Motivations for Sharing Photos and Videos on YouTube and Flickr

YouTube와 Flickr에 사진과 비디오를 공유하는 이용자 동기 연구

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ABSTRACT

This study mainly investigates the motivations of YouTube and Flicker users for posting videos or images/photos on each service. The motivational framework with ten factors such as enjoyment, self-efficacy, learning, personal gain, altruism, empathy, social engagement, community interest, reputation and reciprocity were used to test the motivations. Those who are users of YouTube and Flickr were recruited from Amazon Mechanical Turk to participate in online surveys. Findings show that learning and social engagement are the two most highly rated motivations. Altruism was rated relatively low, although it was strongly correlated with all other motivations. Personal gain was rated as the lowest by both users but Flickr users rated personal gain higher than YouTube users. Findings from this study could be applicable to specify user motivations for using the services and to upgrade the designs of the services in the future.

초 록

본 연구는 YouTube와 Flickr에서 비디오와 이미지자료를 웹사이트에 공유하는 이용자의 동기를 파악하는 데 목적이 있다. 소셜미디어 이용자의 정보공유모형에서 제시된 10가지 동기요소 – enjoyment(즐거움), self-efficacy(자기효율성), learning(학습), personal gain(개인적이익), altruism(이타심), empathy(감정이입), social engagement(사회적참여), community interest(공동체이익), reputation(평판), reciprocity(상호협조) – 를 정의하고 YouTube와 Flickr 이용자의 동기조사를 하였다. Amazon Mechanical Turk라는 서비스를 이용하여, YouTube와 Flickr를 사용하는 이용자들에게 온라인 설문을 실시하였고, 연구결과에 따르면, YouTube와 Flickr 이용자들은 learning과 social engagement에 가장 영향을 많이 받고 있으며, altruism과 reciprocity의 경우 상대적으로 낮은 동기로 나타났으나, 다른 동기요소들과의 연관성은 높게 나왔으며, personal gain의 경우 YouTube와 Flickr 이용자 모두에게 가장 낮은 동기요소가 되었으나, 두 이용자 그룹을 서로 비교했을 때는 Flickr 이용자들이 YouTube 이용자보다 personal gain에 영향을 더 받는 것으로 나타났다. 본 연구의 결과는 이용자의 동기를 반영한 YouTube나 Flickr와 같은 서비스디자인이나 인터페이스업그레이드 등에 반영될 수 있다.

Keywords: Information behaviors, motivation framework, social media, information sharing, YouTube, Flickr, photos, videos
이용자정보행태, 동기모형, 소셜미디어, 정보공유, YouTube, Flickr, 사진, 비디오

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■ 논문접수일자 : 2017년 11월 28일 ■ 최초심사일자 : 2017년 12월 5일 ■ 게재확정일자 : 2017년 12월 8일
■ 정보관리학회지, 34(4), 227-245, 2017. 〔http://dx.doi.org/10.3743/KOSIM.2017.34.4.227〕

1. Introduction

Information sharing indicates the exchange of information that happens between individuals in social or organizational settings. Rafaeli and Raban (2005) defined information sharing as “the act of providing a helpful answer to a request for information” (p. 63). Naturally, people may think their knowledge and information is useful and important so are reluctant to share them with others (Davenport & Prusak, 1998). Information sharing in organizations with advanced technology, however, can be stimulated or constrained not only by self-interest but also by social and cultural norms, which consider information sharing as “socially expected workplace behaviors” (p. 404) (Constant, Kiesler, & Sproull, 1994). Existing studies investigated personal cognition and social influence on knowledge and information sharing, including factors such as self-efficacy, extrinsic and intrinsic rewards, psychological forces, and organizational culture and trust (Bartol & Srivastava, 2002; Bock, Zmud, Kim, & Lee, 2005; Hsu, Ju, Yen, & Chang, 2007; Kankanhalli, Tan, & Wei, 2005). When sharing information, people may consider information as a public good that they could distribute and inherit to as many as others in communities.

In the current study, we mainly focus on multimedia sharing in social contexts. Social media users visually capture the moments of their experiences in photos or videos and make them available to others, which allow them not only to share their personal feelings or emotions but also to deliver information to others. For example, travelers share their photos and videos in a travel information website, such as tripadvisor.com, showing the conditions of hotels, restaurants, or sightseeing locations which help other users plan their trips (Tussyadiah & Fesenmaier, 2009; Xiang & Gretzel, 2010). Multimedia resources can also be a substitute of texts for those who are illiterate (Adams, 2010). In education, there are massive open online courses (MOOC) that are delivered in the format of videos. In health, YouTube distributes a wide range of information on medications, symptoms, disease, organ donation, and public health (Fernandez-luque, Elahi, & Grajales, 2009; Freeman & Chapman, 2007; Tian, 2010). Despite the information sharing in photos and videos increases, there are a few studies of investigating why users would like to distribute their photos and videos to others voluntarily.

