

## REVIEW ARTICLES

# Mobile shopping beauty live commerce changes in COVID-19 pandemic focused on fun contents of MZ generation in Republic of Korea

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**Abstract**

**Background:** Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the new virus responsible for the coronavirus disease 2019 (COVID-19) pandemic. According to these circumstances, a study was conducted to prepare a long-term non-face-to-face outpatient treatment service during the COVID-19 pandemic. Given the current situation of the times, it is expected that there will be no return to the non-face-to-face prior.

**Objectives:** Therefore, this study descriptively investigated changes in consumer demand for new changes in the cosmetic market that has changed since COVID-19.

**Methods:** It was written with reference to keywords such as “Covid Mobile Shopping,” “Covid MZ Generation,” “Covid Live Commerce,” and “Fun Content.” This study was conducted by searches on PubMed, Google Scholar and Scopus, and ResearchGate. A total of 398 papers were found, of which 40 were successfully included in this study.

**Results:** It is expected that this era will be centered on the MZ generation, which has emerged as a new consumer in the market, where individual tastes and individuality are emphasized. Millennials and Generation Z, also called the “SNS generation,” are focusing on consumption trends.

**Conclusion:** It is expected that this review will be used as important marketing material for a new change in the cosmetics market by clearly understanding the consumer needs of the cosmetics industry that has changed in the untact era.

**KEYWORDS**

COVID-19, Fun, live commerce, mobile shopping, MZ generation

## 1 | INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the new virus responsible for the coronavirus disease 2019 (COVID-19) pandemic.<sup>1</sup> In a study of positive SARS-CoV-2 recurrence among patients recovering from COVID-19, SARS-CoV-2 PCR positive recurrence was described in patients discharged after two consecutive negative PCR. The recurrence of long-term SARS-CoV-2 RNA release and viral RNA release in asymptomatic patients is unknown. Transmission of SARS-CoV-2 by asymptomatic

carriers has been documented. Given the importance of the global public health emergency, it suggests that the potential SARS-CoV-2 relapse problem in COVID-19 patients is a situation that will persist even with the development of a risk factor.<sup>2</sup> In this era, research is being done on the preparation of long-term non-face-to-face outpatient care services during the COVID-19 pandemic. However, it is expected that the historical situation of this non-face-to-face will not return to the previous one.<sup>3</sup> During the COVID-19 pandemic, there have been studies on the construction of contactless community treatment centers for asymptomatic

and mild COVID-19 patients. A new model contactless community treatment center has been built to monitor and isolate patients with asymptomatic and mild COVID-19 who have recorded their vital signs using a smartphone application. As such, studies on non-face-to-face societies are continuously being conducted in Korea.<sup>4</sup> In addition, this study focused on women in their 40s and 60s in Seoul, Korea, on the perception and development potential of customized cosmetic mobile shopping for coronavirus disease. As the unknown era enters, the frequency of use of non-face-to-face mobile shopping for customized cosmetics is increasing, and the use of mobile shopping in January 2020 (after the spread of COVID-19) using a hands-on app incorporating the new technology of the 4th industrial revolution is increasing. A study will be much higher to continue shopping for cosmetics using mobile devices.<sup>5</sup> In the book (Mobile Future Report. 2021, Ontact), "the end of the 'contact' era" or "a completely different 'connection' begins." This situation of the times is centered on the MZ generation, which has emerged as a new consumer in a market that values individual taste and individuality. Millennials are a collective term for millennials born in the early 1980s to early 2000s and Generation Z born from the mid-1990s to early 2000s. It is familiar with the digital environment and shows the characteristics of pursuing the latest trends and unique experiences. Generation MZ, collectively referred to as Millennials and Generation Z, is leading a new cultural and social phenomenon. In an ever-changing world, they are consuming content using video or media rather than text and photos.<sup>6,7</sup> Live commerce started in China in 2016, and recently it is a new distribution method of e-commerce that is receiving a lot of attention in many countries including Korea due to the influence of COVID-19. In live commerce, the hosted streamer communicates with consumers through text messages while broadcasting live.<sup>8</sup> It is to communicate in real-time with a broadcast host who gives the feeling of purchasing directly from an offline store while enjoying the convenience of the offline store. The use of the AR is expected.<sup>9</sup> In an empirical study on the effect of fun advertising, the advertising attitudes, brand attitudes, and purchasing behaviors of advertisement types (broadcast advertisements and print advertisements) and fun advertisement types (cognitively entertaining advertisements and emotionally entertaining advertisements) are in an empirical study that was researched. Structural relationships between the figures were examined. As a result, it was relatively successful to manipulate the funny advertisement, and the viewer attitude after advertisement exposure affected the presented brand attitude. It has been found that brand attitude affects purchase intention.<sup>10</sup>

