Article

A Study on the Sustainable Structural Relations between Social Exchange Relationship Characteristics and Social Contagion Effect in Beauty-Related One-Person Media

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Abstract: This study examined how members of beauty-related one-person media networks build sustainable ties with other members through various exchange activities and diffuse information based on the social contagion effect. Accordingly, social exchange relationship characteristics of beauty-related one-person media were specified and structural relations through which these characteristics affect group cohesiveness, conformity-based collective intelligence, and fad-like behavior were identified. A sample of 529 users with experience of consuming information on beauty-related one-person media was selected, and research hypotheses were tested via reliability testing, validity testing, measurement model analysis, and path analysis using SPSS ver. 23.0 and AMOS ver. 23.0. First, the path analysis between social exchange relationship characteristics of beauty-related one-person media and group cohesiveness revealed that relational characteristics significantly affected social cohesion, but situational characteristics and personal characteristics did not. Additionally, situational characteristics and personal characteristics significantly affected task cohesion, but relational characteristics did not. Second, the path analysis between group cohesiveness (social cohesion, task cohesion) and conformity-based collective intelligence in beauty-related one-person media revealed that social cohesion and task cohesion significantly affected conformity-based collective intelligence. Third, the path analysis between conformity-based collective intelligence and fad-like behavior in beauty-related one-person media clarified that conformity-based collective intelligence significantly affected fad-like behavior.

1. Introduction

In the personal broadcasting platform, new content that did not exist before are being created, and the one-person media is showing a new culture and strong influence in the content and media industry. In particular, the reason why this type of one-person media is attracting attention as a marketing tool is that it is a new communication platform with the power to spread vast amounts of information [1]. This is because the diffusion power gives not only companies, but also individuals the power to collect, process, produce, and spread various information. Moreover, it can be said that understanding the information diffusion behavior of users in one-person media is very important for the growth and development of a company because it exerts a conformity-based influence between users in the product/brand purchase decision-making process.

Above all, these conformity-based social characteristics have emerged as important variables in the beauty-related one-person media ("one-person media dealing with beauty-related content") environment, and various research approaches have been attempted

based on the network theory. In particular, the exchange theory concept is used to explain the effectiveness of action in the relational aspect, which overcomes the limitations of the existing approaches based on the social theory (microscopic or macroscopic) and takes a holistic yet specific approach to social problems from both macroscopic and microscopic views [2]. Specifically, the most fundamental characteristics of social interaction are reliability and reciprocity, which are the main proposition to understand the social exchange theory [3], and this social exchange is formed based on mutual conformity [4]. Furthermore, in order to determine the effect of relational characteristics connected through beauty-related one-person media, sustainable multi-level approaches are required. It has been proved that members of a group with higher group cohesiveness have stronger personal ties and enjoy more frequent and positive social exchanges. Thus, citizenship behavior of members is a mediator for social exchange. Groups in which members have similar values or cultural backgrounds are likely to show higher cohesion, as well as similar attitudes or behavioral patterns [5]. Moreover, the level of intelligence communicated and shared through social interactions is important. From this perspective, social intelligence can be the process of combining information formed and shared through free and active communication among members on one-person media [6]. As such, group cohesiveness and social intelligence may serve as extremely important factors for maintaining and adding members within beauty-related one-person media, and as information shared via social relations induces behavioral intentions [7], studying social network characteristics in beauty-related one-person media from the perspective of social connectivity is critical for determining the cause of information diffusion using the digital technology. However, one-person media is at an early implementation stage, and, therefore, no study has yet revealed the importance of emotional and social influences in terms of social exchanges for social contagion and relationship building between consumers and one-person media services.

Against this backdrop, this study examines how members of a beauty-related one-person media network build strong ties with other nodes connected with individuals through various exchange activities and exchange information based on the social contagion effect. Social exchange, especially in one-person media, emphasizes the importance of interchange in terms of goodwill or emotions of the exchanging parties. As such, general emotions created in social exchange trigger cognitive efforts to understand the cause (more specific emotions, solidarity with the society, and outcomes of this attribution process). Furthermore, joint tasks with social exchange can be explained based on social units (relationships, networks, groups), and this assumption may have significant implications for the role and meaning of emotions in the process of social exchange. The relationship between communication satisfaction in one-person media and the behaviors of network members can be explained based on the social exchange theory, and the emotional state of members may lead to collaboration and spontaneity within the organization, thereby resulting in behaviors. Members of an organization or a group form a social network, through which they exchange information and interact with one another, thereby building ties [8]. One-person media grow with followers and have less binding force than offline media, thereby enabling more liberal network formations. One-person media form new relationships through social communication that is expanded this way, while also maintaining connections with the existing bonding (bridging) social capital [9]. Members of one-person media communicate, exchange information, and implement group processes through social network and social capital.

