satisfaction. (Lemon and Verhoef 2016)

In their research, Verhoef, Antonides, and Ge Hoog's (2004) emphasize the fact that a service encounter can be considered as a sequence of events. In the earlier service literature, the service experience was seen that firms should deliver a stable performance during a service

gathering. However, research in psychology says that it is not necessarily true. The studies show that also the peaks in the performance are important within the average performance. Some researchers emphasize the importance to keep stress level low to attract new customers and make sure cheerful endings on the service experience. (Baker, Parasuraman, Grewal and Voss 2002) Therefore Verhoef et al. (2004) stress that service experience should include managing the overall performance but likewise the positive peaks to achieve customer satisfaction.

Verhoef et al. (2009) conceptual model of customer experience creation reveals the factors that affect the customer experience. The model can be seen in Figure 6. Since the subject of this thesis is live streaming via the internet, the model needed some adaptations. The retail atmosphere is changed to the website atmosphere since the whole buying process is on the websites. The factors that affect websites are website design, music, the comfort of use, and reliability to use. Another change was to change the retail brand to brand divide it into an artist brand and event provider brand.

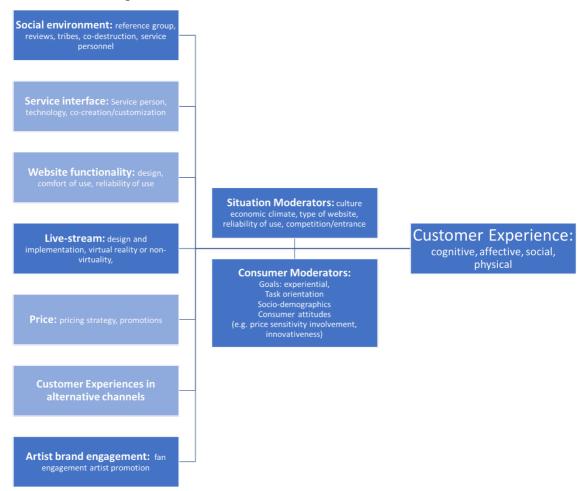


Figure 2 Conceptual model of customer experience creation based on Verhoef et al. (2009)

In this model, the situation moderators require some changes for the same reason as the retail atmosphere. The service is fully online, and the changes are better suited there. This literature review is focused on six specific aspects of the model (shaded in Figure 6). These aspects are chosen hence the marketer might have an impact on those or possibility to do research and find the answers for example what are the main characters that affect to social environment at that specific time.

Petre, Minocha, and Roberts (2006) made a model of customer's purchase and consumption behavior online. The comprehensive idea of the model is to understand the total customer experience. The model is interesting because once a decision on the intention to purchase a product or in this case a service has been made, the purchase decision must not crash into a failure in the purchasing process – for example abandonment shopping cart (Kukar-Kinney and Close 2010) Petre et al. (2006) model consists of seven different stages (Figure 3). The first stage is the expectations-setting. The customer draws upon several factors to build a personal benchmark. The factors are for example individual, social and cultural factors, to form expectations of service quality. In the first stage, the customer might use offline business channels such as word of mouth, advertising, brand, reviews, and individual experiences.

Further, it is critical to take into account that artist brand and awareness are a big part of music marketing. Building a human brand where especially young people can attract and have high aspirations to achieve their idols' success is a crucial factor. Engagement between fans and artists is a critical factor to build brand awareness and get profit when fans stream music, buy merchandise and buy tickets to an artist's shows. (Huang, Lin and Phau 2015)



Figure 3. Model of customer's purchase and consumption behavior with e-commerce (Petre et al. 2006)

The second stage is accessing the website. The website functionality and landing page are in a critical role here. Also, it is essential to understand the routes of how the customer gets to the website. Some customers type the URL directly, or via a search engine or portal. (Petre et al. 2006; Huang et al. 2018) For the customer, accessing the website needs to be easy and quick hence long links ought to be short serving customers who like to type the URL directly.

In the third stage, the customer seeks products and information and decides whether or not to make a purchase. Petre et al. calls this stage 'Pre-purchase interactions' (2006).

In the fourth stage, the customer orders or purchases the product or service or makes the decision to leave the page not buying anything. The name of this stage is E-purchase. Post-purchase interactions include waiting to receive the order and any interactions prior to the delivery – this is stage five.

The sixth stage is about the consumption of the product or service. To fulfill customers' expectations and even exceed them is vital in this stage. It is important to note that negative

experiences can change the whole customer experience to be unsuccessful. (Petre et al. 2006; Verhoef et al. 2004) From a live stream point of view, it is important to think about how customers share their experiences. In normal crowded music events people usually take videos which they post on social media. In contrast, filming a TV of a live stream might not be as interesting. Of course, some studies show that photo-taking lowers enjoyment during customer experience (Barasch, Zauberman and Diehl 2018) but for the artist, it is good if the live stream event is shared on social media as it spreads word of the event and the artist's brand. In addition ease of use of the site is important hence overly complex site and information overload disrupts customers and might prevent purchase. Sites that are easy to use will enhance feelings of confidence and calm. Paying attention to the ease of use of the site can ensure that an inoperative site is not a reason to not make a purchase. (Rose, Clark, Samouel and Hair 2012) Finally, website functionality includes improving user-perceived quality-of-experience (QoE) which consists of video quality, bandwidth estimation, playback freezing, bitrate switch, and optimal problem-solving, which must be considered in connection with the production and broadcasting of a live stream. (Huang, Zhou, Xie, Wu 2018)

The last stage is named the Post Total Customer Experience evaluation. In this stage, the customer assesses the experience with the e-commerce environment against customer's expectations. The final evaluation will influence the customers' decision-making in using the same firm again. In this stage, the customer will evaluate the total customer experience and might share the information by WOM or eWOM thus it is critical to get a successful ending to customer experience as to avoid negative feedback. (Petre et al. 2006; Verhoef et al. 2004; Vargo and Lusch 2004)

For a deeper understanding of the total customer experience, Lemon and Verhoef (2016) made a process model for customer journey and experience (figure 4). The model is based on previous studies by Howard and Sheth 1969, Neslin et al. 2006, and Pucinelli et al. 2009. This model divides the customer journey into three different stages. The stages are the prepurchase stage (1), purchase stage (2), and postpurchase stage (3). In this thesis the empirical part focus on customer's previous and current experience during live stream experience.

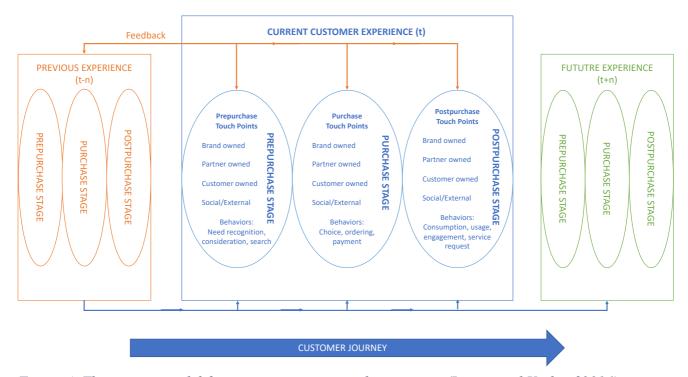


Figure 4. The process model for customer journey and experience (Lemon and Verhoef 2016)

The idea of the process model is to understand the touchpoints in various stages and customer behavior. The customer might interact with each of these touchpoint categories in every stage of the customer experience or just with the critical ones, depending on the nature of the goods or services and how the customer's own journey is built. Path-to-purchase (or attribution models) can help the firm to identify the most critical touchpoints at each stage for each customer. After the touchpoints are identified, firms then need to decide how key touchpoints can be affected. (Lemon and Verhoef 2016)

In the pre-purchase stage, customer behavior includes a need to recognize the goods or services, consideration to buy or not, and searching for the right firm, product, or service. The next stage is the purchase stage where customer behavior includes the choice of the goods or services, ordering the goods or services, and the payment. The final stage is the post purchase stage, which includes consumption, usage of the goods or services, engagement, and service request if needed. (Howard and Sheth 1969; Neslin et al. 2006; Pucinelli et al. 2009; Lemon and Verhoef 2016)

Bennett's and Rundle-Thiele's (2002) study concludes that the attitude towards the act of purchasing is affected by several external factors, including the level of prior experience,

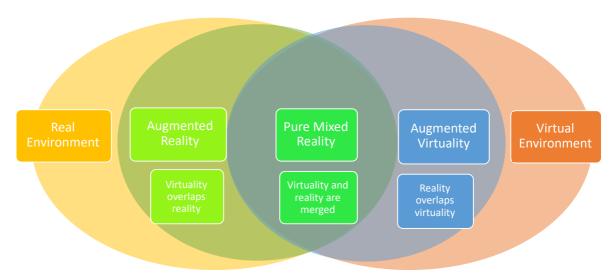
satisfaction, perceptions, relationship quality, brand attitudes, switching costs, brand awareness and familiarity. Thus, it is useful to monitor.

2.3.1 Creating a Virtual Customer Experience

Live streams in the music industry can be seen as an incremental innovation. Garcia and Calantone (2002) define incremental innovation as follows: "Incremental innovations provide minimal risk potential for product upgrades. Innovation can provide new features, benefits, or improvements to the existing technology in the existing market." Adding virtual elements to the music live stream can be regarded as an improvement to real environment music live stream. Changing the functions of the live music field, has enabled people who have not previously had the opportunity to participate in live music events, for some reason such as location, price, or other obstacle, to experience them. (Schumaker 2018) This again supports that live streams in the music industry can be seen as an incremental innovation.

