Development Strategies For Electricity Business Portfolio At PT Cogindo Daya Bersama

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Abstract- PT Cogindo Daya Bersama (CDB) was established with the aim of holding a commercial business in power supply generation and other related fields. The company has a market share up to 24.5%, making it the second largest company in operation and maintenance (O&M) services of power plants in Indonesia. The electricity market is currently growing, yet the revenues of PT CDB tend to decrease in the last 4 years. The purpose of this research is to determine the development future strategies of portfolio of business lines at PT CDB.

Based on the mapping results of the GE matrix, the current portfolio of business lines of PT CDB are mostly on cell *"selective"* or *"average business"*. On the future conditions, four business lines will be on the cell*"investment and growth"*or considered as *"winner"*. In such condition, the company seeks dominance, increase growth, perform penetration, market/product developmentand maximize investment.

The study found there were three priority development strategies of business portfolio which take precedence based on the analysis of Quantitative Strategic Planning Matrix (QSPM) and the calculation of the Total Attractiveness Score (TAS), namely ES-1 strategy with TAS score = 2,83, JE-2 strategy with TAS score = 2,58 and OM-1 strategy with TAS score = 2,15.

Index Terms- *portfolio business, General Electric Matrix, Analysis Quantitative Strategic Planning Matrix (QSPM)*

I. INTRODUCTION

The growth of national electricity demand based on Electricity Supply Business Plan (RUPTL) 2015 – 2024 is estimated at 8.7%. The increasing demands of electricity have triggered to the birth of new electricity providers, along with the enactment of Act No. 30 in 2009 on Electricity. The Act stipulates that the State-owned Electricity Company (PLN) is not the onlypower supply company and monopolizes the electricity industry. PT CDB which has been set up since 15 April 1998 is a subsidiary of PT Indonesia Power (IP) that was established to run a commercial business in the electric power generation and other related fields. The company has a core competency in the operation and maintenance (O&M) services of power plants that supports the provision of power assets to generating operators of PT IP and manages power plants with a capacity of under 50 megawatts (MW) across Indonesia.

Table 1 *Market Share of Operation and Maintenance (O&M) Services of Power Plants in Indonesia*

No.	Company Name	Capacity of Managed Power Plants (MW)	Market Share (%)
1	PT. PJB *Services* (PJBS)	5.632	28,5%
2	PT. Cogindo Daya Bersama (CDB)	4.853	24,5%
3	PT. Tanjung Jati B *Power Services*	1.320	6,7%
4	PT. Sumberdaya Sewatama	1.300	6,6%
5	PT. Jawa *Power* (JP)	1.300	6,6%
6	PT. Sumber Segara Primadaya (S2P)	1.260	6,4%
7	PT. Paiton *Energy Company* (PEC)	1.230	6,2%
8	*Others*)[a]	2.875	14,5%

[a]*Other private electricity companies with capacity below 200 megawatt*
Sources : Report of Ministry of Energy and Mineral Resources (ESDM) Dirjen LPE

Table 1 shows that the market share of PT CDB reaches 24.5%. The closest competitor is PT PJB Services with 28.5% market share of total plants. The more intense construction of new plants by the Government in the fast track program of 10,000 MW and 35,000 MW by the private sector has yielded an increase in the need for assets operators.

In today's tight business competition, any company competes and contributes all capabilities and strategies to survive in the industry. Therefore, it requires strategies to compete effectively and efficiently, so as to give profits and also competitive advantages for the company (David 2011). Good business plans is deemed necessary to endure the business and improve the competitiveness in the current competitions.
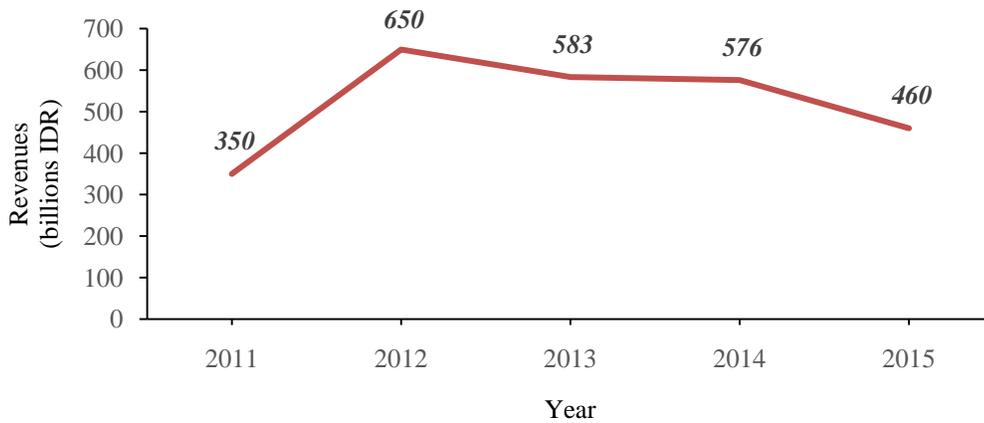
Source: Annual Report of PT CogindoDayaBersama 2011-2015