Moreover, in terms of the uncertainty reduction theory, group members feel anxious when faced with uncertain situations and tend to communicate more to reduce these uncertainties, which also enhance group cohesion [10]. In groups with strong cohesiveness, members feel a strong desire to help one another, which is why group cohesiveness is perceived as an important situational factor that contributes to mutual cooperation and performance improvement of members in terms of organizational citizenship behavior as well [11]. Furthermore, members of groups with strong cohesion discover more similarities with one another, enjoy making conversations, and are more interested in colleagues,

thereby communicating more effectively [12]. Networks formed with cohesive relations more actively share newly obtained information within their networks. Moreover, considering that information in beauty-related one-person media is communicative rationality that promotes mutual understanding among members as well as intelligence shared by group communication, it also has instrumental rationality as social intelligence that solves common problems competently [6].

Based on the above, this study explains the characteristics of one-person media and social exchange among group members, and how these characteristics affect group cohesiveness and social intelligence with fad-like behavior in which members accept and follow information through conformity-based social contagion effect. Research on the relationship between structural characteristics of social exchange networks built in one-person media use and relational actions of users will have significance in determining the social network structure of one-person media. In particular, it is expected to be able to evaluate the role of one-person media on the relationship performance of beauty consumers because the social exchange characteristics of beauty-related one-person media in this study intrinsically focus on the scope of use of beauty products (services) and information shopping.

2. Theoretical Background

2.1. Beauty-Related One-Person Media

As the profitability of one-person media has been recently proved, the MCN (multi-channel network) industry nurturing one-person media is exerting a significant influence on the creative beauty industry. MCNs have a bright future and low entry barrier, which would further expand the beauty category on one-person media. Moreover, beauty companies are showing interest in one-person media in the Korean market where they are facing challenges in growth due to its high credibility with users, content flexibility, and impact throughout overseas markets. For example, beauty creators of one-person media are already offering detailed product reviews to consumers with their creative content, such as SSIN (theme-based beauty content imitating certain celebrities), SYDNEYTOYOU (various beauty content, such as vlogs), BAMBIGIRL (beauty content combined with fashion styles), SUNNY'S CHANNEL (beauty content, such as cover makeup), and RISABAE (professional makeup tips, unedited beauty content). Beauty companies are also developing and operating related programs to meet the one-person media trends. Etude House's Beautizen Club offers content such as commercials, campaigns, makeup tutorials, and interviews by planning and creating video content and forming employed one-person media groups to communicate with consumers. Innisfree mostly provides makeup tutorials, content experimenting the effects of their products, online/offline campaigns, and other content based on their brand image, such as product ingredients and eco-friendly stories. MISSHA provides commercials and makeup tutorials by collaborating with creators rather than the channel itself. The Face Shop is also using beauty creator channels apart from their brand channel to offer commercials and makeup tutorials. Beauty multi-channel network Leferi attracted investments from Southeast Asia, such as Vietnam and China based on sustainable Hallyu and the popularity of Korean cosmetics, and expanded into overseas markets, thereby establishing a bridgehead to further promote Korean beauty-related one-person media.

Beauty companies are thus promoting real-time communication aligned with social networking service (SNS) on one-person media based on Web 3.0 and MCNs, which will further expand and grow in terms of influence. As content can be used for specific situations and purposes, beauty companies are approaching one-person media in various ways, from exposing their products in video clips or on SNS of one-person media to collaborating with creators to create promotional films and developing products. Furthermore, they are attempting all kinds of communication activities, as word spreads quickly on one-person media, and beauty consumers have great network influence.

2.2. Social Exchange Relationship Characteristics

In terms of community, members of an organization form various types of economic and social exchange relationships with components like people or jobs or with the organization itself [13]. Here, economic exchange relationships are formed based on financial rewards, whereas social exchange relationships are formed based on psychological rewards such as loyalty and recognition [14].

This aspect of the social exchange theory can be applied to all relationships in the organization, but mostly the focus is on the relationship between individuals and the organization. The social exchange theory is based on the concept that individuals will choose exchange after analyzing the costs and benefits, and it can explain relationships at the individual or collective levels by integrating positive and negative awareness [15]. Yanhan [16] stated that rules are required between the two parties for social exchange, such as reciprocity, negotiation, relationship, altruism, common benefits, identity, consistency, and principle of competition. Cragan and Wright [17] studied communication in small groups and discovered that communication has a significant influence on collective power, and effective communication skills promote successful development and maintenance of satisfactory relationships among members. Preece et al. [18] suggested shared purpose (title or aim, additional information), members (access, division of roles, effective communication), and policies (registration, operation, trust, security) as the guidelines for social relationship planning in the framework of participatory community-centered development.

Moreover, Shore et al. [19] claimed that social exchange occurs extensively based on trust in a long-term view with emphasis on social and emotional aspects. Considering the emotional aspect of social exchange, customers who actively participate in service encounters will interact more smoothly, which evokes positive emotions through social exchange between the two parties in the interaction process, ultimately casting a positive effect on the relationship quality as well as relationship performance [20].

2.3. Group Cohesiveness

Members of an organization or a group form a social network, through which they exchange information, interact, and build ties [8]. Recently, members of social networks have begun communicating more actively, exchanging information, and implementing group processes through social network and social capital. In this communication process, groups with strong group cohesiveness form strong social identities that enhance the desire of members to help one another, which is why group cohesiveness is considered a key situational factor of organizational behavior that contributes to collaborative and job-related performance improvement of members [21]. Mayo et al. [22] argued that promoting cooperation and exchange through efficient communication among members of an organization will create informal customs, values, norms, and social relations and increase group cohesiveness. They also emphasized the need to increase group cohesiveness by increasing mutual trust and collaboration among members through smooth and efficient communication or informal exchange in order for their behaviors to positively contribute to organizational performance.

