



경영학 석사학위 논문

A Study on Factors of Satisfaction on Watching Online Performance: From Perspective of Motivation, Value, and Commitment

온라인 플랫폼에서의 공연감상 만족도에 대한 요인 연구: 개인의 공연 관람 동기, 가치, 그리고 몰입도의 관점에서

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경영학과 경영학 전공

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Abstract

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The coronavirus (COVID-19) pandemic has led to a substantial change in our life. Due to lockdown and social distancing policy implementation world-widely, the performing arts and concert industry. During the long pandemic continuation, the performing arts industry has started to make their contents in an online form. Also, they have started to make collaboration with Over-The-Top (OTT) video platforms such as YouTube, Netflix, and Amazon Prime Video and make this to breakthrough in their new era of performance. We investigated how an individual's motivation and value of watching online performance affect commitment during watching. Consequently, how this combined effect of commitment affects satisfaction for online performance.

This cross-sectional study was based on an internet survey using Google forms. The survey questions were created based on the Technological Acceptance Model(TAM), Self-Determination Theory (SDT), and the theory of consumption value. The motivation for watching the performance was evaluated using a questionnaire to divide the population into three restriction categories: no/slightly, moderately, and severely. The individual's value of watching the performance was evaluated using a questionnaire to divide the population into five levels of restriction categories. The consequences of commitment and satisfaction were assessed.

1

Firstly, frequency analysis was used to study on demographic characteristics of individuals by their primary platform to watch an online performance. Secondly, to test reliability and confidentiality for commitment and satisfaction on online performance, the factor analysis, which is PLS and reliability are implemented. Thirdly, implementing SEM to obtain estimates of coefficients to see its magnitude of impact and testing the hypothesis of their significance.

Factor analysis showed that the driven research model with the questionnaire and provided data were validated to measure the specific magnitude of influences using SEM. By performing SEM analysis, the study found out that the motivation and individual value of watching a performance online were influential to being in a committed state and consequently be satisfactory on performance. The constructs of the derived model were reported as all statistically significant at the significance level of 0.01. The model fitted value was also satisfiable at 0.9. We verified that the individual's motivation and value have a significant positive impact on commitment and following satisfaction. Thus, the study has shown the positive impact of an individual's motivation and value of watching a performance on commitment through an online platform. Consequently, the combined effect through commitment on satisfaction.

There were several limitations: dense distribution aged 20-40, without considering individual and OTT characteristics, cross-sectional study, and subjective choice of a survey. In that, further research can be studied and considered those limitations in the future.

KEYWORDS: online performance, online concert, motivation, commitment, performing arts, OTT(Over-the-top), video platform, COVID-19, lockdown, social distancing policy

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Table of Contents

ABSTRACT	1
1 INTRODUCTION	4
2 BACKGROUND RESEARCH	6
2.1 Theoretical Framework	6
2.2 The Definition and Characteristics of OTT	8
2.3 The Global and South Korean OTT Market	9
2.4 Range of Online Performances Provided by Platforms	
3 DATA	17
3.1 Data Collection	17
3.2 Basic Statistics and Characteristics	
4 METHODOLOGY	21
4.1 Model Assessment and Adequacy of Questionnaire	22
4.2 PLS-SEM	23
4.3 Model Fit Criteria	24
5 RESULTS	
5.1 Model Reliability, Sampling Adequacy, and Validity	
5.2 Discriminant Validity	
5.3 Hypotheses Testing Result	
6 CONCLUSION AND DISCUSSION	
7 REFERENCES	
SUPPLEMENTARY MATERIALS	
S1: Original survey questionnaire in English	
S2: Extensive results of each questionnaire and effect of constructs	41
국문초록	

LIST OF TABLES

[TABLE 1] THE TYPE OF OTT PLATFORM BUSINESS MODELS9
[TABLE 2] THE NUMBER OF SVOD SUBSCRIBERS IN SOUTH KOREA12
[TABLE 3] THE MUSIC CONCERT VIDEO AVAILABLE AT THE NETFLIX
[TABLE 4] FREQUENCY TABLE OF DEMOGRAPHIC VARIABLES
[TABLE 5] FREQUENCY TABLE OF CHARACTERISTICS OF PARTICIPANTS22
[TABLE 6] THE EXPLANATION OF CONSTRUCTS
[TABLE 7] RELIABILITY AND CONVERGENT VALIDITY OF MOTIVATION
[TABLE 8] RELIABILITY AND CONVERGENT VALIDITY OF VALUE
[TABLE 9] RELIABILITY AND CONVERGENT VALIDITY OF COMMITMENT29
[TABLE 10] RELIABILITY AND CONVERGENT VALIDITY OF SATISFACTION 29
[TABLE 11] DISCRIMINANT VALIDITY TEST RESULT
[TABLE 12] ESTIMATED COEFFICIENTS OF PATH AND HYPOTHESES TEST 31

LIST OF TABLES

[FIGURE 1] RESEARCH FRAMEWORK DESIGN	8
[FIGURE 2] ANNUAL US OTT MARKET REVENUE 2017-2021	9
[FIGURE 3] US OTT MARKET SHARE	.10
[FIGURE 4] ANNUAL KOREAN SVOD SUBSCRIBERS	.13
[FIGURE 5] THE MECHANISM OF CONSTRUCTS AND ITEM INTERACTION	.32

1 INTRODUCTION

The severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) which has been known as COVID-19 initiated in Wuhan, China in December 2019. It is highly contagious and easily transmitted from a person to person through contaminated fluids of infected one's eyes, nose, or mouth (Khan et al. 2020). The fast spread out characteristic and fatal symptoms of it caused constant lockdown in Europe and North America or other western regions (Chan et al. 2020). After the significant number of increasing in the infected population, the government such as South Korea, the U.S, and Sweden had implanted a social distancing policy has been introduced for better control to prevent disease spread and reduce newly infected people on a daily basis (Dreher et al. 2021; Ha et al. 2022; McKee et al. 2020; Nilsen et al. 2020). Due to its fast infectious characteristics, consequences of lock-down and government social distancing policy became a catalyst to world economics in a downturn with overall industry in bad condition (Brodeur et al. 2021; Padhan and Prabheesh 2021).

The combined effect of economic downturn and lockdown may reduce people going to watch a performance. Not even their psychological behavior worrying to have a COVID-19 but also the government policy may affect the huge downturn in the performance industry extensively including music concerts, opera, musicals, and theatre. All performance-related industry became bombarded during the COVID-19 periods. However, due to the long-term persistence of the situation from early 2020 until 2022 at the moment, there were only a few performance companies were still available to show their works. In South Korea, special laws have been applied every week as a part of the social distancing policy. For performance art, relatively strong restrictions such as distancing between one or two seats mitigated the entire industry and made fail to achieve the break-even point for any type of performance in general. This situation is similar and even bigger in the US and Europe (Blom et al. 2021). Arts and culture segmentation consists of 4.5% of US Gross Domestic Product (GDP). A significant setback due to COVID-19 in these areas treated deadly for the whole industry (Argonne, 2021). Since the US theatre and concert industry is not only targeting the domestic audience but also attracting international people. Travel restrictions and fear of COVID-19 have changed the landscape

of Broadway on normal days. Such a phenomenon is not only happening in the US but also other parts of the world has struggled to maintain the performance industry.

By the report of Bocconi, 92.7% of performing art institutions considered the magnitude of the impact of COVID-19 was "very strong". From this report, the three main factors that were most severely impacted are the number of performances, the revenue of institutions, and the number of new productions (Rurale et al. 2020). After suffering from maintaining the regular type of performance production, the industry attempted to make a breakthrough with the online form of the performance (Timplalexi 2020). Those online performances can be supplied either in real-time or recorded form. Real-time online performance is provided by numerous platforms, but the recorded form of online performance is usually provided affluent materials by leading OTT platforms. Recently, Netflix and Amazon Prime Video has launched the Broadway performance recorded videos services during the pandemic (Barra 2020; Singh 2020). Kim et al. (2021) asserted about using OTT streaming distribution of dance performance even after COVID-19 as it removes the physical barrier and easy to select the performance piece by each individual's tastes (Kim et al. 2021). After coming along a variety type of online performances including pop or classic concerts, dance performances, or musicals and plays, still, it is rare to study research regarding the online performance.

Dixit et al. (2020) and Sigre-Leirós et al. (2022) have shown a significant increase in the bingewatching time duration and frequency during COVID-19 compared to before the pandemic occurred (Dixit et al. 2020; Sigre-Leirós et al. 2022). It shows the increasing amount of time on indoor activity and the appearance of online performance now needs to be studied more deeply from its acceptable behavior to concentration behavior. Consequently, the overall satisfaction of online performance needs close examination since the characteristics of performance are eminent when watching it offline at a real theatre or concert hall. As online performance is different from the usual TV series or movies which are provided in the video, as usual, studying this behavior needs to be studied separately. Moreover, the relationship between motivation for activity and commitment has been largely conducted (Tanaka and Kutsuki 2018). Thus, in this research, I want to broach the subject of investigating how motivation or individuals' value of watching online performance leads the

6

commitment and satisfaction. Further, I desire to see how those magnitudes of effects could be different by OTT platforms.

