

A Comparative Analysis of the Financial Ratios of Listed Firms Belonging to the Education Subsector in the Philippines for the Years 2009-2011

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Abstract

Most financial statement analyses focus on firms belonging to industries that either contribute significantly to economic figures or posit in a highly competitive business environment. Whatever the motivation may be, financial statement analysis should be made available to all industries for reasons of comparability and benchmarking. So much so to industries that silently propel economic development and growth, of which the education subsector is. In the Philippines, there are only three listed firms in the education subsector. These are Centro Escolar University (CEU), Far Eastern University (FEU), and iPeople, Inc. (Malayan Colleges). This research paper aims to analyze the financial statements of these three firms for three periods (2009, 2010, and 2011) using liquidity ratios, activity ratios, leverage ratios, profitability ratios, and market value ratios. For liquidity, the following ratios were used: current ratio; quick or acid-test ratio; cash flow liquidity ratio; average collection period; and days payable outstanding. For activity, the following ratios were used: accounts receivable turnover; accounts payable turnover; fixed assets turnover; and total assets turnover. For leverage, the following ratios were used: debt ratio; debt to equity ratio; and times interest earned. For profitability, the following ratios were used: operating profit margin; net profit margin; return on total assets; return on equity; and basic earning power ratio. For market value, the following ratios were used: price-earnings ratio; market-book ratio; and dividend yield. Imploring a comparative approach, this research paper also seeks to come up with benchmark figures that will be useful for other firms (not publicly-listed) belonging to the education subsector. To do this, financial statements of CEU, FEU, and Malayan for the indicated periods were obtained from the Philippine Stock Exchange (PSE) website. Necessary information derived from these financial statements were summarized and used to compute the financial ratios for the three-year period. To provide a basis for analysis, for each financial ratio, the firm adjudged as the best one (using rule of thumb and ratio trends) was given three points, the next one, two points, and the last one, one point. The total points for each ratio category were then computed to arrive at an overall basis for analysis. Results showed that in terms of liquidity, FEU ranked first, followed by Malayan, then CEU; in terms of activity, FEU ranked first, followed by CEU, then Malayan; in terms of leverage, Malayan ranked first, followed by CEU, then FEU; in terms of profitability, FEU ranked first, followed by Malayan, then CEU; and in terms of market value, CEU and FEU tied for first and then Malayan followed. Overall, FEU (44 points) ranked first, followed by Malayan (40 points), then CEU (36 points).

Keywords: activity ratios, education, financial statement analysis, leverage ratios, liquidity ratios, market value ratios, profitability ratios.

1. Introduction

Beyond crunching and depicting numbers in the financial statements, the primordial goal of financial management is creating wealth. Wealth creation is best achieved by maximizing firm's value through optimal usage of resources over a long period of time. In other words, it is the continuous and sustainable accumulation of more assets (growth) as time passes by. Putting these into perspective, wealth creation is a factor of a series of sound business decisions, made one after the other, that originate from structured or scientific basis. As risks are the ones that prevent any firm from achieving its objectives, coming up with structured and scientific bases of decisions reduces the likelihood of the former (risks). In financial management, one of these structured and scientific bases on which firm decisions are anchored is the financial statement analysis.

According to Drake (2010), financial statement analysis is the selection, evaluation, and interpretation of financial data, along with other pertinent information, to assist in investment and financial decision-making. Moreover, it is also the process of identifying financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account (accounting for management website).

One of the tools in financial statement analysis is financial ratio analysis. As financial statements are usually lengthy, it will be more efficient and strategic to just pick up the figures that matter and plug them in pre-defined formulas developed through time by finance and accounting scholars.

One of the sectors of business that draw the special attention of financial analysts today is the education sector, specifically higher education. As studied by Johnstone (2009), the financing of higher education throughout the world has seen dramatic changes in the last decades of the 20th and the first decade of the 21st centuries. These changes in financing are responses to a worldwide phenomenon of higher educational costs tending to rise at rates considerably in excess of the corresponding rates of increase of available revenues, especially revenues that depend on taxation.