Creating virtual customer experiences by using digital environment tools has surfaced especially now that the organization of public events is extremely limited. Flavián et al. (2019) made a study about the impact of virtual, augmented, and mixed reality technologies on the customer experience since the previous academic literature have not been properly characterized boundaries between different realities (virtual, augmented, mixed). By using digital technologies, multiple industries (e.g., retailing, services, tourism, and entertainment) can improve their customer experiences and make them more unique and memorable. (Flavián et al. 2019) To increase customers' overall satisfaction Shankar et al.'s (2002) study shows that the depth of information in the website increases service-encounter satisfaction and might also increase relationship loyalty. (Shankar et al. 2002)

Flavián et al. (2019) have proposed a model of the reality-virtuality continuum (Figure 4.) The extremes in the figure are Real Environment and Virtual Environment. Between them, there is Augmented reality, Pure Mixed Reality, and Augmented Virtuality. (Flavián et al. 2019) This thesis primarily focus on real environment and mixed reality. However, the following is a brief review of the entire model



Using

Figure 5. Reality-virtuality continuum. (Flavián et al. 2019; Milgram and Kishino 1994)

Real Environments (RE) refer to the reality itself. Instead of Augmented Reality (AR) change the customers' actual physical surroundings by overlaying virtual elements (e.g., images, videos, and virtual items – computer graphic). For example, some Snapchat filters create augmented reality. (Flavián et al. 2019; Milgram et al. 1994) The 3D technology is also regarded as augmented reality. Previous research has shown that 3D technology increases customers' attitudes and purchase intentions (Li, Terry, and Frank 2003).

In Pure Mixed Reality (PMR) the main environment is the real world. Users interact with both the real and virtual worlds in real-time. In pure mixed reality, virtuality and reality are merged. There are few PMR technological developments but one example is the holographic device Microsoft Hololens. (Flavián et al. 2019)

Augmented Virtuality (AV) superimposes real-world elements in virtual environments. The main environment is the virtual world but there are arboreal-world interactions. Technology has taken a big step in developing new devices to use the customer's senses during the experience. The view of customer experience is developing into new sorts of hybrid experiences since the connections are getting more interactive, physical, and virtual. However, the researchers and practitioners have not yet set clear boundaries between these realities, technologies, and experiences. (Flavián et al. 2019)

The research on the virtuality technologies field can make the customer experience even more memorable and companies can understand the customer touchpoints by supporting, empowering, or creating new experiences, and increase the value of the customer experience. (Flavián et al. 2019) The consumer experience will change in the future to more of a sensory experience, which is why the impact of digitalization and virtual media remarkably expand the scope and impact of sensory satisfactions. Therefore, one can expect that social media will be more sensory-rich and marketers and service providers need to take this into account (Achrol, Kotler 2012; Appel, Grewal, Hadi and Stephen 2020)

2.4 Customer engagement

Customers become engaged with the company when the relationship between them is based on trust and commitment and is satisfying and has an emotional bonding (Pansari, Kumar 2017). According to Sashi's (2012) matrix of customer engagement (figure 6), customers can be divided roughly into four different categories: Transactional customers, delighted customers, fans, and loyal customers. Ideally, a firm will have many customers who are fans, but the firm also needs transactional-, delighted- and loyal customers who can turn to fans in the future. To archive it, a firm can mix offline and online strategies and increase the connection and interaction between employee and customer in different stages of the customer engagement cycle (Appendix A). social media is also a way to connect with non-customers and customers. Social media can increase the richness of the interactions with customers and create satisfying transactional customers, who might turn into fans in the future. (Sashi 2012)

Transactional customers are seeking the lowest price of the product or service. Such customers are price sensitive, meaning that if another provider has a cheaper price, they switch to that one. The connection and interaction between provider and customer are limited to a particular transaction. (Sashi 2012)

The delighted customers might not buy a lot, but their emotional bonds are strong. Customer expectations have been exceeded, the level of satisfaction is high and the relationship includes substantial positive emotions. Though the interactions and transactions are rare, as the emotional bond is strong, the delighted customers advocate for a product, brand, or

company. By developing the relationship, and advocacy stage of the customer engagement cycle the firm can turn delighted customers into fans. (Sashi 2012)

The customers become loyal if the relational exchange is high and emotional bonds are low. Customers choose the seller more by using rational reasons than emotional. Loyal customers are unlikely to recommend a seller on their own and therefore it is critical to develop the trust between the firm and customer, finally turning them into fans. (Sashi 2012)

When customers are engaged with the firm it means customers' trust is earned. Fans become passionate and loyal supporting the brand even in tough times. Fans improve their overall satisfaction by connecting and interacting with other fans. (Sashi 2012)

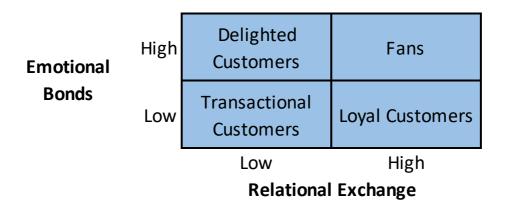


Figure 6. Customer engagement matrix (Sashi 2012)

To fulfill customer needs and get them engaged, firms need to seek what competitors do by developing, disseminating, and answering to intelligence regarding customer needs in keeping with market orientation and keep building customer relationships. To archive customer engagement, it requires following several stages in the customer engagement cycle connection, interaction, satisfaction, retention, commitment, advocacy, and engagement. A combination of digital and non-digital technologies can be used for this purpose, and different combinations are required for each stage of the customer engagement cycle. (Sashi 2012) To get loyal customers Shankar et al. (2002) say that firms ought to use resources to generate service-encounter satisfaction, which can finally influence higher overall satisfaction and get deeper loyalty between customer and firm.

These days, non-transactional customer behavior is becoming more important since customers interact with each other in a networked society, where the firms are also taking their place through social networks. Firms also recognize the potential considerable negative consequences of non-transactional behavior if not handled well. (Verhoef et al. 2010) Customers communicate with others and share their experiences by using word of mouth and it is imperative to remember that customers who are dissatisfied engage in greater WOM than customers with high satisfaction. In other words, dissatisfied customers share their imperfect experience more likely. (Anderson 1998; Sweeney, Soutar and Mazzarol 2012) Bowden's (2009) conceptual framework of customer engagement suggests that despite focusing only on existing customers, they recommend to take note that customerbrand relationships and strategies for engaging customers might be different based on whether the customers are first time or repeat purchasers. Turning customers from a firsttime buyer to a repeat buyer of a service brand is accomplished by emphasizing the relationships between computational engagement, affective engagement, participation structures, and trust between a brand or firm and customer. (Bowden 2009) Furthermore, if customer engagement is not taken into consideration, the value of customers may be valued incorrectly (Kumar et al. 2010). According to Van Doorn et al. (2010), customer engagement behavior goes beyond transactions and can be characterized as a customer behavior driven by a brand or firm, rather than a purchasing decision made solely because of motivational drivers.

3. RESEARCH MODEL AND HYPOTHESES

This chapter presents hypotheses utilizing literature reviews and previous research. Finally, it summarizes the hypothesis (Table 3). The conceptual model with the hypotheses follows the theoretical framework. Figure 7 presents the conceptual model.

The study of Martensen et al. (2007) explores the effectiveness of event marketing. The empirical study made in Denmark demonstrates how the model and measurement scheme can measure the impact of the event on brand attitude and moreover buying intention. One of the hypotheses in the study concerned the effect of positive event emotions on purchasing intentions. The hypothesis was supported and even the background of the study is not exactly the same as in this study (the music perspective is missing), the author suggests for the first hypothesis that positive emotional dimensions have a positive effect on purchasing intentions. The previous studies (see sub-section 2.1) also support that positive dimensions for example emotions affect customer experience - and thereby the intention to purchase. (De Keyser et al. 2015; McCarthy et al. 2004; Vivek et al. 2012; Gentile et al. 2007)

H1: Positive dimensions (excitement, happiness, surprise) increase intentions to purchase.

The study of Chen et al. (2018) investigates the intention for using live stream services. The study establishes that the intention to use is directly affected by positive attitudes and perceived values. Their study uses path analysis to test relationships between several factors to understand which factors influence viewers to watch live stream events. One of the hypotheses in the study explores how positive attitudes influence a viewers' intention to watch a live stream. The study supports this hypothesis. By slightly modifying the hypothesis of Chen et al. (2018) creates another hypothesis in this study, which argues that attitudes influence a customer's purchasing intentions. Previous studies (see sub-section 2.2) also support this hypothesis. (Vargo et al. 2004; Verhoef et al. 2009)

H2: Customer attitudes increase intentions to purchase.

Hon, Bloom, and Crant (2014) observe that resistance to change negatively affects performance. If a customer is resistant to change the less willing they are to think differently

or adopt to more unique ways to doing things. Daugherty, Li and Biocca's study (2008) shows that the indirect method (advertising) has been slightly better than the virtual one (3-D product visualization) when examining the intention to purchase in the retail environment. Their study consisted of two laboratory studies that tested both the single and sequential effects of both indirect, direct (product trial), and virtual experience consumer exposure on brand attitude, product knowledge, and purchase intention when appraising a digital video camcorder. Here, of course, one must keep in mind that the study is quite old as it was conducted in 2008. In the present case, rapid change in the event industry, when "normal" events had to be canceled due to Covid-19 this study hypothesizes, however, that customers 'willingness to buy will increase if the event takes place in a real environment rather than a virtual environment.

H3: Real environment increases intentions to purchase more than the virtual environment.

The study of Yuan et al. (2008) explicates that loyal customers repeat their purchases. Klaus et al. (2013) observes that customer experience has a strong connection to loyalty intentions and positive WOM behavior. The interaction between the viewers and streamer has a significant meaning for customer decision making to take part in the live stream event. (Chen et al. 2018; Hamilton et al. 2014; Hilver-Bruce et al. 2018) As can be seen, previous research shows that engagement is a vital part of the purchasing process and decision making and therefore the customer engagement can be seen factor which increases intentions to purchase, and it is chosen to be the fourth hypothesis.