The following section of the paper consists of three parts. Part one (Section 2: Related literature, Section 3: Theoretical Framework) provides an overview to readers of the motivation and background of research through literature and the theoretical basis of developing a hypothesis. Part two (Section 4: Methodology) shows the data collection and its characteristics. Then followingly stated the statistical model used for rigorous and appropriate analysis for the research purpose with an equation specification. Part three (Section 5: Results, Section 6: Discussion) illustrates the result of the analysis and discussion with the conclusion based on Parts one and two.

2 BACKGROUND RESEARCH

2.1 Theoretical Framework

In the theoretical framework section, the two main factors (motivation, and value) will be discussed how the research hypotheses were developed based on business and psychological theories which could support the research questions.

Firstly, the technology acceptance model (TAM) is an information systems theory that models how users adopt and use technology. From the IT perspective, the endpoint are devices such as PC, or smartphones) that users could finally be involved to use. This theory can support two items of the motivation construct: perceived usefulness and perceived ease of use (Davis 1989). Another theory that helped to build the motivation construct is the self-determination theory (SDT). It is the cognitive evaluation theory that composes a general research framework on human motivation and behavior (Gagné & Deci, 2005; Jabagi et al., 2019). There are two types of motivation that exist according to the SDT theory: intrinsic and extrinsic. Each of them functions differently. Firstly, intrinsic motivation means doing something for its own sake of excitement and interest, which can be provoked by spontaneous satisfaction. The example of intrinsic motivation based on the theoretical framework includes innate autonomy, competence, and relatedness of individuals. Meanwhile,

extrinsic motivation means doing something for instrumental causes, such as physical rewards and recognition. Based on the above motivation-related theory, the first hypothesis for the research question has been developed.

H1: The motivation of watching online performances has a positive impact on a commitment to performance.

Secondly, the theories related to the individual's value for watching performance have been studied. The watching online performance was considered as the consumption for developing the hypothesis. For this, a theory of consumption values was used. This theory focuses on consumption values regarding following explanations. It explains about why consumers choose to buy or not buy (or to use or not use) a specific product, why consumers choose one product type over another, and why consumers choose one brand over another (Sheth, Newman, & Gross 1991). Relating to this theory, the individual's value for watching an online performance can be studied based on consumption values. Thus, this research, explains why viewers (users) choose to purchase or not purchase (or to use or not use) a specific online performance, which characteristics of online performance attract viewers (users) the most compared to other characteristics, and why viewers(users) choose that platform over others.

H2: The individually estimated value has positive impact on commitment on performance.

Based on the above theoretical framework, the last hypothesis is developed regarding the final curiosity about how those above two factors combined affect the satisfaction of watching the online performance.

H3: The commitment on performance has positive impact on satisfaction.

8



2.2 The Definition and Characteristics of OTT

OTT is the abbreviation of the Over-The-Top media service which provides substantial media content from movies and TV shows to educational content. The over-the-x originally means beyond the original scope. The 'top' means terminal of using the aforementioned services such as a set-top box. Thus, we can sum up the above meanings and elicit the OTT beyond the traditional set-top box (Kokaram et al. 2015).

At the beginning era of OTT services, the OTT platforms supplied the premium content which was not provided through the original set-top box as VOD (Video on Demand) service. As an improvement of the technology and media industry, the services range that OTT provides multifarious including television shows, sports, movies, and documentary series. A large amount of OTT platforms supplies the material by contracting contents with the production of contents or by having copyrights. However, one of the leading companies for providing videos, YouTube has a slightly different format compared to common video OTT platforms such as Netflix, Amazon, Hulu, Disney+, HBO Max, Discovery+, Paramount+, and Peacock. It is operating based on user-generated content (UGC) and anyone can freely upload video providing that no violation of the law. Not only individuals but videos can be uploaded by company units. Moreover, it can upload the paying content by making contracts with YouTube (Che et al. 2015; Cheng et al. 2013).

Currently, there is three known business model of OTT video platform exists SVOD (Subscription Video on Demand), TVOD (Transactional Video on Demand), and AVOD (Ad-Supported Video on Demand). Table 1 shows the summary for each of the OTT video platform video types by each character that makes those models different. Firstly, SVOD is operating based on the subscription fees of a recurrent fixed period. TVOD is also known as the "pay-per-view model", which can be viewed or downloaded by each piece movie or show and payments are also per selected video. Lastly, the AVOD is an advertisement-centric video platform. One needs to watch advertisements during watching a video or before starting the video. This was traditionally done in the normal TV programs since it needs to maintain a huge viewership to make Ads effectively. The most of revenue comes from AVOD with 51.58%, SVOD and TVOD are followed by AVOD with 40.16% and 5.1%, respectively (Shahzeidi 2021; Statista 2021).

Туре	Characteristics	Example
SVOD	Charging subscription fees for a certain period of time	Netflix, Amazon Prime,
	recurrently (e.g., a month, 3 months, 6 months, 1 year)	Disney+, Hulu,
		TVING, Wavve (Korean)
TVOD	Viewing or downloading one piece of video charges fee	Apple's iTunes, Sky Box
	for each time.	Office, YouTube Movie
AVOD	Advertisement based platforms. Viewers can watch freely	YouTube
	but need to watch advertisement instead. The platform	YouTube Premium
	charges to the companies which want to show their	(Additional fee charged,
	advertisement through the video platform while watching	without watching Ads)
	videos. Recently, there is an option to remove the	
	advertisement during watching if one pays a certain	
	amount of money in a fixed period recurrently such as	
	SVOD.	
Table 1	The type of OTT platform business models	

2.3 The Global and South Korean OTT market

OTT market is growing annually continuously. However, the COVID-19 and restriction of normal lifetime outdoor activity led to an increase in a substantial number of subscribers are increased. One recent survey on US consumers shows that nearly 98% of US consumers use at least one OTT application and this is a comparably large portion compared to other applications as shown in figure 1 (Brightback Report, 2021). Also, there is the evidential reason for COVID-19 and restriction of life increase the spending time on indoor activities such as binge-watching TV series or movies (Dixit et al. 2020). The annual revenue growth of the US OTT market is shown in figure 1 (Statista 2022).



Other countries also find the demand for the OTT market growing fast as the size the number of subscribers grows with the globalization of US OTT platforms. Especially, Netflix, the one of leading US OTT platforms added 26 million new viewers from the entire world where the service is provided in the first 6 months of 2020, which is like the entire year of 2019 of 28 million (Netflix quarterly report 2020 Q1 and Q2). US-based OTT, SVOD type of OTT platforms are growing powerful epidemically worldwide by leading two companies, Netflix, and Amazon Prime Video. By 2021, not

only these two companies but more companies such as HBO, Hulu, Disney Plus, and Apple TV Plus has been started their market regions. EU countries are adapting to the US OTT platforms without any barrier since their most audio and video market consumption is from US entertainment industry (Vlassis 2021). The market share of 2021 studied by Nielsen is shown in figure 2 (Nielsen 2021)



Nevertheless, the Asian market is showing different game settings. China has adopted digital platforms earlier than any other Asian country but due to the central control system of information by the government, the US-based international platforms are not popular and even has not launched yet. Three market-dominant platforms are mainly providing audio and video content: iQiyi (Baidu), Youku (Alibaba), and Tencent video (Tencent). However, substantial growth is also discovered in these platforms. The yearly reports of Baidu and Tencent show significant increased amount of new subscribers of 23% and 26%, respectively (Vlassis 2021)

Another, huge population market in the world, India is one of the most rapidly growing markets in OTT platforms (Puthiyakath and Goswami 2021). India become OTT market with 45% estimated growth during COVID-19, after US (Gupta & Singharia 2021). The number of subscribers providing a variety of supplying content has made the market stand out recently. Several publications and

business reports were initiated to show the current situation of the Indian OTT market with an explosive increase of subscribing or its potential population (Kumari 2020; Nijhawan & Dahiya 2020). However, due to piracy downloading problems through Peer-to-Peer (P2P) programs, some developing countries are showing a struggle of lifting the number of subscribers even after the COVID-19. In Indonesia, the failure of launching Netflix may lead to a 19.7% increase in piracy media contents searching (Lu et al. 2021).

The composition of the OTT market players is like that of India. It is a mixed format of US-based global platforms and original Korean platforms of Korea. YouTube has been traditionally popular in Korea, but other OTT services were constantly increasing in small size before COVID-19. After COVID-19, most cultural demand for their spare time leads to an increase in the number of subscribers. The grown number of subscribers subsequently demands high quality and a large quantity of new video content. Especially, all sensational hit Netflix original series such as Squid Game was provided during the COVID-19 (Lachapeele 2021). Moreover, the situation of this era enables platforms to buy more performance videos from the productions. Four platforms lead the OTT video market in South Korea which are YouTube, Netflix, Wavve, and TVING based on the statistics of the number of subscribers (KCC 2021). Table 2 shows the exact number of subscribers each year from 2016 to 2020 by each SVOD OTT platform. Since the Wavve launched the service in 2018, there is no data from 2016 to 2018. Based on a large number of subscribers and popularity, this study focuses on these four OTT platforms as a representative place of the research design.