As a result, the consequences and trends in financing higher education have been the increasing unit, or per-student, costs of instructions, the increasing enrollments, the increasingly knowledge-based economies and the consequent additional expectations heaped on higher education to serve as a major engine of economic development and individual betterment, the failure of governmental, or public, revenues to maintain their share of the cost increases resulting from these pressures on higher educational expenditures, the trend toward increased globalization, which contributes both to the increasing cost trajectories and to the faltering governmental revenues, and the pattern of increasing liberalization of economies and the resulting decentralization, devolution, and privatization of public and private systems, including institutions of higher education (Johnstone, 2009).

Given such awareness, it is just high time for the education sector to be subjected to the rigors and benefits of financial ratio analysis. Focusing on listed higher education institutions in the Philippines, the researcher thought of coming up with a comparative analysis, in the hope of determining and explaining the present financial health of firms belonging to higher education subsector, providing the subsector financial figures to be used for benchmarking, and highlighting opportunities for improvements.

1.1 Objectives of financial ratio analysis

Before starting the analysis of any firm's financial statements, it is necessary to specify the objectives of the analysis. According to Fraser and Ormiston (2004), the objectives will vary depending on the perspective of the financial statement user and the specific questions that are addressed by the analysis of the financial statement data.

Among the several perspectives are that of the creditor, the investor, and the management. Each of these stakeholders would have to have questions that need to be answered. For instance, a creditor is usually concerned with the ability of an existing or prospective borrower to make interest and principal payments on borrowed funds. The investor usually attempts to arrive at an estimation of a company's future earnings stream in order to attach a value to the securities being considered for purchase or liquidation. Lastly, financial statement analysis from the standpoint of management relates to all of the questions raised by creditors and investors because these user groups must be satisfied in order for the firm to obtain capital as needed.

According to Brigham and Houston (2009), financial analysis involves comparing the firm's performance to that of other firms in the same industry and evaluating trends in the firm's financial position over time.

One rich source of information for financial statement analysis is the audited financial statements. The financial statements are usually part of the annual report that listed companies submit to regulatory agencies such as Securities and Exchange Commission and Stock Exchange entities.

1.2 Key financial ratios

There are five categories of ratios used in financial statement analysis. These are: (1) liquidity ratios, which measure a firm's ability to meet cash needs as they arise; (2) activity ratios, which measure the liquidity of specific assets and the efficiency of managing assets;

(3) leverage ratios, which measure the extent of a firm's financing with debt relative to equity and its ability to cover interest and other fixed charges; (4) profitability ratios, which measure the overall performance of a firm and its efficiency in managing assets, liabilities, and equity (Fraser & Ormiston, 2004); and (5) market value ratios, which bring in the stock price and give an idea of what investors think about the firm and its future prospects (Brigham & Houston, 2009).

1.2.1 Liquidity ratios

Current ratio. The current ratio is a commonly used measure of short-run solvency, the ability of the firm to meet its debt requirements as they come due. Current liabilities are used as the denominator of the ratio because they are considered to represent the most urgent debts, requiring retirement within one year or one operating cycle. The available cash resources to satisfy these obligations must come primarily from cash or the conversion to cash of other current assets (Fraser & Ormiston, 2004).

Quick or acid-test ratio. The quick or acid-test ratio is a more rigorous test of short-run solvency than the current ratio because the numerator eliminates inventory, considered the least liquid current asset and the most likely source of losses (Fraser & Ormiston, 2004).

Cash flow liquidity ratio. Another approach to measuring short-term solvency is the cash flow liquidity ratio, which considers cash flow from operating activities. The cash flow liquidity ratio uses in the numerator, as an approximation of cash resources, cash and marketable securities, which are truly liquid current assets, and cash flow from operating activities, which represents the amount of cash generated from the firm's operations, such as the ability to sell inventory and collect the cash (Fraser & Ormiston, 2004).

Average collection period. The average collection period of accounts receivable is the average number of days required to convert receivables into cash. The ratio is calculated as the relationship between net accounts receivable and average daily sales. The average collection period helps gauge the liquidity of accounts receivable, the ability of the firm to collect from customers (Fraser & Ormiston, 2004).

Days payable outstanding. The days payable outstanding is the average number of days it takes to pay payables in cash. This ratio offers insight into a firm's pattern of payments to suppliers (Fraser & Ormiston, 2004).

1.2.2 Activity ratios

Accounts receivable turnover. The accounts receivable turnover ratio measures how many times, on average, accounts receivable are collected in cash (Fraser & Ormiston, 2004).

