

A Collaboration Model of Players in the ICT Ecosystem

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가
가
가
ANP
:

As convergence has been developed rapidly due to technology innovation and smart equipment like smartphone has emerged as a major communication instrument, every player in ICT industry has entered into new phase of competition. Domestic players are being taken to an ecosystem which is being configured by leading overseas players as old business models are being collapsed down due to radical changes in value chain. From the perspective of ecosystem theory, the competitive advantage of an ecosystem is obtained by linking all players' distinctive competencies. To enhance competitive advantage of domestic ICT industry, there should be a strategy facilitating co-evolution of every participating players based on diverse forms of collaboration and competition. Thus this study draws collaborative priority of each participating player based its distinctive competencies and suggests strategic collaboration model of every participating players.

Keywords: Ecosystem, ANP, Strategic alliance

I. 가

IT 가 가 (Value Chain)

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1.

	(Chen et al., 2008)
	(Casson, 1991, Hennart 1991, Williamson 1991)
	(Thorelli, 1986)
	가 (Chen et al., 2008)

(Kogut, 1991).

가

(2011)

IPTV

. Liou et al(2011)

Eisenhardt and Schoonhoven(1996) Resource-oriented

Chen et a al(2010)

4가

Chen et al (2010) R&D Strategy-oriented, Cost-oriented, Resource-oriented, Learning-oriented

(1)

Nielsen(2003) Supply-based, Learning-based, Market-based, R&D, Das and Teng(2000)

III. ANP

(Cruijssen et al. 2007)

(Multi Criteria Analysis)

가 ANP(Analytic Network Process)

C-P-N-T

ANP AHP(analytical Hierarchy Process) AHP Saaty

가 가 (JCE),

(Pairwise Comparison) (Saaty, 1980). 가

SKT

가 AHP

2. AHP ANP

AHP				(ANP)
		가		
ANP				
		가,	가	

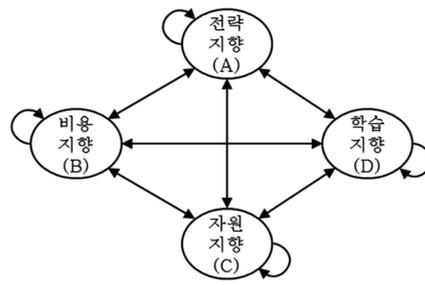
3.

A		A1		[13]
		A2		[13],[14],[37]
		A3		[13],[15]
		A4		[29]
		A5		[14]
B		B1		[13],[14]
		B2		[13],[14],[28]
		B3		[14],[28]
		B4		[28]
		B5		[13],[14],[28]
C		C1		[12],[13],[16],[28]
		C2		[13],[14],[16],[28]
		C3		[14],[28]
		C4		[14],[28],[32],[37]
		C5		[10],[25],[26]
D		D1		[12],[13],[14]
		D2		[12],[13],[14]
		D3		[12],[13],[37]
		D4		[12],[13],[14],[40]

가 . 가 ANP (Liou et al., 2011; Eisenhardt and Schoonhoven, 1996; Chen et al., 2010; Nielsen, 2003; Das and Teng, 2000)

AHP 가 (Saaty, 1996). AHP ANP (2). ANP 가

AHP 가 , , 가 (, 2007). ANP (, 2011; , 2011; , 2011), 가(, 2011; , 2003), ANP (, 2009) 가



1.

5.

		15
		17
		17
		21
		16
	가	15
		18
		119

6.

		()	(%)
		88	74
		31	26
		95	78
		27	22
	1~4	37	31
	5~9	50	42
	10	32	27
		68	57
		34	29
		13	15
		4	3

3.