SVOD	2016	2017	2018	2019	2020
Service					
Netflix	289	457	902	2,221	3,385
Wavve	-	-	-	1,614	2,102
TVING	338	403	542	802	1,781
Seezn	765	883	1,085	1,173	1,299
Watcha	580	685	736	791	1,081
Table 2. The number of SVOD subscribers in South Korea, in thousands					
(Korea Information Society Development Institute, KISDI, 2020)					



2.4 Range of provided online performances by platforms

Based on the last paragraph of the previous section 2.2, here I would like to state the range of online performances by every four platforms. There are two types of online performance: live to stream and recorded videos. Though OTT video platforms occasionally provide the real-time live streaming of the online performance, still most of OTT platforms mainly provide the latter type of online performance. Among the four platforms chosen in 2.2 for this research, YouTube offers live streaming content more frequently compared to the other three platforms. YouTube provides the video content using all three business models that have illustrated in section 2.1: live-streaming service (TVOD), fee-charging content bought from the original production (TVOD), free user-generated content (AVOD). In addition, The YouTube premium services enable subscribers to watch Ad-free user-generated content by paying extra fixed subscription fees every contracted period (SVOD). This study concentrates on the part of videos that could find through the platform. For these reasons, I will introduce the contents provided as recorded form first. Then, I will demonstrate more about how live streaming online performances provide by each OTT platform and what kind of performances lived during the COVID-19 pandemic in Korea in the latter part.

Over the years, Netflix has started to provide live concert movies, recorded Broadway or Westend musicals and dance (including ballet, modern dance, pop, rocking, etc.) performance content. Those have their unique category numbers: music and musicals (52852), and music and concert documentaries (90361) (Netflix 2021). Table 3 shows the lists of the concert videos available on Netflix using these category numbers on the Netflix official site. The content rating is determined by the Motion Picture Association of America (MPAA) and is published in each Netflix video explanation.

Video Title	Rating	Released Year
2020 Tort Awards	TV-14	2020
Song Ga In – The Drama	TV-G	2021
2015 Dream Concert	TV-PG	2017
Arian Grande: excuse me, I love you	TV-14	2020
Buena Vista Social Club: Adios	TV-PG	2017
The Show Must Go On: The Queen + Adam Lambert Story	TV-PG	2019
Taylor Swift reputation Stadium Tour	TV-PG	2018
Babra Streisand: A Happening in Central Park (1968)	TV-G	2018
Babra Streisand: The Concert	TV-G	2018
Barbra Streisand: Timeless: Live in Concert	TV-G	2018
Ben Platt Live from Radio City Music Hall	TV-PG	2020
Barbra: The Music The Mem'ries The Magic!	TV-14	2017
David Foster: Off the Record	TV-PG	2019
Dolly Parton: A MusiCares Tribute	TV-G	2021
Hans Zimmer: Live in Prague (2017)	TV-G	2018
HOMECOMING: A film by Beyoncé (2019)	TV-14	2019
John Mellencamp: Plain Spoken (2017)	TV-MA	2018
Justin Timberlake + the Tennessee Kids	TV-MA	2016
Metallica: Some Kind of Monster	TV-MA	2017
One Heart: The A.R. Rahman Concert Film (2017)	TV-G	2017
Richard Pryor: Live in Concert (1979)	TV-MA	2016
Springsteen on Broadway	TV-MA	2018
Sam Smith: Love Goes - Live at Abbey Road Studios	TV-G	2020
Shawn Mendes: Live in Concert	TV-G	2020
Shawn Mendes: In Wonder	TV-PG	2020
Takizawa Kabuki ZERO 2020	TV-14	2020

I'll Sleep When I'm Dead	TV-MA	2016	
Emicida: AmarElo - It's All For Yesterday	TV-14	2020	
GIMS: On the Record	TV-14	2020	
Travis Scott: Look Mom I Can Fly	TV-14	2019	
Bigflo & Oli: Hip Hop Frenzy	TV-PG	2020	
Table 3. The music concert video available at the Netflix (Netflix official website)			

Netflix also initiated corporation with musical and theater productions to supply the paused offline performance due to pandemics. Before the COVID-19 spreads out, Netflix provides several recorded West End or Broadway musicals of their special anniversary such as Miss Saigon's 25th anniversary of West End. After the pandemic and all offline performances ceased, it started to provide a special form of musical performance. For instance, Diana the Musical was released through Netflix in advance of its Broadway official preview opening. Currently, 9 Broadway musical recordings and 3 West End ones are available on the Netflix. The detailed material of these recordings list is provided in the supplementary material (Netflix 2022).

The Wavve is the second-ranked SVOD market based on the number of subscribers as shown in Table 2 of section 2.2. The main media contents of Wavve are based on Korean ground wave TV channels: SBS, KBS, and MBC. Basically, through this platform, people can access all the media content from those channels above. Other contents are mostly TV series from East Asia and the US. However, after the growth of the OTT market, Wavve also started to provide online performance both in live streaming and VOD formats. Especially, the genre of the provided online performance was extensive compared to other SVOD OTT platforms from Korean traditional music and dance to pop music concerts. From September 1st, 2021, Wavve has provided the online performance productions including the National Dance Company of Korea, National Orchestra of Korea, and National Changgeuk¹ Company of Korea. Those are all traditional Korean performing arts productions.

¹ Changgeuk is a music drama composed of Korean traditional music opera called, "Pansori".

Moreover, the pop music concert and the recorded musical performances such as Le Comte de Monte-Cristo and Bernarda Alba also became available in 2021. Especially the recorded concert of Adele implemented the Augmented Reality (AR) and 3D graphic technology. In addition, the collaboration of the Korean Symphony and the second prize winner of the Chopin Competition for young classical pianists, Dong-Hyuk Lim has been provided through the Wavve with a different point of view of VOD: string ensemble, audience, conductor, and multi-angle which enables online audiences to enjoy the VOD with different versions for desired purposes. Also, most online performances available in the Wavve have commentary videos to resolve the deficient parts of the online version of performances to audiences. (Wavve 2022)

The next ranked platform based on the number of viewers is TVING as shown in Table 2. The parent company of TVING is CJ ENM, which is the top-ranked company in the Korean entertainment industry. CJ ENM involves various sectors of industry: media, commerce, movie/performance, music, and broadcasting. The sector is stated in order of business size which are 35.1%, 28.9%, 7.3%, 7.6%, 21.1%, respectively (CJ ENM 2022). Based on sound financing and a TV channel (TVN, Mnet) owned by itself, TVING has distributed content from drama to entertaining show programs. Especially, TVING has a firm reputation for providing music entertaining content. Also, most Korean audition programs to become a singer or dancer are made by CJ ENM which is a similar format to Xfactor, American Idol, and American/Britain's Got Talents. Recently, content regarding the competition of singers, dancers, and rappers made more popular on this platform. After the competition, the final concerts hold through the CJ ENM and the video content is only accessed through the TVING. Due to the pandemic, these kinds of concerts are held by real-time online streaming. Moreover, one of the biggest Korean singer awards, MAMA (Mnet Asian Music Awards) is held through this platform in live streaming service and solely distributed its recording through the TVING. Since the business areas that CJ ENM has approached are extensive from music, and movies to musical/theatre, it provides various kinds of recorded live content of related shows. The only Musical festival in Korea, DIMF content from 2019 to 2021 is also available at the TVING. After the

COVID-19 occurred, the Musical, Phantom² has been provided as VOD content, which was filmed with movie filming techniques to make a unique performance that have not been attempted in the offline performance before (explanation of the Phantom VOD, TVING 2022).

Lastly, YouTube has provided the highest number of performing arts pieces online in Korea. Most live-streaming classical concert (orchestra, symphony orchestra, recital, opera, etc.) and classical dance performance (ballet, contemporary dance) gave their performances through YouTube and its own platform. All Korean National classical performing art companies including Korean National Ballet, Korean National Contemporary Dance, and Korea National Opera. Moreover, most of the performances planned by Seoul Arts Center, which has the best and largest facility among all classic concert halls in South Korea, also used YouTube to show their classical concerts. From 2020 to 2021, during the pandemic lockdown period, numerous dance performances running by National Ballet and Contemporary Dance is providing its regular performances in the online with a special configuration. Especially, the dance performances attempt to apply new technologies such as AR and Virtual Reality (VR) to exaggerate a fleeting moment of movement of the body. Other classical and dance companies also usually have used YouTube and occasionally use the other minor platforms.

² It is not the same piece as the West End original, Phantom of the Opera made by Andrew Lloyd-Webber. The Phantom is not successful on the West End and Broadway, but it succeeds in Korea after the adaptation work by EMK company, one of the biggest Korean musical productions normally import and product the German musical taking into account Korean preferences.

