CHAPTER IV

RESEARCH ANALYSIS

4.1. Introduction

A company must pay attention to all aspects in order to get a better performance. To measure a company's performance can be based on several kinds of element. The way that the researcher prefers is using Balanced Scorecard method. Balanced Scorecard confines more effectively and is able to measure a company's performance. After designing the whole process of the Balanced Scorecard, a company must consider which one should be the priority to be improved because it is not impossible take a high cost for one perspective performance. Step by step, a company improves the performance and the researcher offers the Objective Matrix as a solution chosen to know which perspective is to be improved first and tries to visualize those processes with the help of Objective Matrix (OMAX) to evaluate the company's performance in order to make the company's decision.

This chapter discusses the measurement of ELITE - Prestige Furniture implementing Objective Matrix (OMAX) to analyze the company's perspectives in order to make an improvement.

4.2. An Analysis The Performance Measurement of ELITE – Prestige Furniture

ELITE – Prestige Furniture uses financial measure as the basic performance measurement of the company. The data shows that the revenue of ELITE-Prestige Furniture was increasing within the period of 1998 to 2002. This number was a device for

the manager to know that the condition of company was getting better. On the other hand, the decrease in the of production cost should be sacrifice the product quality. It is very obvious when the manager makes a decision based on financial perspective only. All activities focus on the short term interest/benefit. The company believes that more cost that company sacrificed will decrease the losses. Moreover, the company needs investments to finance its activities in order to maintain market share. The company seems ignore the other perspectives which also have roles as the financial aspect does. Making a decision based solely on the financial perspective will make the company focus more on the short-term interest rather than long-term interest. Therefore, the company must be wise since the financial is not a comprehensive answer for company's performance.

4.3. An Analysis the Performance Measurement using Balanced Scorecard

In determining the measures suitable for ELITE – Prestige Furniture strategies, the researcher will use the data collected and focus on a few of indicators that are critical to the success of the company based on each perspective : financial, customer, internal business process and, learning & growth.

4.3.1. Financial Perspective

The increase of profit can be gained through increasing the revenue and making cost efficiency. The measurement used for financial perspective is ROI and ROE, with revenue as the main indicator. To support the data, the research also measures the profitability, leverage, rentability, activity and liquidity. The implementation of performance measure on financial perspective based on Balanced Scorecard are :

1. Return of Investment (ROI)

ROI measures the improvement of profit from year to year.

$$\textbf{ROI} = \frac{\textbf{Net Profit}}{\textbf{Total Asset}} \times 100\ \%$$

1. 1998 = $\frac{224.500.000}{4.148.143.000} \times 100\% = 5.41\%$
2. 1999 = $\frac{163.700.000}{4.257.385.000} \times 100\% = 3.85\%$
3. 2000 = $\frac{133.000.000}{4.342.285.000} \times 100\% = 3.06\%$
4. 2001 = $\frac{186.600.000}{4.405.910.000} \times 100\% = 4.24\%$
5. 2002 = $\frac{198.500.000}{4.447.812.000} \times 100\% = 4.46\%$

From the computations represented, in 2002, the ROI of 4.46% was higher than the average of 4.204%. Higher ROI reflects the ability of the company to return the capital invested. In 2002, the efficiency of the company arose. It indicates the positive (+) performance.

2. Return of Earning (ROE)

Return of Earning measures the efficiency with which management has utilized the asset under its control, regardless of whether these asset were finance with debt or equity capital and the formula is :

$$\textbf{ROE} = \frac{\textbf{Net profit}}{\textbf{Shareholder's equity}} \times 100\ \%$$

1. 1998 = $\frac{224.500.000}{2.016.700.000} \times 100\% = 11.13\%$

2. 1999 = $\frac{163.700.000}{2.061.250.000}$ x 100% = 7.94%
3. 2000 = $\frac{133.000.000}{2.289.985.000}$ x 100% = 5.81%
4. 2001 = $\frac{186.600.000}{2.451.300.000}$ x 100% = 7.61%
5. 2002 = $\frac{198.500.000}{2.652.000.000}$ x 100% = 7.48%

From the computations represented, in 2002 the ROE declined by 0.13%. The ROE of 7.48% was much lower than the average ROE of 7.994% It means that in 2002, ROE had a decreasing result related to equity. The efficiency of the company occurred when the ROE arose because the shareholders provided the capital needed by the company to acquire the assets needed for the business. It means that ROE influences the efficiency of the management operation so that the decreasing ROE is indicates a negative (-) performance of the company.