H4: Customer engagement increases intentions to purchase.

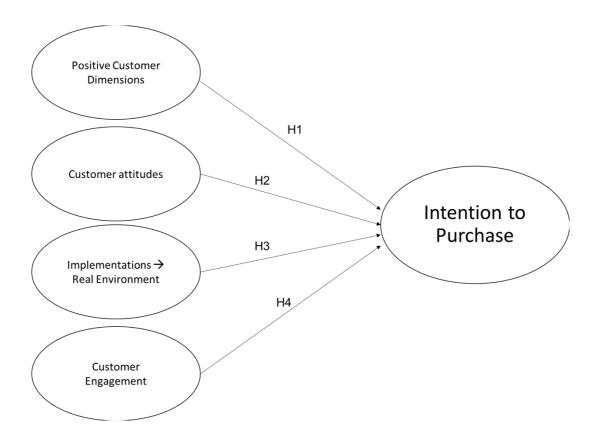


Figure 7. The conceptual model with the hypotheses

Table 3. Summary of Hypotheses

H1	Positive customer dimensions (excitement, happiness, surprise) increase intentions to purchase.
H2	Customer attitudes increases intentions to purchase.
Н3	Real environment increases intentions to purchase more than virtual environment.
H4	Customer engagement increases intentions to purchase.

4. RESEARCH DESIGN AND METHODOLOGY

This chapter consist of presenting the research design and methodology. It begins with explaining the research design, after that it presents how the data was collected. Next, the way the questionnaire is built is discussed. Then the measured method is defined. In this chapter Factor Analysis is explained and index variables reviewed. Finally, a critical analysis of reliability and validity is presented.

4.1 Research Design

This research is done using a mono method quantitative study. This quantitative research design uses a single data collection technique as the method is a questionnaire and corresponding quantitative analytical procedure. (Saunders, Lewis, and Thornhill 2015, 166) This research evaluates what factors affect the purchase of a live stream ticket. In addition to that, the research will establish causal relationships between the variables. The purpose of this study is to find answers to the research questions and test the hypotheses. Music live stream service providers may use the results of this research to improve their services.

Regression analysis was chosen as the data analysis method to test and identify the relations between the variables. This analysis method can measure the effect of one or more independent variables on a dependent variable. It is popular to use questionnaires as a survey strategies because they allow the collection of standardized data from a large population, in this case, the customers who watch live stream events in Finland, and in addition to that, it is a highly economic way and allows comparison to be made easily. (Lee and Lings 2008; Saunders et al. 2015, 181).

The data was collected as an online survey by using the Qualtrics platform. The questionnaire was open three weeks from the beginning of February 2021. The questionnaire was in Finnish and the link was shared by the author and Finnish music industry specialists. The only condition for answering the survey was that the respondent had to have participated in a music live stream event in 2020. The condition was relayed as the link was shared and in the beginning of the survey.

4.2 Data Collection

The empirical data was collected from Finnish-speaking consumers who have participated in a music live stream event in 2020. The questionnaire was self-developed (Appendix B). The questionnaire was in Finnish to make it easier for Finnish-speaking consumers to answer. The survey consists of fifty-two (52) questions in total. The questionnaire contains five (5) questions about loyalty, **four (4) about intentions**, four (4) about Word-of-Mouth, **two (2) about attitudes**, two (2) about Perceived ease of use, **six (6) about live stream experience dimensions**, **four (4) about engagement**, two (2) about behavior, four (4) about relations between artist and consumer, **seven (7) about implementing live stream-experience** and eleven (11) background questions. There was also one open question for feedback. Bold variables measure hypotheses and other variables are related to exploratory research. It is suggested that every factor should have three to five variables in minimum (MacCallum, Widaman, Zhang and Hong 1999), and in this questionnaire, the objectives are met for all but three factors.

The questionnaire was the same for all respondents. The survey was fully anonymous and confidential. This was relayed to the respondents at the beginning of the survey. The estimated response time was approximately ten (10) minutes. The survey platform was Qualtrics; a platform that LUT University has a license on. The survey was sent to the consumer using a link to the survey. The link was shared on social media platforms (e.g., Facebook and Instagram).

4.3 Questionnaire Development

The questionnaire was first planned to only concern one specific firm but later it was decided to be more of a general questionnaire so that anyone who participated in a live stream event regardless of who organized the event, could answer the survey. The questionnaire consists of different meters to measure customers' attitudes, interests, and motivations towards the live stream event experience. Measures can be found in Appendix B.

After the survey questions were developed, the questionnaire was tested with the thesis supervisor and with two master-level students from diverse backgrounds. They helped with modifying some questions to be more open and made some notes on grammar.

4.4 Defining Measures

After collecting the data, it was exported from Qualtrics to SPSS for running analysis. First, the data needed some cleaning, since two responses answer null (0) for the variable EVENTBG3 (Approximately how many live stream-shows did you attend in 2020?). The only condition for answering the survey was that the respondent had to participate in a music live stream event in the year 2020 and therefore those responses were dismissed.

Furthermore, answers for question PRICE variable (How much would you be most willing to pay for a live stream-show?) needed to change for numeric format and if there were answers with approximations, those were changed to mean values. The mean value was obtained by averaging the highest and lowest values of the respondent. The same thing was done for variables EVENTBG1 (Approximately how many music events did you attend in 2019?), EVENTBG2 (Approximately how many live stream-shows did you attend in 2020?, EVENTBG3 (Approximately how many music events did you attend in 2020?) since some respondents answered with approximations, for example with '10-15'.

For regression analysis, some of the variables needed recoding for getting dummy variables format. Dummy coding is a way to represent a group of people using only nulls and ones. (Field 2009–254) Dummy variables were done for the GENDER variable as only two respondents answered with 'prefer not to say'. Those two answers were changed for missing values. Dummy coding was also done for the EDUCATION variable since only two respondents were unemployed and all the others were either students or employed. The answers with 'unemployed' were changed for missing values. The format for the answers regarding the type of music genre and service providers were also recoded for dummy variables.

4.4.1 Defining Scales and Tests

A meter means either the entire test battery, which is intended to provide information from the area to be examined, usually a measuring instrument or a single test, or a sub-meter made of a larger measuring set. A meter can simply be a single question, though usually it consists of one or more sections. The basic idea of using a meter is to try to observe the phenomenon as objectively as possible. (Metsämuuronen 2011, 67)

This questionnaire is using a **7-point Likert scale**. The 7-point scale provides more mixtures of options which in turn raise the probability of meeting the objective reality of people. The idea of the Likert scale is to give the opinion for the respondent to answer the claims from strongly disagree (1) to strongly agree (7). (Joshi, Kale, Chandel and Pal 2015)

Factor analysis assumes there to be genuine correlations between the variables. The correlation limit is generally considered to be 0.30 - if no correlation exceeds that value, factor analysis is not worthwhile. (Metsämuuronen 2011, 666) Hair, Anderson, Tatham and Black (1998, 111) stated that the absolute minimum charge is 0.3 but 0.5 is already significant. However, this only applies to large sample sizes. With a small sample size, significant correlations significant correlation can be detected when the value is greater than 0.75 (Hair et al. 1998, 111) The aim is to find connections between variables, though that alone is not enough. Quantitative research must also aim to answer, for example, how much of this connection there is. (Vilkka 2007, 23) Factor analysis is utilized in this study because the model works especially well when a theory is already in the research situation, based on which it can be assumed that the studied variables combine (Metsämuuronen 2011, 666). The purpose of this study is to form sum variables according to the research model, and the factor analysis ensures that the hypotheses fits the entities defined for them.

The limits of **communalities** can be considered with all above 0.6, samples which have less than hundred answers (these are called small samples) may be fully acceptable. With communalities in the 0.5 range and samples between 100-200 can be tolerable provided there are relatively few factors each with only a small amount of indicator variables. (Field 2009, 647) Additionally, Metsämuuronen (2011) says that all the values greater than 0.4 explain enough. However, in addition to communality, other measures that measure reliability and explainability are used in this study, so it can be said that values above 0.5 are good, further, values above 0.4 are acceptable. Fabrigar, Wegener, MacCallum and Strahan (1999) recommend that communalities should be 0.70 or higher if the sample size is around 100.

The overall reliability of a questionnaire and values are indicated by using **Cronbach's Alpha** - the values around 0.8 are good (Field 2009, 681), According to Metsämuuronen

(2011, 467), the lowest limit of Cronbach's Alpha value is considered to be 0.6 to measure reliability.

The Kaiser-Meyer-Olkin test (KMO) represents the ratio of the squared correlation between variables to the squared partial correlation between variables. The test can be calculated for individual and multiple variables. The values differ between 0 and 1, 0 indicating that the sum of partial correlations is large relative to the sum of correlations, as well as diffusion in the pattern of correlations (thus, factor analysis is likely to be unsuitable). A value close to 1 indicates relatively compact patterns of correlations and that a factor analysis should yield noticeable and reliable factors. The recommended value should be higher than 0.5 as hardly acceptable. If the values are below 0.5 the bigger sample size or rethinking which variables to include might increase the KMO value. Furthermore, values between 0.5 and 0.7 are acceptable, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb. (Hutcheson and Sofroniou 1999, 225; Field 2009, 647; Metsämuuronen 2011, 670)

The **eigenvalue** of the factors should be more than one. If the values are below one, the result indicates that the potential factors within low eigenvalue might become one reliable factor (Metsämuuronen 2011, 555). **The cumulative percentage** (Cum% of variance explained) is related to the eigenvalue and defines how much the factor is explaining the variability of the variables.

4.5 Factor Analyses

After the data format was good for analyses, it was time to start doing factor analyses and reliability tests. In Factor Analyses the Extraction method was Principal Component Analysis and rotation method was Varimax with Kaiser Normalization. Factor analyzes related to hypotheses are reviewed first, followed by other factor analyzes.