3 DATA

3.1 Data Collection

The survey for this study distributes randomly to the online communities of all kinds of performances specified in the questionnaire: pop music, classical music, dance, and theatre play. Our targeted population is people who have watched the online performance at least once in their life. Those target populations were invited to participate survey made by google form. The survey was conducted for one month, April 2022. The survey questions were developed based on a theoretical framework to elicit whether our research hypotheses turned out in the desired way or not. The demographic variables such as education, gender, age (category-wise by every ten years old), and the usual frequency of watching any kind of performance were included in the last part of the survey questionnaire. The questions are written in Korean. Using those answers may enable us to control the individual-specific factors that possibly affect the survey answers for finding our outcome of hypotheses. The questionnaire is divided into four main parts. In each of the main parts, the subsection is included with several questions. Each part represents a construct, so those three parts are motivation, value, commitment, and satisfaction. For each construct, there are four to five questions to answer to measure these dynamic effects among constructs. The complete survey question in English is provided in the supplementary material with the detailed result of statistical analysis of result section. A total 184 number of people answered a filled out the complete survey and one was omitted as he chose that he never had experience of watching the online performance. The survey questionnaire distributed on online communities of all genres of performances (pop, dance, classic, and play/musical) we have considered in the survey question. Among 184 people, 100 people received the Starbucks ice americano tall size online coupon. Among them, 35 people were randomly selected and other people were awarded based on a first serve-basis. This was stated when the survey questionnaire was distributed.

19

3.2 Basic Statistics and Data Characteristics

The data section is divided into two parts: demographic information, and performance watching behavior. The demographic information of survey participants included gender, age (in category), education level, and occupation. The performance watching behavior was surveyed through several questions regarding the most preferred online platform, the frequency of watching a performance (yearly), the format of watching the online performance (real-time/streaming, recorded), and the most preferred genre of a performance, a device used for watching the online performance, and the way to notify about new online performance information.

3.2.1 The demographic characteristics of respondents

The gender of respondents was mainly female 79.3% and a male was 20.7%. The respondents aged between 20 to 29 (41.3%) accounted for the biggest portion of the age distribution. Followingly, the 30s, 40s, and 50s. The smallest portion of the age distribution is teenagers and seniors with 1.6% of the same percentage. The most of respondents answered that their final education level is university graduation 53.8%. Some still enrolling at university of 21.2%, and graduate school was also accounting high percentage of 12.5%. Others are also showing 7.1% and this may be due to other teenage students who are not currently graduating high school yet. The occupation shows general officer (31.0%), university student (29.3%, including graduate students), professional (12.0%), freelancer (8.7%), self-employed (7.6%), and middle or high school students (1.6%) in descending order.

	Category	Frequency (N)	Percentage (%)
	Male	38	20.7
Gender	Female	146	79.3
	Total	184	100.0
Age	10-19	3	1.6
	20-29	76	41.3
	30-39	57	31.0
	40-49	26	14.1
	50-59	19	10.3
	Over 60	3	1.6

	Total	184	100.0
	High school	10	5.4
	Others	13	7.1
Education	Enrolling at university	39	21.2
Level	University graduate	99	53.8
	Graduate student	23	12.5
	total	184	100.0
	Freelancer	16	8.7
	University student	54	29.3
	Office worker	57	31.0
Occuration	Self-employed	14	7.6
Occupation	Professional	22	12.0
	Middle/High school	3	1.6
	Others	18	9.8
	total	184	100.0
Table 4. Freq	uency table of demogra	phic variables	

3.2.2 The general characteristics of respondents related to online performance

The most preferred OTT platform was YouTube and Netflix, Wavve, and Tving were following. Other OTT also accounted for 17.4%. Participants of the survey watch performance more or equal to ten times per year (38.6%) including both offline and online in general. The following was 3 to 5 times, 6 to 9 times, and 1-2 times. 44% of respondents have watched an online performance in realtime, and the other 56% of them have watched using streaming services in general. They responded that their favorite genre to enjoy watching was musical (including play and theatre, 31%). Then consequently, pop, classical music, and dance were in a row. Participants usually find information on online performances through SNS (58.2%) and the website of online performance production or theatre and concert hall (22.3%).

Category		Frequency (N)	Frequency in percentage (%)
Most Preferred Online Performance Platform	YouTube	128	69.6
	Netflix	16	8.7
	Wavve	4	2.2

	Tving	4	2.2
	Others	32	17.4
	Total	184	100.0
How often one watches the	1 or 2 times	27	14.7
performance in a year?	3-5 times	55	29.9
performance / year)	6 – 9 times	31	16.8
	More or equal to 10 times	71	38.6
	Total	184	100.0
Type of watching online	Real-time	81	44.0
performance mainly	Recorded (Streaming Service)	103	56.0
	Total	184	100.0
Genre of performance	Pop / Modern Music	46	25.0
mainly watching	Dance	34	18.5
	Classical Music	42	22.8
	Theatre / Musical / Play	57	31.0
	Others	5	2.7
	Total	184	100.0
The medium of collecting information about the	SNS (Twitter, Facebook, Instagram, etc.)	107	58.2
online performance	Advertising	7	3.8
	Public Services Information	2	1.1
	Newspapers, Magazines	3	1.6
	Website of performance or theatre, concert hall	41	22.3
	Regularly delivered email or newsletter	6	3.3
	Other people (WOM ³ / eWOM)	12	6.5
	Others	6	3.3
	Total	184	100.0
The most used device when	Laptop	45	24.5
you are watching an online	Desktops	28	15.2
performance	Smartphone	62	33.7
	Tablet PC	44	23.9
	Others	5	2.7
	Total	184	100.0
The platform used when	YouTube	133	47.0
you are watching an online	Netflix	35	12.4
performance (respondent	Wavve	20	7.1

³ WOM = Word-Of-Mouth, eWOM = electronic WOM

can pick more than 1	Tving	20	7.1
answer)	Others	75	26.5
	Total	283	100.0
Table 5. Frequency table of characteristics of survey participants			

4 METHODOLOGY

The main model is to derive whether stated null hypotheses can be rejected or not. To measure the impact of each construct in the model framework shown in section 3, we implemented the Partial Least Square – Simultaneous Equation Model (PLS-SEM). To see if our data could apply to this model to figure out its magnitude and significance of impact among constructs, the model assessment needs to be checked before making a model. In this section, the first part explains the model assessment techniques and which metrics to assess the model validity. The second part explains the PLS-SEM and its advantage. Lastly, through the modeling technique, the model specification and the degree of fit can be derived in this section.

4.1 Model Assessment and Adequacy of Questionnaire

As conventional SEM, PLS-SEM also needs to evaluate its model in two parts: suitability for structure detection and model validity. There exist three metrics to check the suitability for structure detection which are Cronbach's alpha, Dillion-Goldstein's rho, and PCA of each construct. Among three existed evaluation metrics, we chose Cronbach's alpha for evaluating the research model. The value of Cronbach alpha can be derived as the following equation:

$$\alpha = \frac{k}{k-1} * \left(1 - \frac{\sum_{i=1}^{n} \sigma_i^2}{\sigma_v^2}\right)$$

Two tests are commonly used for evaluating the suitability of the data can perform the structure detection: Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO); Bartlett's test of sphericity (Bartlett's). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic that indicates the proportion of variance in your variables that might be caused by underlying factors. High values (close to 1.0) generally indicate that factor analysis may be useful with your data. If the value is less

than 0.50., the results of the factor analysis probably won't be very useful. Bartlett's test of sphericity test the hypothesis that your correlation matrix is an identity matrix, which would indicate that your variables are unrelated and therefore unsuitable for structure detection. Small values (<0.05) of the significance level indicate that factor analysis may be useful with your data (Bartlett 1950; Bartlett 1951). Followingly, the model validity can be checked in two ways which are convergent validity and discriminant validity. If the obtained factor loadings are above 0.7 and the average variance extracted (AVE) is above 0.5, then it confirms the convergent validity. The latter means that at least half of the variance of variables could be explained by the construct of the research design (Furr and Bacharach 2008; Williams et al. 2010; Gorsuch 1973).

4.2 PLS-SEM

The Structural Equation Model (SEM) is conventionally used to estimate the effect of several simultaneous equations which involve an exogenous dependent variable and could be considered an endogenous variable in another equation. It aims to minimize the difference between the covariance matrix of the theoretical structural model and sample one (Heij et al. 2004). Partial Least Square Structural Equation Model (PLS-SEM) is an integrated model of two types of statistical analysis: factor analysis and regression method (Ravand and Purya 2016). PLS can be considered a supervised version of the Principal Component Analysis (PCA), which is a method of factor analysis. It is useful when the number of explanatory variables is large compared to the number of total observations because this easily leads the matrix of the explanatory variables to be singular. The result of this situation is multicollinearity. PLS has identified the new variable set which is a linear combination of originally given variables. Then apply the least square method to fit the linear equation with newly defined variables (James et al. 2021). The conventional SEM as known as Covariance Based (CB)-SEM is a flexible model that is used for treating measurement errors and complex theoretical research designs. However, the problem is that this model requires several strict assumptions such as normality and a large sample size. The PLS-SEM enables applying the model to the relatively smaller sample

size of data. It is a nonparametric method, so the assumption of distribution is not needed. For social science research design, SEM is especially useful since the complex relationships among variables with many causalities could be investigated by considering measurement errors. This method is estimated based on variance, which is different from the CB-SEM. PLS-SEM is useful for a situation in less developed theory involved in the research design such as the explanation and prediction of endogenous latent variables. It aims to minimized the error term of the endogenous latent variable to maximize the percentage of variance as known as explain ability, which can be measured by R² (Heij et al. 2004). Also, it does not require the Maximum Likelihood Estimation (MLE) method to identify the magnitude of impact which demand strict assumptions and conditions (Hair et al. 2017; Ravand and Purya 2016). Since our sample size is 183 which is considered relatively small to imply the conventional SEM method, the PLS-SEM is implemented to observe the existence of a hypothetical effect. Identification problem with latent variables also mitigates. Thus, the research applied the PLS-SEM to see the desired effect as stated in the research hypotheses in section 3(Hair et al. 2014). The modeling analyses are conducted using SMART-PLS.