Figure 1 Revenues of PT CDB in 2011-2015

Figure 1 shows that amid the electricity market that escalates, revenues of PT CDB are reported to decrease. It needs to conduct business evaluation from the strength and charm of electricity industry. Both internal and external factors that affect the growth of the company need to be examined again in creating company's breakthrough in the future.

To deal with the changes in today's business environment and development in the future, business portfolios of PT CDB is another exciting aspect to study. The strategy for enhancing business portfolios is formulated to fit their position in each business line in the industry. The strategic programs are later expected to allow the company to seize control in the electricity services industry while setting up new markets in the future.

PT CDB as an electricityfirm that focuses on small scale energy supply and operations and maintenance services (O&M Services) has four main business lines. From the annual report, PT CDB experiences decreased market share due to regulations that allow the growth of IPP (Independent Power Producer) to build new plants throughout Indonesia.

With the competenceof human resources (HR) owned by the company, the Indonesian Government puts a trust on the company to handle new plants. These factors become the capital for business development.Based on abovementioned statements, the formulation of problems in this study is given below:
1. What are the strength and attractiveness of electricity business services industry in Indonesia?
2. What are the influence and contribution of change in strength and attractivenessof PT CDB in facing business competitions?
3. What are the strategies done by PT CDB in enhancing its business portfolio?

Based on the background and problems formulated, the research objectives are to describe the business strength and attractiveness of industry in the electricity sector, to identify the position of each business unit of PT CDB in portfolio matrix and to formulate strategies for development of the electricity supply business portfolio in the future.

II.   RESEARCH METHODOLOGY

The data used in this research were the primary and secondary data that were in line with the research topic. Primary data were obtained from observations, questionnaires containing a number of written questions, and through structured interviews directly to related parties. Meanwhile, secondary data were obtained through various sources, literature studies, such as books, journals, and reports issued by the company, as well as some literature on the internet related to this research.

Primary data in this study were sourced from the respondents, who were chosen using Purposive Sampling method, namely selecting respondents purposefully by taking into consideration their knowledge and experience. Purposive Sampling was used to select competent and responsible parties in their respective job who can provide clear and thorough information in PT CDB.

A. GE Matrix Analysis

The GE matrix Analysis was based on external key success factor (KSF) namely the attractiveness of the industry, and internal KSF, that is the business strength. The stages started with:
1. The initial step was determining 10 KSFs related to attractiveness of the industry
2. Specifying 10 KSF related to the strength of the business

3. Scoring was done based on questionnaire on each factor of attractiveness and strength through pairwise comparison, and the scales were ranging from 1, 2 to 3 with the following provisions:
    a. Score 1= If the horizontal indicator is less important than the vertical indicator
    b. Score 2 = If the horizontal indicator is equally important that the vertical indicator
    c. Score 3 = If the horizontal indicator is more important than the vertical indicator
4. Each score of the variables from the questionnaires was calculated with the following formula:

$$a_i = \frac{\sum_i^n X_i}{n}$$

Where : a_i = score of indicator to-i
          $\sum_i^n X_i$ = number of value of Xi up to Xn
          N   = number of responden

5. Determination of ranking/rating was based on questionnaires on each of the major business lines with indicators mentioned in the previous stage according to the current and the future conditions. The scores used were:
    a. Score 1 = Very small/very low/very slow/very unsupportive/very bad/very little
    b. Score 2 = Small/medium/low/no support/bad/enough
    c. Score 3 = High/big/fast/supportive/good/much
    d. Score 4 = Very large/very high/very fast/very supportive/very good/very much
6. The average ranking/rating obtained from the questionnaire was measured to determine the scores of the indicators. The formula is given below:

$$b_i = \frac{\sum_i^n X_i}{n}$$

Where : b_i = value ranking/rating of the indicator to-i
          $\sum_i^n X_i$ = number of value of Xi up to Xn
          n   = number of responden

