

# Competition and Substitution of Media on Multimedia Environment- Niche Analysis of Mass Media and Social Media

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**Abstract.** This research aimed to make an empirical analysis of relationships between traditional and new media, with limitation on mass media, such as terrestrial and digital cable TV, which are most widely used, and social media, such as Twitter and Facebook. It also applied an analysis frame of niche theory suitable to investigate the competitive relationship for limited resources, for the purpose of analyzing how new competitive media would wide their spheres in areas, which have been already occupied in niche market and what type of competition between media would be more severe. To sum, the appearance of social media seems to show higher possibility to substitute for partial functions which have been supplied by traditional media. Moreover, functions such as Information Sharing, Self-Representation, Creation of Hunan Networks and Social Relations, which have been generally fulfilled not by traditional media but by social media. Accordingly, social media seem to show supplementation with traditional media.

**Keywords:** Social media, Media Competition and Substitution, Niche Analysis

## 1. Introduction

Recently, the use of SNS media such as Facebook, Twitter, Youtube and so on, became new trend. The worldwide facebook users are 686 million in Jun[9], 2011 basis, twitter users, which classified as a micro blogging service, are over 200 million in same period. Fundamentally, SNS changed the basis of communication according to the attention which it has got as ubiquitous network[15], and led to change in media ecosystem itself with appearance as a new player in media ecosystem. Likewise, media researches have focused on influences on use patterns of the traditional media according to appearance of new media in the media ecosystem[6]. It means that the additional empirical research needs to be followed up in terms of the introduction of new media in the market. Accordingly, in the same context, the analysis of relationship between social and traditional media seems to be a natural research topic in the situation where social media functions as one media and viewers are universally occupied, as in the case of introduction of other media into new media.

This research aimed to make an empirical analysis of relationship between traditional and new media, with limitation on mass media, such as terrestrial and digital cable TV, which are most widely used, and

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social media, such as Twitter and Facebook. It also applied an analysis frame of niche theory suitable to investigate the competitive relationship for limited resources, for the purpose of analyzing how new competitive media would wide their spheres in areas, which have been already occupied in niche market and what type of competition between media would be more severe[13]. With the priority given to the concept of gratification, previous researches have been conducted to investigate substitution and supplementation between media by niche analysis. Most of them focused on terrestrial, cable and satellite broadcasting and internet [5][2][1][14][4][10], whereas some researches on competitive relationship between individual social media and traditional media have been recently conducted, with the focus on new media such as blog[16]. However, until now, there have been not many researches on creation and maintenance of substitution and supplementation between SNS, regarded as one media, and traditional media. Accordingly, this research, in view of this point, intended to analyze substitution and supplementation between social media and mass media by niche analysis.

## **2. Literature Review**

### **2.1. Theoretical Discussion for the selection of Media of Audience**

According to the appearance of new media, traditional media and new media have changed the media topography, with various aspects shown as their co-existence, spontaneous convergence and collision, and competition and evolution. Based on use behaviors in new media and traditional media, the competition between two of them is largely summarized as three. It is substitution that indicates reduction in usage of traditional media according to introduction of new media [11][12][17]. In relation to media substitution theory, it is television that has been most widely researched. In other words, according to result of researches, the usage time for traditional media such as radio, newspaper, movie and the like has been reduced, according to the appearance of television. Moreover, they showed, with new channels added to cable TV lineup, the exposure time to traditional TV channels has been also reduced[8]. Among recent researches on media substitution according to the appearance of internet, Kayani & Yelsma reported that the usage time for television, wire telephone and newspaper, as well as the time for family communication, was reduced after the appearance of internet [12]. In relation to media substitution and supplementation, some researches insisted that new media has no or an insignificant influence on traditional media. Some of them insisted that, in spite of the appearance of new media, traditional media would be completely substituted or would never disappear. According to Fidler, traditional media and new media maintain their mutual relations through co-evolution, with their adoption to new environments[7]. However, his opinion denies complete substitution between media. In other words, supplementation seems stronger than substitution in seeking behaviors of audience, in view of conditions of media competition generated by the appearance of new media.