The simple structural equation of the research design is represented with the following equation.

$$y_1 = \gamma_{12}y_2 + \beta_1 z_1 + \epsilon_1$$

 $y_2 = \gamma_{21}y_1 + \beta_2 z_2 + \epsilon_2$

, where y_1 , y_2 are latent variables which can be exogenous and endogenous depending on the situation. The mean of error terms ϵ_i needs to be zero by the assumption of the modeling equation. Following estimates coefficients of endogenous variables are γ_{12} , γ_{21} , respectively. The simultaneous equations in this study are stated as follows:

 $Immersion = \hat{\gamma}_{Motivation} * Motivation + \hat{\gamma}_{value} * Value + e$ $Satisfaction = \hat{\gamma}_{commitment} * Commitment + e$

The complete model specification can be expressed as following equation:

$$y_i = \sum_{j \neq i}^n \gamma_{ij} y_i + \sum_{j \neq i}^n \beta_{ij} z_i + \epsilon_i, \ i = 1, \dots, m ,$$

, where i is the total number of constructs and j is the number of effects from each construct.

Lastly, z_i are exogenous	variables and its	coefficients are	β_{ij}
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Construct	No. of Effects	Description
	from constructs	
	(items)	
Motivation	5	5 items (perceived ease-of-use, perceived usefulness,
		enjoyment, curiosity, control) to measure motivation of
		watch online performances. Each of items has 8, 5, 5, 3, and
		6 questions, respectively.
Value	4	4 items (functional, epistemic, social, emotional) to measure
		motivation of watch online performances. Each of them has
		3 questions to measure the effect clearly.
Commitment	1	7 questions are asked to measure the commitment effect.
Satisfaction	1	5 questions are asked to measure the degree of satisfaction
		on watching online performance.
Table 6. The exp	lanation of constru	icts used in the research model

4.3 Model Fit Criteria

There exist several statistics that evaluate the fitted degree of the research model. There are four common classification categories based on the assumptions of distributions: residual-based, independence-model-based, root mean square error (RMSE), and information-criterion (AIC, BIC, etc.) based. This research uses the residual-based fit criteria to evaluate how well the model fitted. Four statistics are developed based on the residual distribution. Those criteria are following in the below equations (Hayashi et al., 2011).

RFI (Residual-based fit indices) = $S - \sum(\hat{\theta})$

The following statistics are all functions of the residuals shown in the above equation.

SRMR (Standardized Root Mean Square Residual) = $\sqrt{\left(\frac{2}{p(p+1)}\sum_{i\leq j}\{s_{ij} - \frac{\sigma_{ij}(\hat{\theta})^2}{s_{ii}s_{jj}}\}\right)}$

, where $\sigma_{ij}(\hat{\theta})$ is (i,j) th element of covariance-variance matrix, $\Sigma(\hat{\theta})$.

SRMR can be calculated by square root of the residual sum of squares from the correlation metrics. Smaller value of SRMR is better and the smallest possibly obtained value is zero.

GFI (Goodness of fit index) =
$$1 - \frac{tr[\{\Sigma(\hat{\theta})^{-1}(S - \Sigma(\hat{\theta}))\}^2]}{tr[\{\Sigma(\hat{\theta})^{-1}S\}^2]}$$

GFI closer to 1 is representing better fit. It can be compared to the squared correlation metric in the multiple regression.

The adjusted goodness of fit index (AGFI)

AGFI =
$$1 - \frac{p(p+1)(1-GFI)}{p(p+1)-2q_2}$$

Additionally, one independence model based fit evaluation criteria, Normed Fit Index (NFI) is considered. The independence model can be defined based on the covariance structure. It has the diagonal covariance-variance matrix of $\Sigma = diag(\sigma_{11}, ..., \sigma_{pp})$, where p is the number of variables, so it is the smallest model in SEM. The smallest means in the SEM context is most constrained (Bentler & Bonett, 1980).

$$\mathrm{NFI} = 1 - \frac{T_M}{T_I} ,$$

, where T_M is the test statistics under the current model and T_I is the test statistics under the independence model. The range of NFI lies between 0 and 1. The value closed to 1 means better fit.

5 RESULTS

The results section consists of three subsections. Firstly, to confirm and test the adequacy (reliability and validity) of survey questions for each category (motivation, value, commitment, satisfaction). Secondly, the Average Variance Extracted (AVE) and Composite Reliability (CR) are measured for testing the internal consistency reliability of survey responses. Finally, the SEM is

conducted for establishing the influential relationship among constructs we designed through hypotheses in the theoretical framework and hypotheses development section.

5.1 Model Reliability, Sampling Adequacy, and Validity

For testing the reliability and validity, the factor analysis and reliability analysis were conducted. Five constructs were used for motivation factors: perceived ease of use, perceived usefulness, enjoyment, curiosity, and controllability. The number of survey questions for each construct was eight, five, three, three, and six, respectively. The validity test is done for all 25 questions. The factors are categorized in the number of five with an eigenvalue greater than one. The questions which are not clustered within each factor were deleted in the final model. In total, seven questions were omitted in the final form of the model and analysis. The complete result table for each survey questions for deriving adequate results is provided in the supplementary material. The detailed analysis and deleted questions are also included in the supplementary section. The results for sampling adequacy and model reliability for four constructs: motivation, value, commitment, and satisfaction are shown in table 7, table 8, table 9, and table 10, respectively.

The KMO measurement was 0.88, which is above 0.8. Also, the chi-squared statistics (χ 2) was shown as 2170.24 (df=153) with a corresponding p-value less than 0.001, which is statistically significant at the significance level of 0.01. The null hypothesis of Bartlett's test is that the correlation matrix is an identity matrix. If we could reject the null hypothesis, it is possible to use the factor analysis model.

Construct	Eigenvalue (λ)	% Variance	% Cumulative	Cronbach's alpha	
			variance	(α)	
Ease-of-Use	4.56	25.32	25.32	0.91	
Usefulness	2.97	16.48	41.80	0.92	
Enjoyment	2.62	14.56	56.36	0.89	
Curiosity	2.13	11.83	68.19	0.76	
Control	1.30	7.20	75.39	0.78	
KMO and Bartlett Test					
Kaiser-Meyer-Olkin Measurement $= 0.88$					
Bartlett Test of Spl	Chi-square (χ^2) sta	tistics = $2\overline{170.24}$			

	Degree of freedom (dof) = 153
	p-value = 0.000***
Table 7. Reliability and convergent validity for the moti	vation

Four constructs were used for the valuation factor: functional, epistemic, social, and emotional value. The number of survey questions for each construct was eight, five, three, three, and six, respectively. The KMO measurement was 0.91, which is above 0.8. Also, the chi-squared statistics (χ 2) of the Bartlett test of sphericity was shown as 1218.09 (df=66) with a corresponding p-value less than 0.001, which is statistically significant at the significance level of 0.01.

Construct	Eigenvalue (λ)	% Variance	% Cumulative	Cronbach's alpha	
			variance	(α)	
Functional	2.65	22.12	22.12	0.90	
Epistemic	2.47	20.57	42.68	0.82	
Social	1.98	16.46	59.14	0.79	
Emotional	1.78	14.87	0.79	0.72	
KMO and Bartlett	Test				
Kaiser-Meyer-Olki	n Measurement $= 0.9$	91			
Bartlett Test of SphericityChi-square (χ^2) statistics = 1218.0			istics = 1218.09		
			Degree of freedom $(dof) = 66$		
p-value = 0.000***					
Table 8. Reliability and convergent validity for the value					

To see the reliability and validity of the commitment category questionnaire, the factor analysis, and reliability analysis were conducted. Total 5 questions were asked regarding the satisfaction of watching the online performance. None of the questions was deleted. All the questions asking about the satisfaction of performance were considered in the final analysis. The KMO measurement was 0.89, which is above 0.8. Also, the chi-squared statistics (χ 2) of the Bartlett test of sphericity was shown as 829.11 (df=21) with a corresponding p-value less than 0.001, which is statistically significant at the significance level of 0.01.

Construct	Eigenvalue (λ)	% Variance	% Cumulative	Cronbach's alpha	
			variance	(α)	
Commitment	4.42	63.20	63.20	0.898	
KMO and Bartlett	Test				

Kaiser-Meyer-Olkin Measurement = 0.89		
Bartlett Test of Sphericity	Chi-square (χ^2) statistics = 829.11	
	Degree of freedom $(dof) = 21$	
	p-value = 0.000 ***	
Table 9. Reliability and convergent validity for the commitment		

To see the reliability and validity of the satisfaction category questionnaire, the factor analysis, and reliability analysis were conducted. Total 5 questions were asked regarding the satisfaction of watching the online performance. None of the questions were deleted. All the questions for satisfaction construct were considered in the final analysis. The KMO measurement was 0.87, which is above 0.8. Also, the chi-squared statistics (χ 2) of the Bartlett test of sphericity was shown as 575.01 (df=10) with a corresponding p-value less than 0.001, which is statistically significant at the significance level of 0.01.