The purpose of the current study, therefore, is to investigate user motivations for multimedia sharing, with a research question, “what are the motivations of users for sharing photos and videos in Flickr and YouTube?” Flickr and YouTube were chosen because they are the most representative sites for multimedia sharing and their resources for information sharing are uniquely different, photos and videos. Ten motivation factors were tested, namely enjoyment, self-efficacy, learning, personal gain, altruism, empathy, community interest, social engagement, reputation, and reciprocity. The ten motivation factors were identified from a comprehensive review of social theories and practical studies that applied the factors to test motivations for sharing information in various contexts (e.g., social media, online com-

munities, communities of practice, etc.) (Oh, 2012). The applicability of the motivation factors for sharing multimedia resources is reported in this paper. Users' motivations for photo and video sharing were compared in order to investigate if users would be motivated differently by the types of multimedia information resources they share in the sites. Findings from the current study could be adapted when designing and developing information systems and services for users to actively participate in various activities in the multimedia information sharing sites based on varying motivations they have.

2. Background

Motivation is important because it could influence the overall process of media communication for users from selecting, using, and interpreting for sharing them with others in networks (Levy & Windahl, 1984). The theory of uses and gratifications has been widely used in the motivation studies to identify why and how people use different kinds of media (Katz, Blumler, & Gurevitch, 1973; Klapper, 1963). Media uses and effects are influenced by several kinds of factors such as user needs, motives, and social and psychological environments (Haridakis & Hanson, 2009). Users are purposive and selective to find media that could fit best to satisfy their needs and desires (Rubin, 2002). This approach of uses and gratifications in the studies of traditional media (e.g., televisions) has been developed and applied to investigate the motivations of using different kinds of social media.

Motivation studies related to the use of videos have mainly discussed about what makes people view and share videos on YouTube. Hanson and Haridakis (2008) emphasized that interpersonal communication is the key to distribute the videos on YouTube since viewers could share them with those who are in their social networks and generate various and infinite discussions around the videos. They were interested in learning user motivations which enable them to watch and share traditional and comedy-based news video clips on YouTube and adapted two motivation measurement scales - Rubin(1983)'s and Papacharissi and Rubin(2000)'s- developed for testing motivations of using televisions and the Internet and then applied the scales to test motivations of YouTube use. Rubin (1983) investigated the television viewing patterns based on individual's motivations for relaxation, companionship, habit, pass time, entertainment, social interaction, information, arousal, and escape. Years later, Papacharissi and Rubin (2000) refined Rubin (1983)'s scale and proposed a motivation scale for the Internet use and tested 15 categories in three areas of motivations, such as interpersonal (affection, companionship, control), media (entertainment, habit, information, social interaction, escape, surveillance, pass time, and relaxation), and internet (time control, convenience, economy, and expressive need). Based on these two models, Hanson and Haridakis (2008) proposed 51 motivation items. Factor analysis identified the four factors influencing YouTube use, namely leisure, entertainment, interpersonal expression, information seeking, and companionship. Similar to

this study, Haridakis and Hanson (2009) investigated social interaction and co-viewing behaviors on YouTube, testing user motives and individual differences including social activity, interpersonal interaction, locus of control, sensation-seeking, innovativeness, and YouTube affinity.

Shao (2009) also investigated what factors made appealing for YouTube users to view and share videos based on uses and gratifications. Shao (2009) argued that users could have different gratifications by three different purposes of using media, namely consumption, participation, and production. First, users watch, read or view the contents of media for the uses of information seeking or entertainment. Second, users share, comment on, or rank the contents for social interaction and community development. Third, users produce the contents for self-expression and self-actualization. User behaviors on such media, however, cannot be oriented from single usage but emerged from combinations of various usages (Bruns, 2008). Bruns (2008) defined these comprehensive and combined user behaviors on media as "produsage behaviors." Recently, Wang (2014) tested the "produsage behaviors" by analyzing users' different levels of involvement and motivation on video-sharing on YouTube, including motivation factors, such as information seeking, entertainment, interpersonal interaction, recommendation, recording and sharing life, and self-expression. Khan (2017) specified user behaviors on YouTube into two categories - participation and consumption. Participation was defined as an activity of sharing YouTube videos with other users so their videos can be open to others. Consumption was defined as an activity of watching YouTube videos only without further interaction or contribution to YouTube. Khan (2017) tested several motivational factors - information seeking, information giving, socializing, entertainment, etc. - to predict participation and consumption behaviors on YouTube.