Therefore, this study is worth asking a question about how the trend will change with the fun content of the MZ generation in Korea regarding the change of mobile shopping beauty live commerce after COVID-19. By empirically analyzing the activation factors of live commerce targeting the MZ generation, who are real users of live commerce, it will be possible to provide implications for the newly changed commerce environment in the untact era.

## 2 | MATERIALS AND METHODS

In June 2021, we suggested a narrative review as a novel report and commentary on the changes in mobile shopping related to beauty live commerce in the COVID-19 pandemic. It was written with reference to keywords such as "Covid Mobile Shopping," "Covid MZ Generation," "Covid Live Commerce," and "Fun Content." This study was conducted by searches on PubMed, Google Scholar, Scopus, and ResearchGate. A total of 398 papers were found, of which 40 were successfully included in this study. The results indicated changes in the beauty market after COVID-19, significant increase in mobile shopping in the untact era, growth of beauty live commerce, and preference for fun content of generation MZ analyzed and shown as [Tables 1-4](#).

## 3 | RESULTS

### 3.1 | Changes in the beauty market after COVID-19

In March 2020, the World Health Organization (WHO) announced an epidemic. Multifaceted studies are underway on skin problems related to personal protective equipment and personal hygiene measures, skin findings observed in SARS-CoV-2 virus infection, and skin disorders related to COVID-19. These studies suggest that many skin lesions may appear due to COVID-19. Even in the absence of a diagnosis of COVID-19, it has been found that great caution is needed in evaluating skin findings during this pandemic.<sup>11</sup> In one review, Challenges for Dermatology in the COVID-19 Pandemic, Coronavirus Disease 2019 (COVID-19) is a dermatological situation in dermatology, especially for students. However, it will be temporarily insignificant in a classical setting; a study has found that COVID-19 is not a dermatological disease, but in itself has a huge impact on dermatology.<sup>1</sup> The world has changed dramatically since the onset of the COVID-19 pandemic. In addition to social, professional, and personal lives, the new coronavirus poses new challenges for everyone. Several skin conditions have emerged, mostly as a result of personal protective equipment, prolonged contact, and excessive personal hygiene. Exacerbations of skin conditions have been described, including bedsores, contact dermatitis, pruritus, pressure urticaria, seborrheic dermatitis, and acne. These studies focused on the dermatological aspect, recognizing COVID-19 infection and skin complications, and enabling preventive measures against the COVID-19 pandemic.<sup>12</sup> While describing the skin symptoms of COVID-19, some patients showed skin changes and skin drug side effects related to changes in health care workers' COVID-19 lifestyle. Thus, these times the skin symptoms and implications are being discussed, including reviewing COVID-19 from dermatology and public health perspectives.<sup>13</sup> During the COVID-19 pandemic in the general population, a study found that long-term wearing of a mask increased acne flares.<sup>14</sup> We reviewed the literature on emerging dermatological conditions as a result of occupational mask wear