Intention to Purchase

The factor analysis identified Intention to Purchase factor loadings with values ranging from 0.759-0.877, which are within a good range. The communalities are ranging from 0.575-0.769, which are within an acceptable range. Cronbach's Alpha value is 0.783 and the KMO

test is 0.667, which means the reliability is acceptable. The results of the factor analysis are reported in Table 4.

Table 4. Factor Analysis of Intention to Purchase

	Item	Factor 1	Communalities
	I expect to purchase live stream ticket		
INTEPUR1	in the near future	0.865	0.749
	I have the intention to watch live		
INTEPUR2	stream-show in the future	0.877	0.769
	707 11 1		
	If I would need music concert		
	experiences, I would likely buy ticket		
INTEPUR3	to live stream-show	0.759	0.575
	Eigenvalue	2.093	
	Cum% of variance explained	69.779	
	Cronbach's alpha	0.783	
	KMO	0.667	

Attitude

The factor analysis identified Attitude factor loadings with values of 0.961, which are within a good range, but since there are only two items in this factor, the Attitude factor cannot be considered very reliable. The communality is 0.924, which is within an acceptable range. Cronbach's Alpha value is 0.918 and the KMO test is 0.5, which means the reliability is acceptable. The results of the factor analysis are reported in Table 5.

Table 5. Factor Analysis of Attitude

	Item	Factor 1	Communalities
ATT1	I think watching live stream-shows would be good for me	0.961	0.924
ATT2	I think watching live stream-shows would be beneficial for me (ATT2).	0.961	0.924
	Eigenvalue	1.848	
	Cum% of variance explained	92.425	
	Cronbach's alpha	0.918	
	KMO	0.5	

Engagement

The factor analysis identified Engagement factor loadings within values ranging from 0.839-0.888, which are within a good range. The communalities are ranging from 0.703-0.789, which are further within a good range. Cronbach's Alpha value is 0.896 and the KMO test is 0.809, which means this factor is working correctly. The results of the factor analysis are reported in Table 6.

Table 6. Factor Analysis for Engagement

	Item	Factor 1	Communalities
	When I am at the live stream-show, I		
ENGAG1	forget everything else around me.	0.885	0.784
	Time flies when I am at the live		
ENGAG2	stream-show	0.884	0.781
	I am proud of being part of the live		
ENGAG3	stream-show	0.888	0.789
ENGAG4	Live stream-shows inspires me	0.839	0.703
	Eigenvalue	3.056	
	Cum% of variance explained	76.407	
	Cronbach's alpha	0.896	
	KMO	0.809	

Customer Experience Dimensions

The factor analysis for Customer Experience Dimensions was the first analysis where loadings went to two different factors. (Table 7) By looking at correlations and items, it was easy to see that DIM2, DIM4, and DIM 5 probably make one factor, and DIM1, DIM3, and DIM6 make the other. In addition, Cronbach's Alpha is 0.145 and which is unacceptable. The factor analyses were ran again and results can be seen in Table 8 and Table 9.

In Table 8, correlation values within the range, 0.688-0.926 and communalities are ranging from 0.474-0.857, which are within an acceptable range. Item DIM6 has the lowest correlation and communality but since the count of the item is three, DIM6 cannot be removed. Cronbach's Alpha is 0.807 which is good and the KMO test is 0.612 which is acceptable. This factor is named Positive Dimensions.

In Table 9, correlation values within the range, 0.850-0.918 and communalities are ranging from 0.722-0.843, which are within a good range. Cronbach's Alpha is 0.844 which is good and the KMO test is 0.688 which is acceptable. This factor is named Negative Dimensions.

Table 7. Factor Analysis for Dimensions

	Item	Factor 1	Factor 2
DIM1	During live stream-event I feel myself excited	-0.810	0.405
DIM2	During live stream-event I feel myself annoyed	0.717	0.486
DIM3	During live stream-event I feel happiness	-0.824	0.369
DIM4	During live stream-event I feel loneliness	0.751	0.359
DIM5	During live stream-event I feel myself disconnected	0.834	0.376
DIM6	During live stream-event I feel myself surprised	-0.514	0.583
	Eigenvalue	3.374	1.147
	Cum% of variance explained	40.166	75.344
	Cronbach's alpha	0.145	
	KMO	0.744	

Table 8. Factor Analysis for DIM 1, DIM3 and DIM 6

	Item	Factor 1	Communalities
DIM1	During live stream-event I feel myself excited	0.926	0.857
DIM3	During live stream-event I feel happiness	0.922	0.850
DIM6	During live stream-event I feel myself surprised	0.688	0.474
	Eigenvalue	2.181	
	Cum% of variance explained	72.704	
	Cronbach's alpha	0.807	
	KMO	0.612	

Table 9. Factor Analysis for DIM 2, DIM4 and DIM 5

	Item	Factor 1	Communalities
DIM2	During live stream-event I feel myself annoyed	0.854	0.729
DIM4	During live stream-event I feel loneliness	0.850	0.722
DIM5	During live stream-event I feel myself unsatisfied	0.918	0.843
	Eigenvalue	2.294	
	Cum% of variance explained	76.460	
	Cronbach's alpha	0.844	
	KMO	0.688	

Following factor analyses are made to get exploratory results for music industry.

Loyalty

The first variable set to be analyzed was loyalty. The factor analysis identified loyalty factor loadings with values ranging from 0.669-0.914, which are within a good range. The communalities are ranging from 0.448-0.835, which is within an acceptable range. Item LOY4 has the lowest correlation and communality but since Cronbach's Alpha and KMO test are both above 0.8, which means the reliability is high, Item LOY4 was not deleted from the Loyalty factor. The results of the factor analysis are reported in Table 10.

Table 10. Factor Analysis of Loyalty

	Item	Factor 1	Communalities
LOY1	I would say positive things about the live stream-shows to other people.	0.878	0.770
LOY2	I would recommend the live stream- shows to them who seeks my advice.	0.914	0.835
LOY3	I would encourage friends and relatives to participate to live streamshows.	0.877	0.770
LOY4	I would consider the live stream- shows my first choice to buy concert- tickets.	0.669	0.448
LOY5	I would purchase more live stream concert tickets in the next few years.	0.782	0.612
	Eigenvalue	3.43	
	Cum% of variance explained	68.687	
	Cronbach's alpha	0.884	
	KMO	0.835	

WOM

Word-of-Mouth (WOM) factor analysis identified WOM factor loadings with values ranging from 0.649-0.832, which are within an acceptable range. The communalities are ranging from 0.421-0.693, which are within an acceptable range, but a little low. Cronbach's Alpha and KMO test are both above 0.7, which means the reliability is good. The results of the factor analysis are reported in Table 11.

Table 11. Factor Analysis of WOM

	Item	Factor 1	Communalities
WOM1	I mention live stream-shows to others quite frequently.	0.832	0.693
WOM2	I have told more people about live stream-shows than I have talked about the 'normal' shows (in the normal show their band and crowd are in physically there)	0.735	0.540
WOM3	When I tell others about live stream-shows, I tend to talk about the live stream-shows in great detail.	0.745	0.555
WOM4	I have only good things to say about live stream-shows	0.649	0.421
	Eigenvalue	2.209	
	Cum% of variance explained	55.219	
	Cronbach's alpha	0.722	
	KMO	0.721	

Perceived Ease of Use

The factor analysis identified Perceived Ease of Use with factor loadings with values of 0.924, which are within a good range, but since there are only two items in this factor same as in the Attitude factor, this factor cannot be considered reliable. The communality is 0.853, which is within an acceptable range. Cronbach's Alpha value is 0.828 and the KMO test is 0.5, which means the reliability is acceptable. The results of the factor analysis are reported in Table 12. The information and results of these items might still be interesting later on and therefore the tests are made and observed.

Table 12. Factor Analysis of Ease of Use

	Item	Factor 1	Communalities
	In general, live stream sites are ease		
EASEOF1	of use	0.924	0.853
EASEOF2	In general, in the site where live stream-show is held everything is easy to find	0.924	0.853
	Eigenvalue	1.706	
	Cum% of variance explained	85.324	
	Cronbach's alpha	0.828	
	KMO	0.5	

Behavior

The factor analysis identified Behavior factor loadings with values 0.819, which are within a good range, but since there is only two items in this factor, same as in some previous factors, this factor cannot be considered very reliable. The communality is 0.670, which is within acceptable range. Cronbach's Alpha value is 0.460 and KMO test is 0.5, which mean the reliability is weak. The results of the factor analysis are reported in Table 13. The information and results of these items may be interesting later on therefore the tests are made and observed.

Table 13. Factor Analysis for Behavior

	Item	Factor 1	Communalities
BEHAV1	During the pandemic I prefer live stream-shows instead of normal- shows with the crowd	0.819	0.670
BEHAV2	After the pandemic I think I will prefer live stream-shows instead of normal-shows with the crowd	0.819	0.670
	Eigenvalue	1.340	
	Cum% of variance explained	67.018	
	Cronbach's alpha	0.460	
	KMO	0.5	

Artist Brand Engagement

Artist Brand Engagement factor analysis identified factor loadings with values ranging from 0.836-0.894, which are within a good range. The communalities are ranging from 0.699-

0.800, which is within a good range. Cronbach's Alpha and KMO test are both above 0.7, which means the reliability is good. The results of the factor analysis are reported in Table 14.