B. Analysis of Quantitative Strategic Planning Matrix

Determination of ranking/rating has been carried out to evaluate various alternative strategies objectively, based on critical external and internal success factors that have been previously identified in the GE matrix. The main factors were taken from industry attractiveness and business strength that were weighted on the analysis in Phase 1, along with deciding alternatives strategies to improve business portfolios in the future including rationale alternative strategies based on Phase 2. Stages of QSPM analysis which have been done are:

1. Compiling a list of critical success factors from both external and internal sides which include industry attractiveness (external) and business strength (internal)
2. Giving score to each external and internal factors appropriately according to the future
3. Identifying a range of alternative strategies to consider the priority strategies applied by the company
4. Specifying Attractiveness Score (AS) through questionnaire given to some experts. The scores of AS are described below:
    a. Score 1 = No attractiveness
    b. Score 2 = Low attractiveness
    c. Score 3 = Moderate attractiveness
    d. Score 4 = High attractiveness
    e. Score "-"= No influence on the chosen strategies
5. Calculating the total attractiveness score (TAS) which is defined as the time between the scores and attractiveness score in each line.

III.   RESULTS AND DISCUSSIONS

A. Business Portfolio Analysis

In the analysis of industry attractiveness as an external KSF, there were10 major indicators of questionnaire given to 10 expert respondents based on experience and knowledge with the pairwise comparation method. The scores of the indicatorsare shown in Table 2.

On the indicators of industry attractiveness, the highest score for current time is regulatory/government policy by 12,28%. For the near future, the highest score is on the availability of manpower, which is 11.17%.

Table 2 Result of Weight Measurement of External KSF (Industry Attractiveness Indicators)

No.	Indicators	Current Weight	Future Weight
1.	Market size	0,1011	0,1056
2.	Market growth rate	0,0844	0,0911
3.	Competitive structure	0,0900	0,0867
4.	Industry profitability	0,0889	0,0911
5.	Barrier to entry	0,1006	0,1044
6.	Political/legal issues	0,1228	0,1072
7.	Price fluctuation	0,0928	0,0933
8.	Industry Cyclicality	0,1044	0,1078
9.	Technology	0,0961	0,1011
10.	Manpower	0,1189	0,1117

The business strength as the internal KSF was observed from 10 major indicators of questionnaire toward 10 experts based on their experience and knowledge using pairwise comparation method as in Table 3.

Table 3 Result of Weight Measurement of Internal KSF (Business Strenght Indicators)

No.	Indicators	Current Weight	Future Weight
1.	Market share	0,1122	0,1050
2.	Market Share growth	0,0944	0,0900
3.	Customer services	0,0806	0,0806
4.	Product/service capacity	0,0917	0,0967
5.	R&D	0,0828	0,0967
6.	Marketing	0,1000	0,0983
7.	Variation in products/services	0,1056	0,1089
8.	Financial resources	0,1033	0,1033
9.	Image	0,1039	0,0978
10.	Competency	0,1256	0,1228

On the indicators of business strength, the highest score is shown by competency, with 12.56% and 12,28% for the current and future time, respectively.

The business portfolio for energy supply line at this time is at a medium quadrant of industry attractiveness (score of 2.93) and business strength (score of 2.94). Moreover, the current portfolio in GE matrix is in *"selective"*, indicating that the portfolio is having average business. In the future, this business line seems to move and reside on the high quadrant of industry attractiveness (score of 3.30) and high business strength (score of 3.31). It is set on *"investment and growth"* or *"winner"* in the GE matrix.

The portfolio of O&M services at this time has been positioned at high quadrant of industry attractiveness (score of 3.03) and high quadrant of business strength (score of 3.02). The position of current portfolio in GE matrix is on *"investment and growth"* or *"winner"*.In the future, this business line is predicted to move slightly, but still in the same quadrant with a rise in the value of the indicators at both industry attractiveness (score of 3.43) and the strength of business (score of 3.44).

