

## Competition in the Thai Radio Industry: Is Its Future Still Bright in the Convergence Era? <sup>1</sup>

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### Abstract

The traditional media (television, radio and printing media) have been bitter rivals for decades and the Internet has recently joined the battle. The Internet and telecommunication services also act as a medium to converge the traditional media with different platforms and operations. The convergence between broadcasting and telecommunications is rapidly transforming the market structure and business strategies. This paper aims to explore and understand the current situation of the radio industry in Thailand, particularly in the business service sector. The analysis is based on the industrial economics theory - the Structure Conduct Performance (SCP) Framework. The research findings show that the growth rate of radio advertising expenditure did not increase much between 2007 and 2011 because some other types of media were able to reach consumers more rapidly. The concession contract system was valid for a very short period of time and lacked transparency, making it difficult for radio producers to engage in strategic planning. For this reason, grantees of radio broadcasting concessions, which were companies of full-cycle entertainment business or other forms of media of both vertical and horizontal integration, had an advantage. There was intense competition to maintain market share and to earn more income from advertisements but there was very little competition in terms of content. Things became difficult for radio producers who did not have very deep pockets and resources so, broadcasting regulations and policy had to be fair, transparent and more liberal in order to create competition and economic efficiency in the emerging convergence era.

**Keywords :** Radio Industry, Public Policy, SCP Framework, Convergence

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## 1. Introduction

Radio broadcasting and the television business is considered as part of the IT industry because of its use of radio frequencies and IT equipment in publicizing images and broadcasting information from transmitters to receivers, for example, through radio and television. Hiniviman et al. (2011, p.3), states that radio and television, because of their basic nature, share some common characteristics with newspapers, magazines and film because all of them are channels of mass communication, which can be briefly defined as forms of communication that transmit messages or carry meaning from a group of transmitters to receivers, which consist of a large number of people in different areas, at almost the same time or at the same time in a rapid manner through one directional flow of information.

The emergence of the convergence media affected the traditional media entrepreneurs. They have adjusted themselves and have created a variety of competitive strategies in order to protect their market share. Fidler (1997, pp. 22-23) defined the convergence technology media as a new form of media which can connect digital signals of content, images, music and videos to be disseminated through the mobile telephone network or the Internet. Different kinds of media have thus expanded their business, starting with using the existing resources or raw materials to their maximum benefit. Existing entrepreneurs and those who want to enter the market depend on high investment capital that has resulted in a change in business operations and business competition. This phenomenon has inevitably affected radio entrepreneurs due to the popularity of radio have been decreasing overtime as compared to others. Also, the issue of cross media ownership has been raised a concern for the industry regulator.

The cross media ownership means one person or group owns more than one form of media - radio, TV, newspapers, especially in the same market. Cross media ownership would only become an issue if it is could demonstrated that a firm which a dominant in one market could exert leverage in another market, for example through cross subsidies or technical expertise. Cross media ownership has traditionally been considered important because accumulation power in many markets give strategic advantages and increase the possibility that audience will subject to similar content in different market. The less diversity of content reflects a limited freedom of information since citizens will have the possibility to access a variety of information, primarily different opinions and ideas, but in a wider context also a variety of cultural aspects and expressions.

Regarding to the emergence of convergence media and the cross ownership, this paper aims to explore and understand the situation of service providers in the radio industry during 2007-2012 by employing a qualitative research method through document analysis and case study. The economics framework for the analysis of the market was utilized for analysis the effect of changing in structure of the industry. The rest of the paper is structured as follows. Section 2 presents an overview of the Thai radio industry and is followed by an industry analysis which uses the Market Structure Conduct and Performance (SCP) Framework in Section 3. The conclusion and recommendations are provided at the end of the paper.