Kim et al. [23] argued that cohesion must be divided into social cohesion and task cohesion, claiming that the organization has social cohesion when its members like one another, socialize among themselves, enjoy each other's company, and feel emotionally close, which is related to affiliation motivation. They also stated that groups with task cohesion are comprised of motivated members who collaborate to achieve common goals, which is related to task motivation. Group cohesiveness is a critical factor that affects organizational performance, and groups with high cohesiveness possess stronger initiative and drive, thereby successfully completing their tasks [11].

2.4. Social Intelligence and Social Contagion

Por [24] referred to a shared mental model as a commonality and claimed that sharing values and purposes among members at optimum levels will be the most powerful tool in

forming collective intelligence. The Co-Intelligence Institute [25] stated that individuals contribute to the group through collective intelligence, and then the group's change affects individuals' change. Moreover, collaborative intelligence can be explained as a key factor of collective intelligence as it includes the will to collaborate among members as well as effective collaborative skills. Accordingly, for generative conversations for collective intelligence, there must be common interactions to form partnerships among members [26]. As diversity itself has value in collective intelligence, various ideas and opinions of members along with undiscovered perspectives can expand the scope of problem-solving methods [27]. Furthermore, according to previous studies on collective intelligence and the distributed cognition theory, cognitive as well as material resources like the media can be considered as important cognitive elements, which increase the effectiveness of collective intelligence when used efficiently [28].

Moreover, collective information is disseminated through social conformity, which appears in the form of "information cascades" [29]; this social conformity is a determinant of information, and people can increase trust in information through social conformity acts, such as likes or positive comments, when the information lacks ground [30]. An opinion or information shared among members serves as the main cause for users to continue using social media, ultimately inducing social conformity [31]. Thus, social media users accept the responses of network members, rather than their own information, as the primary information, which is why other people's feedback when using a service may bring the effect of social conformity [32]. Furthermore, social conformity affects isomorphism as people use products recommended by members to feel a sense of belonging to the reference group [33]. People also tend to purchase recommended products so as to be acknowledged by the society to which they belong and create the image they desire [34].

3. Research Method and Procedure

3.1. Research Model and Hypotheses

One-person media users intend to develop important resources and a sense of belonging and share different perceptions through communities. However, these reasons may vary depending on the essence of the network formed among members, and just because a social network is formed does not mean that knowledge is easily shared [18]. Accordingly, in terms of the social exchange theory, social relations refer to the process by which members continuously exchange information services, forming interdependence assuming that others will bring positive results and necessary resources for them in the partnership. This mutual trust creates an atmosphere for discussion and exchange of knowledge and opinions as a relational aspect of social embeddedness [35]. Considering that information and experiences are exchanged among consumers with a strong attachment to products and brands in a virtual space on one-person media, social exchange relationship characteristics will play a significant role in forming relationships with users. Moreover, in terms of building partnerships, it is important to adequately share benefits and risks among members for common goals and jointly handle sudden risks. Participation in the process of delivering and producing information services has been focused on the relations with service quality and satisfaction [20]. In terms of knowledge exchange in communities, interaction among members who possess and accumulate knowledge is regarded as a success factor. Huh and Lee [36] claimed that social relationships among members for effective knowledge exchange are important, and communication in such a group generally increases attachment and cohesion.

Moreover, in order to expand individual knowledge for competitiveness at the organizational level, it is necessary to promote exchange via interaction as well as collaboration and exchange in social networks [37]. Sharing perceptions on social networks positively contributes to accumulation and sharing of knowledge and information about problem-solving in the organization [38]. Moreover, common values, attitudes, or cultural backgrounds of members are closely related to group cohesiveness, which can help make quick decisions and take prompt measures for urgent issues, thereby affecting organiza-

tional productivity [39]. As such, having a high level of trust among one-person media members, sharing goals, forming high-quality exchange relationships with colleagues, and knowing that the organization values and support its members are the results of social exchanges for conformity-based communication within the organization. Moreover, group cohesiveness comprises group benefits, voluntary motives of members, expectations for goal attainment, and comparison with other groups, and it is divided into two factors: social cohesion and task cohesion [40]. Lee and Chung [41] stated that social exchange relationships can affect organizational behavior by interacting with group cohesiveness, and Wayne et al. [42] argued that members who perceive stronger social exchange relationships are more organization-centric. Based on the above, Hypothesis 1 is established in this study.

