

Financial performance management of Access Engineering PLC

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Executive summary

Access Engineering PLC (AEL) is one of the leading company in the civil engineering and construction industry of Sri Lanka which is listed in Colombo Stock Exchange. During post war period of Sri Lanka, construction industry was boost due to major infrastructure projects which were conducted by Sri Lankan government and also skyscraper construction, hotels and housing projects which were driven with the growth of tourism industry.

Infrastructure was a one of the driven factor of construction industry which suffered heavily by slowdown of sector after 2015 since new government halted some major infrastructure projects to review of their environmental and cost impact. Further natural disasters were also negatively impact to the construction industry during last few years. However now it is indicated that construction industry arise again since major infrastructure projects are restarted by the government which were halted recent past. According (Mathew, 2016) Government recommence some high way and road development projects, water and draining systems and also government has initiated number of rural road development projects, bridge constructions and port development projects. Further few housing scheme projects are started targeting on city inhabitants. And also USD 44 billion Megapolis development project is initiated which government plan to develop 142 different projects in western province. These main infrastructure projects are expected to significantly impact to boost the construction industry of Sri Lanka. Development of the tourism industry helps to increase the hotels and skyscraper constructions. Further foremost entities are trying to move to skyscrapers due to scarcity of office space in Colombo city. Therefore Access Engineering PLC has huge opportunity to increase their market share.

This report will comprehensively analysis the financial performance of AEL in this transition period of 2014 and 2015. Profitability, efficiency and liquidity ratios will be used to analysis the financial performance and position of the company. Ratio analysis of AEL will be compared with ratio analysis of MTD Walkers PLC which is listed Colombo Stock Exchange. MTD Walker PLC is one of main competitor of AEL. Walker was one of oldest company which was acquired by MTD Capital, a leading Malaysian based infrastructure development company in 2006. MTD Walkers mainly specialize in piling, highway and roads, building constructions and among other sectors. (Annual Report, 2016)

Further this report will analysis which opportunities available for AEL for funding to purchase land and building which represents 25% of its Net Asset Employed. Report will discuss what internal and external sources are available, associated risk with these funding sources and finally recommend the best option based on company performance and capital structure.

And also this report will discuss Modern Management Accounting Technique such as Balance scorecard, Lean management and their pros and cons and how these techniques could be impact to AEL. Finally recommendations will be given what are more suitable modern management techniques and how those can adjust to AEL according to current commercial environment.

1.0 Company Background

Access Engineering PLC was established in 2001 and listed as a public limited company in Colombo stock exchange. Access Engineering PLC has expanded its operation in property and automobile sectors too instead of construction industry. Access Engineering PLC is recognized as a “specialist contactor” by the National Construction Association of Sri Lanka and as a “major contractor” by Construction Industry Development Authority (CIDA). The company gained many international accreditations and membership such as ISO 9001.2008 accreditation for quality management system, ISO 18001.2007 for health and safety management system and ISO 14001.2004 for environment management system. Access Engineering has awarded as “6th Asia best employer brand award in 2015, “Best corporate citizen sustainability award (construction sector)”, “National award for construction performance for road sector and bridge sector”, “National award for construction excellence for building sector” in 2015 and “Chartered Accountants annual report awards (Silver – construction sector)” and many other awards in various categories. (Annual Report, 2016).

AEL conducts its operations in sectors such as roads and highways, bridges and flyovers, harbors and maritime development, irrigation and land drainage water and waste water management and pilling and building. The company is delivering services for both private and public sector, but mainly its infrastructure operations are driven through public sector projects.

Since 2002, Access Engineering has conducted many road and highway development projects throughout the Sri Lanka. Initially, AEL has conducted in small scale road construction projects in rural areas. Then, the company moved to the medium scale road development projects and now company is conducting large scale projects which project value is more than Rs 5000 million. AEL has conducted bridge and flyover projects which exceed Rs 1000 mn. Further irrigation development projects, water and drain management projects and maritime and port development projects are conducted in different scale throughout the Sri Lanka.

Access Engineering PLC has also moved to building construction sector after 2011. Since then, AEL has completed many building construction projects which build for housing schemes for urban habitant. Now AEL is building skyscrapers for luxury apartments and office space. 1% of AEL total revenue comes from the property segment. AEL has 100% owned entity called Access Realties (Pvt) Ltd which is located in center of Colombo city provides office space for commercial entities. Construction of Access tower II that adopts to green concept is currently going on. Further AEL invests Harbor village (pvt) Ltd in partnership with two other overseas companies.