## **2. Overview of the Thai Radio Industry**

According to Siriyuvasak (1999), the development of the Thai radio industry can be divided into 4 periods. In the early period of development (1958 -1972), radio was mainly used as a tool for publicising anti-Communist messages. By the end of this period, radio programmes were used more for entertainment than as a tool for publicising political policy. During the second period (1973 -1982), there was the democracy movement (October 14, 1973) and radio was used as an instrument of the State. After the October 14 Uprising, the new government announced the introduction of the Regulations Concerning Radio and Television Broadcasting B.E. 2518 and established the Radio and Television Broadcasting Management Commission. An important regulation was that advertisements on radio were not to exceed 8 minutes per hour and all stations were required to keep their programs recorded on tape for 15 days. Radio media expanded and became very popular during the third period (1983 -1991). This was a time when the number of radio stations increased rapidly and almost all of the newly established stations were FM stations. The remaining concession system, run by the State, caused an increase in concession charges and time rental fees, resulting in more aggressive competition in the radio broadcasting business. In terms of policy, there was frequency planning by the Ministry of Communications. From 1992 to the present (2013), the radio broadcasting business has become fully developed. There is now a variety of programs and it is State policy to grant freedom to the State media—the requirement for time limits on radio advertisements has been lifted and the business has been left to operate according to market mechanisms. The allocation of radio frequency waves and those of television, originally under the control of the State, has been reallocated by the Office of the National Broadcasting and Telecommunications Commission (NBTC) in the interest of fairness.

The characteristics of the radio broadcasting business or radio stations, if classified based on the 1997 regulations for the classification of the broadcasting frequencies of the International Telecommunication Union (ITU), can be divided into 6 frequency ranges: (1) Low Frequency (LF) with a frequency range from 30 -300 KHz that can be transmitted over short distances, (2) Middle Frequency (MF) with a frequency range from 300-3000KHz that is used in the AM system (Amplitude Modulation), (3) High Frequency (HF) with a frequency range from 3 -30 MHz, (4) Very High Frequency (VHF) with a frequency range from 30 -300 MHz that is used in the FM system (Frequency Modulation) and the VHF radio system, (5) Ultra High Frequency (UHF) with a frequency range from 300-3000MHz that is used for the UHF radio system of State units and mobile phones and (6) Super High Frequency (SHF) with a frequency range from 3000 -30000 MHz. Usually distance radio broadcasting will rely on the VHF or the FM systems because of their ability to spread the waves with only little interruption to the signal. Radio stations in Thailand use the 87.0-108 MHz range.

Radio is one of the three main media in Thailand (next to television and newspapers) and is popular for marketing and as a way of delivering messages to consumers. The proportion of households throughout the country that owned a radio was of 58.0% at the end of 2010. Households in Bangkok and its periphery owned radios in the highest proportion at 67.3% whereas those in the South owned radios in the lowest proportion at 47.2% (NSO, 2010). There were 524 radio stations in Thailand, excluding community radio stations at the end of 2012. Among these radio stations, 344 were FM radio stations and 204 were AM radio stations. There were 40 FM radio stations and 38 AM radio stations in Bangkok and 273 FM radio stations and 173 AM radio stations in the provinces. The government owned all the stations and had ownership of the radio frequency for radio broadcasting business. As of June, 2012, approximately 6,300 community radio stations were registered with the Office of the National Broadcasting and Telecommunications Commission (NBTC) (Matichon, 2012). Radio broadcasting covered over 98% of the country.

A survey conducted by the Nielsen Media Research Company between 2010 and 2011, found that the spending by advertising media had increased, mostly through television, in the amount of 62,238 million Baht or an increase of 2.42 % in comparison with 2010. The medium that enjoyed a leap was the Internet which grew at a rate of 62.07%. Media that enjoyed continued growth were those in- store, transit and outdoor media as can be seen in Table 1.

