# CHAPTER 5

# CONCLUSION AND RECOMMENDATION

## 5.1 Conclusion

1. The results on this thesis provides empirical evidence that Intellectual Capital has no significant influence towards EPS for the period before crisis, and has significant positive influence towards EPS for the period after crisis. While tangible assets value seems to decrease after the crisis, the ASEAN companies started to be more reliant towards their intangible assets to perform optimally, especially their Human Capital.
2. The first Intellectual Capital component: Human Capital Efficiency (HCE) has significant effect on company's EPS for the period after the crisis, and no significant effect on company's EPS for the period before the crisis. This may be caused by the poor motivation level, and the lack of incentive systems in the ASEAN companies for the period before the crisis. It seemed that the financial crisis acted as a trigger to encourage the employees to add value for the company, motivates the employee to work hard and to save their jobs and the companies they are working in.
3. The second Intellectual Capital component: Structural Capital Efficiency (SCE) has no significant effect whatsoever towards company's EPS for both the times before and after crisis.

4. The last component of Intellectual Capital: Capital Employed Efficiency (CEE) has significant influence for both before and after crisis period. This suggest that ASEAN companies are very reliant on their physical assets in order to create value added.

## 5.2 Limitations

Based on the findings, the following limitations can be concluded:

1) This thesis only uses VAIC as its method to determine Intellectual Capital. Methods like DICM, and CIV could be used in the future for better comparison purposes.

## 5.3 Implication on results

This study has proved that when managed strategically, Intellectual Capital could affect firm's profitability and contribute to the value added making of the company. Intellectual Capital acts heterogeneously in different companies, meaning that the nature of Intellectual Capital is unique, hence when optimally used by managers it will give comparative advantage to companies.

Human Capital Efficiency (HCE) owns the biggest proportion amongst the other Intellectual Capital component. Hence, managers should focus on investing in Human Capital training as it significantly affected firm's profitability. As well trained and productive Human Capital will be a critical element of the company's asset that will benefit the company in long run. This can also be done by optimizing the budget allocated to the employees in anticipation of future endeavor and future profitability.

Naturally, companies should also be consistent in its investment of physical assets, as it also has been proved to significantly affect firm's profitability. The tests result suggested that Capital Employed Efficiency (CEE) plays important role whether the companies are in crisis or not.

## 5.4 Suggestions for Further Research

Based on the limitations of this study, the following recommendations are concluded:

1. Data should be broadened to larger sample group for better comparison purposes.
2. Other methods of measuring Intellectual Capital could be used, and compared with each another.

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# APPENDIX

Appendix 1: Final List of Sample

| No | Country | Name of companies |
|---|---|---|
| 1 | INDO | Telekomunikasi Indonesia |
| 2 | INDO | Astra International |
| 3 | INDO | Unilever Indonesia |
| 4 | INDO | Bank Central Asia |
| 5 | INDO | Bank Mandiri |
| 6 | INDO | Bank Rakyat Indonesia |
| 7 | MALAY | Genting |
| 8 | MALAY | Malayan Banking |
| 9 | MALAY | Sime Darby Bhd |
| 10 | MALAY | IOI |
| 11 | MALAY | Tenaga Nasional |
| 12 | MALAY | CIMB Group Holdings |
| 13 | MALAY | Petronas Gas |
| 14 | MALAY | Digi.com |
| 15 | MALAY | Public Bank BHD |
| 16 | PHIL | Phil Long Dist Tel |
| 17 | PHIL | SM Investments |
| 18 | SING | Keppel |
| 19 | SING | Singapore Airlines |

| | | |
|---|---|---|
| 20 | SING | United Overseas Bank |
| 21 | SING | Oversea-Chinese Banking |
| 22 | SING | DBS Group Holdings |
| 23 | SING | Jardine Cycle & Carriage |
| 24 | SING | Singapore Telecom |
| 25 | SING | Singapore Technologies Engineering |
| 26 | SING | Capitaland |
| 27 | SING | Wilmar International Limited |
| 28 | SING | Genting Singapore |
| 29 | THAI | Siam Commercial Bank PCL |
| 30 | THAI | Advanced Info Serv |
| 31 | THAI | PTT Exploration & Production |
| 32 | THAI | Bangkok Bank |
| 33 | THAI | Siam Cement |
| 34 | THAI | Kasikornbank |
| 35 | THAI | PTT |
| 36 | THAI | CP ALL |

## Appendix 2: Regression model 1

1. Effect of Intellectual Capital towards EPS before the crisis

**Table 4.6**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .684[a] | .348 | .317 | 14.2044100 |

a. Predictors: (Constant), VAIC, Leverage, ROA, Ownership, FS

b. Dependent Variable: EPS

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 4818.833 | 5 | 963.767 | 4.777 | .000[b] |
| | Residual | 27843.606 | 138 | 201.765 | | |
| | Total | 32662.439 | 143 | | | |

a. Dependent Variable: EPS

b. Predictors: (Constant), VAIC, Leverage, ROA, CompanyOwnership, FS

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 7.404 | 5.391 | | 1.373 | .172 |
| | ROA | 45.831 | 11.924 | .306 | 3.844 | .000 |
| | FS | .118 | .561 | .018 | .210 | .034 |
| | Leverage | -.668 | .275 | -.193 | -2.427 | .016 |
| | Ownership | 3.183 | 2.729 | .100 | 1.166 | .046 |
| | VAIC | .235 | .183 | .107 | 1.286 | .200 |