Company vision is to be the foremost Sri Lankan business enterprise in value engineering. Mission is to meet the challenges in the development of multi sector civil engineering projects, providing innovative solutions while developing long term progressive relationships with all the stakeholders. (Annual Report, 2016).

2.0 Financial performance

AEL revenue is increased continuously in last three financial years even though industry get slowdown after 2015. Revenue is increased by 1% and 6% respectively in financial year 2014/15 and 2015/16 compared to previous financial year. However gross profit and gross profit margin of financial year 2015/16 and 2014/15 is low compared to 2013/14. Gross profit has been reduced by 9% in 2014/15 and then it has been increased by 4% in 2015/16. On the other hand, net profit and net profit margin of financial year 2015/16 and 2014/15 is lower to compare with 2013/14. Net profit has been reduced by 16.5% in 2014/15 and it is increased by 5% in 2015/16. This financial performance was common for all construction companies during this time since new government appointed in early 2015, most of major infrastructure projects were halted to review their cost and environmental impact. However AEL has performed well in financial aspects compared to other construction companies during this adverse time period.

Table 1: financial performance of AEL

LKR million	FY 2015/16	FY 2014/15	FY 2013/14
Revenue	17,624	16,514	16,373
Gross profit	3,977	3,815	4,186
Gross profit margin	22.6%	23.1%	25.5%
Net profit	2,550	2,423	2,901
Net profit margin	14.5%	14.6%	17.7%

(Source: Annual Report 2016, 2015)

Access Engineering PLC current share price is moving around Rs 26.00. Therefore current market capitalization is around Rs 26 Billion. AEL share price as at 31st March 2014 was Rs 22.50 and it was reached to Rs 40.00 in November 2014 then again it is fallen less than Rs 20.00 in end of March 2015. Now share price has been settled in between Rs 24.00 and Rs 26.00.

Table 2: Share price analysis and investor ration of AEL

	As at 31 st March 2016	As at 01 st April 2015	Change (%)
AEL share Price (Rs.)	20.80	20.40	1.96
ASPI	6,071.88	6,916.08	(12.21)
S&P SL 20	3,204.44	3,900.67	(17.85)
EPS (Rs)	2.47	2.35	5%
DPS (Rs)	0.75	1.00	(25)
Payout %	30	43	(30)

(Source: Annual report 2015/16)

AEL share price is slightly increased with in the financial year 2015/16 even though ASPI (All share price index) and S&P SL 20 index have been reduced. According to past data of the AEL, it is indicated that AEL dividend policy is not change much from stable dividend policy.

Currently Colombo stock exchange is performing well and AEL share price rises to Rs 26.00

3.0 Ratio Analysis

Ratio analysis is used to evaluate company operation and financial performances in different aspects. This report will do basic analysis of profitability, efficiency and liquidity of AEL in 2014 and 2105 by using ratios such as

- Operating profit margin
- Return on capital employed
- Asset turnover
- Gearing
- Interest cover
- PE ratio

Further AEL performance will be compared with MTD Walters PLC (MTDW) performance which is key competitor of AEL to get the better understanding of AEL.

3.1 Operating profit margin

Operating profit margin is one of profitability ratio which explain how well company's operations contributes for its profitability. According to (Gallagher and Andrew,2007) It is a one indication of company's earning ability through its operation. As an example, a company which has considerable profit margin ratio makes more profit on each rupee of revenue than a company which has a narrow operating profit margin. Operating profit margin determines to shareholders and creditors how well company can generate operating cash flow.

$$\text{Operating profit Margin} = \frac{\text{Operating Income}}{\text{Total Revenue}} \times 100$$

Table 3: operating profit margin comparison

	2015/16	2014/15	Change
AEL	16.4%	16%	2.5%
MTD Walkers	7%	14%	(50%)

(Source: Annual report, 2015/16)

Operating profit margin of AEL has been recorded as 16.4% and 16% respectively in 2015 and 2014 financial years. It is only increased by 2.5%. However operation profit margin of AEL is much better compared to MTD Walkers PLC in financial year 2015/16. It is decreased by 50% from 14% to 7%. Main reason for that would be the 15% of revenue reduction of MTDW in 2015. On the other hand in AEL, operating profit margin has increased 2.5% while total revenue is increased by 6% in 2015. This is better performance compared to financial year 2014/15 since during 2014/15 revenue was just increased by 1% and operating profit margin has been reduced by 15%.