Hypothesis 1 (H1). *Social exchange relationship characteristics of beauty-related one-person media will have a significant effect on group cohesiveness.*

Furthermore, group cohesiveness plays an important mediating role in forming and maintaining groups, as well as improving productivity, and is considered a critical factor that affects organizational performance. Previous studies revealed that members of groups with strong group cohesiveness are more collaborative and likely to succeed in achieving their goals and purposes, such as performance improvement [43]. Groups with high group cohesiveness are likely to show higher job performance, which refers to the organization's business accomplishment [44]. Moreover, members of groups with strong cohesion have the social identity to be more sensitive and helpful to other members, and thus, group cohesiveness can be a key situational factor in affiliative behavior [41]. Additionally, it can be determined and developed through the process of social intelligence, that is, the process of exchanging opinions and gathering information from among members of the society, and social intelligence can be a key enabling factor for mutual understanding and self-realization of members [6]. In particular, social intelligence of a group can be improved when its members interact via the communication link, through which they perceive the group goal and complete valuable tasks [45]. Lee and Chung [41] stated that information and emotional and affective empathy, in the broad sense of collective intelligence, are living values of experiential appeal among members. You [46] argued that the utility value of collective intelligence is the shared economic value through which members collaboratively reproduce new knowledge within their community and create an empathic energy, which is necessary to maintain and develop this value so that there is sustainable empathy and information exchange during the implementation process. As such, higher group cohesiveness leads to higher interaction frequency of information among members, which increases the intelligence developed and shared through group communication (conformity-based), and this ultimately affects the social contagion effect (fad-like behavior) by increasing the intensity of joint effort. Based on the above, Hypotheses 2 and 3 are established in this study. In sum, a research model is suggested as seen in Figure 1.
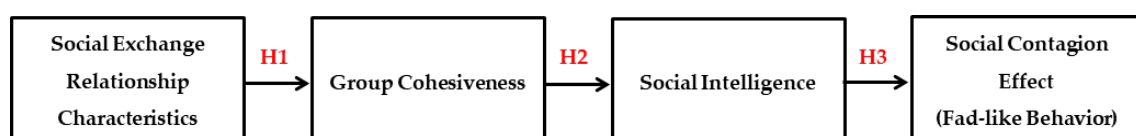

Figure 1. Research model.

Hypothesis 2 (H2). *Group cohesiveness in beauty-related one-person media will have a significant effect on social intelligence.*

Hypothesis 3 (H3). *Social intelligence in beauty-related one-person media will have a significant effect on the social contagion effect.*

3.2. Measurement Tools

Measurement tools in this study comprise items on social exchange relationship characteristics of beauty-related one-person media, group cohesiveness, social intelligence (conformity-based collective intelligence), the social contagion effect (fad-like behavior), and demographic characteristics. To being with, social exchange relationship characteristics of beauty-related one-person media were measured with total nine items based on studies by Brown and Miller [38], Ellison et al. [9], Han and Ohk [33], Hong [6], Hunton et al. [43], Huh and Lee [36], Jurowski and Gursoy [15], Preece et al. [18], Ritzer [4], Scott [8], and Shore et al. [3], such as task performance defined in beauty-related one-person media service, controllability of actual efficient task performance, reward system (feedback) on information sharing, identification with the group in beauty-related one-person media, organizational role in interaction with the organization, interaction in task performance, the effect an individual can have on the organization in beauty-related one-person media service, the extent to which members are expanded to a group, and "we" consciousness in which members think of the group as an extended family. Group cohesiveness was measured using six items based on studies by Corey [11], Ellison et al. [9], Kim et al. [12], Lawler [7], Lee and Yang [39], Monge and Contractor [10], and Scott [8], related to affiliation motivation, in which members invest time in social relations and feel emotionally close to other members in beauty-related one-person media, and task motivation for their collaboration in sharing and achieving common goals. Social intelligence was measured using three items based on studies by Brown and Isaacs [27], Hong [6], Leadbeater [45], Lee [47], and Por [24], which in beauty-related one-person media is not possessed by individuals, but is communicated and shared within the community, related to conformity-based opinion exchange and collection among members. Fad-like behavior (social contagion effect) was measured using three items based on studies by Hunton et al. [43], Lawler [7], Park et al. [31], Sustein [29], and Wang et al. [44], related to shared behavioral intention about information on beauty-related one-person media.

3.3. Data Collection and Analysis

Data collection and analysis in this study were conducted as follows. First, this study developed the primary measurement tool using data based on literature review and interviews using the Delphi technique with experts of one-person media companies, as well as theoretical frameworks of the social exchange theory, group cohesiveness, conformity-based collective intelligence, and the social contagion effect. Second, in order to identify social exchange relationship characteristics, group cohesiveness, and conformity-based collective intelligence affecting the social contagion effect of beauty information, as well as characteristics that must be added, this study completed the measurement tool by extracting and supplementing specific content after conducting a critical incident technique (CIT) analysis through open-ended questions about beauty information diffusion from the perspective of the social exchange theory, with users who have experience using one-person media (subscribers of beauty creator channels with at least 100,000 subscribers). Third, in order to accurately assess the measurement tool related to the social contagion effect on one-person media with focus on studies of beauty information diffusion, and collect data with reliability and validity, this study selected users with experience in beauty information activities (current subscribers of beauty-related one-person media channels with experience of being exposed to personal experience and commenting on or clipping member information at least once in the last three months) using one-person media that creates and offers beauty-related content. A mobile survey was posted (link) on the one-person media community boards to collect data, and total of 529 complete samples were collected through the preliminary study (50 participants) and main study (20 February to 15 March 2021). Fourth, SPSS Ver. 23.0 was used for frequency analysis on general characteristics of samples and reliability and validity testing for internal consistency, and AMOS Ver. 23.0 was used for measurement model analysis and path analysis in the following procedures: (1) Prior to assessing the measurement model, this study calculated

Cronbach's α to test the internal consistency of each construct. (2) Path analysis in this study was conducted according to the two steps suggested by Anderson and Gerbing [48]. In the first step, the measurement model was assessed using exploratory factor analysis and confirmatory factor analysis, and then correlation analysis was conducted on all constructs to test discriminant validity. In the second step, path analysis was conducted based on the results of assessing the measurement model. (3) Based on the path analysis results, the research hypotheses were tested considering the difference in analysis results by model.

