

Wua, Pei-Ju; Fenga, Cheng-Min; Pana, Ya-Chuan

Conference Paper

Decisions about entry modes for telecom companies into digital music business: An empirical case study

8th Asia-Pacific Regional Conference of the International Telecommunications Society (ITS): "Convergence in the Digital Age", Taipei, Taiwan, 26th-28th June, 2011

Provided in Cooperation with:

International Telecommunications Society (ITS)

Suggested Citation: Wua, Pei-Ju; Fenga, Cheng-Min; Pana, Ya-Chuan (2011) : Decisions about entry modes for telecom companies into digital music business: An empirical case study, 8th Asia-Pacific Regional Conference of the International Telecommunications Society (ITS): "Convergence in the Digital Age", Taipei, Taiwan, 26th-28th June, 2011, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/52342>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Decisions about entry modes for telecom companies into digital music business: an empirical case study

Pei-Ju Wu^{a,*}, Cheng-Min Feng^{a,1}, Ya-Chuan Pan^{a,2}

a. Institute of Traffic and Transportation, National Chiao Tung University, 4F, 118, Sec. 1, Chung Hsiao W. Rd., Taipei 100, Taiwan, ROC

* Corresponding author. Tel.: +886 2 2349 4956; fax: +886 2 2349 4965.email: jacky1222mail@gmail.com (P.-J. Wu).

1. Tel.: +886 2 2349 4956; fax: +886 2 2349 4965.

2. Tel.: +886 9 37008233; fax: +886 2 2391 4159.

ABSTRACT

The digital music market offers an opportunity for telecom companies to furnish value-added services. However, little effort has been made to study empirically how to make a decision about entry modes for telecom companies into digital music business. This study therefore investigates various strategies that telecom companies may implement to enter the digital music industry. The results of a series of expert surveys reveal that the preference ranking of entry modes is acquisition, joint venture, and contractual agreement, respectively. Moreover, the leading key factors in selecting entry modes are complementary capabilities, hostility of environment, relational risk between firms as partners, commitment of resources, and availability of expertise. Furthermore, an importance-performance analysis was conducted to understand the different aspects that are of different performances and importance in each entry mode. The implications of the findings are also discussed.

Keywords: Telecom companies; Digital music business; Entry modes; Value added

1. Introduction

As the profit margins of traditional voice services gradually decline, and market competition becomes increasingly fierce; telecom companies are no longer satisfied only to retain their current subscribers, and increasingly intend to provide various value-added services to attract new customers and increase the use of telecom networks. Since much of the provided content falls outside the primary domain of telecommunication, a debate has arisen concerning how telecom companies should create and develop value-added services.

Because of technological advancements, falling costs, and the availability of enabling technologies, such as digital processing, digital storage, and telecommunications with increasing bandwidth, the average global annual production of digital content has been increasing exponentially (Tsai, Lee, & Yu, 2008). Furthermore, new software formats, such as MP3, and Internet or telecom network distribution systems have led to a changes in the consumption of pop music that have caused a deeper structural problem for the music industry (Leyshon, Webb, French, Thrift, & Crewe, 2005). Additionally, effective search and sampling let consumers can make better purchase decisions (Bhattacharjee, Gopal, Marsden, Sankaranarayanan, & Telang, 2009). Moreover, the new environment has forced the participants of the industry to

transform radically to survive (Fouce, 2010). Traditional retailers need effective selling strategies to increase their profits (Bhattacharjee, Gopal, Lertwachara, & Marsden, 2006). Accordingly, a new business model should be established to increase the total revenue of music industry.

New digital music products have several characteristics that are affecting the structure of the music market involving easily reproduced, transferred, searched, and stored. These characteristics provide new opportunities for the production and distribution of music (Bockstedt, Kauffman, & Riggins, 2006). Telecom companies would like to seize the opportunity of digital music products for creating value-added services. Specifically, exactly how telecom companies enter digital music market should be explored. However, few studies have investigated decisions made by telecom companies concerning their entry into the digital music business. Therefore, the goal of this study is to devise a decision-making model to assist telecom companies to enter the digital music market. This empirical study will elucidate some strategies that are crucial for telecom companies to operate digital music.

The rest of this paper is organized as follows. Section 2 analyzes the digital music industry by using the competitive forces model. Section 3 discusses possible alternatives and criteria for entry modes evaluation. Section 4 presents a case study to identify critical aspects that affect the choice of entry mode and determines the most

appropriate entry mode. Moreover, the importance-performance analysis of each entry mode is explored. Those results are discussed as well. Finally, Section 5 draws conclusions.

2. Analyzing the digital music industry by using the competitive forces model

According to Porter's competitive forces model (Porter, 1979, 2008), industrial competitiveness depends on five major forces, i.e. competitive rivalry within the industry, bargain power of suppliers and customers (or buyers), threat of substitutes and new entrants. Collective strength of such forces determines the latent opportunity to earn industrial profits and further develop an industrial structure. Collectively stronger forces imply more intense industrial competitiveness, or vice versa. Additionally, the model framework of the model provides strategies for analyzing strategic opportunities to gain a competitive advantage and examining long-term impact, value, and risks related to adopted strategies (Guthrie & Austin, 1996). The competitive forces model is applicable despite differing industrial structures (Chen, Chong, & Chen, 2001). Accordingly, the sources of five forces represented in the competitive forces model correspond to the following roles in the digital music business for telecom companies (Fig.1).

- Competitive rivals within the industry: incumbent online music stores and music services operated by other telecom companies in a specific country or region.
- Suppliers: artists and musicians who produce, including lyrics and melody. The record companies then arrange related resources to produce single tracks, albums, or various presentation styles.
- Users or buyers: individual consumers enjoy music for leisure or for the benefits of corporate customers during business operations.
- Substitutions: physical music with CDs, live performances, musical programs on television, radio broadcasts, and other media such as jukeboxes.
- New entrants: telecom companies or service providers planning to develop music services in a specific country or region.

