

Selection of Strategic Alliance Partners in Automobile Manufacturing Industry

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Abstract

Since the 1980s, the number of international strategic alliances has been on the rise and the alliance has become a novel mode of corporate growth. Therefore, the selection of strategic partners has always been relevant to the fulfillment of strategic objectives of a corporation. Since the conflicts among partners' motivations can easily lead to the breakup of a strategic alliance, the pursuit of an appropriate strategic partner has become essential to the success of an enterprise.

Keywords

Strategic alliance, Partners, automobile manufacturing.

1. Introduction

Automobile manufacturing industry is one of the global pillar industries and the main driving force of macro-economic development and innovative development. The business cycle of automobile manufacturing industry mingles with that of other industries. Therefore, automobile manufacturing industry is greatly influenced by economic situations.

2. Literature Review

In such a world that is fast changing and full of uncertainty, the global environment makes it harder for enterprises to maintain its competitive advantage and promotes the rapid growth of the cooperation and alliance between independent enterprises (Das, 2002). [1] Thus, strategic alliance is one of the crucial parts of an enterprise's global strategy (Judge and Dooley, 2006; [2] Mockler, 1997 [3]). Meanwhile, strategic alliance also becomes one of the important methods to realize rapid development featuring high growth, high earnings ratio and high market value.

The rising of strategic alliances changes the boundary of traditional enterprises and the operation environment. With the progress of global economic integration, the international strategic alliances between enterprises witnesses rapid and continuous growth. James et (2003) believes that the alliance is promoting the success of a series of companies including and etc. [4] However, due to the motivational conflicts between the partners, the alliance is always easy to fail. The alliance consisting of enterprises from different countries is more likely to fail.

3. Research Design

3.1. Selection of Indicators and Samples

The paper studies the reports of Bloomberg Newsweek on the top 19 auto-manufactures among Global 500 in consecutive four fiscal years (2012 to 2015). Those enterprises are representatives of the whole automobile manufacturing industry in global market, because they keeps operating smoothly and can provide relatively integral data for study. As shown in

Table 1, Groupe Renault (DMU13) is selected as the subject of this study. For Renault, the selection of a strategic partner will become part of its effective corporate strategies, since it not only helps bring a high growth rate, a high yield and a high market value to the corporation, but also facilitates the rapid development of it.

Table 1. List of top 500 automotive manufacturers in the world

NO.	DMUS	CORPORATE NAME
1	DMU1	Volkswagen Group AG
2	DMU2	Toyota Motors
3	DMU3	Daimler AG
4	DMU4	General Motors
5	DMU5	Ford Motor
6	DMU6	Honda Motor
7	DMU7	BMW Group
8	DMU8	Nissan Motor
9	DMU9	SAIC Motor
10	DMU10	Hyundai Motor
11	DMU11	DongFeng Motor Group
12	DMU12	PSA Peugeot Citroen
13	DMU13	Renault S.A
14	DMU14	Kia Motors
15	DMU15	TaTa Motors
16	DMU16	Volvo Group
17	DMU17	GAC Group
18	DMU18	Mazda Motor
19	DMU19	Suzuki Motor

Sources: http://www.fortunechina.com/fortune500/c/2015-07/22/content_244435.htm

3.2. Selection of Evaluation Methods

1. GM (1, 1) Model

To obtain the grey predict model GM (1, 1), the original irregular data are first accumulated to generate relatively regular sequences which are then employed for modeling. After that, data obtained from the generated model undergo the inverse accumulated generating operation so as to work out the predicted values of original data.

2. Non-Radial Super-Efficiency DEA Model

The selection of strategic alliance partners is a rather complicated decision-making process. Traditional DEA models (CCR and BCC Model) are unable to well recognize decision-making units whose efficiency value is 1, and the input factor is required to be non-radial. Therefore, in this study, a non-radial super-efficiency SBM model is selected, so that the slackness of factor inputs and outputs can be fully taken into account in relevant analysis and evaluation.