TABLE 1 Changes in the beauty market after COVID-19

No	Journal name	Author	Title	Discussion	References
1	<i>Turk J Med Sci</i>	Gül Ü. (2020)	COVID-19 and dermatology	Many skin lesions may appear because of COVID-19. Even in the absence of a COVID-19 diagnosis, skin findings should be evaluated carefully in this pandemic period.	[11]
2	<i>Clindermatol</i>	Darlenski R, Tsankov N et al. (2020)	COVID-19 pandemic and the skin: what should dermatologists know?	We have focused on the dermatologic aspects of the COVID-19 infection so that dermatologists are aware of the skin complications and preventive measures can be taken in the COVID-19 pandemic.	[12]
3	<i>Dermatol Ther</i>	Almutairi N, Schwartz RA et al. (2020)	COVID-19 with dermatologic manifestations and implications: An unfolding conundrum.	COVID-19 lifestyle alterations in patients and health care workers.	[13]
4	<i>Dermatol Ther</i>	Han C, Shi J, Chen Y, Zhang Z et al.(2020)	Increased flare of acne caused by long-time mask wearing during COVID-19 pandemic among general population.	During the COVID-19 pandemic, there has been an increase in acne flare-ups in the general population due to wearing a mask.	[14]
5	<i>JMIR Dermatol</i>	Wilcha RJ. (2021)	Does Wearing a Face Mask During the COVID-19 Pandemic Increase the Incidence of Dermatological Conditions in Health Care Workers?	Reviewing the literature on emerging skin diseases as a result of occupational mask wearing during the COVID-19 pandemic.	[15]

during the COVID-19 pandemic. Long-term and frequent use of face masks has been found to result in many dermatological conditions. Pressure-related injuries were often the most serious complaints. In unprecedented times, PPE has been an effective barrier to the spread of COVID-19 among healthcare workers. Despite the obvious benefits of using a mask to protect the respiratory tract, it suggests that it has significant adverse skin effects.<sup>15</sup>

### 3.2 | Significant increase in mobile shopping in the untact era

As the COVID-19 pandemic escalates, contactless culture has recently emerged as a new trend in life, with spending on health aids and sanitation online increasing and consumption patterns changing. As such, online data have been accumulated in the interpretive aspect of data and its meaning has grown as a new trend emerges.<sup>16</sup> As the penetration of smartphones expands, the proportion of consumers using the Internet with smartphones rather than PCs is increasing. The use of smartphones is also increasing in the process of searching, comparing, and purchasing products and services. As digital devices change to “smartphone-centric”, “mobile shopping” in the field shows the fastest response. With the growth of mobile shopping, academia is also increasingly interested in it and changes in consumer behavior.<sup>17</sup> The sales of the mobile shopping market have grown from 1.8 trillion won in 2012 to over 42.5 trillion won in 2017. As of 2019, it continues to grow and is positioned as a major distribution medium.<sup>18</sup> In the past research on e-commerce, point, click, and purchase, many people in

the healthcare field said that B2B e-commerce has a great saving effect. Some experts estimate that e-procurement can cut costs by 18%–45% in the healthcare supply chain. This could revolutionize the \$140 billion supply industry, but only when buyers and sellers are on the same page. Numerous companies are emerging to make that link. Joseph Miccio of NCI Consulting presented the following research results. “Anyone can place an order online. The real challenge for these vendors is to connect all players simultaneously with a common database”.<sup>19</sup> Developing a top-five model for customer satisfaction in beauty and cosmetics e-commerce and in the study on validation, we filled out the questionnaire in the unique context of online shopping for beauty and cosmetics in the Vietnam market with five valid configurations of the customer satisfaction theory model. More specifically, people filled out the five implementation configurations of the online shopping experience, customer service, external Five main components were identified including incentives, security, privacy, personal characteristics, and single outcome construct customer satisfaction. Online shopping experiences such as beauty and cosmetics will help to identify basic dimensions of consumer satisfaction for Vietnamese. Based on the 334 overall responses received, it was tested 167 observations using exploratory factor analysis (EFA).<sup>20</sup> Additionally, based on the existing literature on electronic service quality of online shopping, it is electronic service quality that affects customer satisfaction, customer trust, and customer behavior. The other research has been undertaken to develop new knowledge to better understand its most important dimensions. It focuses on the fourth dimension of the e-service quality model, which better predicts customer behavior. In addition to the impact of customer satisfaction such as