가
가
2 265 23 199 가 0.1

7. 가

		A	B	C	D
	A	0.233	0.270	0.228	0.270
	B	0.345	0.264	0.261	0.228
	C	0.281	0.249	0.278	0.248
	D	0.141	0.218	0.234	0.254
	A	0.354	0.226	0.219	0.424
	B	0.158	0.393	0.282	0.201
	C	0.261	0.200	0.317	0.178
	D	0.226	0.181	0.181	0.197
	A	0.276	0.186	0.335	0.304
	B	0.257	0.318	0.229	0.259
	C	0.290	0.277	0.238	0.254
	D	0.177	0.220	0.198	0.183
	A	0.296	0.165	0.292	0.249
	B	0.233	0.322	0.252	0.304
	C	0.178	0.241	0.258	0.211
	D	0.293	0.273	0.197	0.235
	A	0.289	0.176	0.387	0.250
	B	0.358	0.363	0.239	0.283
	C	0.218	0.218	0.234	0.249
	D	0.135	0.243	0.140	0.219
가	A	0.566	0.201	0.286	0.287
	B	0.199	0.362	0.295	0.228
	C	0.108	0.266	0.237	0.210
	D	0.127	0.171	0.182	0.275
	A	0.232	0.242	0.332	0.186
	B	0.283	0.254	0.241	0.310
	C	0.195	0.247	0.193	0.210
	D	0.290	0.257	0.234	0.294

0.1~0.2 가 74% (6).
 , 0.2 가 (Saaty, 1980; Saaty, 1990). 4. 가
 80 119 가 (5). 가 (Cluster)
 119 88 Supermatrix) 가 (Unweighted
 78%, 22% ,가 (Weighted Supermatrix) 가
 , 가
 57% 43% 가
 5 (Limiting Supermatrix)

8.

		가		
	A	A1	0.353	0.089
		A2	0.204	0.051
		A3	0.196	0.049
		A4	0.076	0.019
		A5	0.172	0.043
	B	B1	0.203	0.056
		B2	0.270	0.075
		B3	0.200	0.056
		B4	0.229	0.064
		B5	0.097	0.027
	C	C1	0.177	0.047
		C2	0.336	0.090
		C3	0.240	0.064
		C4	0.162	0.043
		C5	0.085	0.023
	D	D1	0.159	0.032
D2		0.318	0.065	
D3		0.303	0.062	
D4		0.220	0.045	
	A	A1	0.266	0.082
		A2	0.250	0.077
		A3	0.235	0.072
		A4	0.087	0.027
		A5	0.162	0.050
	B	B1	0.175	0.046
		B2	0.286	0.075
		B3	0.237	0.062
		B4	0.222	0.058
		B5	0.080	0.021
	C	C1	0.099	0.025
		C2	0.445	0.111
		C3	0.229	0.057
		C4	0.146	0.036
		C5	0.082	0.020
	D	D1	0.150	0.027
D2		0.233	0.042	
D3		0.405	0.074	
D4		0.211	0.038	
	A	A1	0.275	0.076
		A2	0.198	0.055
		A3	0.248	0.069
		A4	0.100	0.028
		A5	0.180	0.050
	B	B1	0.207	0.056
		B2	0.300	0.081
		B3	0.248	0.067
		B4	0.146	0.039
		B5	0.099	0.027
	C	C1	0.144	0.039
		C2	0.370	0.100
		C3	0.207	0.056
		C4	0.162	0.044
		C5	0.117	0.031
	D	D1	0.154	0.028
D2		0.274	0.050	
D3		0.365	0.067	
D4		0.207	0.038	
	A	A1	0.272	0.069
		A2	0.208	0.053
		A3	0.214	0.054
		A4	0.135	0.034
		A5	0.171	0.043
	B	B1	0.228	0.065
		B2	0.287	0.082
		B3	0.228	0.065
		B4	0.146	0.042
		B5	0.111	0.032