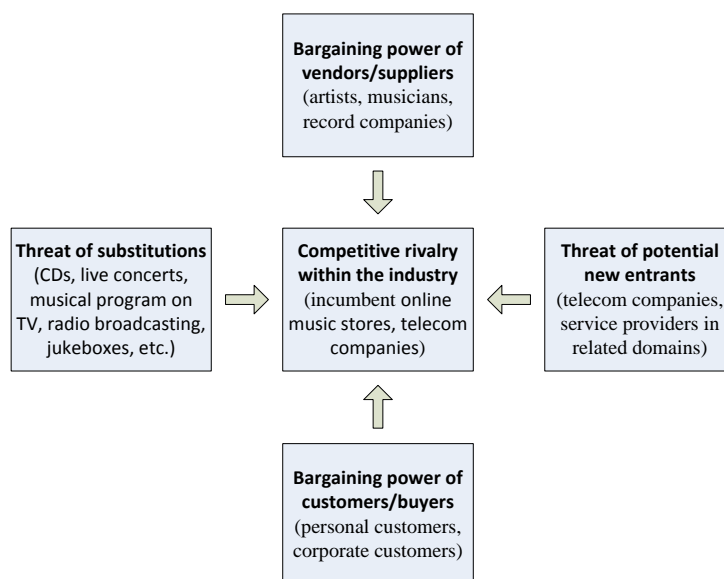


Fig. 1. Applicability of Porter’s competitive forces model in the digital music industry.

Even though data service has been increasingly popular to end users with the rapid development of technology and bandwidth of network, voice service was still the tough application for telecom companies. Previously, telecom companies need only to ensure the security and timeliness of a telecom network. As time proceeds, the suppliers for contents of a value-added service become the main creator of a value chain. Specifically, the content service and profit distribution of the value chain are vital for developing a balanced industrial structure. Herein, value chain participants are end users, mobile telecommunication companies, terminal unit manufacturers, service suppliers, content suppliers, and network device suppliers (Jun, Liu, & Gao, 2009).

The value chain in digital music distribution creates a shorter “distance” between artists and consumers than is found in conventional music distribution (Fig. 2). Herein, distribution networks for digital music decrease replication and production costs. Additionally, copyright protection and piracy-related issues influence the music market structure. The new digital music format is increasingly a prominent driver of the new virtual (digital) value chain in the music industry (Bockstedt, *et al.*, 2006). Moreover, virtual value chain-related activities consist of gathering, organizing, selecting, synthesizing, and distributing information (Rayport & Sviokla, 1995). Furthermore, digital music is distributed when consumers purchase and download or stream digital music files from a distributor (Bockstedt, *et al.*, 2006). With the trend of

disintermediation, telecom companies can be the role of both distributor and retailer in the digital music business. Rather than conventional distribution channels, telecom companies can contact directly with the customers, record labels (record companies) and music producers, and even artists.

According to Fig.2, a telecom company is a distributor of digital music, in which the bargaining power of suppliers is of priority concern. Exactly how the suppliers, including artists, musicians, and record companies, are related is examined by considering alternatives of four entry modes as a feasible strategy for telecom companies. Thirteen criteria are used for evaluation by company X.

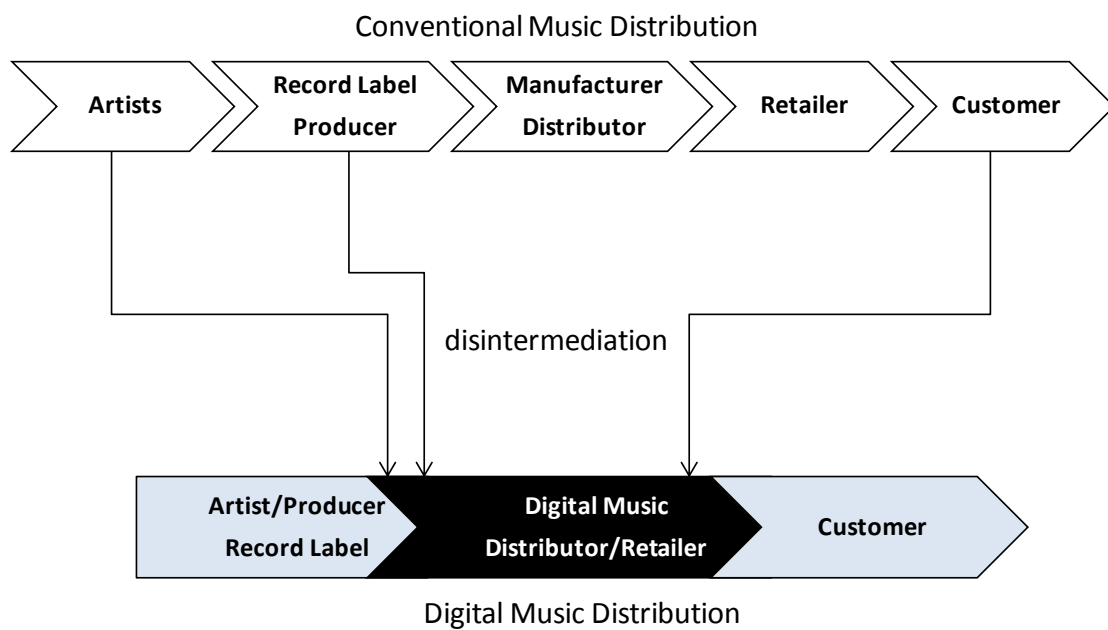


Fig. 2. Value chain of telecom companies in digital music industry.