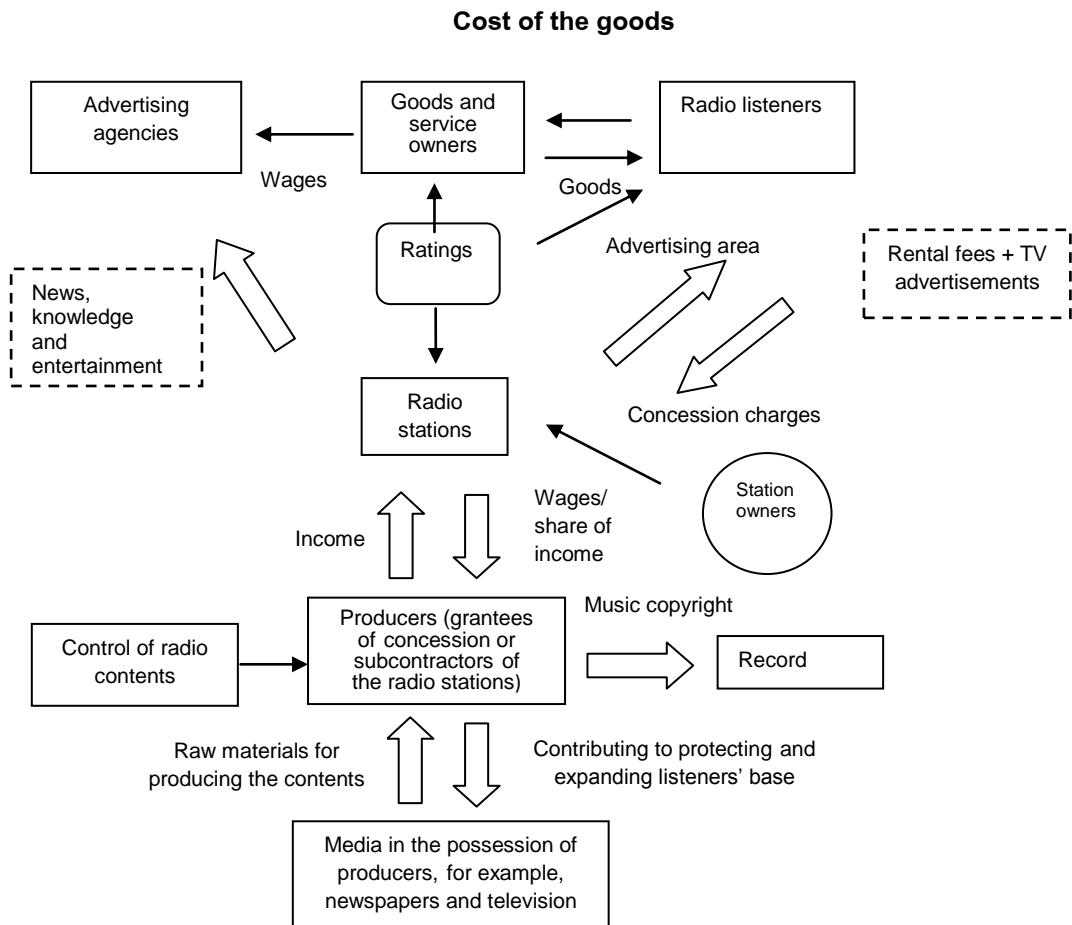
**Table 1:** Comparison of spending by advertising media from 2010 to 2011

Media	2010		2011		Difference	
	Million Baht	%	Million Baht	%	Million Baht	%
Television	60,766	60.16	62,238	59.48	1,472	2.42
Radio	6,116	6.05	5,928	5.67	-188	-3.07
Newspapers	15,000	14.85	14,558	13.91	-442	-2.95
Magazines	5,694	5.64	5,708	5.45	14	0.25
Cinemas	5,987	5.93	7,224	6.90	1,237	20.66
Outdoormedia	3,849	3.81	4,272	4.80	423	10.99
Transit media	2,188	2.17	2,603	2.79	415	18.97
In-Store media	1,121	1.11	1,604	1.57	519	46.30
Internet	290	0.29	470	0.45	180	62.07
Total	101,010	100.00	104,640	100.00	3,630	3.59

**Source:** Nielsen Media Research Company (2011)

Spending on radio advertising did not reduce much in 2011 as compared with that in 2010 and, at the same time, its growth rate did not increase much between 2007 and 2011 because other media were able to gain access to consumers more rapidly. During the first 6 months of 2012, the Nielsen Media Research Company revealed that the highest spending on advertising goods and service in the second half of 2012 was via television and next came newspapers and radio respectively. There was an increase in spending in terms of advertising through radio, over the same period of time in the previous year, of 5.23% (The Nation, June 2012).

Tangkitvanich (2003) indicated that the frequency allocation and the service contract between radio producer and station are not transparent. There is also a trend of market concentration in Bangkok and vertical integration between radio station and music industry. Radio media are related to the business and government sectors and consist of different groups, for example, advertising agencies, ratings agencies, goods and service owners, programme producers, station owners, record labels and listeners. This is illustrated in Figure 1.