Table 14. Factor Analysis for Artist Brand Engagement

	Item	Factor 1	Communalities
ARTENG1	I feel that I have a special bond with the artist that I like.	0.836	0.699
ARTENG2	I consider my favorite artists to be a part of myself.	0.888	0.789
ARTENG3	I feel as if I have a close personal connection with the artists, I most prefer.	0.871	0.759
ARTENG4	Part of me is defined by important artists in my life.	0.894	0.800
	Eigenvalue	3.046	
	Cum% of variance explained	76.152	
	Cronbach's alpha	0.892	
	KMO	0.777	

4.5.1 Creating Index Variables

The questionnaire meters worked as expected in Factor Analyses. The only change made was to Dimensions -meter, since the factor analysis showed that it works better in two factors it was changed for two individual factors. For regression analysis, the factors needed to reform for index variables by summing all the values and dividing them by the number of items. The index variables were formed from the mean factor in order to obtain continuous variables. Before this, however, the correlations of the variables were examined in their factors as well as the reliability of the new index variables.

The basic information for the new index variables is shown in Table 15. The standard deviation of the new index variables is around one so the values move close to the means. The distributions seem otherwise good for the basic data, as the means are close to three, and the highest and lowest values are close to the extremes.

Table 15. Index Variables

		Std.			
Variable	Mean	Deviation	Min	Max	N
LOY Loyalty	3.68	1.30	1.00	6.00	116
INTEPUR Intention to Purchase	3.23	1.48	1.00	7.00	116
WOM Word-of-Mouth	2.75	1.04	1.00	5.25	116
ATT Attitude	4.43	1.47	1.00	7.00	116
EASEOF Ease of Use	5.31	1.14	1.50	7.00	116
POSDIM Positive Dimensions	4.47	1.21	1.33	6.67	116
NEGDIM Negative Dimensions	3.07	1.42	1.00	7.00	116
ENGAG Engagement	3.59	1.41	1.00	7.00	116
BEHAV Behaviour	3.55	1.10	1.00	6.00	116
ARTENG Artist Brand					
Engagement	3.20	1.57	1.00	7.00	116

By using the Kolmogorov-Smirnov -test it matches the sample score to a normally distributed score set with the same standard deviation and mean. In the case of a non-significant test (p > .05), the sample distribution is not significantly different from a normal distribution. The problem is that this test has limitations and thus, with a large sample group it is quite easy to get remarkable results with small deviations from normality, and so a significant test does not unquestionably tell whether the deviation from normality is enough to bias any statistical procedures that is applied to the data. (Field 2009, 144) In this case, the Kolmogorov-Smirnov -test did not give acceptable results for every variable. Therefore, Histograms and Plots were made to secure if the variables are normal distribution. The results were acceptable and therefore regression analysis can be made.

4.6 Reliability and Validity

The reliability of the study is directly proportional to the reliability of the indicators. Reliability has traditionally been described by the term's reliability and validity. Both terms refer to the reliability, but the content of reliability refers to the reproducibility of the study. If the meter is reliable, the answers would be quite similar at different times. The key reliability content of validity, in turn, is whether to measure what is to be measured. (Metsämuuronen 2011, 74)

In this study, reliability is measured and analyzed by using Cronbach's alpha (Table 16). Values above 0.8 are an indication of reliable measure, values between 0.70-0.80 are good

and values between 0.60-0.70 are not good but still acceptable. All other Cronbach's Alpha was in acceptable level excluding Behavior Factor, but it was not part of the final Regression Analysis and therefore reliability can be regarded as good according to this method.

Table 16. Cronbach's alpha values from factor analysis to measure reliability

Variable	Cronbach's Alpha
LOY Loyalty	0.884
INTEPUR Intention to Purchase	0.783
WOM Word-of-Mouth	0.722
ATT Attitude	0.918
EASEOF Ease of Use	0.828
POSDIM Positive Dimensions	0.807
NEGDIM Negative Dimensions	0.844
ENGAG Engagement	0.896
BEHAV Behaviour	0.460
ARTENG Artist Brand	
Engagement	0.892

Validity can be divided into internal and external validity. External validity means whether the study in question can be generalized. Internal validity refers to the inherent reliability of the study. (Metsämuuronen 2011, 65) In this study, external validity could have been improved by increasing the sample size or possibly refining the target group, for example, a questionnaire could have been sent to ticket buyers after the live stream-event. Obtaining data has not been made easy by the GDPR regulations, therefore responses were collected from social media channels. The validity of the questions may have been undermined by the fact that the respondents understood their purpose contrary to what the researcher intended them to be. In addition, the questions were answered on a scale of 1 to 7, which means that the middle option, a neutral opinion, could have been answered too easily.

Internal validity was confirmed in this study when questions on question battery factors were retrieved from previous studies. These factors work particularly well. However, there was room for improvement, especially for the live stream experience, as these issues had not been tested in previous studies and did not work so well. It is also good to note that live stream events have been quite different and can be developed a lot in the future, including for example VR-glasses might be a part of the experience or some other technology in the future. That is also the reason the results may be unreliable in the future. According to

Metsämuuronen (2009, 729), the reliability of the results of the regression analysis are affected by the outlier observations in the data, which distort the results. There were some outliers in the data, none of which were clearly larger than the others or more clearly removable.

5. RESULTS

The results of the data analysis are discussed in this chapter. First, descriptive statistics of the variables that are used in this study such as gender distribution, age, and experience of the music events in the years 2019 and 2020 are shown. After that each of the hypotheses are tested and the results are discussed. Finally, after going through all of the hypotheses, the other results are presented.

5.1 Descriptive Statistics

The main data contain 99 overall answers, from which 76.8 % are women, 21.2 % are men, and 1.7 % rather not to say (Figure 9). The age range of the respondents was 19-57 years and the median age of the participants was 25 years old (Figure 10). Participants were divided into students 54.5 % and employees 43.4 %. Only two percent were unemployed (Figure 11). The biggest service providers where participants have taken part in live stream experiences are Yle Areena (38 respondents), Ruutu (24 respondents), Keikalla.fi (17 respondents). Interestingly, 57 participants did not remember the name of the service provider (Figure 12). In 2019 participants the median amount of participation for the live music event was six (6) and in 2020 median was two (2). In 2020 the median amount of participants can be seen in Table 17.

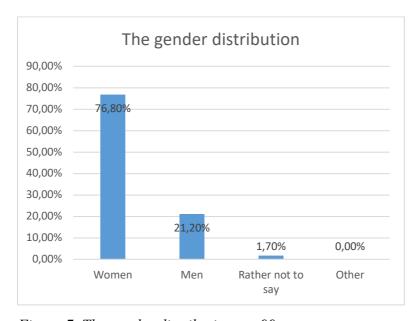
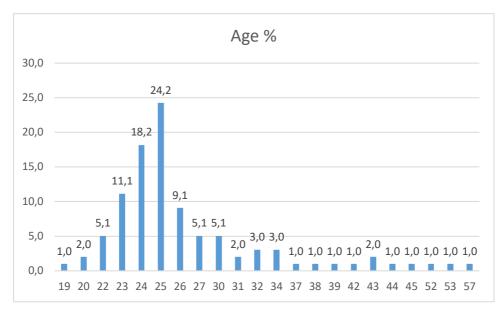


Figure 7. The gender distribution, n=99



N	99
Mean	27.54
Median	25.00
Minimum	19
Maximum	57

Figure 8. Age, n=99



Figure 9. Work situation, n=99

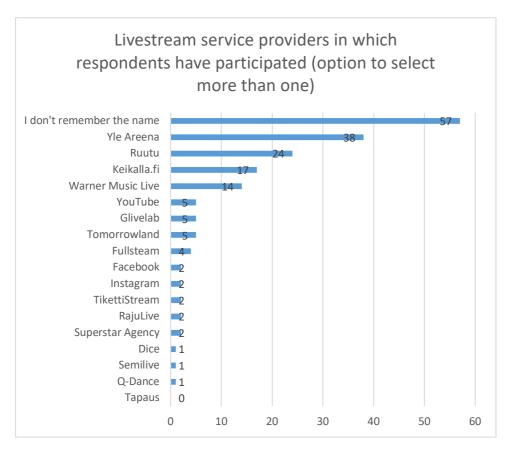


Figure 10. Live stream service providers in which respondents have participated, n=99

Table 17. Statistics of music event participation, n=99

		Approximately how many music events did you participate in 2019?	Approximately how many music events did you participate in 2020?	Approximately how many live stream-events did you participate in 2020?
N	Valid	99	99	99
Mean		9.00	2.62	2.87
Std. Error	of Mean	0.993	0.371	0.186
Median		6.00	2.00	2.00
Std. Deviation		9.876	3.674	1.855
Minimum		0	0	1
Maximum		75	30	10

5.2 Regression Analysis

Several assumptions ought to be true when drawing conclusions about a population based on regression analysis done on a sample. These assumptions are made by Berry in 1993. The first assumption is that all the variables are quantitative or categorical with two categories and the outcome variable is quantitative, continuous, and unbounded. The second assumption is that the predictors ought to have some variation in value. The third assumption is that there ought not to be perfect multicollinearity – there should not be a perfect linear relationship between predictors and the variables should not correlate too highly. The fourth assumption is that there should be no external variables that correlate with any of the variables included in the regression model. The fifth assumption is homoscedasticity. The definition is that residuals at each level of the predictor(s) should have the same variance. The last assumption is independent errors. For any two observations, the residual items should be uncorrelated or independent. (Berry 1993; Field 2009 220)

Linear regression examines the realization of the hypotheses defined according to the research model, i.e. which factors influence the customer's intention to purchase. The explanatory variable is the intention to purchase and the explained variables are index variables and other variables related to the live stream experience, as well as demographic factors. The least-squares method is used as the estimation method in the analysis, which minimizes the squares of the distance between the observations and the regression line. However, if there are multiple predictors the scatterplot or regression lines are too complex to visualize. (Field 2009, 209-211)

Before, and during the regression analysis, the assumptions are followed and it is ensured that the assumptions remain true. Before the actual analysis was made, correlations analysis (Appendix D) was done to see which variables have significant correlations and if there are high correlations between the entered variables. To see the results easier, the data was exported to Excel, and conditional formatting was used to see where the significant correlations are. In Pearson Correlation the correlation is significant at the 0.01 level if its > .2 (2-tailed) and at 0.05 level if its > .26 (2-tailed). The correlation is more significant when the value is closer to one. (SPSS 2020; Field 2009 57) When focusing on the Intention to Purchase factor in the correlation matrix, high correlations between LOY-WOM were

noticed. Therefore, those variables were removed before the first regression analysis was conducted.