3. Possible alternatives and criteria for evaluating entry modes

3.1 Alternative entry modes for telecom companies in the digital music business

Market entry strategies can be formulated based on three levels, i.e. corporate, business unit and operating. Such a strategy can be developed based on the home market of an entrant. If related markets are positively related, efficiency motivations will encourage firms to enter these markets (Vanwitteloostuijn & Vanwegberg, 1992). Moreover, a greater stake in ownership that a firm has implies a higher degree of control that it has over related transactions or activities. (Anderson & Gatignon, 1986). In particular, wholly owned organizations are designated as full-control modes, while non-wholly owned ones are referred to as shared-control modes (Erramilli, 1991). From an institutional perspective, entry mode is depicted as an appropriation organizational form that motivates a firm to increase its share in relevant markets under uncertainty (Yiu & Makino, 2002). Entry modes can be viewed as equity-based versus non-equity-based. Mode of contractual agreements is referred to herein as non-equity-based mode, while the non-wholly owned mode of joint ventures and the wholly owned mode of a new venture and acquisition are equity-based modes (Pan & Tse, 2000; Woodcock, Beamish, & Makino, 1994), as can be seen in Fig. 3. Four market entry modes are discussed as follows.

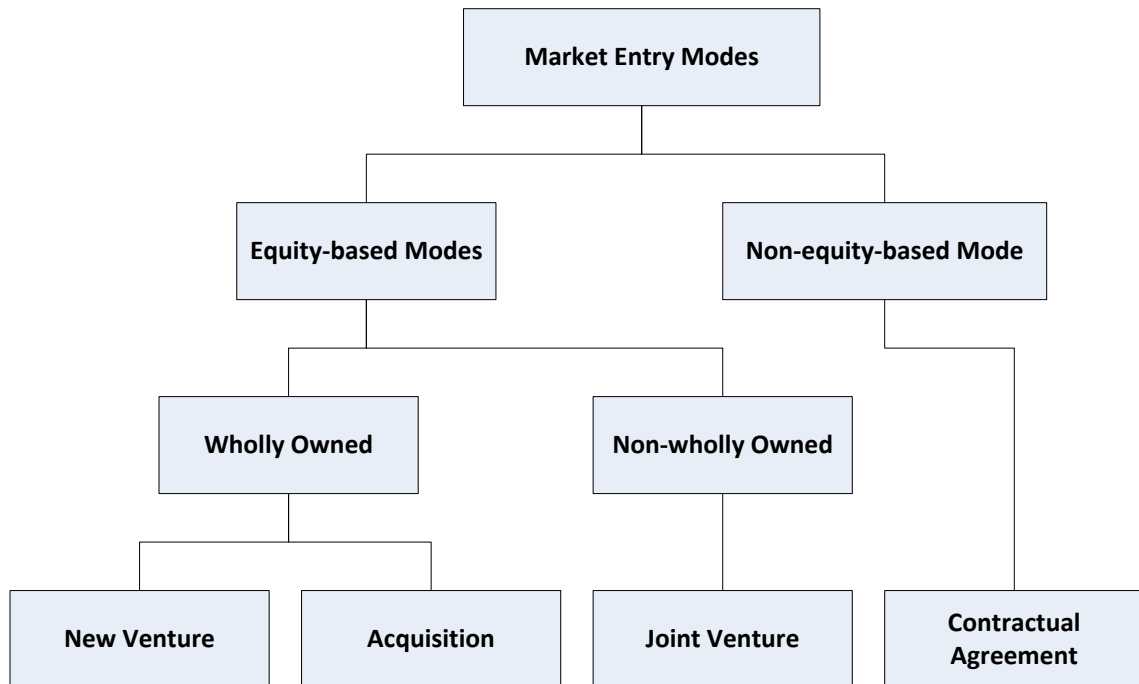


Fig. 3. Market entry modes.

A. New venture

For a firm to grow, diversification is an alternative means of breaking with past patterns and traditions of a firm and enter new and uncharted paths (Ansoff, 1957). In practice, startup capital requirements and industrial risk for a new venture creation mode advocate the takeover mode (Parker & Van Praag, 2010).

B. Acquisition

A firm may leverage its resources to make a radical reorganization through acquisition into the industry from other markets (Porter, 2008). Acquisition mode is likely adopted when the knowledge or expertise domain is more complex and valuable.

This mode is also preferred if a firm has greater acquisition experience, and the knowledge or expertise required has accumulated sufficiently for an alliance (Carayannopoulos & Auster, 2010).

C. Joint venture

Joint ventures can be defined as partners creating a new entity by sharing equity and tightly replicating organizational structures (Gulati & Singh, 1998). Competitive factors motivate the emergence of a venture with the intention of reducing rivalry among the partners or attenuating contractual hazards (Kogut, 1989). Additionally, the benefits incurred to partners are related to alliance participation and partner reputation, shared decision making, and strategic similarities between partners (Saxton, 1997). For a joint venture that stabilizes competition between two or more firms, any change in their interdependence may prove destabilizing. Restated, a decreasing interdependence may adversely impact the benefits of institutionalized cooperation, while increasing interdependency might improve monitoring and enforce tacit agreements, or create greater instability during preliminary agreements (Kogut, 1989).

D. Contractual agreement

A contractual mode is normally aligned with higher incentives to teach knowledge or expertise to owners, especially in knowledge-asymmetric and

location-symmetric alliances. In contrast, the equity-based mode is often adopted in alliances involving competition, especially in knowledge-symmetric and location-asymmetric alliances (Wen & Chuang, 2009). An alliance can be generally defined as a cooperative agreement between firms involving exchange, sharing, co-development, or contributions by partners of capital, technology, or specific assets (Gulati & Singh, 1998). Participants use a formal contractual agreement to formalize the governance structure of an alliance (Gulati & Singh, 1998). Contractual agreement is selected for accessing external knowledge or expertise of high in specificity and when the firm has previous alliance-related experience (Carayannopoulos & Auster, 2010).