	C	C1	0.184	0.041
		C2	0.376	0.085
		C3	0.179	0.040
		C4	0.183	0.041
		C5	0.078	0.018
	D	D1	0.118	0.028
		D2	0.270	0.064
		D3	0.405	0.096
		D4	0.207	0.049
가	A	A1	0.332	0.090
		A2	0.170	0.046
		A3	0.210	0.057
		A4	0.132	0.036
		A5	0.156	0.042
	B	B1	0.194	0.063
		B2	0.317	0.102
		B3	0.239	0.077
		B4	0.149	0.048
		B5	0.100	0.032
	C	C1	0.162	0.037
		C2	0.365	0.084
		C3	0.214	0.049
		C4	0.178	0.041
		C5	0.081	0.019
	D	D1	0.131	0.023
		D2	0.343	0.061
		D3	0.332	0.059
		D4	0.194	0.035
		A1	0.260	0.098
A	A2	0.167	0.063	
	A3	0.233	0.088	
	A4	0.122	0.046	
	A5	0.218	0.082	
	B	B1	0.185	0.050
B2		0.250	0.067	
B3		0.206	0.055	
B4		0.226	0.061	
B5		0.132	0.036	
C	C1	0.162	0.031	
	C2	0.411	0.079	
	C3	0.182	0.035	
	C4	0.169	0.033	
	C5	0.076	0.015	
D	D1	0.168	0.027	
	D2	0.293	0.048	
	D3	0.326	0.053	
	D4	0.213	0.035	
	A	A1	0.345	0.086
		A2	0.154	0.039
		A3	0.244	0.061
		A4	0.095	0.024
		A5	0.163	0.041
	B	B1	0.209	0.058
		B2	0.270	0.076
		B3	0.242	0.068
		B4	0.175	0.049
		B5	0.103	0.029
	C	C1	0.146	0.032
		C2	0.370	0.081
		C3	0.212	0.046
		C4	0.178	0.039
		C5	0.095	0.021
	D	D1	0.165	0.041
		D2	0.312	0.078
		D3	0.316	0.080
		D4	0.208	0.052

10.

	Ca	Cb	P	Na	Nb	Ta	Tb
A1	2	2	3	4	2	1	1
A2	10	3	9	9	11	6	15
A3	11	6	4	8	8	2	7
A4	19	16	18	16	15	12	18
A5	14	10	11	11	12	3	13
B1	8	11	8	5	5	10	8
B2	3	4	2	3	1	5	5
B3	9	7	5	6	4	8	6
B4	6	8	13	12	10	7	10
B5	17	18	19	17	17	13	17
C1	12	17	14	13	14	17	16
C2	1	1	1	2	3	4	2
C3	5	9	7	15	9	14	11
C4	15	14	12	14	13	16	14
C5	18	19	16	19	19	19	19
D1	16	15	17	18	18	18	12
D2	4	12	10	7	6	11	4
D3	7	5	6	1	7	9	3
D4	13	13	15	10	16	15	9

Ca: ,Cb: P: , Na: , Nb: , Ta:가 , Tb:

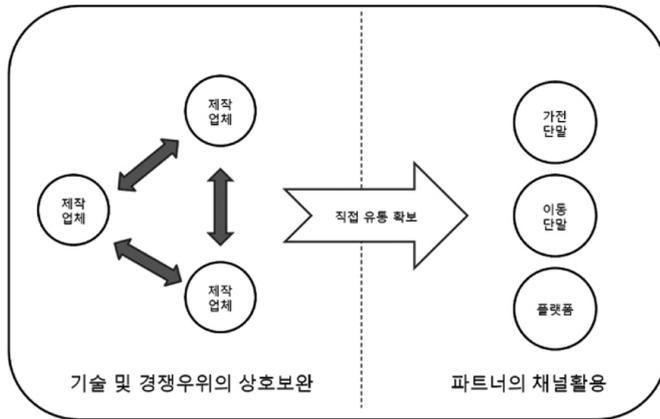
가 1 2011 15% 가 2009-2011
 가 (2012).
 가 (ITPV, 가)
 TV)
 1 . “ ” “ e ” ; 가 가
 가 (10). 가 2009~2011 1.5%
 가 0.08 가

1.