Construct	Eigenvalue (λ)	% Variance	e % Cumulative Cronbach'	
			variance	(α)
Satisfaction	3.64	72.83	72.83	0.905
KMO and Bartlett	Test			
Kaiser-Meyer-Olki	n Measurement = 0.8	37		
Bartlett Test of SphericityChi-square (χ^2) statistics = 575.01			istics = 575.01	
Degree of freedom (dof) = 10			(dof) = 10	
p-value = 0.000***				:
Table 10. Reliability and convergent validity for the satisfaction				

5.2 Discriminant Validity

To test the discriminant validity for four parts of the research constructs, the Pearson correlation coefficient (ρ), AVE, and CR (Composite Reliability) values are derived. The below table 10 has shown the complete derived values of those statistics. The Cronbach α , AVE, CR results for each construct and subordinated items are shown in the last three columns of table 10. As shown in Table 11, all times of Cronbach α well above 0.7 which stands for a good internal consistency among questionnaires. AVE, C.R. values for all items turn out to be greater than their critical value (0.5 and 0.7, respectively) to determine whether this research is validated.

Categ		1	Motivatio	n			Va	lue		Com	Satisf
ory	Ease	Useful	Enjoy	Curios	Contr	Functi	Episte	Social	Emoti	mitme	action
	of Use	ness	ment	ity	ol	onal	mic		onal	nt	
Ease	1	0.04	0.15	0.02	0.36	0.05	0.06	0.04	0.11	0.06	0.11
of Use	1	0.04	0.15	0.02	0.50	0.00	0.00	0.04	<u></u>	<u>0.00</u>	<u></u>
Useful	0.20**	1	0.33	0.40	0.04	0.26	0.46	0.37	0.41	0.36	0.50
ness	*	-	<u></u>	<u></u>	<u></u>		<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
Enjoy ment	0.39** *	0.58 ^{**} *	1	<u>0.33</u>	<u>0.13</u>	<u>0.38</u>	<u>0.34</u>	<u>0.24</u>	<u>0.49</u>	<u>0.35</u>	<u>0.35</u>
Curios	0.14*	0.64**	0.58**	1	0.03	0.25	0.42	0.35	0.44	0.45	0.44
ity		*	*	-							
Contr	0.60^{**}	0.21**	0.37**	0.16**	1	0.09	0.14	0.09	0.14	0.10	0.13
ol	0.00**	0 51**	0 < 1**	0.50**	0.01**						
Functi onal	0.23 *	0.51 *	0.61 *	0.50 *	0.31 *	1	<u>0.38</u>	<u>0.27</u>	<u>0.46</u>	<u>0.33</u>	<u>0.47</u>
Episte	0.24**	0.68^{**}	0.58^{**}	0.65**	0.37**	0.62**	1	0.30	0.48	0.42	0.51
mic	*	*	*	*	*	*	1	0.37	<u>0.40</u>	0.42	<u>0.31</u>
Social	0.19 ^{**} *	0.61^{**}	0.49 ^{**} *	0.59 ^{**} *	0.30 ^{**} *	0.52^{**}	0.62^{**}	1	<u>0.37</u>	<u>0.47</u>	<u>0.43</u>
Emoti	0.34**	0.64**	0.70**	0.67**	0.38**	0.68**	0.69**	0.61**	1	0.52	0.45
onal											
Com	0.24^{**}	0.60^{**}	0.60^{**}	0.67^{**}	0.31**	0.58^{**}	0.65^{**}	0.68^{**}	0.72^{**}	1	0.42
mitme	*	*	*	*	*	*	*	*	*	1	<u>0.42</u>
III Satisf	0.22**	0.71**	0.50**	0.66**	0.27**	0.60**	0.71**	0.66**	0.67**	0.65**	
action	0.55 *	0.71 *	*	*	0.57 *	*	0.71 *	*	*	*	1
Cron											
bach	0.01	0.02	0.80	0.78	0.76	0.72	0.70	0.82	0.00	0.00	0.00
	0.91	0.92	0.09	0.78	0.70	0.72	0.79	0.62	0.90	0.90	0.90
AVE	0.71	0.78	0.79	0.57	0.53	0.52	0.55	0.52	0.78	0.53	0.67
	0.71	0.78	0.79	0.37	0.33	0.32	0.55	0.52	0.78	0.55	0.07
UK.	0.94	0.92	0.92	0.75	0.00	0.77	0.70	0.70	0.91	0.00	0.91
l'able	II. Disci	iminant	validity	test res	ult						

5.3 Hypotheses Testing Result

As stated in the theoretical framework and hypotheses development section, the following three are being tested for this research using PLS-SEM. The detailed analyses for each construct for each variable results have provided in the supplementary section. The hypotheses test result is shown in the table 11. As shown in the table 3, our hypotheses established in the section 3

Нур.	Path	$\hat{\beta}$ (Non-std ⁴)	$\hat{\beta}$ (Std)	Std.	C.R.	p-value
				Error		
H1	Motivation \rightarrow	0.71	0.347	0.21	3.34	< 0.001***
	Commitment					
H2	Value \rightarrow	0.70	0.856	0.14	5.05	< 0.001***
	Commitment					
H3	Commitment \rightarrow	1.25	0.889	0.21	5.98	< 0.001***
	Satisfaction					
Chi-sq	Chi-squared statistics = 1754.723 , df = 806 , p-value = 0.000 ,					
RMR = 0.061, GFI = 0.870, AGFI = 0.840, NFI = 0.902						
Table	Table 12. Estimated Coefficients of Path and Hypotheses Testing Result					

Using the PLS-SEM, the hypothesized relationship and direction among constructs were tested. The tested result with its magnitude impact of each construct is shown in the column 3 and 4 in the table 12. First, motivation has statistically significant positive impact of its standardized estimated coefficient with 0.347 on commitment at the significance level of 0.01. The contribution of each item for motivation is in following order by its size: curiosity ($\hat{\beta}$ =0.839), enjoyment ($\hat{\beta}$ =0.831), perceived usefulness ($\hat{\beta}$ =0.784), control ($\hat{\beta}$ =0.411), and perceived ease of use ($\hat{\beta}$ =0.387). Second, value has statistically significant positive impact of its standardized estimated coefficient with 0.856 on commitment at the significance level of 0.01. The contribution of each item for motivation is in following order by 0.01. The contribution of each item for motivation is in following order by 0.01. The contribution of each item for motivation is in following order by 0.01. The contribution of each item for motivation is in following order by 0.01. The contribution of each item for motivation is in following order by 0.01. The contribution of each item for motivation is in following order by its size: functional ($\hat{\beta}$ =0.949), emotional ($\hat{\beta}$ =0.903), epistemic ($\hat{\beta}$ =0.901), and social ($\hat{\beta}$ =0.827). Third, commitment, which affects motivation and value has a statistically significant positive impact on its standardized estimated coefficient with 0.889 on commitment at the significance level of 0.01. Thus, the results show that positive responses of an individual's motivation

⁴ Std=standardized

and value for watching online performance have positive feedback afterward regarding commitment and satisfaction. There was no multicollinearity exists in the final constructed model as VIF below 10.



6 CONCLUSION AND DISCUSSION

The effect of an individual's motivation and value for watching performances through online platforms on commitment and satisfaction was studied in this research. This paper derived the following results regarding the stated relationship and effect. First, the magnitude of the impact of constructs on motivation was shown in the following order: curiosity, enjoyment, perceived usefulness, controllability, and perceived ease of use with the estimated coefficients of 0.839, 0.831, 0.784, 0.411, and 0.387, respectively. Comparatively, controllability and perceived ease-of-use were not so significantly contributed to the motivation factor of audiences to feel commitment when they were watching the online performances. For a value of watching performances, the functional value was the most contributed to the value construct with its estimated coefficient of 0.949. Then

followingly, the emotional, epistemic, and social with an estimated coefficient of 0.903, 0.901, and 0.827, respectively. Still, the estimated coefficient of social value was relatively low compared to other values, all the estimated coefficients for contributing value construct were easily above 0.8. Also, the value construct had shown the high estimated coefficients of 0.856 compared to the motivation construct of 0.347. Thus, focusing more on the value stated in this research would be helpful to prepare the online performance for the performing-art industry. The motivation construct was still valid but more other items could be investigated regarding it. Moreover, studying other constructs in further research could help to prepare a more attractive online performance and platform for audiences.

Surprisingly, all established hypotheses were accepted at the 0.01 significance level. It is known that a unique feature of performance of realism and a sense of presence provides the main attraction for people who visit to see a performance often. However, this research has shown that individuals can still satisfy and committed well to one motivation and value of watching an online performance. Thus, if performance production could make an effort to provide unique motivation and four values (functional, emotional, epistemic, and social) to audiences sufficiently, the online performance market still exists even after the lockdown due to the pandemic.