3.4. Evaluation of Common Method Bias

As this study applied the self-report survey method, common method bias may have occurred because all the variables were measured based on the same respondents. The common method bias can also be caused by the convenience of the measurement method used (such as surveys) or the measurement situation rather than the respondents [49,50]. Controls for resolving the common method bias include the preliminary method (research design/survey composition) and posterior method (statistical analysis) [51]. To minimize the recall cues and coherence motivation used by the respondents in the research design stage, we separated the survey into first and second stages. The first-stage survey excluded the dependent variables, and the second-stage survey included the dependent variables with time difference. In the survey preparation stage, we verified the items' objectivity, clarity, and simplicity by addressing the opinions of experts at friends-based SNS companies. We also conducted a preliminary survey on the sample to enhance its specificity and relevance.

We also conducted a non-rotation factor analysis using the principal component method. A single factor test showed that the variance among the factors with the largest explanatory power among the items with eigenvalues greater than 1 was 44.364%. Hence, the common method bias was not a problem in this study [52]. The results of a confirmatory factor analysis confirmed the construct validity of all the study's estimation variables.

4. Research Findings and Discussions

4.1. Demographic Characteristics of Research Subjects

The demographic characteristics of the subjects are as follows. A total of 90.7% were female (480 subjects) and 9.3% were male (49 subjects), with the female subjects being the majority. In terms of age, 19.1% were in their 10s (101 subjects), 42.2% in their 20s (223 subjects), 25.1% in their 30s (133 subjects), and 13.6% in their 40s (72 subjects). A total of 21.4% were high school graduates or lower (113 subjects), 40.6% were university students/graduates (215 subjects), 20.2% were junior college students/graduates (107 subjects), and 17.8% were graduate students or higher (94 subjects); 72.8% were single (385 subjects) and 27.2% married (144 subjects). Additionally, 45.9% were office workers (243 subjects), 26.5% were students (140 subjects), 12.7% others (67 subjects), 8.9% were homemakers (47 subjects), and 6.0% were unemployed (32 subjects). In terms of individual income, 21.0% earned 1 million KRW or less (111 subjects), 39.1% earned 1 million—less than 3 million KRW (207 subjects), 22.3% earned 3 million—less than 5 million KRW (118 subjects), and 17.6% earned 5 million KRW or higher (93 subjects).

4.2. Reliability and Validity Analysis

Prior to assessing the measurement model, this study calculated Cronbach's α coefficients to test the internal consistency of each construct and reviewed the reliability. First, as a result of conducting a factor analysis using the varimax rotation on 18 items explaining social exchange relationship characteristics of beauty-related one-person media, three factors with eigenvalue of 1.000 or higher, namely "situational characteristics (three items)", "relational characteristics (three items)", and "personal characteristics (three items)" were extracted, as shown in Table 1. The total variance explained by these three factors was 75.462%, and Cronbach's α coefficients were all above 0.742, showing high reliability of items. Moreover, as a result of conducting a factor analysis using the varimax rotation on

six items explaining factors related to group cohesiveness, two factors with eigenvalue of 1.000 or higher, namely "social cohesion (three items)" and "task cohesion (three items)" were extracted, as shown in Table 2. The total variance explained by these two factors was 86.678%, and Cronbach's α coefficients were all above 0.907, showing high reliability of items. Table 3 shows the results of testing the unidimensionality of each variable of social intelligence in beauty-related one-person media and social contagion, and the factor loadings of these single factors were all above 0.862. The reliability of each of these single factors was above 0.893, thereby showing high reliability.

Table 1. Reliability and validity analysis of social exchange relationship factors.

Variables	Items	Eigenvalues	Component	Variance	Cronbach's α
Situational Characteristics	- Degree of task performance activity defined in beauty-related one-person media - The degree of controllability of actual effective task performance in beauty-related one-person media - Level of compensation system (feedback) for information sharing within beauty-related one-person media	2.567	0.882 0.870 0.792	28.472	0.805
Relational Characteristics	- The degree to which one perceives one as one with the group in beauty-related one-person media - Degree of role in interaction with organizations within beauty-related one-person media - The degree to which they interact with each other in performing tasks within beauty-related one-person media	2.264	0.891 0.888 0.850	25.159	0.848
Personal Characteristics	- The degree of influence that an individual can have on an organization within beauty-related one-person media - The extent to which members are expanded to a group within the beauty-related one-person media - The degree of "we" consciousness that considers members as family within beauty-related one-person media	1.965	0.828 0.820 0.792	21.831	0.742

Table 2. Reliability and validity analysis of group cohesiveness factors.