Accounts payable turnover. The accounts payable turnover ratio measures how many times, on average, payables are paid during the year (Fraser & Ormiston, 2004).

Fixed assets turnover and total assets turnover. The fixed asset turnover and total assets turnover ratios are two approached to assessing management's effectiveness in generating sales from investments in assets. The fixed assets turnover considers only the firm's investment in property, plant, and equipment and is extremely important for a capital-intensive firm. The total assets turnover measures the efficiency of managing all of a firm's assets (Fraser & Ormiston, 2004).

1.2.3 Leverage ratios

Debt ratio. The ratio of total debt to total assets measures the percentage of funds provided by creditors (Brigham & Houston, 2009). It considers the proportion of all assets that are financed with debt (Fraser & Ormiston, 2004).

Debt to equity. The debt to equity ratio measures the riskiness of the firm's capital structure in terms of the relationship between the funds supplied by creditors and investors (Fraser & Ormiston, 2004).

Times interest earned. The times interest earned ratio measures the extent to which operating income can decline before the firm is unable to meet its annual interest costs (Brigham & Houston, 2009).

1.2.4 Profitability ratios

Operating profit margin and net profit margin. Operating profit margin and net profit margin represent the firm's ability to translate sales in peso into profits at different stages of measurement. The operating profit margin, a measure of overall operating efficiency, incorporates all of the expenses associated with ordinary business activities. The net profit margin measures profitability after consideration of all revenue and expense, including interest, taxes, and non-operating items (Fraser & Ormiston, 2004).

Return on total assets and return on equity. Return on total assets and return on equity are two ratios that measure the overall efficiency of the firm in managing its total investment in assets and in generating return to shareholders. Return on total assets indicates the amount of profit earned relative to the level of investment in total assets. Return on equity measures the return to common shareholders (Fraser & Ormiston, 2004).

Basic earnings power ratio. Basic earnings power ratio calculated by dividing operating income (earnings before interest and taxes or EBIT) by total assets. This ratio shows the raw earning power of the firm's assets before the influence of taxes and debt, and it is useful when comparing firms with different debt and tax situations (Brigham & Houston, 2009).

1.2.5 Market value ratios

Price-earnings ratio. The price-earnings ratio shows how much investors are willing to pay per peso of reported profits (Brigham & Houston, 2009).

Market-book ratio. The market-book ratio shows how the investors regard the firm in terms of its stock's market price to its book value (Brigham & Houston, 2009).

Dividend yield. The dividend yield shows the shareholders' income earning rate on shares based on market values. Moreover, this ratio shows the return shareholders are actually achieving on their investment, using current market value for listed shares (Hey-Cunningham, 1993).

1.2.6 DuPont equation

The DuPont system helps the analyst see how the firm's decisions and activities over the course of an accounting period interact to produce an overall return to firm's shareholders, the return on equity (Fraser & Ormiston, 2004). Moreover, according to Brigham and Houston (2009), it is a formula that shows that the rate of return on equity can be found as the product of profit margin, total assets turnover, and the equity multiplier. It shows the relationships among activity, leverage, and profitability ratios.

1.3 The education subsector in the Philippines

The delivery of higher education in the Philippines is provided by private and public higher education institutions (HEIs). As of September 2008, there are 2,060 HEIs in the Philippines distributed across its 17 geographical region. Of these, 537 are public HEIs and 1,523 are private HEIs. Private HEIs are established under the Corporation Code of the Philippines and are governed by special laws and general provisions of this Code. Those under non-sectarian are duly incorporated, owned and operated by private entities that are not affiliated to any religious organization while those under sectarian are usually non-stock, nonprofit, duly incorporated, owned and operated by a religious organization. The state universities and colleges (SUCs) are chartered public HEIs established by law, administered and financially subsidized by the government. They have their own charters. The board of regents for state universities and a board of trustees for state colleges maintain the formulation and approval of policies, rules and standards in SUCs (CHED website).

In the Philippine Stock Exchange classification, Education is a subsector of the Services Sector. Among the 2,060 HEIs, only three are publicly-listed companies.

1.3.1 Centro Escolar University

Centro Escolar University was organized in the Philippines on June 3, 1907 to establish, maintain, and operate an educational institution or institutions for the instruction and training of the youth in all branches of the arts and sciences, offering classes in tertiary level. CEU became a listed company on November 10, 1986 (PSE website).