Main reason for this performance is improvement of revenue. Main portion of revenue comes from building construction. And also, revenue of bride construction has increased around 50% in this period. Further other income of AEL is increased by 50%. This is also cause to increase the

operating profit margin of AEL. Mainly exchange rate gain of Rs 105 million, significant improvement of sundry income and gain on disposal of investment are caused to increase the other income.

This is indicated that AEL's operations work effectively and generate cash flows even in negative macro-economic environment. This is good indication to shareholders to determine how well company can generate operating cash flow.

Table 4: working – operating profit margin

	2015/ 16 (Rs Mn)	2014 / 16 (Rs Mn)
AEL	$= \frac{2,889}{17,624} \times 100$ $= \mathbf{16.4\%}$	$= \frac{2,642}{16,514} \times 100$ $= \mathbf{16\%}$
WTDW	$= \frac{837}{11,964} \times 100$ $= \mathbf{7\%}$	$= \frac{1,968}{14,025} \times 100$ $= \mathbf{14\%}$

(Source: Annual report 2015/16)

3.2 Return on Capital Employed

According to (Lumby and Jones, 2003) Return on capital employed (ROCE) is also a profitability ratio which indicates competence of company to generate profits from its capital employed (the total amount of capital utilized for the gaining of profit). ROCE is more reliable measure compared to basic profit margin ratios since it provide more broad evaluation on corporate performance and return value to investors by measuring company efficiency on utilizing its capital to operate. This is calculated by dividing earnings before interest and tax (PBIT) from capital employed of the company. ROCE should be higher than the rate at which company borrow to fund the assets.

$$\text{ROCE} = \frac{\text{PBIT}}{\text{Capital employed}} \times 100$$

$$\text{Capital employed} = (\text{Total Asset} - \text{Current Liabilities})$$

Table 5: ROCE comparison

	2015/ 16	2014/ 15	Change
AEL	12.3%	15.3%	(20%)
MTD Walkers	5.5%	16.6%	(67%)

(Source: Annual report, 2015/16)

Table 6: Working – ROCE

	2015/ 16 (Rs Mn)	2014 / 15 (Rs Mn)
AEL	$= \frac{2,889}{30,342 - 6,744} \times 100$ $= \mathbf{12.3\%}$	$= \frac{2,642}{22,327 - 5,118} \times 100$ $= \mathbf{15.3\%}$
WTDW	$= \frac{837}{29,003 - 13,660} \times 100$ $= \mathbf{5.5\%}$	$= \frac{1,968}{22,255 - 10,434} \times 100$ $= \mathbf{16.6\%}$

(Source: Annual report, 2015/16)

ROCE of AEL has been reduced by 20% from 15.3% to 12.3% in financial year 2015/16. However compared to WTDW's ROCE, AEL has performed well since WTDW ROCE has been reduced by 67%. But shareholders will consider this because 2013/14 AEL ROCE is 20.5%. So it is being reduced continuously in three consecutive years. This shows that efficiency of company to generate profit from its employed capital is reduced. One main reason for this reduction could be slowdown the revenue growth in last two financial years. And Mainly AEL issued Rs 5,000 million worth of debenture in 2015 and this is impact significantly to increase the liabilities.

ROCE need to be compared with the rate at which borrow to fund the assets.

Total finance cost in 2015 = Rs 369 million

Loan term loans and borrowing = Rs 5,193 million

Short term loans and borrowings= Rs 652 million

Bank overdraft = Rs 412 million

$$\text{Average periodic interest rate} = \frac{369}{5,193 + 652 + 412} \times 100$$

$$= 6\%$$

As per the above calculation, it is indicated that ROCE is higher than the rate which borrow the funds. And also Sri Lanka current interest rate is moving around 8%. Therefore even though AEL ROCE is getting reduced, overall financial performance is fine compared to competitors, interest rate and considering debenture issue.

3.3 Asset turnover

According to (Gallagher and Andrew,2007) asset turnover ratio is the efficiency ratio which measures competence of company to generate revenue from its assets. If company has higher asset turnover ratio means that the company is gaining more revenue per rupee of asset. This ratio is useful for shareholders to understand the efficiency of company asset utilization.

$$\text{Asset turnover} = \frac{\text{Revenue}}{\text{Total assets}}$$

Asset turnover ratio is more relevant to industry like construction since its revenue highly depend on assets.

Table 6: Asset turnover comparison

	2015/ 16	2014/ 15	Change
AEL	0.58	0.74	(22%)
MTD Walkers	0.41	0.63	(35%)

(Source: Annual report, 2015/16)

AEL asset turnover is reduced by 22% I from 0.74 and 0.58 financial year 2015/16 while MTDW asset turnover ratio is reduced by 35%.