Variables	Items	Eigenvalues	Component	Variance	Cronbach's α
Social Cohesion	- Value of group affiliation - Importance of social relations in the group - Emotional interest in the group	2.662	0.927 0.919 0.909	44.364	0.907
Task Cohesion	- Information sharing for common goals - Collaboration for common goals - Various interactions for common goals	2.539	0.944 0.942 0.938	42.314	0.935

Table 3. Reliability and validity analysis of single factors.

Variables	Items	Eigenvalues	Component	Variance	Cronbach's α
Conformity-based Collective Intelligence	- Generative conversation for collective purposes - Knowledge cycle (certainty, convergence, divergence, forecasting, etc.) for collective purposes - Responsibility discussion process for collective purposes	2.540	0.938 0.925 0.862	42.329	0.895
Fad-like Behavior	- Useful experience-based imitative behavior - Favorable response to social influence - Conformity in purchase based on multiple uses	2.432	0.924 0.918 0.883	40.538	0.893

4.3. Confirmatory Factor Analysis

The results of confirmatory factor analysis are shown in Table 4. As a result of measuring unstandardized coefficients, standardized coefficients, SE, error variance, CR, construct reliability, and average variance extraction (AVE), it was found that standardized coefficients were all above 0.6, thereby securing construct validity. The AVE were all above 0.5, thereby securing convergent validity. Construct reliability values was all above 0.7, thereby securing internal consistency and convergent validity. Furthermore, this study estimated the fit and parameters of the path analysis using maximum likelihood estimation. The fit indices for conformity-based imitative behavior on beauty-related one-person media were X^2 = 171.840 (df = 3, *p* = 0.000), GFI = 0.926, AGFI = 0.909, RMR = 0.037, NFI = 0.945, CFI = 0.951, RMSEA = 0.048. (GFI: Goodness of fit index, AGFI: Adjusted goodness of

fit index, RMR: Root mean square residual, NFI: Normed fit index, CFI: Comparative fit index, RMSEA: Root mean square error of approximation).

Table 4. Confirmatory factor analysis results.

Measurement Item	Unstandardized Coefficients	Standardized Coefficients	SE	CR	Construct Reliability	AVE
Social Exchange Relationship Characteristics of Beauty-related One-person Media						
Situational Characteristics						
1	1.000	0.902				
2	0.986	0.908	0.053	17.577	0.788	0.678
3	0.898	0.866	0.031	10.367		
Relational Characteristics						
1	1.000	0.887				
2	0.997	0.875	0.040	13.460	0.840	0.723
3	0.954	0.869	0.029	9.731		
Personal Characteristics						
1	1.000	0.917				
2	0.990	0.913	0.055	18.184	0.759	0.686
3	0.957	0.899	0.047	15.653		
Group Cohesiveness						
Social Cohesion						
1	1.000	0.866				
2	0.991	0.863	0.026	8.690	0.893	0.754
3	0.981	0.859	0.021	6.967		
Task Cohesion						
1	1.000	0.855				
2	0.998	0.854	0.018	6.016	0.922	0.769
3	0.994	0.853	0.016	5.359		
Conformity-based Collective Intelligence						
1	1.000	0.878				
2	0.998	0.873	0.037	12.301	0.891	0.714
3	0.919	0.848	0.015	5.102		
Fad-like Behavior						
1	1.000	0.873				
2	0.994	0.871	0.032	10.749	0.878	0.738
3	0.956	0.857	0.020	6.742		

Note. SE = standard error; CR = critical ratio; AVE = average variance extraction.

4.4. Research Hypothesis Testing

The results of testing the hypotheses for the structural model on the relationship between social exchange relationship characteristics of beauty-related one-person media, group cohesiveness, conformity-based collective intelligence, and fad-like behavior are shown in Figure 2 and Table 5. The results of testing each hypothesis are as follows:
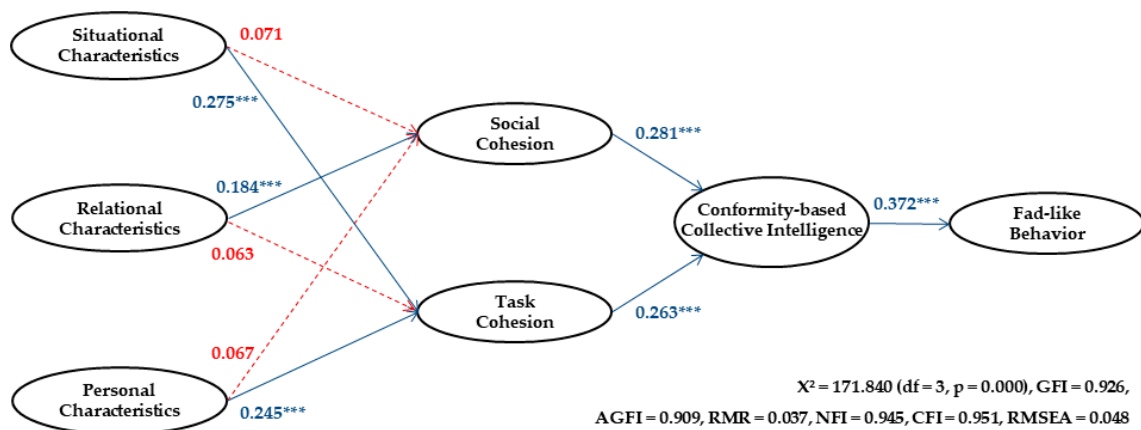

$X^2 = 171.840$ (df = 3, p = 0.000), GFI = 0.926, AGFI = 0.909, RMR = 0.037, NFI = 0.945, CFI = 0.951, RMSEA = 0.048

Figure 2. Research results model (Note. *** $p < 0.001$).