TABLE 2 Significant increase in mobile shopping in the untact era

No	Journal name	Author	Title	Discussion	References
1	<i>Korea Journal of Business Administration</i>	Song N, Yoo W, Kim BR et al. (2020)	Development of Consumer Cultural Innovativeness Scale in Mobile Shopping.	We developed a scale related to Consumer Cultural Innovativeness and checked whether the developed scale has reliability and validity, and whether it can predict consumer behavior in a mobile shopping environment.	[17]
2	<i>Eurasian Studies</i>	Kang JY, Shin JK et al. (2020).	A Study on the Effects of the Luxury Mobile Shopping Attributes and the Shopping Value of Luxury Fashion Products on the Continuously Using Intention via Trust.	Structural relationship between mobile shopping attributes, shopping value of luxury fashion products, consumer characteristics, trust, and continued use intention in mobile shopping was analyzed.	[18]
3	<i>Hosp Health Netw</i>	Menduno M. (1999)	E-commerce. Point, click, purchase.	"Anyone can do online ordering," says Joseph Miccio of NCI Consulting. "The real challenge for these vendors is to simultaneously connect all the players in the supply chain through a common database."	[19]
4	<i>Heliyon</i>	Nguyen TTN. (2020)	Developing and validating five-construct model of customer satisfaction in beauty and cosmetic E-commerce	We identified five major constructs including online shopping experience, customer service, external incentives, security/privacy, personal characteristics and one outcome construct customer satisfaction.	[20]
5	<i>Heliyon</i>	Rita P, Oliveira T, Farisa A. (2019)	The impact of e-service quality and customer satisfaction on customer behavior in online shopping.	The most important dimension of e-service quality influencing customer satisfaction, customer trust and customer behavior is expected to expand knowledge in different national cultures about the different relevance of e-service quality attributes.	[21]

repurchase intention, word of mouth, and site revisit, the effect on customer trust was tested. A study of 355 Indonesian online consumers found that overall e-service quality was statistically related to customer behavior.<sup>21</sup>

### 3.3 | Growth of beauty live commerce

As the non-face-to-face environment has become commonplace due to COVID-19, significant changes have occurred in consumer culture. In particular, a new form of non-face-to-face consumption that combines live streaming and e-commerce platforms is rapidly developing and spreading.<sup>22</sup> The cosmetics industry is paying attention to live commerce. As the consumption trend shifts from offline to online in the aftermath of COVID-19, live commerce is clearly emerging as a new purchase window. Live commerce refers to broadcasting that sells products through real-time broadcasting through mobile applications or the Internet. It is effective that

untact (non-face-to-face, contactless) purchases are being activated due to COVID-19. In addition, the fact that video viewing and purchases through mobile have been activated is also considered to be the basis of live commerce. Another popular factor is that viewers can communicate with various experts such as brand officials and influencers through real-time comments without going to offline stores.<sup>23</sup> It has been reported that the live commerce market in the online shopping beauty industry will grow to 8 trillion won. In fact, if we look at the "2020 Online Shopping Trends" published by Statistics Korea every month, the total amount of online shopping transactions last year was 161 234 trillion won, up 19.1% from the previous year. In particular, it is confirmed that the transaction amount has steadily increased since February when Covid-19 began to spread in earnest. Online shopping transaction amount, which was 11.96 trillion won in February 2020, stayed in the 12 trillion won range from March (12 582.5 billion) to July (12 962.5 billion). In August (14 383.3 billion won), it exceeded 14 trillion won, and in November (15.63 trillion won) it exceeded 15 trillion won. In December (15.99