3.2 Criteria for entry modes evaluation

Transaction costs consist of costs of finding and negotiating with an appropriate partner as well as the costs of monitoring the performance of a partner firm (Agarwal & Ramaswami, 1992; Erramilli & Rao, 1993; Hennart, 1991; Hill, 1990; Williamson, 1998), which are maintained to influence entry mode choice (Anderson & Gatignon, 1986; Erramilli & Rao, 1993; Hennart, 1991; Hill, 1990; Williamson, 1985).

Entry modes vary in performance outcomes according to the level of resources commitments and control (Woodcock, et al., 1994). The entry mode choice consists mainly of determining the levels of resource commitment and control in which

international entrant desires or can accept under uncertainty conditions (Woodcock, et al., 1994; Zhou, Chen, & IEEE, 2007). Control refers to the ability of a firm to influence the various management systems or market strategies in an organization in order to improve its competitive advantages and returns on specific investment or assets. Resource commitment involves the commitment of assets to specific business or projects that are difficult to reallocate without considerable costs (Sanchez-Peinado & Pla-Barber, 2006).

Hostility in environments refers to the level of competitiveness resulting from other industry participants. Ruiz-Ortega and Garcia-Villaverde (2010) demonstrated that in highly hostile environments, the availability of marketing capabilities encourages pioneering behavior by new ventures. Furthermore, if the level of imitation, which implies the business model, products, services, or certain technological know-how are imitated by rivals without hardship, is high, the availability of managerial capabilities encourages new ventures to be a pioneer in the business (industry OR sector) (Ruiz-Ortega & Garcia-Villaverde, 2010).

While inextricably related to risk in partnership of strategic alliances, trust and control are also two basic drivers of risk. Risk can be considered separately as relational risk and performance risk. Trust is perceived as loyalty between firms (Das & Teng, 1999; Das & Teng, 2001; Das & Teng, 1996). Relational risk involves cooperation

among alliance partners, while performance risk must deal with the hazards of not achieving the performance objectives of an alliance, given cooperation. The empirical study adopts equity alliance to control relational risk, while non-equity alliance focuses on minimizing performance risk (Das & Teng, 1996).

Critical resources may span the boundaries of a firm. Moreover, a firm can leverage the performance impact of available resources through resource configuration, complementary, and integration (Dyer & Singh, 1998; Song, Droge, Hanvanich, & Calantone, 2005; Wiklund & Shepherd, 2009). Complementary resources or capabilities are among the numerous potential sources gained from inter-organizational cooperation to create a competitive advantage (Dyer & Singh, 1998; Wiklund & Shepherd, 2009). The motivation for cooperation may include maintaining equivalency with current technology and facilitating innovation of product or services in the market and redefining the offering of the firm to enhance its supply chain position (Hanna, 2007). Although complementary resources or capabilities increase the potential value of alliances and acquisitions, the value is created, depending on the ability of a firm to identify and combine resources. (Wiklund & Shepherd, 2009)

Given a stringent competitive market, the ability required to allocate resources effectively is viewed as a market entry barrier, such as patents, startup costs, or availability of expertise (Chen, et al., 2001; Lewis, Graham, & Hardaker, 2005). The

barriers of entry indeed largely determine the market concentration (Chen, et al., 2001). Entry might require sunk fixed costs, contractual costs, or some other non-temporary costs. Restated, sunk costs and contestability are clearly applicable to the digital music sector. Artistic content is perceived as the primary value driver in the chain of digital music business. All other activities are supporting ones, such as marketing and distribution, by the record company in order to attempt to exploit their revenues from owning this content. Additionally, intellectual property rights have received considerable focus in the music market. Rapid changes in production technology imply that work hardly on used assets and hold onto the ability to exclude the possibility of other firms from the market to simply fall by the wayside (Lewis, *et al.*, 2005). Moreover, aspects and criteria for evaluating entry modes are summarized in Table 1.

Table 1

Description of aspects and criteria for evaluating entry modes.

Aspects	Criteria	Description	References
Transaction costs	Cost of finding	The costs of finding and negotiating with an appropriate partner, as well as the costs of monitoring the performance of the partner firm.	Agarwal & Ramaswami, 1992; Erramilli & Rao, 1993; Hennart, 1991; Hill, 1990; Williamson, 1998
	Cost of negotiating		
	Cost of monitoring		
Contingency characteristics	Commitment of resources	Commitment of assets to specific business or projects that are difficult to reallocate without considerable costs	Sanchez-Peinado & Pla-Barber, 2006; Woodcock, Beamish, & Makino, 1994; Zhou, Chen, & IEEE, 2007
	Organizational control	Ability of a firm to influence the various management systems or market strategies to the organization in order to achieve synergy efficiency.	
Environmental conditions	Hostility of environment	Level of competitiveness that results from other industry participants.	Ruiz-Ortega and Garcia-Villaverde, 2010.
	Imitation in the environment	Industrial rival imitate the business model, products, services, or certain technological know-how.	
Efficiency of partners	Relational risk	Risk related to cooperation among alliance partners	Das and Teng, 1996, 1999, 2001.
	Performance risk	Risks of not achieving the performance objectives of an alliance, given cooperation.	Das and Teng, 1996, 1999, 2001.
	Complementary capabilities	Required resources or capabilities gained from inter-organizational cooperation to create a competitive advantage.	Dyer & Singh, 1998; Hanna, 2007; Song, Droge, Hanvanich, & Calantone, 2005; Wiklund & Shepherd, 2009.
Barriers to entry	Patents	Ownership of related copyright for music contents.	Chen, et al., 2001; Lewis, Graham, & Hardaker, 2005.
	Startup costs	Upon market entry sunk fixed costs, contractual costs, or some other non-temporary costs may be necessary to operate.	
	Availability of expertise	To operate a business, the availability of necessary capabilities must be confirmed.	