Table 5. Results of hypothesis testing.

Type	Pathway			Estimate	SE	CR	*p*-Value	Result
H1-1-1	Situational Characteristics	→	Social Cohesion	0.071	0.053	1.360	0.174	Rejected
H1-1-2	Relational Characteristics	→	Social Cohesion	0.184	0.051	3.618	0.000 ***	Accepted
H1-1-3	Personal Characteristics	→	Social Cohesion	0.067	0.050	1.325	0.186	Rejected
H1-2-1	Situational Characteristics	→	Task Cohesion	0.275	0.041	6.681	0.000 ***	Accepted
H1-2-2	Relational Characteristics	→	Task Cohesion	0.063	0.032	1.951	0.052	Rejected
H1-2-3	Personal Characteristics	→	Task Cohesion	0.245	0.044	5.759	0.000 ***	Accepted
H2-1	Social Cohesion	→	Conformity-based Collective Intelligence	0.281	0.041	6.854	0.000 ***	Accepted
H2-2	Task Cohesion	→	Conformity-based Collective Intelligence	0.263	0.040	6.616	0.000 ***	Accepted
H3	Conformity-based Collective Intelligence	→	Fad-like Behavior	0.372	0.045	8.279	0.000 ***	Accepted

Note. *** $p < 0.001$.

The results of this study are as follows. First, as a result of the path analysis between social exchange relationship characteristics and group cohesiveness (social cohesion, task cohesion) in beauty-related one-person media, it was found that relational characteristics had a significant positive (+) effect on social cohesion ($\beta = 0.184$, CR = 3.618, $p = 0.000$), but situational characteristics did not have a significant effect on social cohesion ($\beta = 0.071$, CR = 1.360, $p = 0.174$), and personal characteristics also did not have a significant effect on social cohesion ($\beta = 0.067$, CR = 1.325, p = 0.186). Moreover, situational characteristics had a significant positive (+) effect on task cohesion ($\beta = 0.275$, CR = 6.681, $p = 0.000$), and personal characteristics also had a significant positive (+) effect on task cohesion ($\beta = 0.245$, CR = 5.759, $p = 0.000$), but relational characteristics did not have a significant effect on task cohesion ($\beta = 0.063$, CR = 1.951, $p = 0.052$). Second, as a result of the path analysis between group cohesiveness (social cohesion, task cohesion) and conformity-based collective intelligence in beauty-related one-person media, it was found that social cohesion had a significant positive (+) effect on conformity-based collective intelligence ($\beta = 0.281$, CR = 6.854, $p = 0.000$), and task cohesion also had a significant positive (+) effect on conformity-based collective intelligence ($\beta = 0.263$, CR = 6.616, $p = 0.000$). Third, as a result of the path analysis between conformity-based collective intelligence and fad-like behavior in beauty-related one-person media, it was found that conformity-based collective intelligence had a significant positive (+) effect on fad-like behavior ($\beta = 0.372$, CR = 8.279, $p = 0.000$).

The results of examining these variables are as follows. First, regarding the relationship between social exchange relationship characteristics and group cohesiveness, H1-1-2 can be interpreted in line with: the study that an understanding of the relational characteristics of customers is essential in building relationships at the corporate level [53]; the study that social media is evolving in a way that emphasizes communication and relationship building with others through openness and expandability of members [54]; and the study that social exchange relationships may interact with group cohesiveness and affect organizational behavior [41]. However, unlike the study that social relations are based on emotions and thus the unique emotional impact of various exchanges is related to the relationship between the parties or group solidarity [7], it was confirmed that the situational and

personal characteristics of H-1-1-1 and H-1-1-3 were not significant with the social value of group cohesion.

Additionally, H1-2-1 and H1-2-3 are supported by: the study that a broad social network with members is formed through a dynamic interchange with others who possess information and knowledge [55]; the study that the social exchange theory can be applied to all relationships in an organization, but the focus in mostly on the relationship between individuals and the organization, and that interdependence is formed based on psychological rewards, such as loyalty and recognition [56]; the study that benefits, such as economic benefits, specialized or personalized services, social benefits, or settlement of psychological anxiety for customers are based on social networks beyond just solidarity between individuals [57]; the study that it is necessary to promote exchange through interactions among members or collaborations and exchanges on social networks to expand individual knowledge for competitiveness at the organizational level [37]; and the study that sharing values, attitudes, or cultural backgrounds of members is closely related to group cohesiveness [39]. On the other hand, in contrast to the study that social exchange characteristics in social networking service affect the formation of bridging network and cohesive network [9], relational characteristics in H-1-2-2 did not affect task cohesion, so it was found that relational characteristics did not originate in the creation of information, cooperation, and interaction for common goals.