Table 7: Working – Asset turnover

	2015/ 16 (Rs Mn)	2014 / 15 (Rs Mn)
AEL	= $\frac{17,624}{30,342}$ = 0.58	= $\frac{16,514}{22,327}$ = 0.74
WTDW	= $\frac{11,964}{29,003}$ = 0.41	= $\frac{14,025}{22,255}$ = 0.63

(Source: Annual report, 2015/16)

AEL total asset value in 2015/16 = Rs 30,342 million

AEL total asset value in 2014/15 = Rs 22,327 million

MTDW total asset value in 2015/16 = Rs 29,003 million

MTDW total asset value in 2014/15 = Rs 22,255 million

AEL and MTDW total assets are almost similar. Therefore the reason for the asset turnover difference is revenue achievement. It is shown that AEL has generated more revenue per rupee of assets. Therefore AEL asset utilization efficiency is higher than MTDW. AEL asset value is increased by 36% while revenue is increased only 6%. On the other hand, MTDW total asset value

is increased by 30% but revenue is decreased 17%. Total asset value is mainly increased because of investment of properties (work in progress) and investment of joint venture. This could be the construction of Access Tower II and Harbor Village. Therefore when these two projects are over, AEL can generate the revenue from these assets. So current asset turnover deduction of AEL could be a short time issue.

3.4 Gearing Ratio

According to (Ogilvie, J,2009) Gearing ratio use to measure the financial leverage of the company which compares the equity funded by the shareholders versus company borrowing to conduct their operation. High gearing ratio means that the company has high degree of leverage and high level of financial risk since having higher amount of debt compare to equity capital. However gearing ratio should have to compare with industry gearing to get more reliable understanding about company financial structure since financial structure is depend on the industry norms. However maintaining balance capital structure is always important to keep company free from liquidity risk. (Brealey et al., 2015). Mainly financial institution looks gearing of company in preparation of issuing loans to check its ability to pay back.

$$\text{Gearing} = \frac{\text{Total debt} \times 100}{\text{Total equity}}$$

Table 8: Gearing ratio comparison

	2015/ 16	2014/ 15	Change
AEL	34.78%	3.75%	828%
MTD Walkers	165%	100%	65%
Industry	68%	54%	26%

(Source: Annual report, 2015/16)

Table 9: Working – Gearing

	2015/ 16 (Rs Mn)	2014 / 15 (Rs Mn)
AEL	$= \frac{5,193+652+412}{17,994} \times 100$ $= \mathbf{34.78\%}$	$= \frac{252+276+97}{16,694} \times 100$ $= \mathbf{3.75\%}$
WTDW	$= \frac{14,277}{8,641} \times 100$ $= \mathbf{165\%}$	$= \frac{8,841}{8,770} \times 100$ $= \mathbf{100\%}$

(Source: Annual report, 2015/16)

Total equity 2015/16 – AEL = Rs 17,994 million
 Long term loans and borrowing 2015/16 –AEL = Rs 5,193 million

Short term loans and borrowing 2015/16 –AEL	= Rs 652 million
Bank overdraft 2015/16 – AEL	= Rs 412 million
Total equity 2014/15 – AEL	= Rs 16,694 million
Long term loans and borrowing 2014/15 –AEL	= Rs 97 million
Short term loans and borrowing 2014/15 –AEL	= Rs 252 million
Bank overdraft 2014/15 – AEL	= Rs 276 million
Total equity 2015/16 – MTDW	= Rs 8,641 million
Total debt 2015/16 – MTDW	= Rs 14,277 million
Total equity 2014/15 – MTDW	= Rs 8,841million
Total debt 2014/15 – MTDW	= Rs 8,870 million

Even though AEL gearing ratio has been increased significantly in 2015/16 its gearing ratio is 34.78% which is lesser than industry gearing. And also MTDW is highly geared and ratio is increased by 65%.

Main reason for AEL gearing improvement is Rs 5,000 million worth of debentures in 2015. Before this, AEL funding has mainly driven through equity and its gearing ratio was 3.75%. Therefore after debenture issue, AEL capital structure has been more balance. Further total equity has been increased by 7%. Gearing of AEL is reached to very healthy level even though it is increased by 828% during 2015. Normally if gearing is higher than 50% it is considered as risky but compared to industry gearing AEL has enough room to increase debt financing further.