For the next step in this study, regression analysis was conducted by using the elimination method (Metsämuuronen 2011 856). The variables were removed which had a small significant value and this method was continued until the significance was high with the variables and r Square kept same or the value decreased only slightly. First, the study had 30 variables and the results were Sum of Squares 159.7, F value 8.835 and its significance <.00, and R square .787 (Adjusted R Square .698).

After this EASEOF, POP, ROCK, RNB, BLUES, LIVESTR5-LIVESTR7 variables were removed. Those variables had little significance, or they had a high correlation between each other. After this Sum of Squares was 168.552, R Square was .781 (Adjusted R Square .723), F Value 13.385, and its significance <.001. R Square value lowered a bit but at the same time F Value increased and therefore the pattern of removed variables was made again.

The next removed variables were LIVESTR3, ISKELMÄ, KLASSINEN, BEHAVIOUR, EDUD, and GENDERD. Those variables had small significance or they had a high correlation between each other. After this the Sum of Squares was 164.149, R Square was .778 (Adjusted R Square .741), F Value was 21.026, and its significance <.001. The results were good hence R Square was almost the same which means those removed variables did not increase the multiple correlation coefficient between the predictors and the outcome.

For the last round, the removed variables were RAP and ARTENG. Those variables had small significance. After this the Sum of Squares was 163.051, R Square was .773 (Adjusted R Square .741), F Value was 24.376 and its significance is <.001. The final results are shown in Table 18. R Square is a measure of how much of the variability in the outcome is accounted for by the predictors. In this analysis predictors from table 18 explains 77.3 percent of the intention to purchase. Adjusted R Square explains 74.1 percent. The adjusted R2 gives some idea of how well this analysis generalizes and ideally the value should be the same, or very close to, the value of R2. In this study the difference for the final model is .773 – .741 = .032 (about 3%). This shrinkage means that if the test were derived

from another group it would account for approximately 3% less variance in the outcome. (Field 2009, 235)

Table 18 shows that ATT, NEGDIM, ENGAG, EDM, INTEPAR, and LIVESTR2 are statistically significant at the 5 % risk level. These results are overcome by a T-test that examines the statistical significance of a single variable.

The *b*-values relay the relationship between intention to purchase and each predictor. If the value is positive, it displays there to be a positive relationship between the predictor and the outcome, whereas a negative coefficient represents a negative relationshi (Field 2009, 240) In this study LIVESTR2 and LIVESTR4 got a negative coefficient – i.e., those have a negative relationship towards intention to purchase. The *F*-ratio represents the ratio of the improvement in a prediction that results from fitting the model. In this case, F value is 24.376 and it is highly significant. Finally, there is an assumption that errors in regression are independent; this assumption is likely to be met if the Durbin–Watson statistic is close to 2 (and between 1 and 3) (Field 2009, 237) In this analysis Durbin-Watson statistic is 1.770.

Table 18. Regression Analysis, dependent variable: Intention to Purchase

Coefficients

	Unstandardized		Std.		
	Coefficients		Coefficients	T-value	Sig.
	В	Std. Error	Beta		
(Constant)	-0.764	0.702		-1.087	0.280
ATT	0.315	0.102	0.318*	3.098	0.003
NEGDIM	0.145	0.066	0.141*	2.194	0.031
ENGAG	0.241	0.106	0.232*	2.275	0.025
EDM	0.630	0.201	0.185*	3.130	0.002
FINMUSIC	0.082	0.045	0.103	1.821	0.072
INTEPAR	0.426	0.074	0.482*	5.782	<.001
POSDIM	0.003	0.135	0.002	0.020	0.984
LIVESTR1	0.044	0.044	0.054	0.998	0.321
LIVESTR2	-0.159	0.058	-0.158*	-2.763	0.007
JAZZ	0.332	0.245	0.071	1.352	0.180
MET	0.322	0.219	0.081	1.472	0.145
LIVESTR4	-0.097	0.057	-0.093	-1.687	0.095

^{*}significant with p < 0.05

Anova

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin- Watson
1	.879ª	0.773	0.741	0.74661	1.770

Model Summary

	Sum of		Mean		
	Squares	df	Square	F	Sig.
Regression	163.051	12	13.588	24.376	<.000b
Residual	47.939	86	0.557		
Total	210.990	98			

As a final stage in the analysis, the assumptions of the model are checked by a histogram and normal probability plot of the residuals. The histogram should look like a normal distribution, and in this analysis, it looks correct (Figure 13). The straight line in the plots represents a normal distribution, and the points represent the observed residuals. Therefore, in a perfectly normally distributed data set, all points will be on the line. Also, that figure looks right (Appendix C). A final set of plots indicative of a situation in which the assumptions of linearity and homoscedasticity have been met (Appendix C) The assumptions seem to have been met in this analysis. (Field 2009, 247-250)

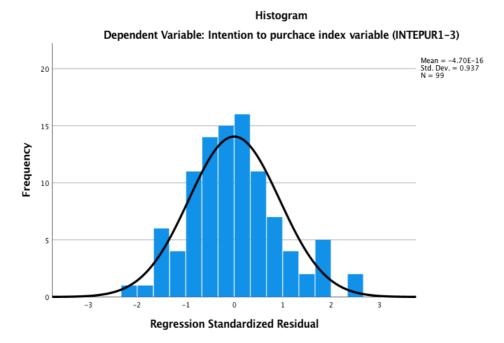


Figure 11. Histogram of Regression Standardized Residual

5.3 Testing Hypotheses

In this chapter, hypotheses are tested by using results from regression analysis, which was further explained in section 3.5. The hypotheses will be accepted or rejected, depending on the results of the regression analysis.

Hypothesis 1

H1: Positive dimensions increase intentions to purchase.

There seems to not be a relationship between variables Intention to Purchase and Positive dimensions as the coefficient β is 0.002, and since p>0.05 (0.984) the result is not statistically significant. H1 is rejected. Positive dimensions during the show do not seem to affect for intention to purchase. (Table 18)

Hypothesis 2

H2: Customer attitude increases intentions to purchase.

Customer attitude suggests having a positive influence on the intention to purchase. H2 is supported as coefficient β is 0.318. The result is statistically significant with p<0.05 (0.003).

Customer attitude increases the intention to purchase tickets for the live stream event. (Table

18)

Hypothesis 3

H3: Real environment increases intentions to purchase more than the virtual environment.

It seems there is no relationship between variables Intention to Purchase and variable

LIVESTR1 (I prefer a real environment instead of a virtual environment in the

implementation of a live stream-show) as the coefficient β is 0.054, and since p>0.05 (0.321)

the result is not statistically significant. H3 is rejected. According to this study and results,

it does not matter if the live stream is done by using virtual elements or not. (Table 18)

Hypothesis 4

H4: Customer engagement increases intentions to purchase.

Customer engagement seems to have a positive influence on the intention to purchase. H4 is

supported as coefficient β is 0.232. The result is statistically significant with p<0.05 (0.025).

Customer engagement increases the intention to purchase tickets for the live stream event.

(Table 18)

5.4 Other Results

This section manages other results. The questionnaire for this study contained more

questions than were needed to answer the hypothesis and research problem. The reason for

this was to give some other results to the music industry that would help the industry cope

with these exceptional circumstances.

Regression analysis also gave other results than just those which answered the hypothesis.

Intention to participate, EDM music, negative dimensions and LIVESTR2 (I like that the

live stream-shows use special effects like fireworks or pyrotechnics) seems to have an influence on the intention to purchase. These results are statistically significant with p<0.05. (Table 18) The interesting aspect is the NEGDIM effect on the intention to purchase. NEGDIM includes negative feelings (e.g., annoyed, loneliness, sadness) during the live stream event. Still, the NEGDIM variable is supported, and it increases intention to purchase.

Furthermore, respondents were also asked the maximum price they would be willing to pay for a live stream ticket. Some of the respondents answered that it depends on the artist, but as a result, the prices ranged from 3€ to 50€ and the median was 17.50 euros. These results show that customers are not ready to pay the same price on live stream tickets compared to crowded live concerts.

6. DISCUSSION AND CONCLUSIONS

This thesis studied customer's purchase intentions for live stream music events. The purpose was to find the factors which influence them. The survey addressed customers' backgrounds, emotions, customer experience among other factors. The results may allow the music industry to better meet the demand for live stream events. There was also a great need for this type of research as the need to provide live stream services came very quickly around the world.

The present chapter will answer the research questions. In addition, this section explains how previous research responds to research findings. The managerial implications address who could benefit from these results and how they could be used. Finally, a sub-chapter on limitations and future research, critically evaluates research limitations that the results have and outlines further research possibilities.

6.1 Theoretical Contributions

This sub-chapter classifies whether the theories presented in the second chapter support the results that were presented in the previous chapter. The results are analyzed by first answering each sub-question and then moving on to the main research question.

How does customer engagement affect a customer's purchase intentions for live stream music events?

The effect of customer engagement on customer's purchase intentions was approached with the following hypothesis:

H4: Customer engagement increases intentions to purchase.

The questionnaire used 7-point Likert scale. Number one meant that the respondent strongly disagrees and number seven indicated strong agreement with the claim. The results from regression analysis indicate that H4 is supported, and the result is statistically significant. Furthermore, previous studies support this research question as well as the hypothesis.

Do customer attitudes affect a customer's purchase intentions for live stream music events?