3. Profitability

Profitability measures of the degree of success/profit margin on sales failure of a given enterprise/division for a given period of time.

$$\textbf{Profitability} = \frac{\textbf{Net Sales} - \textbf{CGS}}{\textbf{Net Sales}} \times 100\%$$

1. 1998 = $\frac{790.200.000}{2.746.200.000}$ x 100% = 0.29%

2. 1999 = $\frac{645.100.000}{1.788.500.000}$ x 100% = 0.36%

3. 2000 = $\frac{628.600.000}{1.922.300.000}$ x 100% = 0.33%

4. 2001 = $\frac{727.300.000}{2.052.800.000}$ x 100% = 0.35%

5. 2002 = $\frac{755.900.000}{2.108.500.000}$ x 100% = 0.36%

From the computations represented, the profitability in 2002 increased by 0.01%. Compared with that of the previous years, in 2002 the profitability was higher. In 2002, the profitability was above the average of 0.338%. It means that the company had efficient operations reflecting the success of company's sales. It indicates the positive (+) profitability performance.

4. Leverage Ratio

Leverage Ratio provides information about a company's ability to absorb asset reductions arising from losses without jeopardizing the interest of creditor.

Debt Ratio = $\frac{\text{Total Liability}}{\text{Total Asset}}$ x 100%

1. 1998 = $\frac{1.840.243.000}{4.148.144.000}$ x 100% = 44.36%

2. 1999 = $\frac{1.782.835.000}{4.257.385.000}$ x 100% = 41.05%

3. 2000 = $\frac{2.051.886.700}{4.342.285.000}$ x 100% = 47.25%

4. 2001 = $\frac{1.505.910.000}{4.405.910.000}$ x 100% = 34.18%

5. 2002 = $\frac{1.342.112.000}{4.447.812.000}$ x 100% = 30.17%

From the computations represented, the leverage ratio in 2002 decreased by 4.01% and was the lowest percentage. Moreover, the Debt ratio of 30.17% was much lower than the average of 39.042%. The creditor preferred low debt

because the lower the ratio was, the greater the cushion against the creditor's losses in the event of liquidation. The higher the debt ratio was, the riskier the company was. It means that a high value for this ratio indicates that the increasing risk to creditor's claims were met. It is indicates a positive (+) performance of the leverage ratio.

5. Rentability

Rentability measures a company's ability to achieve profit with a asset used.

$$\textbf{Earning Power} = \frac{\textbf{Earnings before interest \& tax}}{\textbf{Capital}} \times 100\%$$

1. 1998 = $\frac{224.500.000}{2.016.700.000} \times 100\% = 11.13\%$

2. 1999 = $\frac{163.700.000}{2.061.250.000} \times 100\% = 7.94\%$

3. 2000 = $\frac{133.000.000}{2.289.985.000} \times 100\% = 5.81\%$

4. 2001 = $\frac{186.600.000}{2.451.300.000} \times 100\% = 7.61\%$

5. 2002 = $\frac{198.500.000}{2.645.200.000} \times 100\% = 7.50\%$

From the computations represented, in 2002 the earning power decreased by 0.11%. In 2002, the company indicated the negative (-) performance of rentability, because the earning power of 7.50% was bellow the average for its ratio.