**Figure 1:** The relationship between radio and various businesses

**Source:** partly adopted from Tangkitvanich, 2003

Figure 1 shows that radio stations or station owners have to pay concession charges in order to acquire the right to use radio frequencies. Station owners may produce programs for a certain period of time or at all times. If they produce programs only for a certain period of time, other interested producers may sub-lease the time for their radio programs. Profits from program production may be in the form of production payments or a share of the income from advertisements. Advertising agencies may make direct contact with radio stations or with goods owners and radio stations. This relationship shows that radio producers and station owners also compete in the market for an audience and a market for the advertising. Moreover, there are cross-externalities between these markets because listeners often react negatively to the presence of advertising while advertisers wish to increase the number of listeners who listen to their advertisements. In turn, this situation is akin to the more general context of the two-sided market (Armstrong, 2002; Rochet & Tirole, 2003; Argenesi & Filistrucchi, 2007; Sweeting, 2010).

Currently, the formats of radio programs are different in minor details. They can be divided into 2 types—musical format and non-musical format. The musical format includes contemporary music for teenagers and for adults, folk songs and specific kinds of music. In organizing radio programs, radio producers must pay the copyright fees of songs that do not belong to their affiliated artists. The non-musical format consists of news, interviews, talks, documentaries, and magazines on air, soap operas, sports, religious and children's programs. Radio listeners are deemed to be indirect supporters of radio programs through their purchase of the goods that are being advertised. As in highly competitive business, good producers who have their own advertising budget will decide how much budget they will allocate to radio broadcasting. An important index they use to accompany their decision making is the results of rating surveys from marketing research companies (Hinviman et al. 2011).

### **3. Industry Analysis: Structure-Conduct-Performance Framework**

The Market's Structure, Conduct and Performance (SCP) framework is derived from the neo-classical analysis of markets. The SCP paradigm aims to identify the correlation between industry structure and performance. This SCP hypothesis has led to the implementation of most anti-trust legislation (Church and Ware, 2000, pp. 425 -430). The discussion in this section follows the SCP framework by dividing the section into sub-sections, which are Structure, Conduct and Performance in order to explore competition in the radio industry.

#### **3.1 Structure**

Structure means the way of managing the organization of any particular goods market, which emphasizes the relationship among sellers in the market, the relationship among buyers in the market, that between sellers and buyers in the market as well as the relationship between old sellers and new sellers in the market. These characteristics make it possible to clearly see the competition system and the pricing of goods in the market.

At the end of 2012, there are 524 radio stations in Thailand, excluding community radio stations. The broadcasting area covers more than 98% of the country. The radio waves ownership of the Ministry of Defense (for example the Royal Thai Army, the Royal Thai Navy, the Royal Thai Air Force and other work units in the Ministry) is 40.0%, that of the Department of Public Relations is 28. 16%, that of MCOT Public Company Limited is 12.43% and the rest are owned by various State organizations.

The radio market in Thailand has a large number of minor program producers. They are business operators from both the government and the private sector, who are granted concessions by the State authorities. One obstacle that deters people from entering radio market in Thailand is the short-lived concession system. The condition specified in the time rental contract is not over 1 to 2 years, which makes it difficult for grantees of concessions to implement long-term strategic planning. There is also a high risk because government units are able to terminate the contracts at any time and in some cases there is no contract at all. The process for obtaining concessions lacks transparency and there is no standard for computing concession charges. This has contributed to a system of favoritism and corruption.

Radio broadcasting concessionaires that are full-cycle entertainment companies, for instance, music companies, have an advantage in terms of capital that enables them to conduct their radio business with flexibility while the cost of radio production increases every year, especially concession charges and the cost of program production. Also, large and medium capital groups in the media and printing industry are able to perform full cycle business, both in vertical integration and horizontal integration, enabling them to have greater marketing power and they become owners of a business that can produce many kinds of media as well as owning radio wave concessions which help to advertise and publicize their own goods. The structure of the radio industry thus clearly consists of a concentration of only a few entrepreneurs. This can be seen in Grammy Entertainment Public Company having A-Time Media Company as its affiliated company conducting the business of producing radio programs in 1996 while, at the same time, producing television programs and printing media. The research found that the FM radio system market in Bangkok could provide an advantage to entrepreneurs who were able to conduct full-cycle business, as can be seen in the radio business operations of the affiliation of Grammy Entertainment Public Company Limited, RS Public Company Limited, BEC World Public Company Limited and the Nation Multi-Media Group Company Limited.