Motivation studies in photo sharing have been popular in two streams - user motivations for publishing/sharing and tagging photos - as many of photo sharing and managing services included both features. Tagging behaviors on images are critical in information retrieval because it adds metadata to images and makes them searchable by keywords or tags in an information system (Golder & Huberman, 2006). Nov, Naaman, Ye (2008) defined three types of motivations for tagging in Flickr - self- motivation, public motivation, and family and friends motivation by the group of people that Flickr users would like to share their photos and investigated how these motivations are correlated with users' number of tags, contacts, and groups that they are associated with in Flickr. Nov and Ye (2009) further investigated motivations for sharing photos in Flickr by testing motivations such as community-based intrinsic motivations, enjoyment-based intrinsic motivations, and extrinsic rewards and their effects on photo sharing quality and quantity. Angus and Thelwall (2010) investigated why users publish and tag their images in Flickr with four factors - social organization, social communication, self-organization and self-communication. For publishing, users were more highly motivated by social communication and social organization than self-organization or communication. For tagging,

however, their responses were almost evenly distributed to all four factors.

In a study about Flickr as leisure behaviors, Cox, Clough, Marlow (2008) found that users take and upload photos in Flickr for the purposes of self-presentation and communication with others. With uses and gratifications, Malik, Dhir, Nieminen (2016) identified six online photo sharing gratifications that are affection seeking, attention seeking, disclosure, habitual pastime, information sharing, and social influence. In online photo communication, impression management motives, including self-expression and self-presentation, are considered important and have significant relationship with actual use of media (Hunt, Lin, & Atkin, 2014). In case of institutions, like museums, the motivations of sharing images are found to be slightly different. They share enjoyable, visual appealing and informative images through Flickr motivated with expectation of better access for users and technical support from the services (Beaudoin & Bosshard, 2012). Other major motivations include audience interactions, social connections, and publicity (Beaudoin & Bosshard, 2012). As images and photos provide visual cues, the motivations of sharing images or photos were highly related to its visual appearance for social relationship and appealing the information shared.

3. Method

An online survey is the method that we investigated motivations of YouTube and Flickr users for sharing videos or photos with anonymous others online. In the previous studies, survey or interview participants for motivation studies were mostly college students (e.g., Hanson & Haridakis, 2008; Papacharissi & Rubin, 2000), adults in local communities (e.g., Rubin, 1983), or members in a survey panel (Wang, 2014). In the current study, we recruited YouTube and Flickr users from Amazon Mechanical Turk (MTurk), a crowdsourcing online survey tool for testing applications or for conducting studies. Two sets of surveys, which were designed for users on YouTube and Flickr separately, were posted on Amazon MTurk during August in 2012. The surveys were closed when about 200 survey responses were collected from each; it took about a week to reach the goal number of responses in both surveys. In order to verify if the participants are the users of each service, their user IDs on YouTube or Flickr were collected. MTurk users were paid 25 cents per survey and it is a common compensation rate for the survey participation in MTurk.

Although two sets of the survey questionnaires were developed, the content structure of the questionnaires were basically the same, including 1) a welcome page, 2) an information consent form, 3) motivation measurements, 4) participants' background, and 5) information regarding compensation. The welcome page includes a question if the participant is 18 years old or older to only allow adult users to participate. The motivation measurements were stated appropriately considering the type of services (Table 1). Participants' background questions investigated their demographic characteristics