4. Results and discussion

In this study, in-depth interviews with senior supervisors in corporations in the telecom field concerning value-add services, and a literature review, are conducted to identify five main aspects that affect, and 13 criteria for evaluating, each entry mode by telecom companies into the digital music business. These five aspects were identified as transaction costs, contingency characteristics, environmental conditions, efficiency of partner, and barriers to entry. The 13 criteria were cost of finding, cost of negotiating, cost of monitoring, commitment of resources, organizational control, hostility of environment, imitation in the environments, relational risk between firms as partners, complementary capabilities, patents of intellectual property, startup costs, and availability of expertise.

Nine experts participated in a two-stage survey that involved an expert questionnaire. Each interview was conducted one-on-one or via a conference call, and lasted 20 to 60 minutes. The respondents had 15 to more than 40 years of seniority in the telecom field. They had such position titles as the head, vice president or director of sales and marketing, value-added services, creative business or R&D at company X.

4.1 Establishing the decision-making framework for identifying entry modes

Fuzzy set theory is similar to human reasoning in that it utilizes approximate

information and uncertainty to make decisions. It is specifically designed to represent mathematically uncertainty and vagueness, and to provide formal tools for manipulating the imprecision that is intrinsic to numerous problems (Kahraman, Cebeci, & Ruan, 2004). One the main advantages of this method is the relative ease of handling multiple criteria for decision-making. Fuzzy analytic hierarchy process (Fuzzy AHP), a fuzzy extension of AHP, was developed to capture an expert's knowledge and solve hierarchical fuzzy problems. Decision-makers can express preferences in natural language expressions concerning the importance of each performance attribute such as hygiene, quality of meals, and quality of service. (Kahraman, et al., 2004)

The survey in the first stage of this study was concerned with the importance of various criteria. Then, the hierarchy of determining an appropriate entry mode was established for telecom companies to evaluate how to entry into the digital business, as displayed in Fig. 4. Herein, the five aspects were transaction costs (TC), contingency characteristics (CC), environmental conditions (EC), efficiency of partners (PE), and barriers to entry (EB). The 13 criteria were cost of finding (CF), cost of negotiating (CN), cost of monitoring (CM), commitment of resources (CR), organizational control (OC), hostility of environment (HE), imitation in the environment (IE), relational risk between firms as partners between firms as partners (RR), risk of performance (PR), complementary capabilities (CP), patents (PT), startup costs (SC), and availability of

expertise (AE). Three entry modes, acquisition (AQ), joint venture (JV) and contractual agreement (CA), were identified as effective and practical alternative entry modes for telecom companies into the digital music industry. Additionally, respondents disagreed on the effectiveness of new ventures.

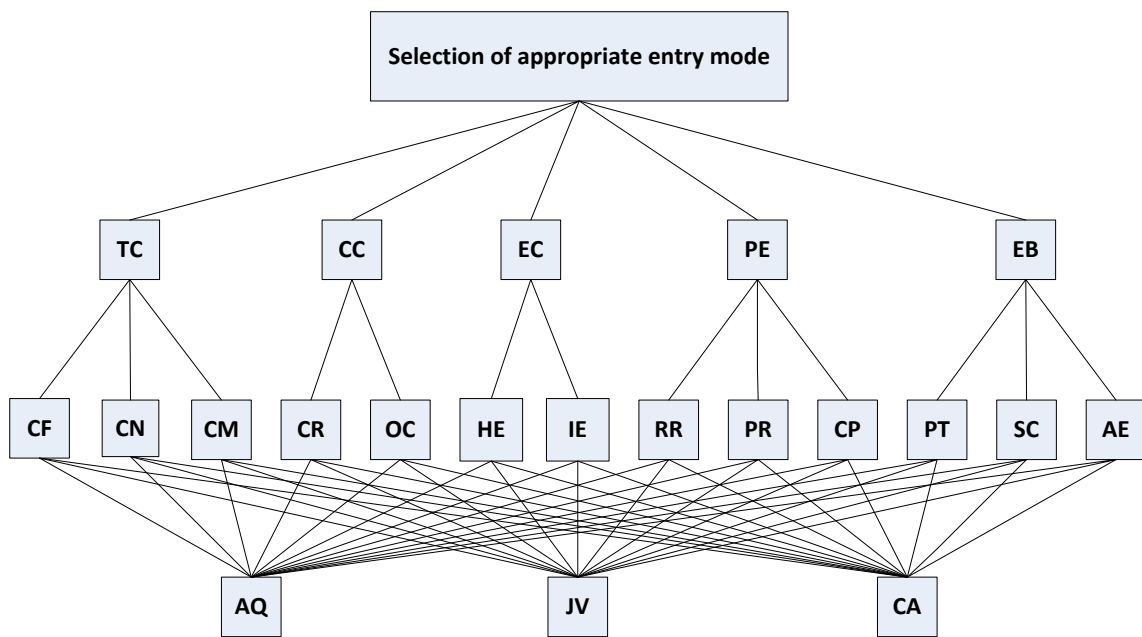


Fig. 4. The hierarchy for selecting appropriate entry mode into digital business.

4.2 Critical criteria and entry modes

The criteria weights for evaluating appropriate entry modes were derived using the fuzzy AHP in the second-stage questionnaire investigation, as shown in Table 2. Herein, the five most important criteria for selecting the mode of entry are complementary capabilities (CP), hostility of environment (HE), relational risk between firms as partners (RR), commitment of resources (CR) and availability of expertise

(AE). Decision makers attempting to make the decision about entry modes should highly prioritize the above criteria.

Table 2

Weights of criteria for evaluating entry modes.

Aspects	Criteria	Description of criteria	Local weights	Overall weights	Ranking
TC	CF	cost of finding	0.48	0.05	9
	CN	cost of negotiating	0.42	0.04	10
	CM	cost of monitoring	0.10	0.01	13
CC	CR	commitment of resources	0.55	0.08	4
	OC	organizational control	0.45	0.07	7
EC	HE	hostile environments	0.93	0.18	2
	IE	imitation in the environments	0.07	0.01	12
PE	RR	relational risk	0.38	0.16	3
	PR	performance risk	0.17	0.07	6
	CP	complementary capabilities	0.45	0.19	1
EB	PT	patents	0.33	0.05	8
	SC	startups	0.17	0.02	11
	AE	availabilities of expertise	0.50	0.07	5

Additionally, with the investigation of the performance about each criterion related to each entry mode and combined with the weights of criteria, the scores of the

three alternative entry modes were calculated and ranked as acquisition ($S_{AQ} = 4.41$) > joint venture ($S_{JV} = 4.05$) > contractual agreement ($S_{CA} = 3.34$).