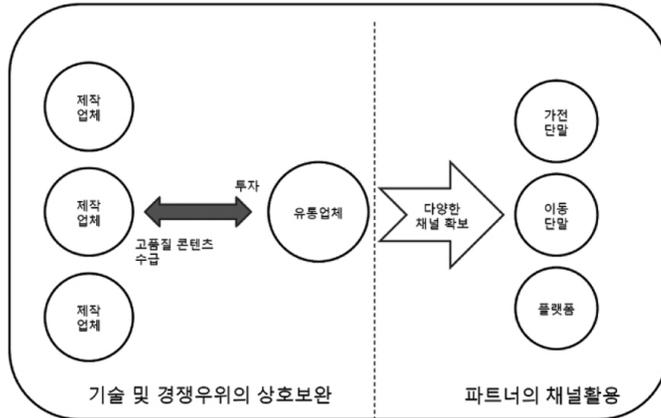
2011

4G 가 K-POP

SNS



2.



3.

가 (2).

5.2, -0.5%, 5.3%, 24.4%, 8.6%

(3).

TV TV 가 TV , , IPTV

2. 가

2009~2011

“ 가 ” “ K ”

- Joint Ventures: An Empirical Study of Japanese Subsidiaries in the United States," *Management Science*, Vol. 37, No. 4, 1991, pp. 483-497.
- [25] Hewitt-Dundas, N., "Resource and Capability Constraints to Innovation in Small and Large Plants," *Small Business Economics*, Vol. 26, No. 3, 2006, pp. 257-277.
- [26] Kaminskia, P. C., Oliveirab, A. C., Lopesa, T. M., "Knowledge transfer in product development processes: A case study in small and medium enterprises (SMEs) of the metal-mechanic sector from São Paulo, Brazil," *Technovation*, Vol. 28, No. 1-2, 2008, pp. 29-36.
- [27] Kogut, B., "Joint Ventures and the Option to Expand and Acquire," *Management science*, Vol. 37, No. 1, 1991, pp. 19-33
- [28] Liou, J. H., Tzeng, G. H., Tsai, C. Y., Hsu, C. C., "A hybrid ANP model in fuzzy environments for strategic alliance partner selection in the airline industry," *Applied Soft Computing*, Vol. 11, No. 4, 2011, pp. 3515-3524.
- [29] Mentzer, J., Foggin, J., Golicic, S., "Collaboration: The enablers, impediments, and benefits," *Supply Chain Management*, Vol. 4, No. 5, 2000, pp. 52-58.
- [30] Moore, J. F., "Business Ecosystems and the view from the firm," *Antitrust Bulletin*, Vol. 51, No. 1, 2006. pp. 1-58.
- [31] Nielsen, B. B., "An Empirical Investigation of the Drivers of International Strategic Alliance Formation," *European Management Journal*, Vol. 21, No. 3, 2003, pp. 301-322.
- [32] Nooteboom, B., *Inter-firm collaboration, learning and networks: An integrated approach*, Taylor and Francis, London, 2004.
- [33] Ohmae, K., "The Global Logic of Strategic Alliances," *Harvard Business Review*, Mar.-Apr., 1989, pp. 143-154.
- [34] Saaty, T.L., "How to Make a Decision: The Analytic Hierarchy Process," *European Journal of Operation Research*, Vol. 48, No. 1, 1990, pp. 9-26.
- [35] Saaty, T.L., *The Analytic Hierarchy Process*, New York: McGraw Hill, 1980.
- [36] Thorelli, H., "Networks: Between markets and Hierarchies," *Strategic Management Journal*, Vol. 7, No. 1, 1986, pp. 37-51.
- [37] Todeva, E. and Knoke, D., "Strategic alliances and models of collaboration," *Management Decision*, Vol. 43, No. 1, 2005, pp. 123-145.
- [38] Yuksel, I. and Dagdeviren, M., "Using the analytic network process (ANP) in a SWOT analysis - A case study for a textile firm," *Information sciences*, Vol. 177, No. 16, 2007, pp. 3364-3382.
- [39] Zhang, J. and Frazier, G. V., "Strategic alliance via co-opetition: Supply chain partnership with a competitor," *Decision Support Systems*, Vol. 51, No. 4, 2011, pp. 853-863.
- [40] Zineldin, M., "Co-opetition: the organisation of the future," *Marketing Intelligence & Planning*, Vol. 22, No. 7, 2004, pp. 780-790.



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