From the perspective of the OTT market, YouTube was dominantly leading the market even the online performance. It could be due to its characteristics of freedom of uploading videos and requesting live streaming. The familiarity of control and user experience also many performance productions choose to air their performance videos through YouTube.

However, there are several limitations of this research. Firstly, the age distribution of this study is density Online performance OTT platforms are widely distributed. Several productions provided their own performance through their homepage with a unique platform.

Secondly, the survey questionnaire has its own limitation itself. It is subjective since the degree of one to five might be different for all survey participants. Everyone has a different standard and norm of scoring one to five which might lead to a different conclusion for the research.

Thirdly, it is a cross-sectional study. This means that there might be a possible endogeneity problem due to omitted variable or measurement error (Tomarken and Waller, 2005). Since it was not the controlled lab experiments that makes our disturbances could involve their performance watching. Still, SEM can reverse causality within its modeling structure so for the data collected for this research the SEM was the most fitted method to derive results for the research question.

Fourthly, the selection of OTT platforms for online performance was biased for a certain genre of performance. Especially, through the feedback of the survey, some audiences urged that musicals and theatre mostly use Naver TV or Interpark Ticket in a real-time format. However, there were no articles or research about this market in deep, so it was difficult to put those platforms in the choice list without evidence. Also, many performances are provided through each own platform or homepage. Thus, for further research, if we could consider those ones more carefully, the research would be more reliable.

To my knowledge, this study is the first to conduct quantitative empirical research regarding factors of satisfaction when watching an online performance. Obviously, there were some limitations to generalizing this result for the overall behavior of audiences who have watched the online performance. Still, it could be a trigger to investigate more about motivation and individual value when people watch online performances. Moreover, considering the heterogeneity of individuals and platforms further brings a better quality of service to audiences and customers in the future.

35

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SUPPLEMENTARY MATERIAL

S1. Original survey questionnaire (regarding the constructs)

Item	Statement
Perceived Onlir	ne Performance Ease of Use (Davis, 1989; Venkatesh & Bata, 2008)
PEOU 1	There was no problem to use an online performance service.
PEOU 2	It was easy to use the desired service during watching the online performance (such as interface setting, etc.)
PEOU 3	Learning to watch an online performance and the related system was easy.
PEOU 4	Using the desired service was simple and easy.
PEOU 5	I can proficiently use related services to watch an online performance (such as booking a ticket, platform environment, and screen resolution).
PEOU 6	It was easy to use the system to watch the online performance.
PEOU 7	It was easy to interact with performers through the communication mediums (chat, audience video, etc.). $(R)^5$
PEOU 8	I did not need to put any effort into communicating with the performer while watching the performance. (R)
Perceived Onlir	ne Performance Usefulness (Davis, 1989; Venkatesh & Bata, 2008)
PU 1	An online performance brings me to feel an escape from everyday life.
PU 2	An online performance helped to clarify thinking on its contents of performance.
PU 3	An online performance gave me energy (=revitalized me).
PU 4	An online performance reduces my stress. (R)
PU 5	Watching an online performance is useful to spend your spare time. (R)
Online Perform	ance Enjoyment: ENJ (Venkatesh & Bala, 2008)
ENJ 1	Watching an online performance was fun.
ENJ 2	I enjoyed watching an online performance.
ENJ 3	It was a great experience to watch the online performance.
ENJ 4	The experience of watching an online performance stimulated my curiosity.
ENJ 5	The experience of watching an online performance made me curious.

⁵ (R) means removed in the final SEM structure after factor analysis.

ENJ 6	I could set up various things related to online performance (such as chat, interface, display, etc.).
Online Perform	ance Curiosity (Litman and Russon, 2005)
CUR 1	The experience of watching an online performance stimulated my curiosity.
CUR 2	The experience of watching an online performance made me curious.
CUR 3	Watching an online performance provokes my imagination. (R)
Control (Agarw	al & Karahanna 2000)
CNT 1	I could set up various things related to online performance (such as chat, interface, display, etc.)
CNT 2	I could choose whatever I could see and want to do during watching an online performance.
CNT 3	Controlling an online performance system was flexible.
CNT 4	I could freely choose my communication behavior during watching the online performance.
CNT 5	Controlling functions (such as chat, interface, display setting, etc.) were barely impossible. (R)
CNT 6	I could not choose the communication medium (chat, audience video, etc.). (R)
Functional Valu	ue (Sheth et al., 1991)
FUN 1	I preferred an online performance because it has a comparatively affordable price compared to the offline one.
FUN 2	An online performance can watch everywhere without location restrictions using smart devices.
FUN 3	An online performance enables one to see closer detail of the artist's performance (singing, dancing, acting, etc.).
Epistemic Value	e (Sheth et al., 1991)
EPIS 1	The content (or information) obtained through online performance is useful.
EPIS 2	An online performance makes curiosity about new performance repertoire.
EPIS 3	Newly and distinguished production techniques were implemented during online performance compared to offline ones (Camera, AR, different view angles, etc.).
Social Value (Sl	neth et al., 1991)
SOC 1	I could make a conversation about an online performance with my friends, surroundings, or neighbors.

SOC 2	It is valuable to share my experience of watching an online performance.
SOC 3	My surrounding people (family, friends, neighbors, etc.) also want to watch an online performance.
Emotional Valu	ne (Sheth et al., 1991)
EMO 1	I felt enjoyment through watching an online performance.
EMO 2	I was happy and satisfied by watching an online performance.
EMO 3	I lost track of the time while watching an online performance.
Commitment (S	Shore & Wayne,1993)
COMMIT 1	I was deeply committed (immersed) during watching an online performance.
COMMIT 2	I was easily concentrated (and focused) on watching an online performance.
COMMIT 3	I lost track of time while watching an online performance.
COMMIT 4	I felt time fly (time goes faster than usual) during watching an online performance.
COMMIT 5	I did not have any distraction (or concern) about other things besides online performance while watching it.
COMMIT 6	I could easily obstruct any disturbances or distractions while watching an online performance.
COMMIT 7	I was easily distracted while watching online performances due to other stuff.
Satisfaction (Mi	inta, 2018)
SFT 1	I would like to watch another online performance. (After watching one.)
SFT 2	I am satisfied with watching an online performance overall.
SFT 3	I think an online performance is good in general.
SFT 4	An online performance brings special and unique value to me.
SFT 5	It is valuable to watch an online performance.

S2 Extensive results of each questionnaire and effect of constructs

S2.1 Extensive results of reliability and validity of measurement (questionnaire)

For all tables in S2, the following holds: *: p<0.1, **: p<0.05, ***: p<0.01

Motivation	Perceived Ease of Use	Perceived Usefulness	Enjoyment	Control	Curiosity	Communality
There was no problem to use						
an online performance	0.70					0.60
service.						
It was easy to use the desired						
service during watching the	0.76					0.67
online performance (such as	0.70					0.07
interface setting, etc.)						
Learning to watch an online						
performance and the related	0.82					0.74
system was easy.						
Using the desired service was	0.95					0.70
simple and easy.	0.85					0.79
I can proficiently use related						
services to watch an online						
performance (such as	0.91					0.71
booking a ticket, platform	0.81					0.71
environment, and screen						
resolution).						
It was easy to use the system						
to watch an online	0.87					0.81
performance.						
An online performance						
brings me to feel an escape		0.83				0.81
from everyday life.						
An online performance						
helped to clarify thinking on		0.89				0.89
its contents of performance.						

An online performance gave me energy (=revitalized me).		0.88				0.87
Watching an online performance was fun.			0.82			0.80
I enjoyed watching an online performance.			0.81			0.84
It was a great experience to watch the online performance.			0.77			0.78
The experience of watching an online performance stimulated my curiosity.					0.64	0.78
The experience of watching an online performance made me curious.					0.77	0.82
I could set up various things related to online performance (such as chat, interface, display, etc.)				0.60		0.64
I could choose whatever I could see and want to do during watching an online performance.				0.63		0.66
Controlling an online performance system was flexible.				0.68		0.69
I could freely choose my communication behavior during watching the online performance.				0.80		0.68
Eigenvector	4.56	2.97	2.62	2.13	1.30	
% Variance	25.32	16.48	14.56	11.83	7.20	
% Cumulative Variance	25.32	41.80	56.36	68.19	75.39	
Cronbach's α	0.91	0.92	0.89	0.76	0.78	

KMO and Bartlett Test

Kaiser-Meyer-Olkin Measurement = 0.88

	Chi-square (χ^2) statistics = 2170.24
Bartlett Test of Sphericity	Degree of freedom $(dof) = 153$
	p-value = 0.000***