3.5 Interest cover

Interest cover ratio is a liquidity ratio which measures the company ability to pay interest expenses on outstanding debts. Interest cover ratio simply can be calculated as below.

$$\text{Interest cover} = \frac{\text{EBIT}}{\text{Interest expenses}}$$

This indicates that how many times over a company can pay its current interest cost with its earning. Creditors and finaical institution look this to check whether company has ability to pay the interest. According to (Ogilvie. J,2009) if interest cover is higher than 1, it means company has ability to pay its interest cost via earning and if interest cover is lower than 1, there could be risk of facing difficulty to pay the interest on timely manner.

Table 10: Interest cover comparison

	2015/ 16	2014/ 15	Change
AEL	7.8	30	(74%)
MTD Walkers	0.76	2.95	(74%)

(Source: Annual report, 2015/16)

Table 11: Working – Interest cover

	2015/ 16 (Rs Mn)	2014 / 15 (Rs Mn)
AEL	= $\frac{2,889}{368}$ = 7.8	= $\frac{2,642}{88}$ = 30
WTDW	= $\frac{837}{1,099}$ = 0.76	= $\frac{1,968}{665}$ = 2.95

(Source: Annual report, 2015/16)

AEL finance cost 2015/16 = Rs 368 million

AEL finance cost 2014/15 = Rs 88 million

WTDW finance cost 2015/16 = Rs 1099 million

WTDW finance cost 2014/15= Rs 665 million

Interest cover has been reduced by 74% from 30 to 7.8. Even though interest cover has been decreased significantly, 7.8 is not an issue because it means that AEL has gained earning which can pay 7.8 time over its interest cost. WTDW interest cover is also reduced by 74% and it is became less than 1. This is because that WTDW's earnings before interest and tax has been reduced by 57% while its finance cost is reduced by 65%.

AEL finance cost is increased by 318% mainly because of adding Rs 183 million of interest on debenture. Further interest cost on bank overdraft and interest cost on bank loan has been increased respectively 125% and 288%.

3.6 Price Earnings Ratio (P/E Ratio)

P/E Ratio is one of the most broadly used ratio for stock selection. This measures that company current share price relative to its earnings per share.

$$\text{P/E Ratio} = \frac{\text{Market value per share}}{\text{Earnings per share}}$$

P/E ratio shows the rupee amount a shareholder can expect to invest in a company in order to receive one rupee of its earnings. According to (Ogilvie. J, 2009) it reflects that what the market is keen to pay for a stock based on its current earnings. It is more important to investors to analysis which will be the market value by predicting future earnings per share. A Company which has

higher PE Ratio reflects better future performance and investors are willing to invest a company which has higher PE. Comparing P/E ratio with similar company in same sector or industry P/E is more meaning rather than analysis individual company P/E ratio.

Table 12: P/E ratio comparison

	2015/ 16 Rs	2014/ 15 Rs	Change
AEL	8.4	8.6	(2.3%)
MTD Walkers	-	10	-
Construction industry	9.1	10.6	(14.15%)

(Source: Annual report, 2015/16)

Table 13: Working – P/E Ratio

	2015/ 16 (Rs Mn)	2014 / 15 (Rs Mn)
AEL	= $\frac{20.80}{2.47}$ = 8.4	= $\frac{20.40}{2.35}$ = 8.6
WTDW	= $\frac{33.30}{-2.0}$ = - 16.6	= $\frac{46.40}{4.6}$ = 10

(Source: Annual report, 2015/16)

WTDW EPS in 2015/16 = Rs -2.0

WTDW EPS in 2014/15 = Rs 4.6

Share price as at 31.03.2016 = Rs 33.30

Share price as at 31.03.2015 = Rs 46.40

Access Engineering P/E ratio has been reduced to 8.40 from 8.60 while industry P/E is reduced to 9.10 from 10.60. AEL share price and earning per share have been retained stable in 2015/16 financial year. MTDW EPS has been become negative since company made a loss in financial year 2015/16. AEL P/E ratio indicates better performance of AEL and shareholders confidence on AEL compared to industry P/E ratio. Currently Colombo stock exchange is performing well and construction industry will be raised back. Therefore share price of AEL is expected to increase and confidence of investors will further improve.

4.0 How to fund to purchase the assets which represents 25% of Net Assets Employed.

In this scenario, Access Engineering PLC is going to purchase land and building which represents 25% of net asset of company. This report will discuss what the available financing sources are and which one is the most suitable. There are two type of funding sources called internal and external. Net assets can be calculated by deducting company's liability from its assets. And it is equal to shareholder's equity of the company.