In accordance with Commission on Higher Education (CHED) Memorandum Order No. 32, the University's Mendiola and Makati campuses were granted autonomy status to be in force and in effect for five school years beginning the first semester of school year 2007 to 2008. Under this existing autonomy status, the University is free from monitoring and evaluation activities of the CHED and has the privilege to determine and prescribe curricular programs, among other benefits as listed in the memorandum order (PSE website). The University's Malolos campus was granted deregulation status for a period of five years from March 11, 2009 to March 30, 2014 (PSE website).

The University invested in the Hospital, which was incorporated on June 10, 2008 and was consolidated beginning 2009. The primary purpose of the Hospital is to establish, maintain and operate a hospital, medical and clinical laboratories and such other facilities that shall provide healthcare or any method of treatment for illnesses or abnormal physical or mental health in accordance with advancements in modern medicine and to provide education and training facilities in the furtherance of the health-related professions. As of March 31, 2011, the Hospital has not yet started operations (PSE website).

1.3.2 Far Eastern University

The Far Eastern University, Incorporated (the University or FEU) is a domestic educational institution founded in June 1928 and was registered and incorporated with the Securities and Exchange Commission (SEC) on October 27, 1933. On October 27, 1983, the University extended its corporate life for another 50 years. The University became a listed corporation in the Philippine Stock Exchange on July 11, 1986.

The University is a private, non-sectarian institution of learning comprising the following different institutes that offer specific courses, namely, Institute of Arts and Sciences; Institute of Accounts, Business and Finance; Institute of Education; Institute of Architecture and Fine Arts; Institute of Nursing; Institute of Engineering; Institute of Tourism and Hotel Management; Institute of Law; and Institute of Graduate Studies (PSE website).

In November 2009, FEU entered into a Joint Venture (JV) Agreement to establish a joint venture company (JVC) for culinary arts. The registration of the JVC was approved by the SEC on May 7, 2010. In 2010, the University established the FEU Makati Campus (the Branch) in Makati City. The Branch started its operations in June 2010 (PSE website).

1.3.3 iPeople, Inc. (Malayan Colleges)

iPeople, inc. is a stock corporation incorporated on July 27, 1989 under the laws of the Philippines. The Parent Company, a subsidiary of House of Investments, Inc. (HI), is a holding and management company with principal office at 3rd Floor, Grepalife Building, 219 Sen. Gil J. Puyat Avenue, Makati City. iPeople, inc. and its subsidiaries are involved in education, consulting, development, and in installation and maintenance of information technology systems (PSE website). The Group's ultimate Parent Company is Pan Malayan Management and Investment Corporation (PMMIC). The University became a listed corporation in the Philippine Stock Exchange on January 24, 1990 (PSE website).

2. *Research Framework*

This study makes use of the financial ratio analysis using the blended frameworks of Brigham and Houston (2009) and Fraser and Ormiston (2004). Both frameworks end up in the appreciation of the interactions of the different ratios as represented in the DuPont equation.

As applied in this study, financial ratios were grouped into five categories, the education subsector was subjected to these ratios, and expected outputs were industry benchmark figures, as depicted below:

3. Research Problem and Objectives

This research paper aims to analyze the financial statements of Centro Escolar University, Far Eastern University, and iPeople, Inc. (Malayan Colleges) for periods 2009, 2010, and 2011 using comparative financial ratios. This seeks to provide an answer to the question: *what are the norms, industry figures, and peculiarities in the education subsector of the Philippines using liquidity, activity, leverage, profitability, and market value ratios?*

Moreover, this study specifically aims to meet the following objectives:

1. To determine the liquidity, activity, leverage, profitability, and market value ratios of CEU, FEU, and Malayan Colleges;
2. To determine norms, industry figures, and peculiarities of the education subsector of the Philippines;

4. Research Methodology

This research paper is both exploratory and quantitative in context and in design. It is exploratory in the sense that the researcher found no published literature discussing norms, industry figures, and peculiarities in the education subsector using financial ratios. More so, it is a quantitative research in the sense that it aims to draw out conclusions from the financial data gathered, summarized, and processes.