4.3 Importance-performance outcome of entry modes

Importance-performance analysis (abbreviated as IPA) (Martilla & James, 1977) is adopted to derive managerial guidance for telecom companies to run business in distinct entry modes. Here, aspects both high in satisfaction and importance suggest “keep up the good work,” both low in satisfaction and importance imply “low priority,” in low satisfaction but high in importance indicate “concentrate here,” and with a high degree of satisfaction but low in importance suggest “possible overkill” (Martilla & James, 1977; Mullins & Spetich, 1987; Myers & Alpert, 1968). Telecom companies of acquisition, joint venture, and contractual agreement are provided with clear guidance to effectively deal with digital music management in practice, as derived from the IPA analysis.

Based on importance-performance outcome of entry mode of acquisition (Fig. 5), complementary capabilities (CP), hostility of environment (HE), relational risk between firms as partners (RR) and availability of expertise (AE) that fall into the “keep up the good work” (quadrant B) would guarantee good results. Although commitment of

resources (CR) is important, company X need not focus on it too much, to avoid possible overkill (quadrant D).

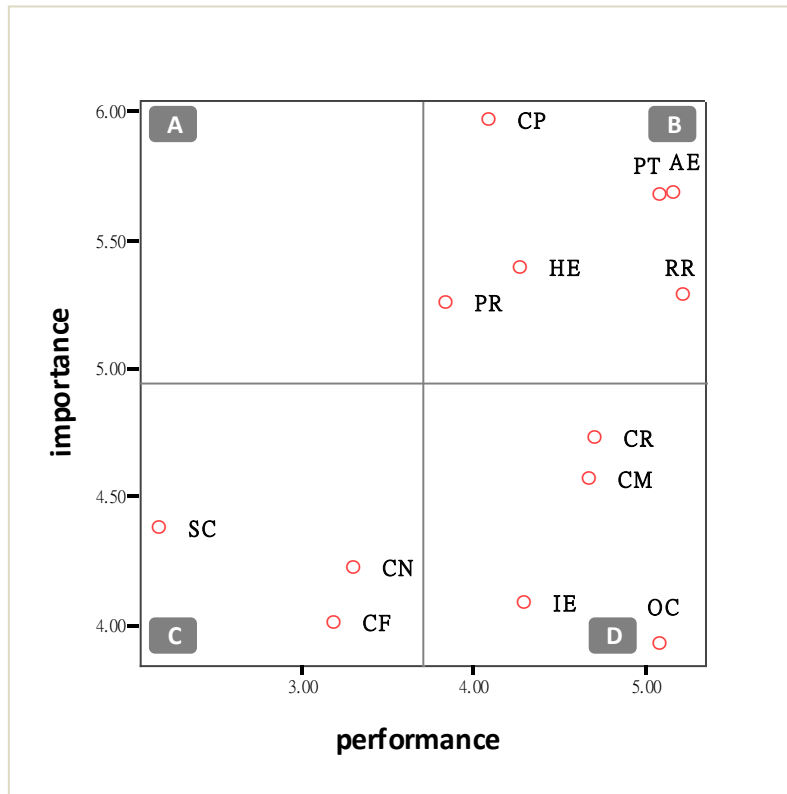


Fig. 5. IPA grid with criteria ratings for entry mode of acquisition.

In a joint venture (Fig. 6), concentrating on (quadrant A) relational risk between firms as partners (RR) and availability of expertise (AE) to optimize performance would optimize results. Complementary capabilities (CP), hostility of environment (HE) and relational risk between firms as partners (RR) in the “keep up the good work” quadrant (B) would maintain performance. Commitment of resources (CR) is a relatively low priority (quadrant C) in a joint venture.

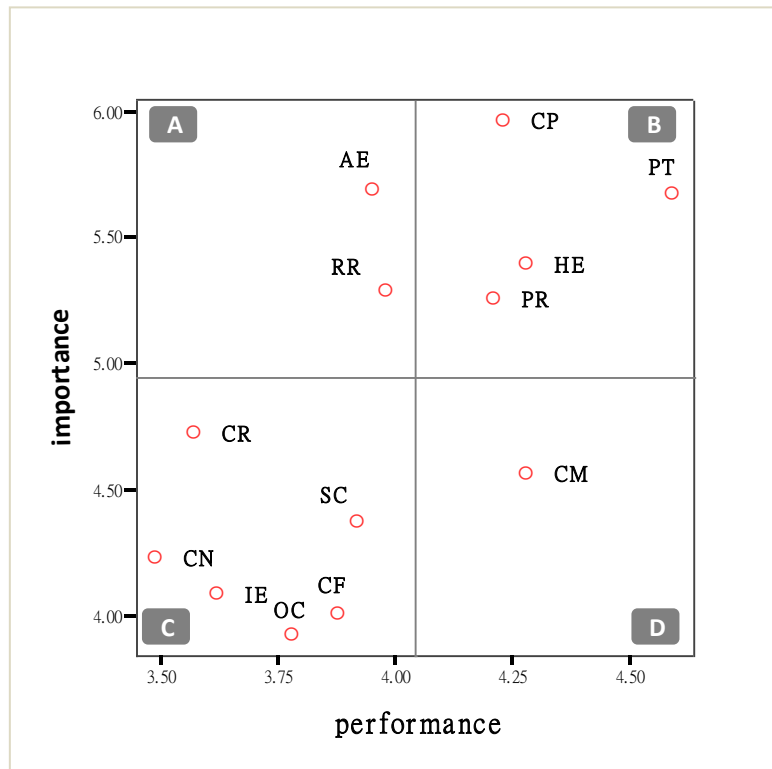


Fig. 6. IPA grid with criteria ratings for entry mode of joint venture.