Rs million

Net Asset (2015/16) = Total Assets - Total Liabilities

$$= 30,342 - 12,348$$

$$= 17,994$$

25% of the net assets = $17,994 \times 25\%$

$$= \underline{4498.5}$$

Value of the land and building to be purchased = Rs 4,498.5 million

There are various internal and external financing sources are available to purchase proposed asset.

4.1 Internal sources

Internal sources means the funds which are raised within the organization such as

- Retained profits
- Owner's investment
- Sale of stock
- Sales of fixed assets
- Debt collections

Among above all the internal sources, retained profits, sales of fixed assets can be further discussed according to financial requirement and nature of AEL business.

4.1.1 Retained profit

This is a medium or long term source of finance and retained earnings means the net earnings which does not paid as dividends, but keep by the company to reinvest in the business or to pay debts. Company can use retained earnings to invest on areas where company can generate the growth opportunities such as purchase required assets.

Advantages of using retained profit as a funding source are no need to repay and no interest cost involved like some other funding methods. However sometimes, liquidity risk of company can be increased by using retained earnings and reserve as a funding source.

As per the balance of sheet of as at 31st March 2016, retained earnings recorded as Rs 8,361 million. Required fund to purchase the assets is 54% of retained earnings. So AEL retained earnings is sufficient to purchase proposed land and building. However this should be further evaluated by analyzing overall financial impact of this decision.

How this decision could impact to gearing of the company need to be evaluated.

Gearing of AEL as at 31st March 2016 is 34.78%.

If land and building will purchase by utilize retained earnings, gearing would be;

$$= \frac{\text{Debt}}{\text{Equity}} \times 100$$

$$= \frac{5,193+652+412}{17,994 - 4,498.5} \times 100$$

$$= 46.36\%$$

If AEL use its retained earnings to purchase proposed land and building, gearing ratio will be increased by 33% from 34.78% to 46.36%. In 2015, gearing ratio has been increased significantly (around 800%). In this condition, increasing gearing ratio again would give negative signal to the market. But compared to industry gearing (68%), AEL still has enough room for gearing. However considering time, this would not be a good time to increase the gearing further. However this is the quickest way to obtain funds. Therefore urgency of requirement and return on investment is also need to be concerned.

4.1.2 Sales of fixed assets

Sometimes company can generate funds by selling off fixed assets which company no longer needed. But businesses always does not have this option since surplus fixed assets are not available often. This is also medium term of financial options. AEL fixed asset value as at 31st March 2016 is Rs 4,790 million so it need to be checked is that possible to use some of fixed assets which AEL no longer needed to cover some portion of fund needed to purchase new land and building. However normally this is not much effective financing method because most of equipment which AEL no longer needed may be outdated. Most of the property of AEL still company use and generates money. Advantage of this financial method is that company can raise funds from assets which are no longer needed.

4.2 External sources

External financial sources refer the funds which are raised outside of the organization such as

- Equity finance
- Debt finance
- Leasing
- Mortgage
- Additional partners

Above all, equity, debt, lease is more relevant to this scenario.

4.2.1 Equity finance

Available equity finance options for AEL are right issue or warrants. In right issue, exiting shareholders are invited to subscribe for more share capital in proportion to their exiting holdings and induce them to subscribe for right by issuing rights at a discount; lesser than the market price. However price would be more than the original issue price to avoid the adverse reaction by shareholders if they recognize capital dilution. AEL current share price is around Rs 26. In right issuing, given discount need to be decided based on market condition, required amount of fund because it needs to encourage its shareholders to subscribe in the rights offering. Therefore this discount should be selected carefully.

As an example, if 20% discount offer,

$$\text{Issue price} = 26 \times 0.8$$

$$= \text{Rs } 20.80$$

$$\text{Required amount of fund} = \text{Rs } 4,498.50 \text{ million}$$

If whole amount is funded through right issues,

$$\text{No of rights need to be issued} = \frac{4498.5}{20.8}$$

$$= 216 \text{ million}$$

Initially AEL has issued 1000m shares. Therefore rights can be issued around 4.5 : 1 ratio.

Possible disadvantage of this is that 20% discount may be not enough to attract the enough shareholders.

If 40% discount offer,

$$\begin{aligned}\text{Issue price} &= 26 \times 0.6 \\ &= \text{Rs } 15.60\end{aligned}$$

$$\begin{aligned}\text{No of rights need to be issued} &= \frac{4498.5}{15.6} \\ &= 288 \text{ million}\end{aligned}$$

Therefore rights can be issued around 3.5: 1 ratio.