TABLE 3 Growth of beauty live commerce

No	Journal name	Author	Title	Discussion	References
1	<i>Journal of Cultural Product &amp; Design</i>	Lee HJ, Sung YH <i>et al.</i> (2021)	A Study on the Development of a Scale for the Motivation of Using Live Commerce according to the Change of Non-Face-to-Face Consumption Culture.	A new form of non-face-to-face consumption that combines the platforms of live streaming and e-commerce is rapidly developing and spreading.	[22]
2	<i>Busan Research Institute</i>	Jang J. (2020).	A plan to activate 'non-face-to-face marketing' in Busan in the era of Corona 19 - Pay attention to 'live commerce' in response to the increase in untact consumption.	'Live commerce', which solves product questions and improves sales performance through real-time communication with consumers without restrictions on location, has emerged as a major non-face-to-face marketing tool.	[26]
3	<i>Front Artif Intell</i>	Adaji I, Oyibo K, Vassileva J <i>et al.</i> (2020).	E-Commerce Shopping Motivation and the Influence of Persuasive Strategies.	We propose the use of shoppers' online shopping motives to personalize six commonly used influence strategies: scarcity, authority, consensus, liking, reciprocity, and commitment.	[27]

trillion won), it reached 16 trillion won. Accordingly, the live commerce market is also growing rapidly.<sup>24</sup> As for the reasons for purchasing cosmetics on a beauty live broadcast, try using cosmetics with your eyes in the article and ask questions immediately. Live commerce satisfies the thirst of not being able to choose products directly from the store. Just like talking to a seller in an offline store, there is a channel where you can communicate and shop online in real time. "Live Commerce," a compound word of "Live Streaming" and "Commerce," is a show host directly explaining and selling products. At first glance, it is similar to TV home shopping, but there is a clear distinction. Live commerce enables interactive communication based on mobile. In the meantime, more and more people are shopping online while practicing social distancing due to Corona 19, but the lack of communication cannot be solved.<sup>25</sup> In the era of Corona 19, a study on "live commerce" was conducted in Busan to respond to the increase in untact consumption as a way to activate "non-face-to-face marketing." He argued that it is necessary to change the sales and marketing methods of companies in line with the growing number of untact consumption, which avoids contact with others due to the COVID-19 outbreak. In addition, it is said that "live commerce," which communicates with consumers in real-time without space restrictions, answers product questions immediately, and improves sales performance, will emerge as a major non-face-to-face marketing method.<sup>26</sup> In China, live commerce is developed centered on Wang Hong, a one-person media. However, domestically, it is being proposed mainly by companies. It is a representative live commerce channel run by Hong Wang in Taobao Zibo (淘宝直播) in China and has a high number of followers. Persuasive strategies are not coercive and are used to influence people's behavior or attitudes. It is commonly used in online systems such as e-commerce systems. However, research also shows that to make persuasive strategies more effective, they must be tailored to groups of similar individuals. A method of using consumers' online shopping motives was proposed to align with six commonly used influence strategies.<sup>27</sup>

### 3.4 | Preference for fun content of generation MZ

Millennials and Generation Z, called the "SNS generation," are focusing on consumption trends. Even in research dealing with recent trends, it is a generation that is constantly attracting attention. They are agents and drivers of great change. Therefore, we need to analyze the lifestyle they pursue in order to understand the current situation. Their lifestyle and consumption patterns influence many industries to create services for them.<sup>28</sup> As a result, various lifestyles in which work and play coexist in daily life have been the basis for this trend. In a life where such play coexists, it is an element that stimulates the fun sensibility and conveys intimacy. It appears in modern society with increased leisure time and forms a lifestyle. Several concepts of fun are being studied. First, the characteristics of fun produced in an advertisement, product, and space design where capricious appears are found in everyday life. By changing one element in it, the presence is newly discovered in the familiar consciousness. It delivers a memorable effect by naturally delivering commercial band image and message delivery in a short time. Second, looking at the characteristics of fun produced in advertisements, products, and space design in which trans appears, a certain visual decoration is created by replacing, mixing, or reversing in a way that the role is changed by the recognition of an object, person, or space known as general knowledge.<sup>29,30</sup> Factors influencing the MZ generation's acceptance of YouTube-based beauty health information are technological preparation acceptance. In a study centered on this, the optimism and innovativeness of the MZ generation had a positive effect on the usability of YouTube-based beauty health information. In conclusion, in order for the MZ generation to increase the use of beauty health information on YouTube, based on that platform, it actively promoted the use of beauty and health information and suggested that there is no anxiety factor in YouTube-related technology.<sup>31</sup> According to the advertisement, a study was conducted to examine the structural relationship between various purchase