6. Activity

Activity measures of how effectively the enterprise uses the employed assets.

$$\textbf{Turnover Ratio} = \frac{\textbf{Net Sales}}{\textbf{Total Asset}} \times 100\%$$

1. 1998 = $\frac{274.620.000}{4.148.143.000}$ x 100% = 6.62%

2. 1999 = $\frac{178.850.000}{4.257.365.000}$ x 100% = 4.20%

3. 2000 = $\frac{192.230.000}{4.342.285.000}$ x 100% = 4.43%

4. 2001 = $\frac{205.280.000}{4.405.910.000}$ x 100% = 4.63%

5. 2002 = $\frac{210.850.000}{4.447.812.000}$ x 100% = 4.74%

From the computations represented, in 2002 the turn over ratio increased by 0.11% but it indicated the negative (-) performance because the average of activity of 4.924% was higher than the current ratio. It reflects the declining of effectiveness of the company in the used inventory asset.

7. Liquidity

Liquidity is an indicator of a company's ability to meet its short-term obligations with current asset. The research uses current ratio as the current indicator of liquidity measurement. Current ratio measures the enterprise's short run ability to pay its maturity obligations

$$\textbf{Current Ratio} = \frac{\textbf{Current Asset}}{\textbf{Current Liability}} \times 100\%$$

1. 1998 = $\frac{3.542.800.000}{1.840.200.000}$ x 100% = 192.52%

2. 1999 = $\frac{3.423.600.000}{1.779.950.000}$ x 100% = 192.34%

3. 2000 = $\frac{3.406.200.000}{1.635.200.000}$ x 100% =208.30%

4. 2001 = $\frac{3.287.000.000}{1.501.900.000}$ x 100% = 218.86%

5. 2002 = $\frac{3.212.800.000}{1.337.750.000}$ x 100% = 240.16%

From the computations represented, that current ratio in 2002 increased by 01.30%. And compared with the ratios of previous years, the current ratio in 2002 is the highest. Current ratio of 240.16% is much higher than average of 210.436%. It is too high which may indicate a bad management of the liquid source in order to earn profit. Its liquidity position has a negative (-) performance with current ratio of 240.16%. The company could liquidate current asset at only 0.42% (1/240.16) of the book value. On the contrary, the company have a good indication to pay the whole financial obligation in short-term.

Lag indicator	Year				
	1998	1999	2000	2001	2002
ROI	5.14%	3.85%	3.06%	4.24%	4.46%
ROE	11.13%	7.94%	5.81%	7.61%	7.48%
Profitability	0.29%	0.36%	0.33%	0.35%	0.36%
Leverage	44.36%	41.05%	47.25%	34.18%	30.17%
Rentability	11.13%	7.94%	5.81%	7.61%	7.50%
Activity	6.62%	4.20%	4.43%	4.63%	4.74%
Liquidity	192.52%	192.34%	208.30%	218.86%	240.16%

4.3.2. Customer Perspective

ELITE – Prestige Furniture has realized that their income comes from customers abroad and in the country who have different needs and wants. Therefore, it tries to bring the company to enter the global business environment by applying a strategic management which is driven by efforts to yield the best value to customers as a focus. Moreover, the company must keep their customers to always be satisfied by giving them the best efforts and provide them with the best products while still maintaining its professional services.

Consequently, the company should pay more attention to the market share, customer acquisition, and customer retention because they are critical variables and have significant impacts on customer satisfaction as represented by the index in customer focus. From the data collected, the researcher can implement the performance measurements viewed from customer perspective in balance, which are :

1. **Market Share**

Market Share has an important effect on the company's external market environment. Market share is the percentage of the total market held by a particular company/brand. And the company can measure their market share by the formula below:

$$\textbf{Market share} = \frac{\textbf{Number of product sold}}{\textbf{Total product sold}} \times 100\%$$

1. $1998 = \frac{723}{1530} \times 100\% = 47.25\%$

2. $1999 = \frac{864}{1892} \times 100\% = 45.66\%$

3. 2000 = $\frac{1025}{2753}$ x 100% = 37.23%

4. 2001 = $\frac{1200}{2500}$ x 100% = 48%

5. 2002 = $\frac{900}{2580}$ x 100% = 34.88%

Market share of 34.88% is below the average of 42.604% . It means that ELITE-Prestige did not have a good position in the market share and it would influence the customer trust . Based on the results, it indicates a negative (-) performance.