### **2.2. Niche Theory**

In relations between various media, the degree of audience gratification and the future direction are given to show media substitution and supplementation, which indicates niche theory. For explanation into conditions for media to co-exist in the same market, Dimmick presented niche theory indicating that media attempt to secure niche in the market. This theory analogizes the relationship such as competition and co-existence between different media on limited resources, by application of ecological logic, based on the evolution theory, to media industry. The niche theory has been widely utilized to understand aspects of competition and co-existence between media industries according to three analysis techniques. In earlier researches with niche theory applied, the most interesting resource was share of Ads [3][5]. Using data on advertising expenditure in U.S., Dimmick & Rothenbuhler made a research on competition among television, newspaper, radio and outdoor advertisement, which compete with each other on the same resource using ads data in America from 1928 to 1982 [3]. However, some limitations were pointed out, such as difficulties in direct comparison between advertising expenditure due to differences in dependence ratios of media, it was pointed out that In other words, each media shows its dependence ratio on advertising expenditure. Since then, niche analysis has begun to concentrate into sources of contents. However, it has a limitation that examination is limited to competition in the same type of media, which supply similar programs. Then, an analysis technique has begun to attract attention, which focuses on contents of gratification obtained by

media audience in the form to make a direct comparison of competition between media. It is usefully utilized to investigate adoption and future direction of new media, which supply contents different from those of traditional media, in a situation where there is no long-term data on advertising expenditure due to recent appearance of media. Among researches on analysis of competition between media using niche theory in an aspect of audience gratification, Albarran & Dimmick's research on terrestrial and cable broadcasting, VCR and Pay-Per-View showed high satisfaction with terrestrial and cable broadcasting on the whole in general[1]. However, it showed low satisfaction with video and relatively all low satisfaction with Pay-Per-View in aspects of recognition, emotion and gratification. In other words, it suggested that at that time media-on-demand was yet to be settled in the American market [1].

### 3. Research Question

According to previous researches which were examined above, multimedia environment was judged to be suitable to examine into usage behaviors of users in multimedia environments comprising traditional media and social media, and then to examine into substitution and supplementation between media. Then, in this research, the following research topics were determined to understand the competition between social media and traditional media in multimedia usage environments.

RQ. What is the competitive dynamics between mass media and social media with uses and gratification perspective?

1-1 How is the niche breadth of each of the media based on consumer's gratification perspective?

1-2 How is the niche overlap between mass media and social media based on consumer's gratification perspective?

1-3 What is the pattern of competitive superiority for mass media and social media?

### 4. Research Methods

In this study, terrestrial and digital cable TV, the mass media and Facebook and Twitter, Social media are targeted.

Total of 8 factors, Rest/fun, Social Relations, Information sharing, Self-representation, Creation of new human networks, Escape from reality, time killing Information Pursuit, are selected With reference of previous study on motive using media. All measures of niche breadth, overlap, and competitive superiority which were developed by Dimmick are applied[3].

### 5. Results

Finally, 210 questionnaires are selected. With consideration of the niche width of each media by audience gratification, for 'Rest/Fun,' ground wave and digital cable show higher niche width, compared with social media. In other words, traditional media seems to gratify the desire of 'Rest/Fun,' rather than social media. On the other hand, for 'Social Relations', 'Information Sharing', 'Self-Representation', 'Creation of New Human Networks,' traditional media show low niche width, whereas social media show high niche width. It can be analyzed that social media have more fulfilled these motives. <Table 1> represents the Niche Breadth on each media.

Table 1. Niche Breadth

	Rest/fun	Social relations	Escape from reality	Time killing	Information pursuit	Information sharing	Self-representation	Creation of new human network
terrestrial	0.704	0.521	0.531	0.637	0.631	0.331	0.272	0.242
digital cable	0.622	0.445	0.488	0.573	0.557	0.312	0.271	0.236
Twitter	0.492	0.612	0.400	0.513	0.569	0.672	0.629	0.681
Facebook	0.585	0.717	0.428	0.585	0.552	0.689	0.655	0.679

According to items, for Rest/Fun, Escape from Reality, Time-Killing, mass media such as ground wave and digital cable showed commonly higher competitive priority, compared with social media. On the other hand, for Social Relations, Information Sharing, Self-Representation and Creation of Human Networks, social media such as Twitter and Facebook showed higher competitive priority. In other words, sharing my data or knowledge, interest and the like with others is a new function that is difficult to be achieved by traditional media. <Table 2> and <Table 3> represents the Niche Overlap and Competitive Priority between social media and mass media. Through this, it is possible to know that social media is more advantageous than the existing media in order to satisfy the motives of users to strengthen the existing social relations or to form new human networks, to express themselves and to search/share information.