From 2011 to 2012, there were changes in radio frequency renters, as can be seen in Table 2, reflecting the fact that competition in the media and printing industry, particularly the radio industry, had increased. This might have resulted in fewer opportunities for minor entrepreneurs to enter in this market. Besides, Grammy Entertainment Public Company has expanded its business by building radio stations allied to community radio stations in the provinces in the form of a network over the last few years. This concurs with the research of

Tangkitvanich (2003) which observed that, currently, the major players at a national level had a business operation concept that combined all the radio stations in the country to form a network enabling the broadcasting radius to cover more areas, which is different from the past when the broadcasting radius of each radio station was approximately 50 to 60 kilometers on average, dependent on transmitting capacity, the height of signal transmitting poles and the interruption of radio waves. Most of the program producers have organized their programs independently and they do not have any affiliation or belong to any group.

**Table 2:** Examples of the change in the companies that rented the FM radio waves in Bangkok from 2011 to 2012

Company that rented radio waves	2011	2012	Note
R Siam Co., Ltd.	88.50	88.50	On October 1 <sup>st</sup> , 2010, 88.50 Luk Thung Thailand Radio Wave changed its format and its name to Luk Thung Thailand Plus by Media Lover Co. Ltd., and A.N.N. Media Co. Ltd. (Affiliated); later in July, 2011, R Siam Co. Ltd., affiliated with R.S. PLC., rented the 88.5 Luk Thung Thailand Plus Radio Wave and changed its name to Sabai Dee Radio.
519 Radio Co. Ltd.	90.0	90.0	In 2011, PD Creation Co. Ltd., rented the radio wave, named Ruam Mit Radio; in June, 2012, 519 Radio Co. Ltd., subsequently rented the wave and changed its name to Zap Radio.
Click We Are One Radio Co. Ltd.	94.5,101,10 2.5,103.5, 104.5	101,102.5,1 03.5,104.5	In 2011, Click We Are One Radio Co. Ltd. requested the return of 94.5 radio wave at the end of 2011 before the concession was due because of accumulated losses.

**Source:** Compiled by the researcher

### 3.2 Conduct

Conduct refers to the behavior of various business units in their self-adaptation so that they are able to exist in the market. The behavior in radio business operations that has to be considered is as follows:

#### **Service and Advertising Fees**

Usually, advertisements on a radio station must not exceed 12 minutes per hour and those on a community radio station must not be over 6 minutes per hour. Though there is a time limitation on the selling time for advertisements, a radio station can manage an advertising plan for its customers by selling an advertising package, which may consist of regular advertising spots, public relations by program producers (jingle in-out) and organizing activities both inside and outside the station and games. The advertisement is an important source of revenue for radio producer. Over the past few years, the value of advertising via radio has tended to increase because the advertising rate was not very high. For example, the advertising rate of an F.M. music station in Bangkok was approximately 2,200 -3,000 Baht per second and if a long term contract was signed, the rate would be reduced by 50%. The advertising rate on radio in the provinces is much lower than in Bangkok, at 80-300 Baht per second. For this reason, radio has become a more popular channel for advertising (Kasikorn Research Center, 2005).

In 2011, GMM Grammy Public Company Limited, a large private entrepreneur, observed that customer behavior in purchasing media had changed from a long term purchase to a short term one. For example, customers would sign a one year contract but now a contract would cover only 6 months, 3 months or it would cover 1 month in one quarter; it could even be a month by month contract. Purchasing behavior was also affected by new media that had been introduced and had taken the low advertising budget, for example, satellite television. Therefore, entrepreneurs had to use all kinds of strategy to attract as many customers and listeners as possible. There was new entrepreneur entered in to this market in 2011. At the same time, one of a folk music radio ended his station and another radio producer has changed its name. These reflect the high level of competition in acquiring market share, attracting more listeners and obtaining advertising budgets from customers (GMM Grammy Annual Report, 2011).