In a contractual agreement as an entry mode (Fig. 7), the company should concentrate on complementary capabilities (CP), hostility of environment (HE), relational risk between firms as partners (RR) and availability of expertise (AE) to optimize the performance. Commitment of resources (CR) is of relatively low priority (quadrant C).

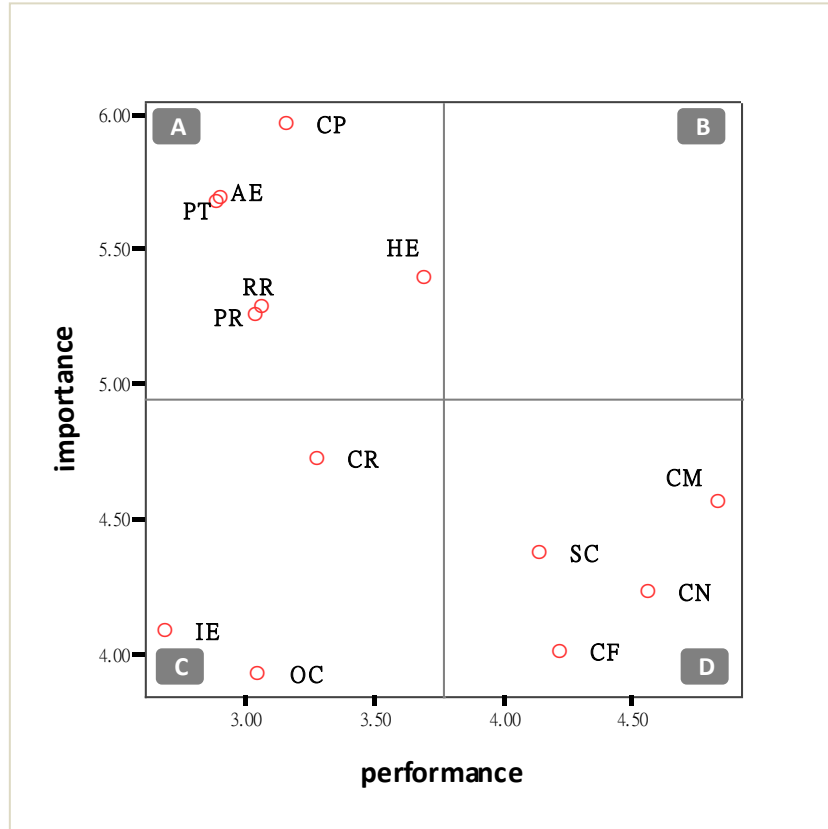


Fig. 7. IPA grid with criteria ratings for entry mode of contractual agreement.

5. Conclusions

Telecom companies are currently seeking to provide digital music as a value-added service to their customers. A case-study of a series of methods for so doing gives academics and managers a macro view of strategies for making decisions about the mode of entry into this market.

This work differs from previous investigations by addressing the decisions of telecom companies to enter the digital market in numerous ways. First, Porter's competitive forces model was adopted to analyze the digital music industry and identify

the role in which telecom companies may be able to earn profits and provide value-added services, increasing the usage of their networks. Second, a two-stage survey that involves a questionnaire and in-depth interviews was conducted with selected respondents of the leading telecom company to elicit the relevant perspectives of the decision-makers. Third, acquisition is identified as the most favorable mode of entry. The five most important aspects in this decision are complementary capabilities (CP), hostility of environment (HE), relational risk between firms as partners (RR), commitment of resources (CR) and availability of expertise (AE), as determined using the fuzzy AHP technique. Finally, suggestions concerning the management of this process are made based on the IPA method.

This study is practically important since numerous telecom companies intend to capture a share of the digital music market. The managerial suggestions are clearly practical and can be usefully adopted in making decisions regarding entry into the digital music market. The proposed decisions about entry modes may stimulate further research on digital music market and help address issues related to telecom companies.

Acknowledgements

This research was supported by NSC-97-2410-H-009-027-SS3 from the National Science Council of Taiwan. The authors would like to thank the anonymous

telecom company for participating in the interviews and questionnaire survey. Any errors or omissions are the sole responsibility of the authors.

References

- Agarwal, S., & Ramaswami, S. N. (1992). Choice of foreign-market entry mode - impact of ownership, location and internalization factors. *Journal of International Business Studies*, 23(1), 1-27.
- Anderson, E., & Gatignon, H. (1986). Modes of foreign entry: a transaction cost analysis and propositions. *Journal of International Business Studies*, 17(3), 1-26.
- Ansoff, H. I. (1957). Strategies for diversification. *Harvard Business Review*, 35(5), 113-124.
- Bhattacharjee, S., Gopal, R., Marsden, J. R., Sankaranarayanan, R., & Telang, R. (2009). To theme or not to theme: can theme strength be the music industry's "killer app"? *Decision Support Systems*, 48(1), 141-149.
- Bhattacharjee, S., Gopal, R. D., Lertwachara, K., & Marsden, J. R. (2006). Consumer search and retailer strategies in the presence of online music sharing. *Journal of Management Information Systems*, 23(1), 129-159.
- Bockstedt, J. C., Kauffman, R. J., & Riggins, F. J. (2006). The move to artist-led on-line music distribution: A theory-based assessment and prospects for structural changes in the digital music market. *International Journal of Electronic Commerce*, 10(3), 7-38.
- Carayannopoulos, S., & Auster, E. R. (2010). External knowledge sourcing in biotechnology through acquisition versus alliance: A KBV approach. *Research Policy*, 39(2), 254-267.