Cogeneration in this time is positioned at a lower quadrant compared to other business lines, where both the industry attractiveness (score of 2.40) and business strengths (score of 2.48) are at a medium level. The GE matrix shows that the portfolio is on *"selective"* position or in "*average business"*situation.In the future, the portfolio of this business lines will move and settle on high quadrant of industry attractiveness (score of 3.10) and high business strength (score of 3.15) which is still under other business line portfolios. The GE matrix indicates that the portfolio for such business line is included in the *"investment and growth"* or *"winner"* cell.

The current position of portfolio of engineering services is at medium quadrant of industry attractiveness (score of 2.87) and business strengths (score of 2.84). The current GE matrix shows that the portfolio is positioned in *"selective"*position, or in "*average business"*.In the future, the portfolio of this business line will move and settle on high quadrant of industry attractiveness (score of 3.35) and business strength (score of 3.32). The GE matrix suggests that the portfolio is to be on *"investment and growth"* or *"winner"*cell.

B. Alternative Development Strategies for Business Portfolio

PT CDB has four major business lines. Each line contributes profit margin that is contained in the 2015 financial report as shown in Table 4. Based on the mapping on GE matrix regarding current portfolios of four business lines of PT CDB, most of them are on

"selective" or *average business* position. Such position could not clearly give clue to the growth of the lines, whether they would be improved or not.

Table 4 *Profit Margin*of Four Business Lines of PT Cogindo Daya Bersama

No.	Description of Business Lines	Revenues (Million IDR)	Cost (Million IDR)	Profit Margin (Million IDR)	Percentage (%)
1.	Energy Supply	97.259	74.205	23.054	26,87
2.	O&M Services	272.545	218.299	54.247	63,22
3.	Cogeneration	62.824	61.142	1.682	1,96
4.	Engineering services	27.041	20.222	6.819	7,95