〈Table 1〉 Motivation Definitions and Measurements

Motivations	Definitions	YouTube	Flickr
		"I upload videos on YouTube because…"	"I upload photos on Flickr because…"
Enjoyment (ENJ)	Users could consider sharing their resources with others as their hobbies or the ways of entertaining themselves	It is fun.	It is fun.
		It makes me happy.	It makes me happy.
		It is my hobby.	It is my hobby.
Self-Efficacy (EFF)	Users who have self-efficacy may feel confident when they provide useful information to others	I feel productive in creating or finding interesting videos for others.	I feel productive in creating or finding interesting photos for others.
		I feel competent about distributing interesting videos to others.	I feel competent about distributing interesting photos to others.
		It gives me a feeling of accomplishment.	It gives me a feeling of accomplishment.
Learning (LEN)	Sharing information resources could be one of the activities that users would like to learn from communication with others	It helps me learn about topics in which I'm interested.	It helps me learn about topics in which I'm interested.
		It helps me learn about videos people are interested in.	It helps me learn about photos people are interested in.
		It helps me know about updated videos.	It helps me know about updated photos.
Personal gain (PGN)	Users may have certain purposes of sharing information resources, for example, to advertise their business or sell their products or services	It helps me advertise a certain business.	It helps me advertise a certain business.
		It helps me sell products or services.	It helps me sell products or services.
		It is a part of my job.	It is a part of my job.
Altruism (ALT)	Users share their information resources with selfless cares for the wellness of others	I want to help others find videos for which they are looking.	I want to help others find photos for which they are looking.
		People should help each other find videos.	People should help each other find photos.
		I enjoy helping others.	I enjoy helping others.
Empathy (EMP)	Users understand that others need information desperately and share their feelings	I empathize with those who have troubles finding the videos they need.	I empathize with those who have troubles finding photos they need.
		I empathize with those who have similar information needs as mine.	I empathize with those who have similar information needs as mine.
		People may not find good videos if I do not share.	People may not find good photos if I do not share.
Community interest (COM)	Users share information resources to promote the activities of the community that they belong	It helps to promote the topic in which I'm interested.	It helps to promote the topic in which I'm interested.
		It helps to promote the area in which I have expertise.	It helps to promote the area in which I have expertise.
		It helps to promote YouTube.	It helps to promote Flickr.
Social engagement (SOE)	Users would like to interact and communicate with others to be engaged socially with other users	It helps me communicate with others.	It helps me communicate with others.
		It helps me collaborate better with others in a community.	It helps me collaborate better with others in a community.
		I feel engaged with others.	I feel engaged with others.
Reputation (REP)	Users would like to have good reputation among other users by sharing information	I'm happy to see the number of my viewers increase.	I'm happy to see the number of my viewers increase.
		I'd like to be recognized as a contributor.	I'd like to be recognized as a contributor.
		My reputation can be built in a community.	My reputation can be built in a community.
Reciprocity (REC)	Users share information resources with others because they believe someone else in the community may do the same thing when they need information in the future	I want to return the favor because I found interesting videos from others.	I want to return the favor because I found interesting photos from others.
		I believe I can also find videos I need from others' videos.	I believe I can also find photos I need from others' album.
		It may encourage people to "pay it forward" by sharing their videos with others.	It may encourage people to "pay it forward" by sharing their photos with others.

(sex, age, and educational level), usage of each service (member since, the frequency of seeking photos or videos on each service, and the frequency of sharing photos or videos on each service), and usage of the Internet (the hours of using the Internet per day, the frequency of searching information on the Internet, and the level of confidence in searching information on the Internet). Participants' background information was collected to understand data better as well as to analyze the relationships with their motivations for sharing videos or photos. All the survey data collected using an online survey tool, Qualtrics, were exported as an excel file and transformed to the SPSS file format for data analysis. They were saved in a portable hard drive without the Internet connection for the security reason.

Participants' motivations were investigated with a set of ten measurements, including enjoyment, self-efficacy, learning, personal gain, altruism, empathy, community interest, social engagement, reputation, reciprocity. The motivation framework was originally developed by Oh (2012), testing motivations for sharing information by answering questions in a social questioning and answering site (social Q&A). A thorough review of motivation theories/models (i.e., Maslow's hierarchy of needs (Maslow, 1946), the intrinsic and extrinsic motivation model (Deci & Ryan, 1985), Herzberg's two factor theory (Herzberg, 1987; Herzberg, Mausner, & Snyderman, 1993), social theories (i.e., the social exchange theory (Emerson, 1962, 1976) and the social cognitive theory (Bandura, 1986, 1989, 1997)) and their applications to test motivations in social media was added to the revision. Motivations factors on YouTube and Flickr discussed in the background section above were incorporated to the revision as well as the findings from other social media. The revised model was tested to investigate social media users' motivations for sharing information. Findings about the motivations of overall social media users and social networking users were reported and published in Oh and Syn (2015) and Syn and Oh (2015), respectively. Findings about motivations of YouTube and Flickr users are reported in this paper. Table 1 shows the definitions of each factor and statements used to measure motivations for sharing videos and photos on YouTube and Flickr in the current study.