TABLE 4 Preference for fun content of generation MZ

Author	Lee HM, Rhie JM, Jang YS et al. (2010)	Choi Ki. (2014)	Kim S, Yoo J et al. (2015)	Lee JS. (2020)	Bae SH, Han HR et al. (2021)
Title	A Study on Fun in Direct Design -from the Viewpoint of Capricious and Trans.	Study on Play Effect Analysis of FUN Concept Handicraft and its Effectiveness Evaluation - Focusing on interior decoration tools and furniture design.	A Study on show window display method of expression using Fun designs.	The Factors Affecting MZ Generation's Acceptance of YouTube-Based Beauty Health Information: Focusing on the Application of the Technology Readiness and Acceptance Model.	Analysis of the spatial expression characteristics of lifestyle shops for the MZ generation - Focusing on the types of interiors select shops -.
Discussion	In a life where play coexists, 'Fun' is an element that stimulates emotions and conveys intimacy.	It was confirmed that the design incorporating the concept of FUN can secure product diversity, and it can induce fun for consumers and obtain positive evaluations.	Consumers pursued fun as they not only pursue the desire to have fun and enjoyment anytime, anywhere, but also have a psychological desire to escape from reality, such as change of mood, freedom, and new information collection.	To increase the use of YouTube beauty and health information for the MZ generation, it is necessary to actively promote the use of YouTube-based beauty and health information.	Millennials and Generation Z, also called the 'SNS Generation', are the main players who lead consumption trends at the center and are the generation that is constantly receiving attention in research dealing with the latest trends.
Journal name	<i>Research on Korean Art and Design</i>	<i>Korean Design Forum</i>	<i>Proceedings of the Korean Society for Spatial Design</i>	<i>Journal of Investigative Cosmetology</i>	<i>Korean institute of interior design journal</i>
References	[29]	[30]	[33]	[31]	[28]

intentions, and the structural equation analysis showed that it was well established according to the type of advertisement and the type of fun advertisement.<sup>10</sup> Various studies are being conducted on the role of trust and online perception as a forming factor in consumer purchasing decision making in social commerce. Consumer's purchasing decision-making process, determinants of social commerce purchase intentions and attitudes, the influence of perceived risk on shopping intentions in online settings, consumer confidence and purchasing behavior consumer perceptual attitude toward online retailing, the effect of behavioral intention and immediate satisfaction on purchase of online products and services need to be investigated. Therefore, it is necessary to create something like a decision-making process for a social commerce platform. Therefore, it is necessary to study intentions that influence online purchase decisions in light of the characteristics of source reliability.<sup>32</sup> A study was conducted on the expression method of the show window display using the fun design. Consumers pursue the desire for fun and enjoyment anytime, anywhere, excitement, and fantasy. In addition, as I had a psychological desire to escape from reality such as change of mood, freedom, and new information collection, I pursued fun. In space, fun stimulates curiosity through experiences such as seeing, hearing, and touching, and it is an element that stimulates emotions as a possibility with diversity, creativity, and dynamism. It means that two-way communication that can participate in the process is possible. Messages can be conveyed visually with the common purpose

of having fun and enjoyment. By expanding human experience, it is proposed to break stereotypes about everyday objects and thoughts and to change ideas. In addition, it was said that it could be expanded as a cultural space for the public.<sup>33</sup>