2. Customer Acquisition

Customer Acquisition is the percentage of the company's ability to have new customers.

Customer Acquisition	**= $\frac{\text{New Customer}}{\text{Total Customer}}$ x 100%**

1. 1998 = $\frac{23}{176}$ x 100% = 13.06%

2. 1999 = $\frac{31}{198}$ x 100% = 15.65%

3. 2000 = $\frac{44}{231}$ x 100% = 19.04%

4. 2001 = $\frac{52}{282}$ x 100% = 18.43%

5. 2002 = $\frac{46}{324}$ x 100% = 14.19%

The computations shown that after 2000, the company has a decreasing percentage of customer acquisition. This is caused by less promotion done by the company. Company only promoted their product through brochure and internal person. Elite's

customer acquisition of 14.19% is much lower than average 0f 16.074%, so it indicates a negative (-) of performance.

3. Customer Retention

Customer Retention is to sustain company relationship with their customer.

$$\textbf{Customer Retention} = \frac{\textbf{Old Customer}}{\textbf{Total Customer}} \times 100\%$$

1. 1998 = $\frac{153}{176} \times 100\% = 86.93\%$
2. 1999 = $\frac{167}{198} \times 100\% = 84.34\%$
3. 2000 = $\frac{187}{231} \times 100\% = 80.95\%$
4. 2001 = $\frac{230}{282} \times 100\% = 81.56\%$
5. 2002 = $\frac{278}{324} \times 100\% = 85.80\%$

On the contrary, the result of customer retention shown the increases. It means that company has the ability to pretend the customer and provide insight into the customer loyalty. It is proven by the increasing number of customer retention for several years. The data of 2002 that the customer increased by 4.24%, which is above the average of 83.716%, means that the company indicates a positive (+) performance of customer retention.

Lag indicator	Year				
	1998	1999	2000	2001	2002
Market share	47.25%	45.66%	37.23%	48%	34.88%
Customer acquisition	13.06%	15.65%	19.04%	18.43%	14.19%
Customer retention	86.93%	83.34%	80.95%	81.56%	85.80%

4.3.3. Internal Business Process

ELITE – Prestige Furniture should consider its business process and analyze deeper its processes to achieve the objectives. Internal business process will give influences to the company's performance. The changes inside the company's environment will happen if the manager keeps making innovation that the company needs.

Another important thing is the process of the product development. The main purpose is to weed out all processes, which do not directly or indirectly create value for the customers. Hopefully, this can enlarge the customer base and those, which directly affect customer loyalty. The applicable measurement tools are cost of R&D and defect rate of product. The manager should focus on the internal process that will given big influences to the customer's satisfaction and the achievement of the financial objectives. Considering that customers' needs and wants always change, the manager must keep innovating its products. From the data collected, the researcher can implement the performance measurements viewed from internal business process perspective, which are:

1. **Research & Development cost**

$$\textbf{R\&D cost ratio} = \frac{\textbf{R \& D}}{\textbf{Net sales}} \times 100\%$$

1. 1998 = $\frac{12.063.100}{4.148.143.000}$ x 100% = 0.29%

2. 1999 = $\frac{56.392.250}{4.257.365.000}$ x 100% = 1.32%

3. 2000 = $\frac{57.163.917}{4.342.285.000}$ x 100% = 1.32%

4. 2001 = $\frac{8.359.200}{4.405.910.000}$ x100% = 0.19%

5. 2002 = $\frac{9.450.925}{4.447.812.000}$ x 100% = 0.21%

From the computations, it is represented that R & D ratio in 2002 increased by 0.02%. The high R&D means that the company has good improvements in their production activities and will increase the product sales which means that the company makes an improvement, on the contrary the average of 0.666% This ratio influences the number of product sales so even arising of percentage in 2002, its reflect the company is indicating the negative (-) performance as a whole.