4. Results

4.1 Participants' Demographic Characteristics and Background of the Internet and Service Usage

A total of 428 survey responses were collected (219 YouTube users and 209 Flickr users). Table 2 shows the background information of the survey participants. One third of participants was male (69.4% for YouTube and 73.2% for Flickr), were aged between 18 and 29 (68.9% for YouTube and 75.6% for Flickr), had some college experiences or a Bachelor's degree (75.8% for YouTube and 74.1% for Flickr). On average, YouTube users were members for 2.58 years while Flicker users were for 1.22 years. About half of the participants of YouTube

〈Table 2〉 Background of the survey participants

Background	Response categories	YouTube		Flickr	
		n	%	n	%
		219	100	209	100
Sex	Male	152	69.4	153	73.2
	Female	62	28.3	55	26.3
	Total	214	97.7	208	99.5
Age	18-29	151	68.9	158	75.6
	30-39	42	19.2	30	14.4
	40-49	12	5.5	17	8.1
	50-59	3	1.4	3	1.4
	60 or older	5	2.3	0	0
	Total	213	97.3	208	99.5
Educational level	Some college	59	26.9	45	21.5
	Bachelor's degree	107	48.9	110	52.6
	Master's degree	43	19.6	44	21.1
	Doctoral or professional degree	4	1.8	9	4.3
	Total	213	97.3	208	99.5
Years of membership	Less than a year	42	19.2	124	59.3
	1-3 years	104	47.5	58	27.8
	4-6 years	63	28.8	22	10.5
	7-9 years	10	4.6	5	2.4
	Total	219	100.0	209	100.0
Video or photo posting frequency	Hourly	2	0.9	2	1.0
	Daily	22	10.0	21	10.0
	Weekly	19	8.7	35	16.7
	Monthly	37	16.9	40	19.1
	Less often	139	63.5	111	53.1
	Total	219	100.0	209	100.0
Video or photo searching frequency	Hourly	14	6.4	2	1.0
	Daily	121	55.3	24	11.5
	Weekly	52	23.7	60	28.7
	Monthly	25	11.4	51	24.4
	Less often	7	3.2	72	34.4
	Total	219	100.0	209	100.0
Hours of Internet use (per day)	1-5 hours	89	40.6	114	54.5
	6-10 hours	94	42.9	64	30.6
	11-15 hours	30	13.7	25	12.0
	16-20 hours	4	1.8	3	1.4
	21 hours or more	2	0.9	2	1.0
	Total	219	100.0	208	99.5
Internet searching frequency	Hourly	53	24.2	48	23.0
	Daily	144	65.8	121	57.9
	Weekly	18	8.2	27	12.9
	Monthly	3	1.4	9	4.3
	Less often	1	0.5	4	1.9
	Total	219	100.0	209	100.0

Background	Response categories	YouTube		Flickr	
		n	%	n	%
		219	100	209	100
Confidence in searching on the Internet	Very confident	141	64.4	125	59.8
	Somewhat confident	61	27.9	54	25.8
	Neutral	14	6.4	27	12.9
	Less confident	3	1.4	3	1.4
	Not confident at all	0	0. 0	0	0. 0
	Total	219	100.0	209	100.0

survey had experiences of using YouTube between 1 and 3 years. On the other hand, 59.3% of Flickr participants had experiences of using Flickr less than a year. When being asked how often participants post videos or photos, more than half of participants answered “less often” (63.5% for YouTube, 53.1% for Flickr). The rest of the options received responses ranged from 10 to 20%. When being asked how often participants search videos or photos, 79% of YouTube participants and 53.1% of Flickr participants answered either “daily” or “weekly.” In the same question, 34.3% of Flickr participants answered “less often” while 3.2% of YouTube participants selected the same option.

About the Internet usage, YouTube participants spend 7.11 hours per day and Flickr participants spend 6.20 hours. About 80% of both participants were grouped spending 1-10 hours per day on the Internet. When being asked how often participants search information on the Internet, 61.9 % of participants answered “daily” (65.8% for YouTube and 57.9% for Flickr) and 23.6% of participants answered “hourly” (24.2% for YouTube and 23.0% for Flickr). About one’s confidence in searching information on the Internet, about 90% of participants answered that they are either “very confident” or “somewhat confident.”