As well as advertising costs, producers have to be responsible for the cost of music copyright. Each record label has its own company to collect its music copyright fees. GMM

Music Publishing Company, affiliated to GMM Grammy, has collected copyright fees from radio programs for broadcasting songs and music owned by companies affiliated to GMM Grammy since January 1<sup>st</sup>, 2005, at the rate of 7.5% per whole year income plus advertising fees before expenses have been deducted and in proportion to actual use. Other record labels have followed the same practice and, as of 2012, there were 32 companies responsible for collecting copyright fees and their number has tended to increase (Matichon, 27 August, 2012).

### **The proportion of program contents**

The latest population consensus, conducted by the National Statistical Office (2007) showed that, classified by age range, the adolescent population was at 23.1% or almost one quarter of the whole population. The population in the working age range was 80% and senior citizens were 10.9%. The survey of the proportion of radio broadcasting time from April 25<sup>th</sup> to May 31<sup>st</sup>, 2007, which covered 40 FM radio stations and 30 AM radio stations, found that radio programs for children, juveniles and families had limited proportion. Moreover, the number of audience has been decreased over time. The major reason for listing to the radio is for entertainment rather than news.

A natural limitation on radio media is that consumers often change to a new radio station, causing the radio media to focus on music and advertisements as their main content. In terms of advertising and business service, radio stations are not able to present advertisement or business services of longer than 12 minutes per hour. The average time for advertising and business service s in one whole day must not be over 10 minutes per hour. Regulation is the responsibility of each radio station master. However, problems relating to advertising that exceeds the time limit and tie-in advertisements are still often found.

### **3.3 Performance**

Performance means the results of business operations according to the operational guidelines of business units in the market. The results of market operations can be considered from ratings, operations and the number of goods. The details are as follows:

#### **Ratings**

Ratings for radio program are the measurement of the figures of the number of radio listeners at one particular period of time per the whole population (Albaran and Pitis, 2001, p. 121). This is useful for program producers because they can learn how popular their programs

are with listeners. They can use the results of ratings to look for their supporters as well as for ways of improving their programs. Producers may conduct a survey of ratings on their own or hire a marketing research company to do it for them. An example can be seen in the survey of the rating of FM radio stations that were popular among 12 -24 year old listeners in February, 2011, conducted by AC Nielsen (Thailand) Company Limited from April 30<sup>th</sup> to May 6<sup>th</sup>, 2011, which found that the top five radio stations that were popular among teenagers were 97.5 Seed FM, 95.5 Virgin Hitz, 93.0 Cool FM, 103.5 FM One and 95.0 Luk Thung Mahanakhorn.

### **Operations and the number of goods**

As the operations of the radio broadcasting industry are in the form of renting radio stations or radio waves, business integration and control have not yet taken place in Thailand. However, cross-media ownership started to emerge during the growth of radio media business between 1983 and 1991. All the entrepreneurs who registered on the Stock Exchange of Thailand expanded their business to cover television, printing and new media in order to create advantages in competition because the radio media were limited because listeners often changed radio station resulting in the main contents of the radio media to be music and advertisements, as is shown in Table 3.

**Table 3:** Examples of radio broadcasting entrepreneurs who listed on the Stock Exchange of Thailand (SET) as of December 2012