Source: Financial Report 2015 of PT CDB
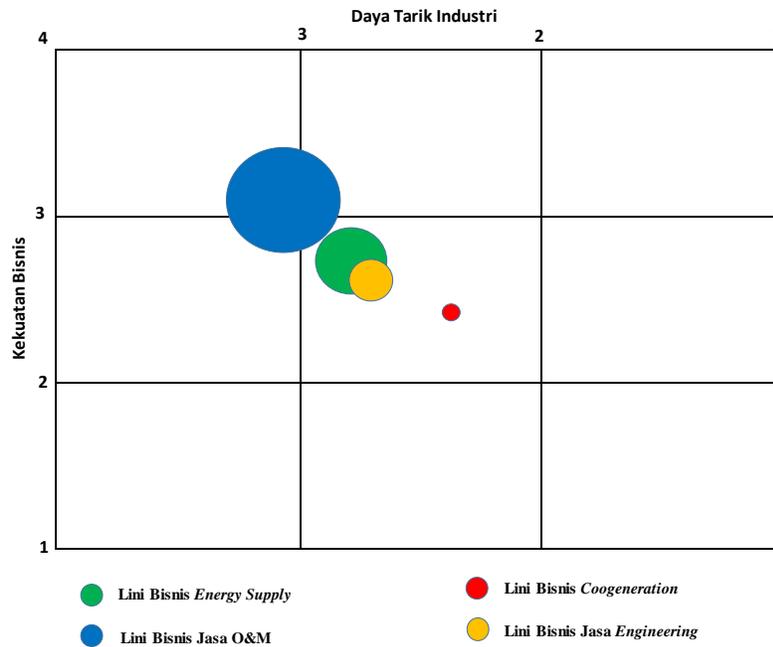

Figure 2ThePosition of the Business Line Portfolios in the Current

Meanwhile, the future prediction from the GE matrix denotes that those lines are on the "investment and growth" cell or winner. The four business lines tend to move forward from the current position, even engineering services can go beyond the energy supply. On "investment and growth" cell or the "winner", the company will seek dominance, growth as well as perform penetration and market/product development to maximize investment.
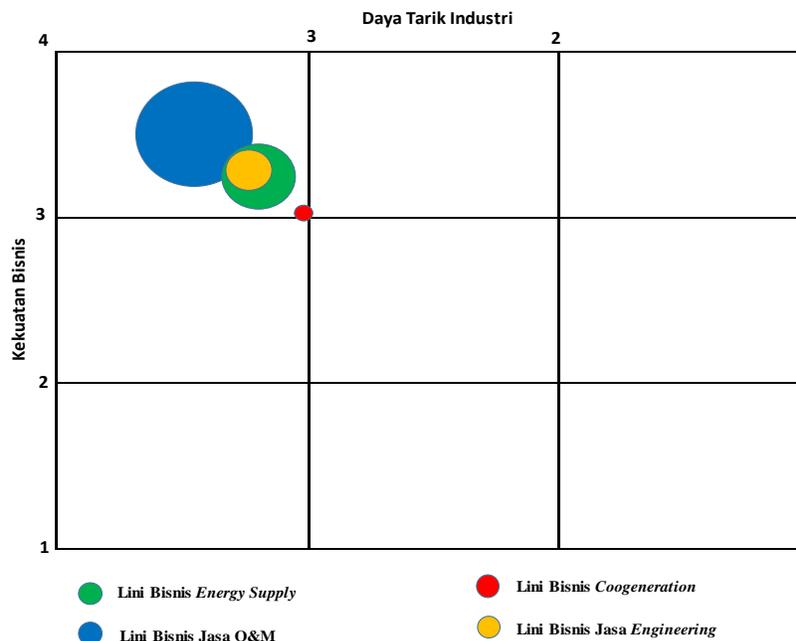
Figure 3 The Position of the Business Line Portfolios in the Future

After studying the position of the business lines for the current and the future, and also considering factors such as industry attractiveness and business strength, the researcher suggests alternative development strategies in PT CDB as listed in Table 5.

Table 5 Alternative Development Strategies for Portfolio ofBusiness Lines at PT CDB

Business Line	Alternative Strategies	
	First	Second
Energy Supply	*Market development* to Gas Diesel Power Plants (PLTDG) in some parts of Indonesia (ES-1 strategy).	Cooperating with strategic partners through horizontal integration in developing Engineering, Procurement and Construction (EPC) for plants having capacity of 30-50 MW (ES-2 strategy).
O&M Services	Enhancing revenues through product development with performance base business scheme in O&M services by increasing competency of certified manpower in both internal and external environment of the parent company (OM-1 strategy)	Strengthening employee engagement through the three factors of leadership, better and conducive career and renumeration to improve the availability of manpower and market share of O&M services (market penetration) in the future (OM-2 strategy).
Cogeneration	Performing market development of coogeneration business on segments limited to airport, hospitality, and mountaintourism areas in cooperation with strategic partners (CG-1 strategy)	Carrying out product development of coogeneration business in the environmentally friendly renewable energy such as solar cell, geothermal, biomass and mini hydro (CG-2 strategy).
Engineering Services	Building strategic partnership in the stockiest with backward integration for meeting the needs of PLTDG as well as steam power generation (PLTU) (JE-1 strategy)	Conducting business development of MRO (maintenance, repair and overhaul) on the external aspects of parent company to market development by building joint workshop with competent and strategic partners (JE-2 strategy).

C. Determining Alternative Priority Strategies Using QSPM Analysis

From theaforementioned alternative strategies to four business lines of PT CDB, some priority alternative strategies are determined. The QSPM analysis have yielded the most interesting and priority strategies to apply with regard to the limited allocation of resources. Based on external and internal critical success factors including industry attractiveness (external) and business strength (internal) Attactiveness Score (AS) is calculated through questionnaire given to a number of experts. The results of the Total Attractiveness Score (TAS), which is the time between the scores and score of AS, is given in Table 6.

Table 6Result of the Total Attractiveness Score (TAS) for Prioritizing Strategies With QSPM