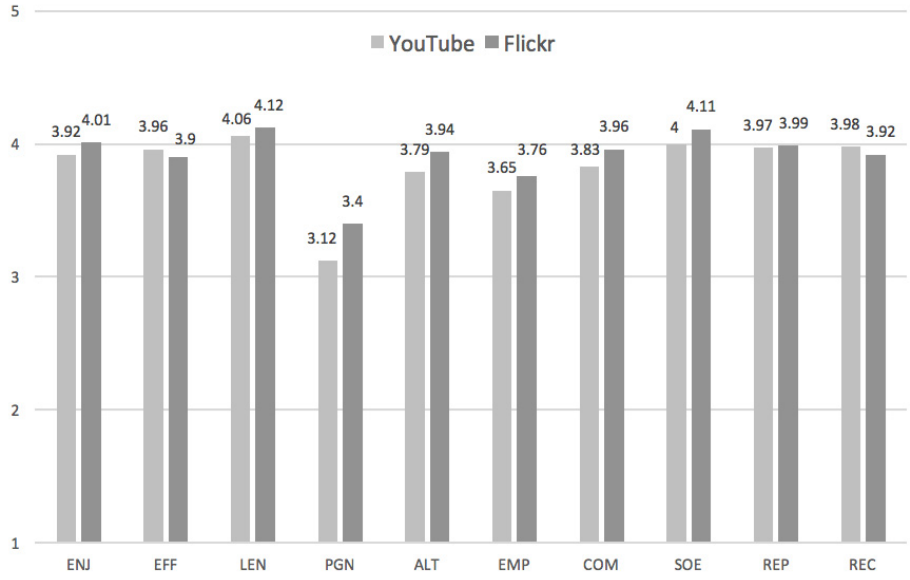
4.2 Motivation Distribution

The grand mean of motivations in YouTube and Flickr is 3.83 and 3.91, respectively. Table 3 presents how each motivation factors are rated by participants.

The mean distributions of the ten motivation factors in the two sites are similar. Both groups of participants rated high on learning and social engagement (the first or the second in the order by ranking) and empathy and personal gain was low (the ninth and the tenth in the order by ranking). For the rest of the motivations, there is a little difference in the order. For YouTube, reciprocity was the third most highly rated motivation and it was followed by reputation, self-efficacy, enjoyment, community interest, and altruism. For Flickr, enjoyment was the third most highly rated motivation, followed by reputation, community interest, altruism, reciprocity, and self-efficacy. There was no statistical difference on the mean distribution across the ten motivations between the two sites, except personal gain ($F = 4.139$, $p = .43$); Flickr participants rated higher on personal gain ($M = 3.40$) than YouTube participants ($M = 3.12$).

〈Table 3〉 Mean Distribution of Motivations

Motivations	YouTube			Flickr		
	N	Mean	SD	N	Mean	SD
ENJ	218	3.92	.82	205	4.01	.83
EFF	219	3.96	.87	209	3.90	.81
LEN	217	4.06	.96	203	4.12	.81
PGN	210	3.12	1.26	201	3.40	1.13
ALT	217	3.79	1.01	205	3.94	.88
EMP	218	3.65	.94	203	3.76	.87
COM	219	3.83	.99	207	3.96	.81
SOE	217	4.00	.87	206	4.11	.77
REP	217	3.97	.85	205	3.99	.85
REC	216	3.98	.84	207	3.92	.84



〈Figure 1〉 Mean Distribution across Motivations

In terms of correlations among the ten motivations of the YouTube and Flickr participants, all of the ten motivations are correlated with one another, indicating that one's motivation is not influenced by a single factor but interrelated with a variety of other motivations. Tables 4 and 5 show the correlations of motivations of each site.

Pearson's bivariate correlation values among the ten motivations of YouTube users were ranged from .292 to .662. Fifteen values in Table 4 show strong correlation between factors ($r > .5$) (in gray in Table 4). The strongest correlations were observed between

〈Table 4〉 Correlations among the 10 motivations of the YouTube participants

	ENJ	EFF	LEN	PGN	ALT	EMP	COM	SOE	REP	REC
ENJ	1									
EFF	.581**	1								
LEN	.427**	.459**	1							
PGN	.286**	.299**	.342**	1						
ALT	.372**	.424**	.525**	.431**	1					
EMP	.397**	.471**	.495**	.417**	.662**	1				
COM	.467**	.578**	.487**	.484**	.621**	.610**	1			
SOE	.350**	.404**	.439**	.338**	.462**	.469**	.533**	1		
REP	.396**	.515**	.379**	.292**	.485**	.490**	.555**	.607**	1	
REC	.332**	.470**	.382**	.347**	.528**	.521**	.557**	.526**	.621**	1

〈Table 5〉 Correlations among the 10 motivations of the Flickr participants

	ENJ	EFF	LEN	PGN	ALT	EMP	COM	SOE	REP	REC
ENJ	1									
EFF	.591**	1								
LEN	.575**	.661**	1							
PGN	.383**	.415**	.487**	1						
ALT	.472**	.517**	.564**	.537**	1					
EMP	.349**	.449**	.501**	.458**	.580**	1				
COM	.504**	.536**	.706**	.499**	.573**	.478**	1			
SOE	.481**	.398**	.531**	.282**	.463**	.342**	.456**	1		
REP	.498**	.516**	.566**	.422**	.490**	.448**	.503**	.559**	1	
REC	.379**	.415**	.563**	.491**	.540**	.480**	.458**	.542**	.626**	1

altruism and empathy (r = .662) and altruism and community interest (r = .621). There was also a strong correlation between altruism and reciprocity and altruism and learning. Thus, those who have an altruistic reason for sharing videos on YouTube could be influenced by their motivations of empathy, learning, community interest, and reciprocity. Reciprocity was correlated with not only altruism, empathy, and community interest, but also social engagement, and reputation. Enjoyment was strongly correlated with self-efficacy.