a. Dependent Variable: EPS

## Appendix 3: Regression model 2

2. Effect of Intellectual Capital components on EPS before the crisis

**Model Summary**

**Table 4.7**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 2 | .693[a] | .379 | .335 | 14.2999103 |

a. Predictors: (Constant), CEE, Leverage, ROA, Ownership, FS, SCE, HCE

b. Dependent Variable: EPS

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 2 | Regression | 4852.148 | 7 | 693.164 | 3.390 | .002[b] |
| | Residual | 27810.291 | 136 | 204.487 | | |
| | Total | 32662.439 | 143 | | | |

a. Dependent Variable: EPS

b. Predictors: (Constant), CEE, Leverage, ROA, Ownership, FS, SCE, HCE

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 7.290 | 5.436 | | 1.341 | .182 |
| ROA | 45.903 | 12.007 | .306 | 3.823 | .000 |
| FS | .121 | .565 | .019 | .214 | .031 |
| Leverage | -.659 | .278 | -.190 | -2.371 | .019 |
| Ownership | 3.163 | 2.748 | .099 | 1.151 | .042 |
| HCE | -.123 | 1.048 | .046 | -.117 | .007 |
| SCE | -.383 | 6.143 | -.020 | -.062 | .950 |
| CEE | 2.626 | 6.452 | .085 | .407 | .005 |

a. Dependent Variable: EPS

## Appendix 4: Regression model 3

2) Effect of Intellectual Capital towards EPS after the crisis

**Model Summary**

**Table 4.11**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 3 | .711[a] | .506 | .488 | 11.6016904 |

a. Predictors: (Constant), Leverage, ROA, VAIC, Ownership, FS

b. Dependent Variable: EPS

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 3 | Regression | 19009.845 | 5 | 3801.969 | 28.247 | .000[b] |
| | Residual | 18574.692 | 138 | 134.599 | | |
| | Total | 37584.537 | 143 | | | |

a. Dependent Variable: EPS

b. Predictors: (Constant), Leverage, ROA, VAIC, Ownership, FS

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 3 | (Constant) | -7.717 | 6.229 | | -1.239 | .217 |
| | Ownership | 4.706 | 3.886 | .074 | 1.211 | .028 |
| | VAIC | .822 | .081 | .632 | 10.166 | .000 |
| | ROA | 36.415 | 10.630 | .205 | 3.426 | .001 |
| | FS | .815 | .387 | .129 | 2.104 | .037 |
| | Leverage | -.305 | .216 | -.085 | -1.408 | .001 |

a. Dependent Variable: EPS

## Appendix 5: Regression model 4

3) Effect of Intellectual Capital components on EPS after the crisis

**Model Summary[b]**

**Table 4.12**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 4 | .713[a] | .509 | .483 | 11.6522821 |

a. Predictors: (Constant), CEE, ROA, Leverage, FS, Ownership, HCE, SCE

b. Dependent Variable: EPS

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 4 | Regression | 19119.045 | 7 | 2731.292 | 20.116 | .000[b] |
| | Residual | 18465.492 | 136 | 135.776 | | |
| | Total | 37584.537 | 143 | | | |

a. Dependent Variable: EPS

b. Predictors: (Constant), CEE, ROA, Leverage, FS, Ownership, HCE, SCE

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 4 | (Constant) | -7.231 | 6.863 | | -1.054 | .294 |
| | Ownership | 4.363 | 4.109 | .069 | 1.062 | .020 |
| | ROA | 35.392 | 10.856 | .200 | 3.260 | .001 |
| | FS | .857 | .404 | .136 | 2.120 | .036 |
| | Leverage | -.264 | .223 | -.074 | -1.185 | .038 |
| | HCE | .841 | .241 | .539 | 3.495 | .001 |
| | SCE | 1.036 | 1.765 | .111 | .587 | .558 |
| | CEE | .207 | 1.455 | -.014 | .142 | .007 |

a. Dependent Variable: EPS

# Appendix 6: Test of normality before crisis

**Tests of Normality**

**Table 4.3**

| | Kolmogorov-Smirnov[a] | Shapiro-Wilk |
|---|---|---|

| | Statistic | df | Sig. | Statistic | df | Sig. |
|---|---|---|---|---|---|---|
| VAIC | .129 | 144 | .000 | .923 | 144 | .000 |
| HCE | .130 | 144 | .000 | .922 | 144 | .000 |
| SCE | .119 | 144 | .000 | .922 | 144 | .000 |
| CEE | .123 | 144 | .000 | .917 | 144 | .000 |
| ROA | .097 | 144 | .002 | .940 | 144 | .000 |
| FS | .156 | 144 | .000 | .863 | 144 | .000 |
| Leverage | .285 | 144 | .000 | .755 | 144 | .000 |
| EPS | .185 | 144 | .000 | .812 | 144 | .000 |
| Ownership | .426 | 144 | .000 | .595 | 144 | .000 |

## Appendix 7: Test of normality after crisis

**Tests of Normality**

**Table 4.13**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| VAIC | .106 | 144 | .000 | .855 | 144 | .000 |
| HCE | .122 | 144 | .000 | .815 | 144 | .000 |
| SCE | .110 | 144 | .000 | .913 | 144 | .000 |
| CEE | .165 | 144 | .000 | .874 | 144 | .000 |
| EPS | .104 | 144 | .001 | .934 | 144 | .000 |
| ROA | .094 | 144 | .003 | .963 | 144 | .001 |
| FS | .157 | 144 | .000 | .874 | 144 | .000 |
| Leverage | .293 | 144 | .000 | .770 | 144 | .000 |
| Ownership | .538 | 144 | .000 | .276 | 144 | .000 |

a. Lilliefors Significance Correction