As a research procedure, the researcher obtained the audited financial statements for the three periods (2009, 2010, and 2011) of Centro Escolar University, Far Eastern University, and Malayan Colleges from the Philippine Stock Exchange website. These higher education institutions are the only listed firms in the PSE under the education subsector. Financial information necessary for financial ratios were derived from these financial statements. These were then summarized and processed to come up with comparative financial ratios that were used in the analysis phase. To provide a basis for analysis, for each financial ratio, the firm adjudged as the best one (using rule of thumb and ratio trends) was given three points, the next one, two points, and the last one, one point. The total points for each ratio category were then computed to arrive at an overall basis for analysis.

5. Results, Analysis, and Learning Insights

This part of the research paper is organized using the five categories of financial ratios. Specific ratios for each category are also presented and discussed. As an assumption, though Malayan Colleges has a calendar year, such would not have a significant effect on the comparative analysis of the ratios computed. At the end of this part, the DuPont equation derived was also presented and discussed.

5.1 Liquidity ratios

Current ratio = Current assets/Current liabilities (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Current assets	306,876,059	296,397,796	243,963,733
Current liabilities	251,921,836	294,309,935	318,772,595
	1.22	1.01	0.77
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Current assets	2,484,545,494	2,192,111,046	2,823,401,644
Current liabilities	518,923,521	468,338,714	488,307,015
	4.79	4.68	5.78
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Current assets	387,720,344	562,977,372	737,130,187
Current liabilities	666,007,801	659,920,106	631,938,682
	0.58	0.85	1.17

Table 5.1.1 Current ratios of CEU, FEU, and Malayan

Analysis and insights. This ratio shows the current assets available to cover current liabilities at the balance sheet date. There should be a reasonable buffer of current assets over current liabilities as an indication of the ability of the firm to pay its debts as and when they fall due. As presented in Table 5.1.1, CEU's current assets are steadily declining while that of FEU's and Malayan's are steadily increasing. Using the rule of thumb minimum level of 1.5, only FEU has consistently demonstrated this, though significantly beyond 1.5, which could mean more current assets may still be invested in other wealth-generating activities. This implies that FEU has to revisit its capital budgeting initiatives as this may mean more room for high-yielding projects. But as a barometer of short-term liquidity, the current ratio is limited by the nature of its components. As balance sheets are prepared as of a particular date, the actual amount of liquid assets may vary considerably from the date the balance sheets are prepared. Further, accounts receivable and inventory may not truly be liquid. A firm could have a relatively high current ratio but not be able to meet demands for cash because the accounts receivable are of inferior quality or the inventory is salable only at discounted prices. But for education subsector, only the accounts receivable may hold true since firms in this subsector are less likely to have huge amounts of inventory. Overall, FEU is given three points, and Malayan and CEU are given two points and one point, respectively.

Quick or acid-test ratio = (Current assets-Inventory)/Current liabilities (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Quick assets	298,468,890	289,660,298	236,508,412
Current liabilities	251,921,836	294,309,935	318,772,595
	1.18	0.98	0.74
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Quick assets	2,484,545,494	2,192,111,046	2,823,401,644
Current liabilities	518,923,521	468,338,714	488,307,015
	4.79	4.68	5.78
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Quick assets	383,470,724	558,935,204	733,974,393
Current liabilities	666,007,801	659,920,106	631,938,682
	0.58	0.85	1.16

Table 5.1.2 Quick or acid-test ratios of CEU, FEU, and Malayan

Analysis and insights. As a supplement to current ratio, quick or acid-test ratio aims to show the more liquid current assets available to pay the more immediately payable liabilities. With reference to current assets, the results are not significantly affected since only inventories are not considered here. Firms in the education subsector are less likely to carry material amounts of inventories. As such, FEU is given three points, and Malayan and CEU are given two points and one point, respectively.