3.3. Pre-Alliance Analysis

Super-SBM-I-V Model is adopted to measure the actual data of the 19 DMUs in 2015. And the efficiency ranking before alliance is obtained as shown in Table 2:

Table 2. Pre-Alliance Efficiency Values and Their Ranking

Rank	DMU	Score	Rank	DMU	Score
1	DMU17	2.7234515	11	DMU2	1
2	DMU10	1.913897	12	DMU13	0.8980208
3	DMU11	1.7154632	13	DMU12	0.8798003
4	DMU9	1.5579631	14	DMU7	0.8692622
5	DMU3	1.4068699	15	DMU4	0.8420594
6	DMU16	1.2540602	16	DMU14	0.7047184
7	DMU15	1.0396353	17	DMU5	0.651358
8	DMU6	1.0183545	18	DMU8	0.6391677
9	DMU19	1.0137305	19	DMU1	0.517415
10	DMU18	1.0044126			

In Table 2, DMU10 is the most efficient decision-making unit, with a score of 5.8198003, and DMU17 and DMU11 are respectively in the second and the third place. The target decision-making unit is ranked at the 12th and its efficiency scores 0.8980208 ($0.8980208 < 1$). Apparently, it is necessary for the subject corporation to look for suitable strategic partners who can help enhance its efficiency of operation.

3.4. Post-Alliance Analysis

An analysis is made to verify whether the alliance with strategic partners can help the subject corporation to enhance its operating efficiency, and meanwhile to explore new opportunities from the newly established innovative alliance. In the analysis, DMU13 is paired with each of the other 18 DMUs, and a total of 37 DMUs are thus obtained, including the 19 original DMUs and the 18 DMUs of virtual alliances. Afterwards, Super-SBM-I-V Model and DEA Model are adopted for efficiency evaluation of the 37 DMUs. The rankings and scores of virtual alliances are demonstrated in Table 3:

Table 3. Rankings and Scores of the Efficiency of Virtual DMUs

Rank	DMU	Score	Rank	DMU	Score
1	DMU17	2.7234515	20	DMU6	1.0015574
2	DMU13+DMU8	2.3551355	21	DMU13+DMU2	1
3	DMU10	1.913897	22	DMU13+DMU19	0.9461806
4	DMU11	1.7203141	23	DMU13+DMU7	0.9139475
5	DMU9	1.338545	24	DMU13	0.8883958
6	DMU13+DMU10	1.2982582	25	DMU13+DMU4	0.8871692
7	DMU13+DMU3	1.2555027	26	DMU12	0.8798003
8	DMU16	1.2540088	27	DMU7	0.8580452
9	DMU3	1.0936902	28	DMU13+DMU18	0.8492931
10	DMU13+DMU9	1.0901715	29	DMU4	0.8318275
11	DMU13+DMU11	1.0634411	30	DMU13+DMU14	0.824048
12	DMU13+DMU16	1.044608	31	DMU13+DMU12	0.8039628
13	DMU15	1.0236682	32	DMU14	0.7044297
14	DMU13+DMU15	1.014012	33	DMU13+DMU5	0.7033756
15	DMU19	1.0137305	34	DMU5	0.6491933
16	DMU13+DMU6	1.0128933	35	DMU8	0.6391677
17	DMU2	1.0108327	36	DMU13+DMU1	0.5719271
18	DMU18	1.0044126	37	DMU1	0.517415
19	DMU13+DMU17	1.0017428			

As shown in Table 3, after the alliance, DMU13 and DMU8 manage to get the highest efficiency score (namely their respective score is higher than 1).

4. Conclusions

Based on the study, the paper reaches the conclusion that in practice the selection of a strategic alliance partner does not mean pursuing cooperation with the largest or the highest-ranked enterprise; instead, a corporation should ally with the most suitable partner.

References

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