The second sub-question seeks to determine whether the customer's attitudes influence the purchasing decision. The sub-question was approached with the following hypothesis:

H2: Customer attitude increases intentions to purchase.

The results from regression analysis show that H2 is supported and the result is statistically significant. Previous studies support this research question as well as the hypothesis.

According to a study by Grace et al. (2004), service marketers need to know how to settle in the customer's place to understand the importance of attitudes, feelings, and satisfactions as a part of the customer experience and hence the purchase intention. The results in this study are similar to a study by Chen et al. (2018) which demonstrates the usage intention to directly be affected by a positive attitude and perceived values.

How does the customer experience dimension affect a customer's purchase intentions for live stream music events?

The third sub-question examines whether the customer experience dimensions affect customers' purchase intentions. The sub-question was approached with the following hypothesis:

H1: Positive dimensions increase intentions to purchase.

This hypothesis was rejected, making the results from regression analysis statistically insignificant. This means that previous studies cannot fully explain this phenomenon, thus Martensen et al. (2007) study had the same hypothesis and in that study the hypothesis was supported. However, it is worth noting that the meter that measured positive dimensions could have been better.

Does the way the music live stream event is implemented affect the customer's purchase intentions?

The way the music live stream event is implemented and affection for purchase intentions was approached with the following hypothesis:

H3: Real environment increases intentions to purchase more than the virtual environment.

The live stream event implementation method was measured by the claim: I prefer a real environment instead of a virtual environment in the implementation of a live stream show. The questionnaire included a picture and explanation related to this question to ensure that the respondent was sure to understand the differences between the real and virtual environment. No previous study related to this research question was found. Based on the survey, people prefer a real environment instead of a virtual environment, a similar result was found from Daugherty, Li and Biocca's (2008) research. However, according to the regression analysis, the result was not statistically significant and therefore cannot be considered as an assumption in the future.

What factors influence a customer's purchase intentions for live stream music events?

Sub-questions show that customer engagement and attitudes have an influence on a customer's purchase intentions. Statistically, this study could not prove that customer's dimensions or the method live stream event is implemented would have influence for customer's purchase intentions.

To increase customer's purchase intentions marketers and service providers should pay attention to keep their engagement at an elevated level and recognize that positive attitudes influence customer's purchase intention in live stream music events.

6.2 Managerial Implications

In line with previous research and based on the findings of this study, managerial implications can be presented. To ensure engagement, the service provider should ensure that the event itself is engaging and that the participant feels that being at the concert is important. This can be helped, for example, by promotion on social media by both the artist and influencers. In addition, studies have shown that communication during the event

increases engagement, for example on a YouTube premiere and an Instagram-live chat box is an important part of live streaming.

When a firm decides to start implementing a live stream event, it is critical to remember that live streams at the music industry are quite a new concept and for making live streams profitable for a firm, producers, artists, and other staff, it is essential to understand how to sell tickets and campaign in a right way making potential customers understand why they should take part in the live stream experience. The marketing strategy should take note of the traditional formula for customer satisfaction founded by Parasuraman, Zeithaml, and Berry (1985) as they argued that: "Customer satisfaction comes from the differences between customers' perceptions and their expectations of the service. Expectations are established from word of mouth, personal needs, past experiences, and external communication; whereas the perceived service quality is created through the moment of truth. When the perceived service is beyond a customer's expectations, the customer is satisfied; when the service is below expectations, the customer is dissatisfied." (Parasuraman et al. 1985) Therefore expectations-settings are particularly an important stage during the total customer experience and this way you can be more sure of the success of the live stream.

Customer attitudes can be influenced by ensuring that the customer benefits from the live stream event. For example, a service provider may promise that something special will happen during the event, such as a previously unreleased song being performed at the event, or that the event can only be seen once at a certain time, and not afterward. In addition, attitudes can be influenced by ensuring that the purchasing process is made as easy and functional as possible, for example, by ensuring that servers are functional.

Respondents who enjoy special effects such as fireworks or pyrotechnics during the live stream had a negative influence on the intention to purchase. The results can be caused by a myriad of reasons. One likely reason is that the pyrotechnics do not look so good on live stream video, in which case it affects whether the customer wants to buy a ticket in the future. Another likely reason may be that the pyrotechnics have not been used at shows that the respondent has watched and therefore the result is negative. However, as these reasons have not been investigated, it is not worth drawing too many conclusions from these results.

Thus, if companies want customers to buy live stream tickets in the future, they must not overlook the importance of customer experience and engagement. The models of Verhoef et al. (2009) and Petre's et al. (2006) are great tools to fully understand the total customer experience and its value. As the importance of interaction between viewer and streamer as well as between viewers, during the live stream experience is showcased in previous studies (Chen et al. 2018; Hamilton et al. 2014; Hilver-Bruce et al. 2018) service providers ought to invest on providing a working chat box.

The result from inquiry shows that in Finland there is no need to invest on creating virtual experiences – respondents prefer a real environment instead of a virtual one. This result was not statistically significant meaning this result needs to be considered with a critical eye.

6.3 Limitations and Future Research

This thesis was not made without limitations. First, the sample size could have been larger as to get more reliable results. Having 99 participants in a quantitative study is quite a small amount. The sample demographics could have also been more diverse for example in terms of gender distribution, employment status and age. Most respondents in the survey were young female students. The survey was shared in the author's social media channels which might have influenced the respondents' demographic factors being akin to the author. To get a bigger and more diverse sample size, the survey could have been shared for example in cooperation with a ticket selling company or with a service provider.

This study was made about live stream services specifically in the music industry. Therefore, the results cannot be used to make conclusions in other live stream events for example seminars, meetings, results publications, etc. Likewise, there is no certainty that equivalent results would be established if the study context were live events with the crowd.

Some metrics could have been even better - this would have been accomplished by increasing the number of items, making the metrics even more reliable. Thus, more previous research and time could have been used to conduct the survey.

It would be interesting to make the research and survey again in the future when live events are held again. One would then be able to see whether live streams would continue to evolve

and whether customers' attitudes towards them are changing. What is more, nowadays a big part of the event industry are extra services for customers who are willing to pay more to get a better experience than a customer who merely buys a regular ticket. The extra services provide a possibility to increase revenue and heighten the consumer experience making it feel more special. For example, in festivals or events, the consumer can buy a more expensive ticket and get better service, or a better place to view the concert from. These kinds of services are being demanded more therefore it would be interesting to investigate what the extra services that service providers could offer to customers are. For example, the STUDIO2054 live stream event by Dua Lipa offered VIP-tickets offering behind the scenes material before and after the show (Ticketmaster partners 2021). The event was in November 2020.

One of the pioneers of service-centered research are Vargo and Lush (2004). Their studies point out that the consumer is always a co-producer. To endeavor to maximize customer involvement the offers should be a chance to customize and recognize the role of the customer as a co-producer. Involving the customer in the customization the service should fit better to customers' wishes. It is important to note that customization and offerings tangibility increases costs and that may block marketability. According to Vargo and Lusch (2004) times have changed, with focus shifting from tangibles to intangibles, in other words, from skills, knowledge, and information to interactivity and connectivity and continuous relationships. They believe that emerging service-centered dominant logic of marketing will have a substantial role in marketing thought and could replace the traditional goods-centered paradigm. (Vargo and Lusch 2004) In the future research the role of co-production in the live stream aspect would be interesting to investigate.

Presently, another issue is the lack of focus on relations between consumers as the relationship between a consumer and company is focused on more. Part of the customer experience is sharing it with others and in the age of the internet it is more the norm than a rarity and besides, failures from customer experiences are now more easily shared by word of mouth which is impacted by the social environment. (Verhoef et al. 2009) Therefore, it might be interesting to study which things in a live stream event affect the word-of-mouth phenomenon and thus potentially build big phenomena and on the other hand minimize the spread of negative message.

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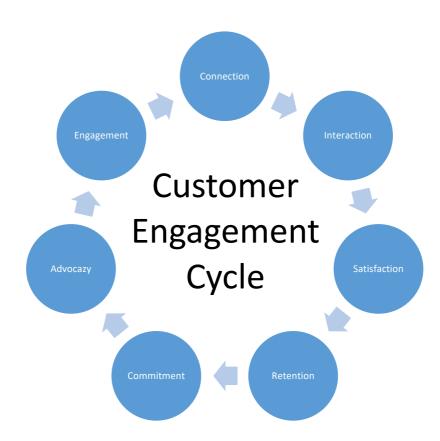
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APPENDICES

Appendix A. Customer Engagement Cycle (Sashi 2012)



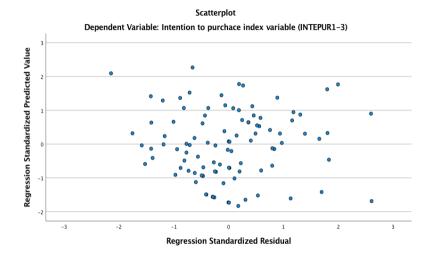
Constructs		Items	References
	LOY1	I would say positive things about the live stream-shows to other people.	
	LOY2	I would recommend the live stream-shows to them who seeks my advice.	
Loyalty	LOY3	I would encourage friends and relatives to participate to live stream-shows.	
	LOY4	I would consider the live stream-shows my first choice to buy concert-tickets.	
	LOY5	I would purchase more lvestream concert tickets in the next few years.	
Intention to	INTEPUR1	I expect to purchase live stream ticket in the near future	Agad and El-Masry
Purchase	INTEPUR2	I have the intention to watch live stream-show in the future	(2016)
	INTEPUR3	If I needed cmusic concert experiences, I would likely buy ticket to live streamshow	
Intention to			Agad and El-Masry
Participate	INTEPAR	I have the intention to take part to a live stream-shows also in the future	(2016)
	WOM1	I mention live stream-shows to others quite frequently.	
WOM	WOM2	I have told more people about live stream-shows than I have talked about the 'normal' shows (in the normal show their band and crowd are in physically there)	Harrison-Walker (2001)
	WOM3	When I tell others about live stream-shows, I tend to talk about the live stream-shows in great detail.	
	WOM4	I have only good things to say about live stream-shows	
Attitude	ATT1	I think watching live stream-shows would be good for me	