Second, regarding the relationship between group cohesiveness and conformity-based collective intelligence, H2-1 and H2-2 are supported by: the study that group cohesiveness can help make quick decisions and take prompt measures for urgent issues, thereby affecting organizational productivity [39]; the study that stronger emotional ties with the group increases identification and improves interaction [58]; the study that collaborative creativity must be displayed in order to form collective intelligence, which becomes active in an environment where ideas can be diversified as people integrate and share their thoughts [47]; the study that collective intelligence is characterized by the collaborative network organization, and the biggest difference lies in the level of collaboration and method of interaction [59]; and the study that members of groups with strong group cohesiveness are more collaborative and likely to achieve their goals, such as performance improvement [43].

Third, regarding the relationship between conformity-based collective intelligence and fad-like behavior, H3 is supported by: the study that members of a group tend to determine the agreement reached by the group and identify their own views with the group's [30]; the study that awareness of the group plays a key role in conformity-based behavior, and conformity increases when a certain belief system of the group is considered important and close relationships are maintained in the group network [60]; the study that social conformity affects isomorphism because people want to feel a sense of belonging to the reference group by using the products recommended by the members [33]; and the study that people tend to purchase recommended products so as to be acknowledged by the society to which they belong and create the image they desire [34].

5. Conclusions

This study set a research direction approachable in terms of behavior (fad-like behavior) on one-person media by presenting and empirically analyzing the need for social relational variables (group cohesiveness, conformity-based collective intelligence), which are constructs to understand social contagion of information based on consumer conformity through social exchange characteristics on one-person media. Moreover, by examining social exchanges between one-person media and consumers, this study revealed that emotional and social influences, which had not yet been studied in relationship marketing with online communities, are necessary in the process of building sustainable relationships between one-person media and consumers. Furthermore, by connecting group cohesiveness to research questions in communication from the perspective of social exchange, this study stated that motivators of ties and exchange increase the opportunity for conformity-based

communication on one-person media and the possibility of contact, thereby promoting relationship formation and retention. Through these structural relations, the role of beauty-related one-person media in the performance of fundamental relationship with users can be evaluated.

The marketing implications based on the results of this study are as follows. First, to increase social cohesion, which is related to the time invested by members in participation as well as affiliation motivation through which they feel emotionally close on beauty-related one-person media, it is necessary to increase organizational identification by attracting interest through community participation on beauty-related one-person media, give the organizational roles to have influence in media use and task performance interactions, and find strategic elements of relational characteristics to improve interdependence as well as close relations and mediation among members in performing tasks.

Second, in order to increase task cohesion, which is related to collaborative task motivation in sharing and achieving common goals on beauty-related one-person media, it is necessary to increase formulated information activities regarding service procedures and rules, encourage members to make their own decisions, increase controllability for active performance, and seek strategic elements of situational characteristics for rewards, recognition, and various opportunities in return for sharing knowledge. Organizational abilities, quick adjustment, personal experience, and task sharing of individuals help the organization and increase self-competence that can meet individual expectations. Accordingly, it is also necessary to seek strategies regarding personal characteristics to increase the joy of collective activities, individual sacrifices for the group, and collectivism and "we" consciousness to accord priority to the group's requirements.

Third, in order to increase social intelligence communicated and shared within the community of beauty-related one-person media, which is conformity-based collective intelligence related to exchange and collection of opinions among members, it is necessary to seek strategies regarding social cohesion to increase the value of group affiliation for members to socially have affiliation motivation, find importance of social relations in the group, and have greater emotional interest. Moreover, it is necessary to seek strategies regarding task cohesion for members to actively share information about common goals in task performance, collaborate, and increase various interactions.

Fourth, in order to increase fad-like behavior related to useful experience-based imitative behavior, favorable response of members to social influence, and conformity in purchase based on multiple uses, it is necessary to seek strategies regarding conformity-based collective intelligence so as to increase generative conversation among members in the community of beauty-related one-person media, activate the knowledge cycle (certainty, convergence, divergence, forecasting, etc.) for collective purposes, and facilitate the process of discussing responsibilities for conformity-based opinion exchange and collection.

These results can suggest the motives of consumers, who continue to use one-person media, and the characteristics that affect these motivational factors, to operators and marketers of the one-person media community on a practical level. In particular, in order to intensively nurture one-person media in the beauty field, which lacks content compared to other fields, information search on specific beauty products and various information provision methods on behavioral performance should be discussed and examined in connection with previous and other relevant research.

This study confirmed that, in the academic and practical aspects, detailed use of factors related to social exchange characteristics on beauty-related one-person media can be a driving force to generate behaviors to maintain and strengthen new networks in combination with the functional characteristics of beauty-related one-person media. However, there is a need to identify the relationship between various social exchange relationship factors and psychosocial factors that had not been considered in this study, especially variables related to the connectivity between beauty service resources and one-person media. Furthermore, this study has limitations in terms of generalizing one-person media as it is focused on the application scope of beauty-related one-person media services.

Therefore, further research must expand the scope and attributes to more diverse service and product categories in addition to classifying one-person media by form to verify more general and detailed influences and differences.

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