Value	Emotional	Social	Epistemic	Functional	Communality
I preferred an online performance					
because it has a comparatively				0.00	0.50
affordable price compared to the offline				0.60	0.56
one.					
An online performance can watch					
everywhere without location				0.93	0.92
restrictions using smart devices.					
An online performance enables one to					
see closer detail of the artist's				0.60	0.54
performance (singing, dancing, acting,				0.00	0.34
etc.).					
The content (or information) obtained			0.66		0.75
through online performance is useful.			0.00		0.75
An online performance makes curiosity			0.70		0.72
about new performance repertoire.			0.70		0.72
Newly and distinguished production					
techniques were implemented during					
online performance compared to offline			0.72		0.66
ones (Camera, AR, different view					
angles, etc.).					
I could make a conversation about an					
online performance with my friends,		0.76			0.71
surroundings, or neighbors.					
It is valuable to share my experience of		0.73			0.77
watching an online performance.		0.75			0.77
My surrounding people (family,		0.84			0.77

friends, neighbors, etc.) also want to						
watch an online performance.						
I felt enjoyment through watching an	0.83				0.84	
online performance.	0.05				0.04	
I was happy and satisfied by watching	0.80				0.85	
an online performance.	0.00				0.05	
I lost track of the time while watching	0.75				0.77	
an online performance.	0.75				0.77	
Eigenvector	2.65	2.47	1.98	1.78		
% Variance	22.12	20.57	16.46	14.87		
% Cumulative Variance	22.12	42.68	59.14	74.01		
Cronbach's α	0.90	0.82	0.79	0.72		
KMO and Bartlett Test						
Kaiser-Meyer-Olkin Measurement $= 0.9$	91					
	Chi-squa	tre (χ^2) stat	tistics =121	8.09		
Bartlett Test of Sphericity	Degree o	of freedom	(dof)=66			
	p-value = 0.000***					

Commitment	Factor Loading	Communality
I was deeply committed (immersed) during watching an online performance.	0.91	0.83
I was easily concentrated (and focused) on watching an online performance.	0.89	0.79
I lost track of time while watching an online performance.	0.86	0.75
I felt time fly (time goes faster than usual) during watching an online performance.	0.86	0.74
I did not have any distraction (or concern) about other things besides online performance while watching it.	0.75	0.56
I could easily obstruct any disturbances or distractions while watching an online performance.	0.63	0.40
I was easily distracted while watching online performances due to other stuff.	0.61	0.37
Eigenvector	4.42	
% Variance	63.20	

% Cumulative Variance	63.20				
Cronbach's α	0.898				
KMO and Bartlett Test					
Kaiser-Meyer-Olkin Measurement = 0.89					
	Chi-square (χ^2) statistics				
Bartlett Test of Sphericity	=829.11				
barlett rest of sphericity	Degree of freedom $(dof) = 21$				
	p-value=0.000***				

Satisfaction	Factor Loading	Communality	
I would like to watch another online performance. (After watching one)	0.90	0.81	
I am satisfied with watching an online performance overall.	0.88	0.78	
I think an online performance is good in general.	0.84	0.70	
An online performance brings special and unique value to me.	0.83	0.69	
It is valuable to watch an online performance.	0.81	0.66	
Eigenvector	3.64		
% Variance	72.83		
% Cumulative Variance	72.83		
Cronbach's α	0.905		
KMO and Bartlett Test	I	L	
Kaiser-Meyer-Olkin Measurement = 0.87			
	Chi-square (χ^2	²) statistics	
	=575.01		
Bartlett Test of Sphericity	Degree of free	edom	
	(dof)=10		
	p-value = 0.000***		

S2.2 Hypotheses testing results for each construct and subordinated items

Research Path			Non-std (β)	Std (β)	S.E.	C.R.	p-value
Motivation	\rightarrow	Commitment	0.71	0.347	0.21	3.34	0.000***
Value	\rightarrow	Commitment	0.70	0.856	0.14	5.05	0.000***

Commitment	\rightarrow	Satisfaction	1.25	0.889	0.21	5.98	0.000^{***}
	←	Perceived ease of use	1.00	0.387			
Motivation	\leftarrow	Perceived usefulness	3.52	0.784	0.83	4.23	0.000***
Wouvation	\leftarrow	Enjoyment	2.56	0.831	0.61	4.20	0.000***
	←	Curiosity	3.12	0.839	0.76	4.10	0.000***
	←	Control	1.13	0.411	0.37	3.10	0.002***
	←	Functional	1.00	0.949			
Value	\leftarrow	Epistemic	1.29	0.901	0.20	6.57	0.000***
Vulue	\leftarrow	Social	1.25	0.827	0.19	6.65	0.000***
	\leftarrow	Emotional	1.40	0.903	0.19	7.39	0.000***
	←	Easily control other distractions	1.00	0.447			
	\leftarrow	Easily focused	1.69	0.790	0.28	6.08	0.000***
	←	Deeply immersed / committed	1.81	0.828	0.29	6.18	0.000***
Commitment	←	Distracted by other factors (R)	0.94	0.399	0.22	4.29	0.000***
	←	No interest on others while watching	1.23	0.558	0.24	5.24	0.000***
	←	Lose track of time	1.68	0.825	0.27	6.17	0.000***
	←	Time flies	1.66	0.848	0.27	6.22	0.000***
	←	Overall satisfaction	1.00	0.837			
	\leftarrow	Special value for me	1.15	0.791	0.09	12.44	0.000***
Satisfaction	\leftarrow	Good thought	0.96	0.709	0.09	10.68	0.000^{***}
	\leftarrow	Want to watch again	1.11	0.815	0.09	13.01	0.000***
	\leftarrow	Valuable to watch	0.93	0.689	0.09	10.29	0.000^{***}
Chi-squ	lare st	tatistics $(\chi^2) = 1754.72$	3, Degree of Fr	eedom $(df) =$	806, p-v	alue $= 0.0$	000,
χ^2 statistics/df = 2.177, RMR=0.061, GFI=0.870, AGFI=0.840, NFI=0.902							

국문초록

온라인 플랫폼에서의 공연감상 만족도에 대한 요인 연구: 개인의 공연 관람 동기, 가치, 그리고 몰입도의 관점에서

코로나 바이러스와 전세계적인 대유행 현상은 일정 기간 동안 개인의 삶의 방식에 상당부분 영향을 주었다. 강한 전염성과 후유증으로 전세계적인 봉쇄 현상과 정부의 사회적 거리두기 정책 방침 등으로 인해 사람들이 대외활동이 줄고, 집에 머무르게 되는 시간이 많아지면서 자영업과 특정 산업군 등에 많은 악화일로(惡化一路)를 가져다 주었다. 특히, 공연업계의 경우 실제로 보는 현장감과 무대라는 특성 때문에 공연 전반에 대한 감소된 수요와 매출 감소로 인한 어려움을 겪은 바 있다. 장기화된 코로나 대유행 현상은 새로운 형태의 온라인 공연 컨텐츠를 등장시켰다. 또한 유투브(YouTube), 넷플릭스(Netflix) 및 아마존 프라임 비디오(Amazon Prime Video)와 같은 OTT(Over-The-Top) 동영상 플랫폼과의 협업을 통해 뉴노멀 (New-Normal) 시대에 대한 돌파구를 마련하고자 했다.

한편, 위와 같은 현상으로 인해 다양한 형태의 온라인을 이용한 교육, 의료, 재택근무 시스템과 소프트웨어에 대한 연구 또한 상당 부분 등장하였다. 반면, 온라인 공연과 관련된 연구는 이론적 배경이 미약하거나, 질적 연구가 주를 이뤘다. 본 연구에서는 기술수용이론, 자기결정이론, 그리고 소비가치이론을 기반으로 설문조사 문항을 만들어 이에 대한 관계성에 대한 응답을 다섯가지 단계의 범주로 조사하였다. 조사한 데이터를 바탕으로 아래와 같은 분석을 시행하였다.

첫째, 빈도 분석을 사용하여 온라인 공연을 시청하는 개인의 주요 플랫폼별 인구통계학적 특성과 일반적인 공연관람 행동양상을 조사하였다. 둘째, 온라인 성과에 대한 몰입도와 만족도에 대한 신뢰도와 타당도를 검정하기 위해 요인분석, PLS 방식을 통해 이를 검증하였다. 세 번째로, 구조방정식 모형을 통해 가설의 유의함과 변수들의 영향성의 크기를 검정하였다.

요인 분석은 설문지와 제공된 데이터가 포함된 주도 연구 모델이 구조방정식 모형을 사용하여 영향의 특정 크기를 측정하기 위해 검증되었음을 보여주었다. 구조방정식 모형분석을 통해 온라인으로 공연을 관람하는 동기와 개인적 가치가 몰입 상태에 영향을 미치고, 결과적으로 위의 두 가지 요인이 결합된 몰입 효과가 온라인 성능에 대한 만족도에 긍정적인 영향을 보이는 것을 본 연구에서 확인할 수 있었다. 각각의 요인 별 모형분석은 모두 0.01의 유의 수준에서 통계적으로 유의한 것으로 보고되었다. 모형 적합치 역시 0.9로 임계수준을 넘어 본 연구결과의 적합도 또한 유의함을 보여주었다. 다만, 본 연구에도 몇 가지 한계점이 존재한다. 조사대상이 특정 연령대 (20-40 대)에 상당부분 밀집되어 있었고, 설문조사의 특성상 주관적 선택이 개입되지 않을 수 없다. 조사된 개인의 특성에 따라 다른 결과에 대한 응답의 편의를 고려하지 못하였다. 또한, 온라인 플랫폼별로 다른 시스템과 서비스를 제공하는 점 등에서 추후에 더 많은 설문 참가자들로 이러한 부분들까지 고려한 연구가 필요할 것으로 보인다.