	ATT2	I think watching live stream-shows would be beneficial for me.	Agad and El-Masry (2016)			
	EASEOF1	In general, live stream sites are ease of use	A and and El Massay			
Perceived			Agad and El-Masry (2016)			
ease of use	EASEOF2	In general, in the site where live stream-show is held everything is easy to find				
	DIM1	During live stream-event I feel myself excited				
	DIM2	During live stream-event I feel myself annoyed				
Dimensions	DIM3	During live stream-event I feel happiness				
	DIM4	During live stream-event I feel loneliness				
	DIM5	During live stream-event I feel myself disconnected				
	DIM6	During live stream-event I feel myself surprised				
	ENGAG1	When I am at the live stream-show, I forget everything else around me.				
Engagement	ENGAG2	Time flies when I am at the live stream-show	Schaufeli, Bakker and			
ziigiigemene	ENGAG3	I am proud of being part of the live stream-show	Salanova (2002)			
	ENGAG4	Live stream-shows inspires me				
Behavior	BEHAV1	During the pandemic I prefer live stream-shows instead of normal-shows with the crowd				
	BEHAV2	After the pandemic I think I will prefer live stream-shows instead of normal-shows with the crowd				
	ARTENG1	I feel that I have a special bond with the artist that I like.	Sprott, Czellar and			
	ARTENG2	I consider my favorite artists to be a part of myself.	Spangenberg (2009)			

Artist											
	ARTENG3	I feel as if I have a close personal connection with the artists, I most prefer.									
engagement	ARTENG4	Part of me is defined by important artists in my life.									
	LIVESTR1	I prefer a real environment instead of a virtual environment in the implementation of a live stream-show									
	LIVESTR2	I like that the live stream-shows uses special effects like fireworks or pyrotechnics									
Live Studen	LIVESTR3	I prefer to focus on music and the artist during the live stream-show, rather than special effects									
Artist Brand engagement Live-Stream experience Music event background	LIVESTR4	I prefer to watch a live stream-shows with my friends									
	LIVESTR5	If the live stream-shows had the opportunity to connect with other viewers, I would be happy to connect with them, for example in chat									
	LIVESTR6	I do not want to be disturbed when I watch a live stream-show									
	LIVESTR7	I like it if there is communication between the artist and the audience during the live stream-show									
	EVENTBG1	Approximately how many music events did you attend in 2019?									
Ü	EVENTBG2	Approximately how many live stream-shows did you attend in 2020?									

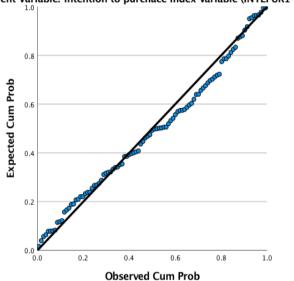
	EVENTBG3	Approximately how many music events did you attend in 2020?	
	x	From the following, select the providers whose live streams you have participated in	
	PRICE	How much would you be most willing to pay for a live stream-show?	
	X	I listen to most of these music genres (you can choose more than one)	
Background questions	FINMUSIC AGE	I listen to more music by Finnish artists than by foreigners My age is	/
	GENDER	I am Female/Male/Other/Prefer not to say	
	EDU	mainly I am a student / working / unemployed / retired	
	INCOME	My gross income per month is approximately	
	Q61	Here you can give free feedback on the survey (optional)	

Appendix C. Regression Standardized



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Intention to purchace index variable (INTEPUR1-3) $^{1.0}$



Appendix D. Correlations matrix

												COR	RELATI	ONS, N	/IEANS	& STAN	IDARD	DEVIAT	TIONS													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	3
EPUR																																
UD	355																															
M	.687**	291																														
Г	.752"	-0,168	.676**																													
SEOF	.410	-0,054	.370**	.552**																												
SDIM	.704**	-0,170	.677**	.813**	.549																											
GDIM	262**	0,021	-0,185	435**	281"	497"																										
GAG	.751"	240°	.729**	.803**	.458**	.801**	350**																									
HAV	.567**	-0,190	.596**	.587**	.305	.711"	373**	.557**																								
TENG	.347"	0,002	.336**	.270"	0,047	.242	0,186	.395**	0,130																							
Y	.786**	282 ^{**}	.754**	.774"	.485	.760°°	388**	.765	.605	.266"																						
NDERD	-0,157	0,010	-0,194	-0,189	0,036	200°	0,131	-0,173	204	-0,082	270 ^{**}																					
Р	-0,015	0,014	0,017	0,104	0,028	0,083	-0,032	0,010	0,127	-0,037	0,127	308**																				
CK	0,138	-0,146	0,080	0,107	0,140	0,023	0,002	0,045	-0,035	0,032	0,128	0,026	-0,071																			
P	-0,041	0,173	-0,005	-0,023	-0,003	0,010	-0,001	0,028	-0,096	-0,084	0,023	0,109	0,120	235°																		
В	-0,075	0,055	0,083	-0,008	-0,049	0,062	0,004	0,017	0,074	-0,021	0,129	-0,125	.334**	-0,092	.445																	
M	0,077	0,175	-0,012	-0,015	0,041	0,110	-0,057	0,039	0,061	0,036	0,045	0,105	0,027	206 [*]	0,183	0,111																
77	0,171	204°	0,168	0,108	-0,063	0,152	-0,040	0,091	.325"	-0,038	0,142	-0,096	-0,041	-0,007	229°	0,036	0,025															
UES	0,108	-0,017	0,194	0,179	0,057	0,085	0,124	0,095	-0,003	0,015	0,115	0,100	-0,148	0,128	-0,001	0,028	-0,081	0,178														
ELMÄ	0,124	-0,163	0,192	0,072	0,080	0,110	0,059	0,046	0,151	206	0,144	-0,031	0,021	-0,049	-0,004	-0,082	-0,120	0,019	0,132													
TAL	.275**	-0,192	0,171	0,194	0,164	0,133	-0,044	.271"	-0,084	0,125	0,119	.260*	373**	.337**	-0,114	-0,194	-0,120	-0,068	0,132	0,105												
ASS	-0,056	-0,034	0,066	0,017	-0,076	0,014	-0,004	-0,008	.210*	-0,136	-0,037	-0,147	0,014	-0,033	-0,151	-0,018	-0,081	.367**	-0,043	0,172	-0,029											
MUSIC	0,054	301**	0,035	-0,077	0,023	-0,107	0,081	-0,063	-0,005	-0,164	0,038	-0,082	0,175	0,192	-0,031	236	371"	0,012	-0,045	.341"	0,027	0,089										
E	.296**	542"	.309**	0,103	0,055	0,118	-0,037	.209*	0,165	-0,089	.300"	-0,043	237°	.206	211°	200°	260"	0,124	-0,052	.426	0,189	0,146	.341"									
ESTR1	-0,075	0,024	-0,010	-0,148	0,003	-0,171	0,108	-0,085	-0,005	0,146	-0,031	-0,067	-0,021	0,195	-0,159	-0,118	-0,086	0,058	0,002	-0,041	-0,087	-0,080	0,081	0,105								
ESTR2	0,074	.287**	.213	.245	.197	0,186	-0,033	.239*	0,042	.252	0,179	0,018	0,020	-0,083	.202	0,116	.266**	-0,062	0,142	-0,192	-0,021	-0,066	260**	255°	-0,142							
ESTR3	0,089	-0,122	0,081	-0,015	0,128	0,020	0,105	0,038	0,114	-0,004	0,067	0,016	0,023	0,190	-0,115	-0,086	-0,191	0,113	-0,038	.204*	0,124	0,008	.261"	.294**	.392**	530**						
ESTR4	0,084	0,023	0,022	0,172	0,160	.277"	-0,066	0,127	0,120	0,138	0,113	-0,092	0,142	0,032	0,102	.204	.207	0,010	0,125	-0,028	0,011	-0,191	-0,080	215°	-0,066	0,066	-0,100					
ESTR5	.209*	-0,097	.205	0,181	.208	.235	-0,030	0,193	0,194	-0,130	.218	-0,105	-0,079	0,044	0,093	0,073	.251	0,192	0,099	0,010	-0,063	0,105	-0,183	0,097	-0,005	0,094	0,024	0,059				
ESTR6	0,176	-0,088	0,162	.206*	0,128	0,166	0,032	.324"	0,167	.282"		-0,030	-0,075	-0,075	-0,123	-0,088	-0,024	0,049		-0,138	0,090	0,083	-0,020	0,076	0,103	0,104	0,134	-0,125	-0,142			
/ESTR7	0,100	0,129	0,100	0,113	0,115	0,111		0,034	0,024	0,110	0,141	-0,097	0,053	0,164	0,020	0,073	0,084	0,145	0,078	-0,140	-0,021	0,026	-0,034	-0,068	-0,041	.230*	-0,010	0,175	.414"	-0,093		
TEPAR	.772"	299**	.656**	.744"	.439"			.715"	.547**	.271"		-0,163	-0,064	0,086	-0,070	-0,077		0,078		0,012	.211	-0,149	-0,016	0,177	-0,175	0,170	-0,070	0,174	0,171		0,125	
an		0,5567					3,1460						0,86	0,56	0,51	0,40	0,24	0,11	0,02	0,16	0,16	0,08	3,58	27,54	5,01	5,08	4,48	5,80	3,74	4,40	5,27	-
Deviation	1,51540													0,499	0,503	0,493	0,431		0,141	0,370		0,274		7,083	1,788	1,447	1,716	1,400	1,893	1,696	1,394	