Pearson's bivariate correlation values among the ten motivations of Flickr users were ranged from .349 to .706 (Table 5). The correlations among the motivations of Flickr users were stronger than the correlations among the motivations of YouTube users. Twenty-one strong correlations were observed (r > .5) (in gray in Table 5). Learning was strongly correlated with all motivation except personal gain. Altruism has strong correlation with self-efficacy, learning, personal gain, empathy, community interest and reciprocity. Community interest has strong corre-

lations with enjoyment, self-efficacy, learning, altruism, and reciprocity. Reputation also has strong correlations with self-efficacy, learning, community interest, social engagement, and reciprocity.

4.3 Motivation Distribution by Participants' Background

For YouTube participants, there was no statistical difference on motivations between male and female participants. There was, however, a statistical difference on social engagement by age groups (F = 2.920, p = .022) and the level of education (F = 4.140, p = .007). YouTube participants who are aged between 18 and 29 rated social engagement higher than those who are aged between 30 and 39. Those who have some college experiences or less rated social engagement higher than those who have BSN or Masters' degree. Also, there was a statistical difference on reciprocity by the level of education (F = 2.990, p = .032). Those who have some college experiences or less rated reciprocity higher than those who have BSN.

There were motivations related to the YouTube and Internet usages. There was a statistically significant difference on personal gain by the year of being members in YouTube (F = 6.123, p = .001). Those who have YouTube experiences for less than a year or one to three years rated personal gain higher than those who have experiences in between four and six years. Also, there was a statistically significant difference on personal gain by the frequency of posting videos on YouTube (F = 8.108, p = .000). Those who post videos to YouTube on hourly or daily basis rated personal gain higher than those who post videos less often.

There is a statistically significant difference on empathy (F = 3.911, p = .004), community interest (F = 6.244, p = .000), and reputation (F = 5.070, p = .001) by the frequency of posting videos on YouTube. Those who post videos daily rated empathy higher than those who post videos less often. Those who post videos weekly and monthly rated community interest higher than those who post videos less often. Those who post videos monthly rated reputation higher than those who posted them less often. There is a statistically significantdifference on personal gain (F = 10.071, p = .002) and social engagement (F = 16.320, p = .000) by the level of conference in searching information on the Internet. The lower the YouTube participants were confident, the higher they rated personal gain. The higher they are confident, the higher they rated social engagement.

There was no statistical difference on motivations by the other variables such as the frequency of searching videos on YouTube, the number of hours spending on the Internet per day, the frequency of searching information on the Internet per day.

For Flickr participants, there was a statistical difference on enjoyment between male and female participants (t = -2.676, p = .008). Female participants (M = 4.27) rated enjoyment higher than male participants (M = 3.93). There was, however, no statistical difference on motivation by the age groups or the level of education.

There was a statistical difference on learning (F = 5.057, p = .026), altruism (F = 4.461, p = .005),

empathy ($F = 2.781$, $p = .011$), reputation ($F = 3.963$, $p = .048$) and reciprocity ($F = 4.729$, $p = .031$) by the number of years being a member on Flickr. Those who have been a Flickr member less than a year rated learning higher than those who have been a member between four and six years. A linear regression showed that the shorter to be a member, the higher learning was rated ($F = 5.057$, $p = .026$). Those who have been a member between seven and nine years rated altruism and empathy higher than those who has been a member between one and three years and less than a year. A linear regression analysis showed the longer to be a member, the higher on altruism ($F = 5.608$, $p = .019$.) and empathy ($F = 5.748$, $p = .017$). Also, a linear regression analysis showed the longer to be a member, the lower on reputation and reciprocity.

There was a statistical difference on personal gain, only, in relation to the Flickr and Internet usages. There was a statistical difference on personal gain by the frequency of posting photos on Flickr ($F = 5.971$, $p = .000$) and the level of confidence on the Internet searching ($F = 7.435$, $p = 007$). Those who post photos daily or weekly rated higher on personal gain than those who posted monthly or less often. The higher that they are confident, the higher they rated on personal gain.

5. Discussion

Learning and social engagement were the most highly rated motivations for sharing photos and videos by both Flickr and YouTube users. Both groups of users might believe they can readily obtain and learnfrom other users' knowledge and experiences and actively engaged with them by sharing their resources in the sites. In fact, learning and social engagement were highly motivating factors for sharing information across all other types of social media, such as Facebook, Delicious, and Twitter (Oh & Syn, 2015; Syn & Oh, 2015). Social media users may be commonly encouraged by learning and social engagement for sharing information online. Particularly for Flickr and YouTube, because they support multimedia mainly, users who share those resources might also be interested in creating multimedia resource and learning the skills to work with them. They might consider the creation process itself as a learning process.