## 4 | DISCUSSIONS

The worldwide COVID-19 pandemic is raising the importance of hand hygiene to prevent microbial transmission and reduce the spread of infection.<sup>34</sup> In the months following the initial outbreak, international public health campaigns and practitioner training are highlighting the importance of washing and sterilizing hands. One study has found that washing your hands and face can reduce COVID-19 infection. The various modes of propagation of SARS-CoV-2 have been the subject of intense debate in recent years. The main route of transmission of the virus occurs through droplets of various sizes exhaled, which can be inhaled by people in the vicinity or deposited on surfaces. Hand-to-face transmission after touching a contaminated surface has been identified as a potential route of infection. Humans unconsciously touch their face more than 20 times per hour, so it is recommended to wash your hands with soap to avoid transmission. During inhalation of physiological nasal air, virion particles adhering to the face close to the nose are resuspended in the air and then inhaled into the nose.<sup>35</sup> According to these historical circumstances,

the new normal era of big data analysis led to research on cosmetic trends. It is very important to conduct research on changes using big data in the cosmetic and cosmetic fields as well. We analyzed the frequency of keywords "cosmetics" of Naver, Daum, and Google using big data. From January 19th to September 19th, 2020, "new era" cosmetics trends were researched, and keywords were analyzed. As a result, keywords include "recommendation," "agree," "function," "natural," "man," "acne," "mask," "online," "custom cosmetics," "basic," "review," etc. It was found that the frequency of searching for the word was high, indicating the importance of the word. As awareness of eco-friendly products has increased, consumers have become more cautious about cosmetic ingredients. Accordingly, consumers' interest in cosmetic ingredients is expected to increase further in the future.<sup>16</sup>

In a study on attitudes and satisfaction toward mobile shopping apps, shopping through mobile shopping apps on mobile phones has recently increased. Based on the technology acceptance model (TAM), the determinants of attitudes and satisfaction toward mobile shopping apps were investigated. The survey data of 218 mobile shopping users were collected and verified. As a result, it was the ease of use and usefulness of the shopping app presented in TAM that determined the attitude toward the shopping app. In other words, the more favorable the attitude toward the shopping app, the higher the number of mobile purchases, and the more frequent the consumers, the higher the satisfaction with the shopping app.<sup>36</sup> A study was conducted on the recognition and development potential of cosmetics customized for mobile shopping in the COVID-19 untact era. As we enter the untact era after the spread of COVID-19, the frequency of using mobile shopping for customized cosmetics is increasing. This seems to be closely related to the level of interest in skin and the level of recognition of customized cosmetics, such as the use of experiential apps that incorporate technologies such as augmented reality (AR) and virtual reality (VR). This means that in the untact era after COVID-19, mobile shopping will expand even more, and sporadic COVID-19 thinking is still ongoing. However, because of rapid digital transformation, the development of mobile shopping and e-commerce is expected to further expand.<sup>5</sup>

There was a need to understand how to influence strategies such as scarcity, authority, consensus, likes, and commitment that could be tailored or personalized for e-commerce shoppers based on their shopping motives online. This has important implications for the human factor. A study on the social benefits and social disadvantages for consumers of new commerce has been made. Thus, a study of 226 online shoppers was conducted and tested. The results of the structural model suggested that strategies of persuasive tendencies can influence e-commerce buyers in various ways depending on their shopping motives.<sup>27</sup> In a study on the motive factors of consumers who use Live Commerce, which is in the spotlight, factors for the motivation for using Live Commerce were extracted. Based on that, the final scale was developed. As a result of the analysis, a study was conducted on the 7 motivations for using live commerce (information acquisition motivation, convenience motivation, hedonistic motivation, economic motivation, social motivation,

participation/communication use motivation, and leisure time utilization motivation scale). This explains the behavior of users who are increasingly using live commerce platforms, and active research on live commerce such as influence verification continues.<sup>22</sup> People who want to shop online for convenience have the greatest impact on scarcity, whereas store-oriented shoppers have the greatest influence on consensus by social interaction and motivation for immediate possession of goods. Consumers who want to shop online have the greatest influence on authority, thanks to the opportunity to search for different products and brands for different job seekers.<sup>27</sup> Therefore, continuous research on ways to replace various problems that cannot be replaced by digital technology, such as customer experience, from the customer's point of view, securing a network of participants, and making separate efforts, should be continuously continued.<sup>5</sup>