Entrepreneurs in the Stock Exchange of Thailand	Radio Broadcasting Entrepreneurs (Proportion of Share Holding of the Companies Registered in the Stock Exchange of Thailand)	Television	Ownership of Other Media and Printing Businesses		
			Radio	Printing	New Media
BEC World Public Company Limited	Bangkok Entertainment Co. Ltd. (99.99%) U and I Corporation Co. Ltd. (99.99%) BEC Tero Co. Ltd. and branch companies	Bangkok Entertainment Co. Ltd. (Channel 3)	FM. 95.5 MHz Virgin Hitz FM. 105.5 MHz	-	✓
MCOT Public Company	Seed MCOT Co. Ltd. (49%)	Modern Nine Television Station	AM. 1143 KHz and AM. 1479 KHz covering the whole country; there are 5 radio stations in the Central part: FM. 95 MHz Luk Thung Mahanakhorn, 96.5 MHz Khluen Khwam Kid, FM. 97.5 MHz Seed FM., FM. 99.5 MHz Khluen Khwam Kid, FM. 100.5 MHz News and documentary station and FM. 107 MHz Met 107	-	✓
GMM Grammy Public Company	GMM Media Public Company Limited (99.92%) A-Time Media Co. Ltd. (100%)	Producing television programmes through Free TV and conducting TV business via satellite	FM 106.5 Green Wave FM. 94.0EFM FM. 91.5 Hotwave FFM. 93.0 Cool	Producing monthly and quarterly magazines—fashion magazines, women magazines, men magazines, entertainment magazines and producing and selling pocket books; currently owning 6 magazines, consisting of 2 Thai magazines and 4 magazines whose copyright is purchased from abroad	✓



Entrepreneurs in the Stock Exchange of Thailand	Radio Broadcasting Entrepreneurs (Proportion of Share Holding of the Companies Registered in the Stock Exchange of Thailand)	Television	Ownership of Other Media and Printing Businesses		
			Radio	Printing	New Media
RS Public Company Limited	Sky- High Network Co. Ltd.	Producing television programmes through Free TV and conducting TV business via satellite	FM. 93.0 Cool FM	✓	✓
Nation Multi-Media Group Public Company Limited	Nation Broadcasting Corporation Public Company Limited (61.99%)	Producing television programmes through Free TV and conducting TV business via satellite	FM. 90.5 MHz Nation FM FM. 102.0 MHz	Bangkok Business Newspaper, Khom Chud Luk Newspaper, The Nation Weekly, The Nation and Nation Junior as well as producing, giving printing service and selling different types of printing materials	✓
Post Publishing Public Company Limited	Flash News Co. Ltd. (40.0%)	Producing television programmes through Free TV and conducting TV business via satellite	FM. 97.0 Quality News Radio Station	✓	✓
Siam Inter Multi-Media Public Company Limited	Siam Inter Multi-Media Public Company Limited (100%)	Producing television programmes through satellite TV and through membership TV	FM. 96.0 Sport Radio	✓	✓

**Source:** Compiled by the research

#### **4. Conclusion and Policy Implication**

This paper has discussed and explored the market condition and competition of radio industry by focusing the radio producers during 2007-2012. The structure of radio industry is concentrated. State organizations and the military is the major holder of frequency ownership. Private entrepreneur can enter into the market through concessionaire system or contracting. The granted period varies from case to case. There is no standard for granted duration and charges. This obviously shows that the frequency ownership has more bargaining power as compared to other stakeholder in this industry. If the radio producer has his own media or related industry, it will create a huge advantage in content production for him.

The findings also show that competition in the radio happened during the time of the adjustment of its structure in order to create competitiveness in structure and content. Most of radio producers who mainly carry out their business in Bangkok gained advantage in the competition in terms of capital and modern technology. Most of them owned more than one kind of medium or held cross-media ownership, which made the competitive structure quite concentrated. This observation can be concluded that there are some challenges in the radio industry. Radio will not be a major medium in the convergence era for the major population. But radio is one of the most accessible forms of technology which covering the whole country.

There was a tendency for entrepreneurs in Bangkok to become shareholders or allies of small companies and operators of community radio stations in large provinces in each region. This was a way of increasing income and expanding market share. However, in comparison with other media and publishing business, the market value of the radio business was still small and the emergence of modern technology also resulted in a decrease in production costs. The fact that news and music could be obtained via new media, together with the development of technology and a change in listener behavior, required radio operators to adapt by increasing the ways in which listeners could get access to the service. However, this might not gain much interest from investors. The presentation of content lacked balance or failed to comply with the specified criteria because most Thai radio programs consisted of music and advertisements were presented in more than the time limit and this resulted in a lack of variety of content.

Hence, policy makers and the regulatory body need to consider on liberalization in spectrum frequency in order to promote free and fair competition. Importantly, they need to ensure that the industry provide and improve diversity of information for equal and universal access by the public.

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