- Chen, J. C. H., Chong, P. P., & Chen, Y. S. (2001). Decision criteria consolidation: A theoretical foundation of Pareto Principle to Porter's Competitive Forces. *Journal of Organizational Computing and Electronic Commerce*, 11(1), 1-14.
- Das, T., & Teng, B. S. (1999). Managing risks in strategic alliances. *The Academy of Management Executive (1993-2005)*, 13(4), 50-62.
- Das, T. K., & Teng, B. S. (2001). Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies*, 22(2), 251-283.
- Das, T. K., & Teng, S. B. (1996). Risk types and inter-firm alliance structures. *Journal of Management Studies*, 33(6), 827-843.
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660-679.
- Erramilli, M. K. (1991). The experience factor in foreign-market entry behavior of service firms. *Journal of International Business Studies*, 22(3), 479-501.
- Erramilli, M. K., & Rao, C. P. (1993). Service firms international entry-mode choice - a modified transaction-cost analysis approach. *Journal of Marketing*, 57(3), 19-38.
- Fouce, H. (2010). Technologies and media in digital music: from music market crisis to new listening practices. *Comunicar*(34), 65-72.
- Gulati, R., & Singh, H. (1998). The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly*, 43(4), 781-814.
- Guthrie, R. A., & Austin, L. D. (1996). Competitive implications of the Internet. *Information Systems Management*, 13(3), 90-92.
- Hanna, V. (2007). Exploiting complementary competencies via inter-firm cooperation.

International Journal of Technology Management, 37(3-4), 247-258.

Hennart, J. F. (1991). The Transaction Costs Theory of Joint Ventures: An Empirical Study of Japanese Subsidiaries in the United States. *Management Science*, 37(4), 483-497.

Hill, C. W. L. (1990). Cooperation, opportunism, and the invisible hand: implications for transaction cost theory. *Academy of Management Review*, 15(3), 500-513.

Jun, W., Liu, G. L., & Gao, G. (2009). Research on SME Informatization Strategies for telecom carriers based on Theory of Value-Chain. In Q. Luo (Ed.), *Isbim: 2008 International Seminar on Business and Information Management, Vol 2* (pp. 333-336). Los Alamitos: IEEE Computer Society.

Kahraman, C., Cebeci, U., & Ruan, D. (2004). Multi-attribute comparison of catering service companies using fuzzy AHP: The case of Turkey. *International Journal of Production Economics*, 87(2), 171-184.

Kogut, B. (1989). The stability of joint ventures: reciprocity and competitive rivalry. *Journal of Industrial Economics*, 38(2), 183-198.

Lewis, G. J., Graham, G., & Hardaker, G. (2005). Evaluating the impact of the internet on barriers to entry in the music industry. *Supply Chain Management-an International Journal*, 10(5), 349-356.

Leyshon, A., Webb, P., French, S., Thrift, N., & Crewe, L. (2005). On the reproduction of the musical economy after the Internet. *Media Culture & Society* (Vol. 27, pp. 177-209).

Martilla, J. A., & James, J. C. (1977). Importance-performance analysis. *Journal of Marketing*, 41(1), 77-79.

Mullins, G. W., & Spetich, B. L. S. (1987). Importance-performance analysis. *Visitor*

Behavior 2(3), 11-12.

Myers, J. H., & Alpert, M. I. (1968). Determinant buying attitudes: meaning and measurement. *Journal of Marketing*, 32(4), 13-20.

Pan, Y. G., & Tse, D. K. (2000). The hierarchical model of market entry modes. *Journal of International Business Studies*, 31(4), 535-554.

Parker, S. C., & Van Praag, C. M. (2010). The entrepreneur's mode of entry: Business takeover or new venture start? *Journal of Business Venturing*.

Porter, M. E. (1979). How competitive forces shape strategy. *Harvard Business Review*, 57(2), 137-145.

Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review*, 86(1), 78-94.

Rayport, J. F., & Sviokla, J. J. (1995). Exploiting the virtual value chain. *Harvard Business Review*, 73(6), 75-85.

Ruiz-Ortega, M. J., & Garcia-Villaverde, P. M. (2010). Technology-oriented new ventures and entry timing. *International Journal of Technology Management*, 52(1-2), 46-68.

Saxton, T. (1997). The effects of partner and relationship characteristics on alliance outcomes. *Academy of Management Journal*, 40(2), 443-461.

Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal*, 26(3), 259-276.

Tsai, H. H., Lee, H. Y., & Yu, H. C. (2008). Developing the digital content industry in Taiwan. *Review of Policy Research*, 25(2), 169-188.

- Vanwitteloostuijn, A., & Vanwegberg, M. (1992). Multimarket competition - Theory and evidence. *Journal of Economic Behavior & Organization*, 18(2), 273-282.
- Wen, S. H., & Chuang, C. M. (2009). To teach or to compete? A strategic dilemma of knowledge owners in international alliances. *Asia Pacific Journal of Management*, 1-30.
- Wiklund, J., & Shepherd, D. A. (2009). The effectiveness of alliances and acquisitions: the role of resource combination activities. *Entrepreneurship Theory and Practice*, 33(1), 193-212.
- Williamson, O. E. (1985). The economic institutions of capitalism: Firms. *Markets, Relational Contracting*, New York.
- Williamson, O. E. (1998). *The economic institutions of capitalism*: Free Press.
- Woodcock, C. P., Beamish, P. W., & Makino, S. (1994). Ownership-based entry mode strategies and international performance. *Journal of International Business Studies*, 25(2), 253-273.
- Yiu, D., & Makino, S. (2002). The choice between joint venture and wholly owned subsidiary: An institutional perspective. *Organization Science*, 13(6), 667-683.
- Zhou, Y., Chen, Z. H., & IEEE. (2007). Market uncertainty and entry mode choice in service sector: A multidimensional factor-matching model 2007 *International Conference on Service Systems and Service Management*, Vols 1-3 (pp. 39-45).