The ten motivation factors showed correlations among them which indicates that users share photos and videos on Flickr and YouTube for multiple reasons. Although altruism was not the most highly rated motivation of both YouTube and Flickr users, it was strongly correlated with most of other motivations; those who have altruistic reasons for video or photo sharing could be motivated by learning, community interest, empathy, and reciprocity. Flickr users were more highly motivated by personal gain and showed strong correlations with all other motivations than YouTube users. This could explain that photographers may have their photo exhibitions or public shows in Flickr for their self-representation and self-expression (Van House, 2007) and develop strategies for gaining visibility

on Flickr (Malinen, 2011).

Flickr has also been used by government organizations, educational institution, and commercial websites to display their image collections. Recently, Kipp, Beak, and Choi (2017) adopted the ten motivations used in this study (Oh & Syn, 2015), in order to investigate users' motivations for social tagging behaviors in Library of Congress's Flickr Collection. They mapped their coding results from the LC Flickr Collection to the ten motivational factors tested; for example, the motivations related to learning, social engagement, reciprocity, and reputation from the current model were paired with the suggested motivations such as knowledge sharing, social network, and appreciation. They also discovered additional motivations related to personal relationship and archiving/preserving purposes, which are unique to the contexts of LC Flickr Collection.

Motivations could differ by users' age and education levels. Younger or less-educated users of YouTube were more highly encouraged by social engagement than those who are older or more-educated users who have college degrees. Reciprocity was shown as a similar pattern; those who are less-educated were more encouraged by reciprocity when sharing videos than those who have higher degrees in education. Social media may be a great platform for younger people who have not gained higher degrees to network and communicate by sharing information resources. This is consistent with the tendency of heavy social media use by younger generation (Lenhart, Purcell, Smith, & Zikhur, 2010).

Personal gain was the lowest motivated factors for both YouTube and Flickr users, but those users who recently became YouTube users in less than three years tend to be more highly motivated by personal gain than those who have been a member for a longer period of time. Some users may come to join YouTube for gaining profits. They could be attracted by the business news about YouTube; so called, YouTube stars are known to earn about $2,000 for every million views (Edwards, 2015). However, years later, they may become loyal to YouTube and keep posting videos motivated by other factors, such as learning, social engagement and others found from the current study. For Flicker users, those who have been a member longer were highly motivated on altruism and empathy, while they care less on reputation and reciprocity. The findings show that the users' motivations for sharing photos and videos change over time as their purpose of the use of the sites might change.

This study has two limitations: First, the users of each service were self-selected; those who are the MTurk users as well as the other two services of Flickr and YouTube. Findings from our study could be biased by the user perspectives of MTurk in that MTurk has attracted younger Asian or Hispanic male participants than the Cooperative Congressional Election Survey (CCES), a US nationwide stratified sample survey (Huff & Tingley, 2015). Nevertheless, MTurk has been often used for recruiting the survey panels in previous studies (Berinsky, Huber, & Lenz, 2012). Second, the survey was carried out in 2012, and we analyzed the findings and developed our discussion based on the survey data. Since we col-

lected data from YouTube and Flickr in 2012, their services regarding photo and video sharing have not changed until now. The survey data, however, could be outdated for analysis.

6. Conclusion

The current study mainly observed the motivation ratings and compared them by the two types of social media and their users' background and usage information of the social media. We found motivations in common and motivations unique to each type of YouTube and Flickr services and they could be applicable to specify user motivations for using the services and to upgrade the designs of the services; the YouTube and Flickr interfaces, for example, could show the related videos and images/photos to the retrieved sets of objects to allow users to learn from others' perspectives to display videos and images/photos in their services.

Motivations could vary, however, across users' purposes of using the services; those who have shared videos and photos for recreational purposes may have different motivation from those who use YouTube and Flickr as a channel for their publicity in business or career development. Kipp, Baek, and Choi (2017), for example, investigated motivations by occupations, such as photographers, librarians, catalogers, historians, graphic artists, and archivists and observed the different patterns of motivation distributions; librarians and catalogers were highly motivated by affective or social-oriented motivations than other groups of users. Motivations could vary across knowledge domains as well. When Oh (2012) investigated the motivations for answering questions and sharing information in health, altruism was the most highly rated motivation in a previous study. Future studies of motivations, therefore, would need to consider various aspects of user contexts and subject domains.

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