2. Defect product

Defect product percentage = $\frac{\text{Number of defect product}}{\text{Total product}}$ x 100%

1. 1998 = $\frac{36}{723}$ x 100% = 4.98%

2. 1999 = $\frac{32}{864}$ x 100% = 3.70%

3. 2000 = $\frac{30}{1025}$ x 100% = 2.93%

4. 2001 = $\frac{34}{1200}$ x 100% = 2.83%

5. 2002 = $\frac{32}{900}$ x 100% = 3.55%

From the computations, it is represented that in 2002, the defect product of the company increased by 0.72%. The ratio in 2002 of 3.55% is lower than the average of 3.598%. The defect product influences the effective of sales revenue because it can not be sold so that the expenses do not returned. The high defect

product means a lower effectively of the company production, which indicates a negative (-) performance.

Lag indicator	Year				
	1998	1999	2000	2001	2002
R&D cost	0.29%	1.32%	1.32%	0.19%	0.21%
Defect Product	4.98%	3.70%	2.93%	2.83%	3.55%

4.3.4. Learning and Growth

Learning and Growth perspective should be considered by the company in order to enhance the capability of its employees. The involving of the Learning and Growth perspective is to encourage the advancement of company. By doing this, employees can be more productive. From the data collected, the researcher can implement the performance measurements viewed from learning and growth, which are:

1. **Employee productivity**

$$\textbf{Employee productivity} = \frac{\textbf{Net sales}}{\textbf{Total number of employee}}$$

1. 1998 = $\frac{274.620}{378}$ = 7.265

2. 1999 = $\frac{178.850}{376}$ = 4.756

3. 2000 = $\frac{192.230}{490}$ = 3.923

4. 2001 = $\frac{205.280}{490}$ = 4.189

5. 2002 = $\frac{210.850}{514}$ = 4.102

From the computations, it is represented that the Employee productivity in 2002 decreased by 0.087%. The employee productivity of 4.102% is lower than the average of 4.847%. The result shows the decreasing productivity which indicates a negative (-) performance because a lower productivity influences the income of company.

Lag indicator	Year				
	1998	1999	2000	2001	2002
Employee Productivity	7.265	4.756	3.923	4.189	4.102

4.4. Analysis of Objective Matrix of ELITE – Prestige Furniture

Objective Matrix is a measurement method using matrix that focuses on the objective. There are several steps to make objective matrix :

1. **Weight of each criteria in four perspective =** $\frac{\text{weight ratio (n)}}{\text{Total weight}} \times 1$

Score	Interval
1	1 - 10%
2	10%-20%
3	20%-30%
4	30%-40%
5	40%-50%
6	50%-60%
7	60%-70%
8	70%-80%
9	80%-90%
10	90%-100%

Perspective	Criteria	means	Weight	Conversion Weight
Financial	ROI	4.15	1	0.0526
	ROE	7.994	1	0.0526
	Profitability	0.338	1	0.0526
	Rentability	7.998	1	0.0526
	Leverage	39.402	4	0.211
	Activity	4.924	1	0.0526
	Liquidity	210.436	10	0.526
Customer	Market share	42.604	5	0.3125
	Customer Acquisition	16.074	2	0.125
	Customer Retention	83.716	9	0.5625
Internal Business Process	R & D ratio	0.666	1	0.5
	Defect product	3.598	1	0.5
Learning and Growth	Employee productivity	4.847	1	1

2. **Improvement Level =** $\frac{\text{Perspective Index} - 3.00}{3.00}$

3. **Structure of Objective Matrix :**

Defining scoring scale, performance criteria and weight.