Table 2. Niche Overlap

		Rest/fun	Social relations	Escape from reality	Time killing	Information pursuit	Information sharing	Self-representation	Creation of new human network
Twitter	terrestrial	1.153	1.345	0.925	0.941	0.959	1.66	1.737	1.909
	digital cable	0.932	1.251	0.767	0.823	0.913	1.661	1.75	1.926
Facebook	terrestrial	0.953	1.393	0.847	0.78	0.923	1.729	1.823	1.923
	digital cable	0.879	1.443	0.746	0.765	0.865	1.713	1.822	1.915

Table 3. Competitive Priority

			Social M>Mass M competitive priority score	Social M<Mass M competitive priority score	T
Rest/fun	terrestrial	Twitter	0.96	6.17	-12.057***
		Facebook	1.78	4.73	-6.634***
	digital cable	Twitter	1.24	4.55	-7.973***
		Facebook	2.48	3.49	-2.290*
Social relations	terrestrial	Twitter	3.29	1.99	4.311***
		Facebook	4.21	1.10	10.136***
	digital cable	Twitter	3.82	1.20	9.341***
		Facebook	4.93	0.65	14.848***
Escape from reality	terrestrial	Twitter	1.11	4.33	-8.801***
		Facebook	1.25	3.77	-6.845***
	digital cable	Twitter	1.11	3.55	-6.808***
		Facebook	1.48	3.18	-4.600***
Time killing	terrestrial	Twitter	1.45	4.37	-6.855***
		Facebook	2.06	3.20	-2.658**
	digital cable	Twitter	1.78	3.30	-3.757***
		Facebook	2.81	2.41	.937
Information pursuit	terrestrial	Twitter	2.41	3.88	-3.469*
		Facebook	1.99	4.14	-5.492***
	digital cable	Twitter	3.23	2.73	1.216

		Facebook	2.79	2.99	-.512
Information sharing	terrestrial	Twitter	8.110	0.63	18.598***
		Facebook	8.470	0.64	19.923***
	digital cable	Twitter	8.240	0.47	19.842***
		Facebook	8.530	0.41	21.108***
Self-representation	terrestrial	Twitter	7.824	.548	19.491***
		Facebook	8.233	.571	20.467***
	digital cable	Twitter	7.900	.624	19.226***
		Facebook	8.324	.576	20.662***
Creation of new human network	terrestrial	Twitter	9.167	.300	23.654***
		Facebook	9.205	.310	23.688***
	digital cable	Twitter	9.276	.300	24.034***
		Facebook	9.181	.262	23.628***

(\*\*\*p<.001, \*\*p<.01, \*p<.05)

## 6. Conclusion

The appearance of social media seems to show higher possibility to substitute for partial functions which have been supplied by traditional media. Functions such as Rest/Fun, Escape from Reality, Time-Killing and Information Pursuit, which have been fulfilled by traditional media, overlap with those of social media. In these functional aspects, there seems to be fierce competition between traditional media and social media. Particularly, for Escape from Reality and Time-Killing, high duplication was shown in both media. In other words, it suggests that audience have escaped from reality or killed their time through mass media before, whereas for now they fulfill such functions through social media. Moreover, in particular, according as social media are available through Smart Phone even in motion or in spare time, they seem to compete with mass media, in view of Escape from Reality and Time-Killing.

Moreover, functions such as Information Sharing, Self-Representation, Creation of Human Networks and Social Relations, which have been generally fulfilled not by traditional media but by social media. In other words, social media fulfill new functions, which are unfulfilled by traditional media, as well as those they fulfilled. Accordingly, social media seem to show supplementation with traditional media. At the point when new media appear and the participation/use of them is increasing, it has important significance to understand the alternative/complementary relations between social media and the existing mass-media based on media users' need satisfaction. It will be a chance to empirically prospect the changes of media map in multi-media environment caused by the appearance of new media. This study has academic significance to suggest the possibilities to extend/apply the framework which is for analyzing correlations between media to social media. Through this study which empirically analyzes how competitive relations between media is changing in accordance with consumers' service selection motives and the use types in multi-media era, it will be possible to forecast what effect and phenomenon will be socially caused by the appearance of social media. Furthermore, it will be helpful for social media and mass-media companies which run terrestrial & cable TV to establish strategies for multi-media by understanding alternative/complementary relations between mass-media and social media.

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