A study was conducted on the reasons, timing, fun, and psychological connection between consumers' addiction to smartphones. We investigated how smartphones shape consumer minds and influence their behavior. As a result, it was found that the use of smartphones tried to fill the gap and activated the mind for fun, leading consumers to prefer pleasure-oriented products. First, the implicit association test was used to show the association between smartphones and fun. Second, product orientation acts as a device of hedonism or pragmatism, and thirdly, it constitutes work or fun, which interferes with the smartphone fun association. This study plays an important role in determining consumer preference for pleasure.<sup>37</sup> Customer modeling studies in e-commerce were also studied using system models to describe the flow of information between the three subsystems and store environments, customers, and web technologies. A customer enters a store and makes several decisions, such as browsing, buying, paying, and storing. In this artificial environment, a support design is needed that allows customers to make decisions. To attract customers, it must be fun, fun, and make your workflow in a natural way. Customers have various needs, competencies, and motivations that influence decision making.<sup>38</sup> From August 2019 to July 2020, there was a study introduced focusing on the live commerce broadcast of *Wang Hong*, who ranked third in the number of followers on Taobao Zibo's fashion and beauty-related broadcasting channels. First, with the rise of untact services, live commerce has been in the spotlight among consumers. Event content was found to be a factor that could induce consumers' interest in broadcasting viewing and purchase. Second, we can see the broadcast cases of China's representative live commerce broadcasters, Wang Hong-in Yi Jiaqi, Weiya, and Real Baobai. They categorize event content into sweepstakes events, product demonstrations and evaluations, celebrity collaboration broadcasts, coupons, and freebies. Third, the event content of live commerce shows the characteristics of interaction, discount, entertainment, and information.<sup>39</sup> A study was conducted on the effect of entertainment on viewers' attitudes and continued use intentions in live commerce. Based on the structure of live commerce, the components of entertainment were classified into interaction, cognition, achievement, and sensation. We analyzed

the difference in the effect of each factor on the viewer's attitude, cognitive factor, emotional factor, behavioral factor, and continued use intention. As a result, it was found that emotional and behavioral factors among viewers' attitudes affect the intention to continue use.<sup>40</sup> As such, because of analyzing the characteristics and classification through cases of the concept of this study, it was found that the pictures produced with fun stimulate the emotions of those who encounter the carefully planned and set environment. This shows that the concept of sensibility approached in the directing setting appears more efficiently. Fun's directing design requires an experimental spirit and is made through various attempts based on a change of thought. However, the limitation of this study is that various studies are lacking in the live commerce market, which is now in its infancy. In addition, the current domestic trend is used only in a small number of sectors. It is expected that bold attempts and a change of thinking will be required in various fields in the future.<sup>29</sup>

## 5 | CONCLUSIONS

Therefore, this narrative review focused on the fun content of the MZ generation in Republic of Korea, which is the main pillar in the change of mobile shopping beauty live commerce after COVID-19. We empirically analyzed the factors of use and activation of live commerce targeting the MZ generation, who are the main users of live commerce. As a result, it is expected that this article will be used as important marketing material for new changes in the market by clearly understanding the consumer needs of the cosmetics industry that has changed in the untact era.

### ETHICAL APPROVAL

The conducted literature review did not require the agreement of the bioethics committee.

### CONFLICT OF INTEREST

The authors of this manuscript do not have any conflicts of interest to disclose.

### AUTHOR CONTRIBUTIONS

Jinkyung Lee and Ki Han Kwon involved in conception or design of the work, interpretation, drafted the article, and critically revised of the article. All authors finally approved the version to be published.

### DATA AVAILABILITY STATEMENT

The findings of this study are available from the corresponding author upon reasonable request.

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