1. FINANCIAL PERSPECTIVE

ROI	ROE	Profitability	Rentability	Leverage	Activity	Liquidity	**Financial perspective**
4.46	11.130	0.359	7.50	30.17	6.62	240.16	Performance

7.033	14.469	0.469	14.469	39.221	8.606	312.208	10
6.628	13.544	0.452	13.542	39.195	8.080	297.664	9
6.224	12.619	0.433	12.618	39.169	7.554	283.126	8
5.820	11.694	0.414	11.694	39.144	7.028	268.588	7
5.416	10.769	0.395	10.770	39.118	6.502	254.050	6
5.012	9.844	0.376	9.846	39.093	5.976	239.512	5
4.608	8.919	0.357	8.922	39.068	5.450	224.974	4
4.204	7.994	0.338	7.998	39.042	4.924	210.436	3
3.823	7.266	0.321	7.269	36.325	4.682	204.404	2
3.442	6.538	0.305	6.540	33.248	4.440	198.372	1
3.060	5.81	0.289	5.811	30.171	4.198	192.340	0

3	6	4	2	8	6	5	Score
0.0526	0.0526	0.0526	0.0526	0.211	0.0526	0.526	Weight
0.1578	0.3156	0.2104	0.1052	1.688	0.3156	2.63	Value
Index Financial Perspective							5.4226

This matrix shows each criteria of financial perspective, which are :

a. Rating score of ROE at level 3 was 4.204, respectively of performance of 4.46
b. Rating score of ROI at level 6 was10.769, respectively of performance of 11.130
c. Rating score of Profitability at level 6 was 6.502, respectively of performance of 0.359
d. Rating score of Rentability at level 2 was 7.269, respectively of performance of 7.50
e. Rating score of Leverage at level 8 was 39.169, respectively of performance of 30.17
f. Rating score Activity at level 6 was 6.502, respectively of performance of 6.62
g. Rating score Liquidity at level 5 was 239.512, respectively of performance of 240.16

2. CUSTOMER PERSPECTIVE

Market share	Customer acquisition	Customer retention	**Customer perspective**
48.000	19.040	86.930	Performance

62.400	24.752	113.009	10
59.572	23.508	108.824	9
56.744	22.269	104.639	8
53.916	21.030	100.454	7
51.088	19.791	96.270	6
48.260	18.552	92.085	5
45.432	17.313	87.901	4
42.604	16.074	83.716	3
40.029	15.069	82.794	2
37.454	14.064	81.872	1
34.880	13.059	80.950	0

5	5	4	Score
0.3125	0.125	0.5625	Weight
1.5625	0.625	2.25	Value
Index Customer perspective			4.4375

This matrix shows each criteria of customer perspective, which are :

a. Rating score of Market share at level 5 was 48.260, respectively of performance of 48

b. Rating score of Customer acquisition at level 5 was 18.552, respectively of performance of 19.040

c. Rating score of Customer retention at level 4 was 87.901, respectively of performance of 86.930

3. INTERNAL BUSINESS PROCESS PERSPECTIVE

R & D expense	Defect Product	**Internal business process perspective**
1.32	4.98	Performance

1.716	6.474	10
1.566	6.063	9
1.416	5.652	8
1.260	5.241	7
1.116	4.829	6
0.966	4.419	5
0.816	4.008	4
0.666	3.598	3
0.507	3.342	2
0.348	3.086	1
0.190	2.830	0

7	6	Score
0.5	0.5	Weight
3.5	3	Value
Index Internal business process perspective		6.5

This matrix shows each criteria of internal business process perspective, which are :

a. Rating score of R&D at level 7 was 1.260, respectively of performance of 1.32

b. Rating score of Defect product at level 6 was 4.829, respectively of performance of 4.98.

4. LEARNING & GROWTH PERSPECTIVE

Employee productivity	**Learning & Growth perspective**
7.265	Performance

9.444	10
8.783	9
8.127	8
7.471	7
6.815	6
6.159	5
5.503	4
4.847	3
4.539	2
4.231	1
3.923	0

6	Score
1	Weight
6	Value
Index Learning & Growth	6

This matrix shows criteria of financial perspective, which is :

Rating score of Employee productivity at level 6 was 6.815, respectively of performance of 7.265.