40% discount will help to attract more shareholders. However some shareholders think that EPS will dilute since more share are issuing.

Benefit of right issuing is that company can find funds from its existing shareholders. Existing shareholders have a better idea about company performance, negative impact of speculation could be reduced. Further there is no involvement of underwriting fee.

Disadvantages are that this will lead to dilute the earning per share and some shareholders are not willing to subscribe the rights. And also generally there is a perception that company goes for right issue when company is struggling. But here AEL can explain the requirement of funding to their shareholders and its financial performance indicates that company is financially performing well.

4.2.2 Debt financing

Debt finance can use for short, medium and long term. Short term, limited finding can be obtained from bank overdraft. However available options to obtain Rs 4,500 million funding is debenture and bank loan. In 2015, Access Engineering PLC has done Rs 5,000 million debenture issue. So signal provides to market by issuing debenture again is not positive. Therefore the best available debt financing option is obtain a bank loan.

When it comes to apply a bank loan, interest rate will be depend on average weighted prime lending rate (AWPR). AWPR is 11.1 % as at 20th October 2017. So interest rate is 11.10%. Therefore when applying a bank loan, it should be analyzed repaying ability of loan.

$$\text{Loan Amount} = \text{Rs } 4498.5 \text{ million}$$

$$\text{Interest rate} = 11.1\%$$

Repayment period will assume as 10 years.

$$= 4,498.5 \times 1.111$$

$$= \text{Rs } 4997.8 \text{ million}$$

Total interest payable = Rs 499.3 million

Interest cost per year = Rs 49.93 million

One year installment = Rs 499.78 million

Considering interest cost and installment, it would not be difficult to pay it as per AEL financial position.

Further this option can be evaluated by measuring impact to the gearing ratio and interest cover ratio.

Gearing of AEL as at 31st March 2016 is 34.78%.

Gearing ratio after loan

$$= \frac{5,193+652+412 + 4,498.5}{17,994} \times 100$$

$$17,994$$

$$= 60\%$$

As per the above calculation, gearing of AEL would be increased by 72% from 34.78% to 60%. Compare to industry gearing and competitor's gearing, still 60% of gearing is fine. However gearing has increased significantly within very short period due to debenture and bank loan. This is not provided positive signal to the market.

Interest cover as at 31st March 2016 is 7.8.

Interest cover after the loan

$$= \frac{2,889}{368 + 49.93}$$

$$= 6.9$$

(EBIT difference is not considered)

If AEL obtain a bank loan is reduced by 11.5%. However still AEL has enough ability to pay back the installments and interest cost.

Considering AEL gearing ratio and interest cover, bank and financial institution is willing to provide debt since company financial performance is healthy.

4.3 Recommendation

Main objective of any profit motive business is wealth maximization of shareholders. This means company need to conducts projects which generate positive NPV generated projects. So it should be considered return on this proposed assets. When it comes to funding decision, how quickly company need to obtain funds is also need to consider instead of financial position. As per the above explanation and calculations, AEL has more than one option to obtain funding. Therefore best option is to use few funding options to mitigate the risk. AEL can use retained earnings to obtain some part of funding and remaining part can obtain from bank loan. This is because AEL has performed well in financial aspects even in challenging macro business environment. And also capital structure is also balance to compare to industry. Interest rate is also expected to be stable. Right issue is also available option, the issue is that it may give a negative signal to market which company is struggling. So AEL need to provide relevant information to market at right time. Further Colombo Stock Exchange is currently performing well compare to last two years. Therefore all these funding options are available for AEL.

5.0 Modern management accounting technique

Traditional accounting techniques mainly concern on financial performance of the company. However modern management accounting techniques looks on both financial and non-financial performance of the company. In traditional accounting, company uses technique such as ratio analysis, variance analysis. According to (CIMA study text, 2012-13) These traditional management accounting technique criticize since

- Some assumptions are not realistic.
- These systems such as budgeting are time consuming and provide little value of information.
- This techniques concerns many costs as production costs when they really are overhead.
- Business is not considered.

To eliminate the above weaknesses, modern management accounting technique were introduced. In modern management accounting, company performance evaluate in different financial and non-financial aspects. Today, corporate environment has been changed lot and new technology has comes to industry, so management accounting technique such as balance scorecard, Lean management, activity based budgeting.