KEY FACTORS	Weight	Strategi ES-1		Strategi ES-2		Strategi OM-1		Strategi OM-2		Strategi CG-1		Strategi CG-2		Strategi JE-1		Strategi JE-2	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
	(a)	(b)	(a x b)	(c)	(a x c)	(d)	(a x d)	(e)	(a x e)	(f)	(a x f)	(g)	(a x g)	(h)	(a x h)	(i)	(a x i)
Key External Factor																	
Market size	0,1056	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Market growth rate	0,0911	4	0,36	-	-	1	0,0911	-	-	3	0,2733	3	0,2733	4	0,3644	4	0,3644
Competitive structured	0,0867	1	0,09	1	0,0867	-	-	3	0,2601	-	-	-	-	2	0,1734	3	0,2601
Industry profitability	0,0911	2	0,18	-	-	3	0,2733	-	-	-	-	1	0,0911	4	0,3644	4	0,3644
Barrier to entry	0,1044	-	-	3	0,3132	-	-	-	-	2	0,2088	-	-	1	0,1044	1	0,1044
Political/legal issues	0,1072	4	0,43	1	0,1072	-	-	-	-	1	0,1072	4	0,4288	-	-	-	-
Price fluctuation	0,0933	-	-	-	-	4	0,3732	-	-	-	-	-	-	-	-	-	-
Industry Cyclicality	0,1078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Technology	0,1011	-	-	-	-	-	-	-	-	-	-	1	0,1011	-	-	-	-
Manpower	0,1117	2	0,22	1	0,1117	-	-	4	0,4468	1	0,1117	-	-	1	0,1117	4	0,4468
Key Internal Factor																	
Market share	0,1050	2	0,21	2	0,21	-	-	2	0,21	2	0,21	2	0,21	2	0,21	4	0,42
Market Share growth	0,0900	2	0,18	2	0,18	-	-	-	-	2	0,18	4	0,36	4	0,36	2	0,18
Customer services	0,0806	4	0,32	-	-	3	0,2418	2	0,1612	2	0,1612	0	-	-	-	1	0,0806
Product/service capacity	0,0967	2	0,19	1	0,0967	3	0,2901	-	-	-	-	-	-	-	-	-	-
R&D	0,0967	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marketing	0,0983	-	-	-	-	-	-	-	-	-	-	-	-	2	0,1966	-	-
Variation in products/services	0,1089	-	-	4	0,4356	-	-	-	-	4	0,4356	1	0,1089	-	-	1	0,1089
Financial resources	0,1033	4	0,41	4	0,4132	4	0,4132	-	-	-	-	-	-	-	-	-	-
Image	0,0978	1	0,10	-	-	1	0,0978	1	0,0978	-	-	-	-	-	-	-	-
Competency	0,1228	1	0,12	1	0,1228	3	0,3684	4	0,4912	-	-	-	-	-	-	2	0,2456
TOTAL ATTRACTIVENESS SCORE (TAS)			**2,83**		**2,08**		**2,15**		**1,67**		**1,69**		**1,57**		**1,88**		**2,58**

IV. CONCLUSION AND RECOMENDATIONS

1. The results of the study on the electricity supply business portfolios in PT CDB suggest that the industry attractiveness is the external factor affecting each business line either in the current or upcoming years. The industry attractiveness is influenced by factors namely regulatory/government policies and the availability of manpower.

2. The business strength as the internal factor that affects the business line either in current or future of PT CDB is competent human resources. Business in power supply is in ultimately high need of skilled, trained, and certified labor. Thus, the company must be very attentive to the development of the human resource competencies, both in skill or knowledge through the training center.

3. The portfolios of business line at PT CDB in this time mostly are in the "selective" position or at the average business, while the O&M services have just started entering the position of *"investment and growth"* or *"winner"*. In the future, portfolios of all business lines will move toward and gain *"investment and growth"* or *"winner"* position. Even, engineering services business line is projected to be capable of going beyond the energy supply in the future.

4. The portfolio development strategies at each business line in PT CDB in the future are emphasized on market development, market penetration, product development, horizontal integration and backward integration in the business line segment in accordance with the current position of portfolio and forecasts. According to the QSPM analysis, three priority strategies are obvious, i.e. the strategy of ES-1 (developing new markets of diesel power plants in some regions of Indonesia), JE-2 strategy (MRO business development at external parent company to open new markets by establishing joint strategic workshops – a competent partner) and OM-1 strategy (increasing revenue through business performance scheme based on O&M services through increased competence of certified labors in internal and external environment of the parent company).

5. In line with the recommended development strategy alternatives, several things to be taken into account by the company are:
   a. Enhancing market should be strongly supported with the competence and the availability of manpower which require investments in the initial stage.
   b. Strategic cooperation that has been built with PT WI needs to be developed with other strategic partners for the development of other business products in the future.
   c. Establishing association of power supply providers to keep the growth in market share and a healthy business competition.
   d. Boosting revenues in each business line in order to improve investment capacity of the company.

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