Improvement Level = $\frac{\text{Perspective Index} - 3.00}{3.00}$ x 100%

1. Financial Perspective = $\frac{5.4226 - 3.00}{3.00}$ x 100% = 80.753%

2. Customer Perspective = $\frac{4.437 - 3.00}{3.00}$ x 100% = 47.9%

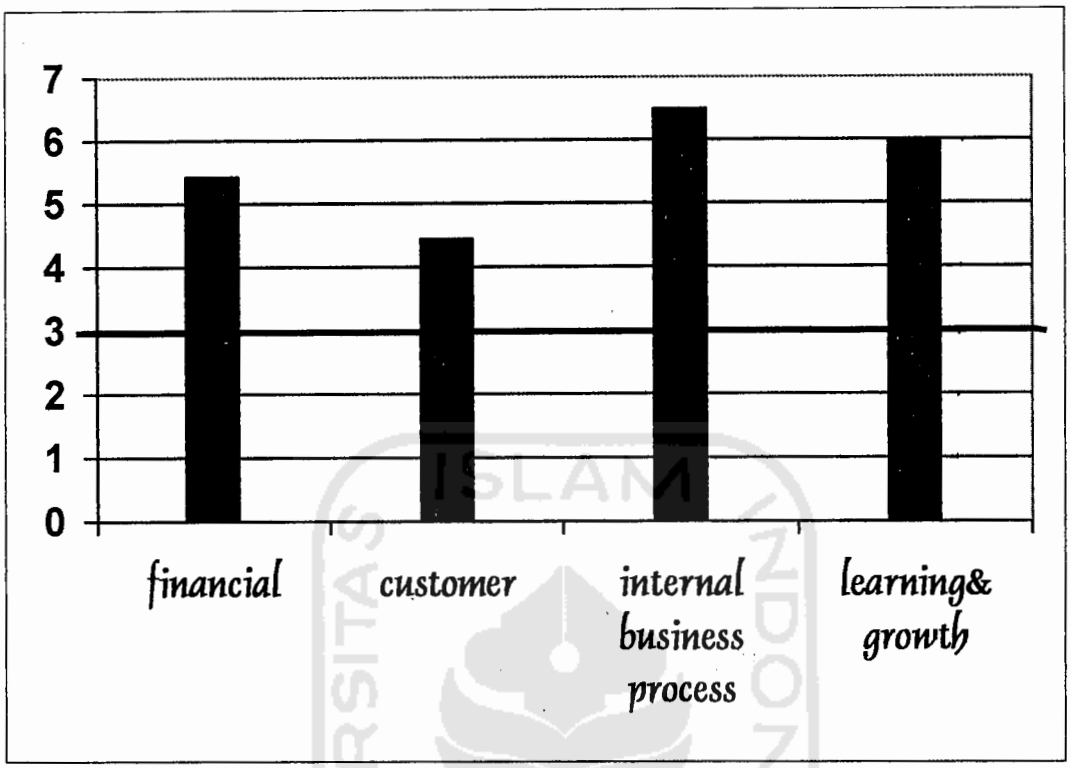
3. Internal Business Process = $\frac{6.5 - 3.00}{3.00}$ x 100% = 116.6%

4. Learning & Growth = $\frac{6.00 - 3.00}{3.00}$ x 100% = 100 %

Perspective	Index	Improvement Level
Financial	5.4226	80.8 %
Customer	4.4375	47.9%
Internal business process	6.5	116.6%
Learning & Growth	6	100%

Basically ELITE-Prestige Furniture has a good performance because all index are above 3 as the average level but to increase and keep the condition, the company should take an improvement in order to compete with others. Based on the data, customer has the lowest number of 47.9%. Consequently, the improvement of customer perspective must be made the first priority.

Figure 8. Table of Balanced Scorecard Perspectives



Perspective index	5.42	4.43	6.5	6
Average index	3	3	3	3

Based on the table above, The highest is internal business process. It has the highest perspective index of 6.5. The second highest is learning & growth which has a perspective index of 6, the third is financial which has a perspective index of 5.42 and the last is customer which has perspective index of 4.43. Those perspective have better performance because they are higher than the average index.