5.1 Balance Scorecard

Balance Scorecard which is developed by Kaplan and Norton has been covered many areas of the business. This is considered as best known framework for non-financial indicators. Balance scorecard measure performance in four different perspectives

- Financial perspective
- Customer perspective
- Internal business perspective
- Innovation and learning perspective

Access Engineering's performances as a construction company can be measured in four perspective according to Balance scorecard. Every measures should be chosen relevant to company strategy, nature of industry and its competitive position. Some of performance measures are listed below

Table 14: Balance scorecard

Perspective	Measure
Financial perspective	<ul style="list-style-type: none">▪ Return on investment▪ Economic value added (EVA)▪ Profit target▪ Operating cash flow target
Customer perspective	<ul style="list-style-type: none">▪ Market share target (%)▪ Customer satisfaction (%)▪ Project completed on time (%)

	<ul style="list-style-type: none"> ▪ Target Retention of customer and repeated tenders (%) ▪ Brand image index(%) ▪ Customer ratings (%)
Internal business perspective	<ul style="list-style-type: none"> ▪ Carbon emission from production (%) ▪ Industrial accident per year (No) ▪ Equipment down time (%)
Innovation and learning perspective	<ul style="list-style-type: none"> ▪ Investment on training ▪ Research and development cost ▪ No of training hours ▪ No of employees expertise in industry

Balance scorecard helps to understand the overall performance of the company. Balance scorecard is also related to company strategy. It helps employees to identify the goals. And this improve the goal congruence because all employee work on archive same set of goals.

Disadvantage of balance scorecard is some of non-financial performance targets are not easy to measure. And also when try to achieve targets in different perspectives, could be inconsistent and conflicting with each other.

5.2 Lean management

Lean management is a technique of management based on minimize waste and non-value added activities. Here waste defines the every type of waste such as product waste, time waste, knowledge waste etc. When it comes to construction industry this is called lean construction. Key principles of lean concept is

- Eliminate the every type of waste.
- Specify ultimate customer requirement
- Clearly identify the processes which add value to the ultimate customer and eliminate non value adding activities.
- Try to achieve perfection by continuous improvement

This concept can be used to different stages of Construction Company.

Procurement

- Manage the supply chain by integrating all the parties who contribute to the supply chain to eliminate waste in both activities and processes
- Transparency of cost which incurred to purchases

Logistics

- Just in time delivery of material

Construction

- Benchmarking with best construction techniques
- Establish a clear project plan by clearly identifying key activities.
- Properly communicate the project plan
- Risk management
- Team work and providing training
- Daily check progress and reporting

There are number of benefits from lean construction. It significantly improve the customer satisfaction, efficiency and productivity of the company. Minimizing every type of waste such as material, time and space help to reduce the cost and further improve the quality of the service.

Lean management is a concept that introduce to manufacturing sector. Therefore sometime it's difficult to measure the waste reduction in service sector. Further initially company need to get resource and time for training to develop lean management culture throughout the organization. It is difficult to obtain time from employees for training. And also lack of expertise on lean management is also an issue.

5.3 Strategic management accounting (SMA)

According to Cima official terminology (2009), strategic management accounting can define as obtaining and preparation of information for decision making laying particular stress on external factors.

SMA is connected to business strategy and it help to maintain and increase competitive advantage.

Steps of strategic management accounting are

- Collecting the competitors' information
- Identify the areas which can cut the cost (pursue continuous improvement)
- Matching the accounting emphasis with the company strategic position.

Under strategic management accounting, company performance measures through key performance indicators. (KPI). Relevant KPI for Access Engineering is listed below.

- Day to day project completion ratio
- Cost predictability – (construction, design)
- % equipment down time
- % backlogs over project timeline
- Number of accident

Main issue that company faces is obtaining relevant data to calculate those KPIs. Company has to consume lot of time and effort to gather those data.

5.4 Environmental management accounting (EMA)

Current global environmental issues has become major problem for human civilization. Environmental risk is highly effected to the business operation too. Negative environmental factors make huge adverse impact to business and its finance. Environmental issues could be effected construction business by loss of insurance coverage, loss of revenue, disrupt to operation, environmental taxes, fine, boycott and etc. Even though this environment impact has mentioned in external reports, management accounting system is not captured this environment impact properly.

In modern management accounting technique, organization would reflect environment impact to its accounting by identifying environment cost of their processes, products and services. There is a management accounting approach to identify environment related cost. So this approach is still developing to find appropriate mechanism to measure environment cost.

The problem of EMA is absence of a clear definition for environment cost. So most of the companies does not report or maintain this kind of cost.

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