**Cash flow liquidity ratio = Cash+Marketable securities+Cash flow from operating/
Current liabilities (in times)**

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Numerator	669,614,869	661,355,813	622,461,024
Current liabilities	251,921,836	294,309,935	318,772,595
	2.66	2.25	1.95
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Numerator	956,815,716	1,504,635,334	1,103,929,542
Current liabilities	518,923,521	468,338,714	488,307,015
	1.84	3.21	2.26
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Numerator	594,160,922	1,428,975,521	1,707,026,562
Current liabilities	666,007,801	659,920,106	631,938,682
	0.89	2.17	2.70

Table 5.1.3 Cash flow liquidity ratios of CEU, FEU, and Malayan

Analysis and insights. Further identifying the most liquid current assets and using them in determining firm's liquidity, it seems like CEU still is steadily declining and Malayan still steadily increasing. What becomes interesting here is the change in the liquidity of FEU. FEU has become inconsistent with considerable decline in the liquidity ratio. This just confirms the discussion presented in the current ratio portion that not all current assets of FEU fall under the immediately realizable current assets when immediately needed to pay off immediately maturing debts. Moreover, the liquidity ratios of CEU and Malayan increased which implies, more of their current assets are immediately realizable when needed. This finding now changes the ranking, with Malayan getting three points, followed by FEU getting two points, and CEU getting one point.

**Average collection period = Average accounts receivable/Average daily
sales (in days)**

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Average AR	16,380,785	17,735,682	21,309,590
Average daily sales	3,685,820	3,800,109	3,978,607
	4.44	4.67	5.36
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Average AR	699,920,334	629,042,379	658,488,136
Average daily sales	5,123,685	5,485,917	5,671,709
	136.60	114.66	116.10
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Average AR	113,651,966	109,607,843	114,812,787
Average daily sales	4,139,237	4,561,643	4,765,427
	27.46	24.03	24.09

Table 5.1.4 Average collection periods of CEU, FEU, and Malayan

Analysis and insights. The average collection period helps gauge the liquidity of accounts receivable, the ability of the firm to collect from customers. It may also provide information about a firm's credit policies. For instance, if the average collection period is increasing over time or is higher than the industry average, the firm's credit policies could be too lenient and accounts receivable not sufficiently liquid. The loosening of credit could be necessary at time to boost revenues, but an increasing cost to the firm.

On the other hand, if credit policies are too restrictive, as reflected in the average collection period that is shortening and less than industry competitors, the firm may be losing qualified customers. In the case of education subsector, their main customers are the students. Table 5.1.4 tells us that though shortening, FEU has the longest average collection period. This is one of the main reasons why it has significantly higher current assets; it takes more than 100 days to collect its receivables. This bulk can be attributed to second semester receivables that remain unpaid until the end of the second semester which is usually April. Moreover, though increasing, CEU has the shortest average collection period. Among the three, only Malayan has demonstrated an improvement in average collection period with the number of days shortening. Overall, CEU is given three points, Malayan two points, and FEU one point.

Days payable outstanding = Average accounts payable/Average daily cost of sales (in days)

	Mar-10	Mar-11	Mar-12
CEU			
Average AP	135,160,681	156,354,202	179,949,922
Average daily COS	2,254,833	2,566,420	2,368,430
	59.94	60.92	75.98
FEU			
Average AP	416,781,486	392,356,649	391,167,142
Average daily COS	3,674,392	4,033,088	4,172,142
	113.43	97.28	93.76
Malayan			
Average AP	308,992,628	298,403,534	275,263,469
Average daily COS	2,493,871	2,627,112	2,576,529
	123.90	113.59	106.84

Table 5.1.5 Days payable outstanding of CEU, FEU, and Malayan

Analysis and insights. This ratio offers insight into a firm's pattern of payments to suppliers. Based on Table 5.1.5, the three firms exhibited, at an average, more than 60 days before they pay their currently maturing obligations. This implies that more likely than not, they let go of discounts that may be availed of if they pay within 30 to 60 days. This can be understandable for FEU given the fact that it has an average collection period of more than 100 days. But for CEU (increasing) and Malayan (shortening), their average paying days are longer than their average collection days. It can be surmised that CEU and Malayan have to improve on scheduling their operational payments to avail of discounts. Overall, for this financial ratio, CEU still gets three points, with FEU and Malayan getting two points and one point, respectively.

Summing all the points up, in terms of liquidity, FEU gets a total of 11 points, followed by Malayan with 10 points, and CEU with nine points.

5.2 Activity ratios

Accounts receivable turnover = Net sales/Average AR (in times)

	Mar-10	Mar-11	Mar-12
CEU			
Net sales	1,326,895,164	1,368,039,079	1,432,298,612
Average AR	16,380,785	17,735,682	21,309,590
	81.00	77.13	67.21
FEU			
Net sales	1,844,526,747	1,974,930,193	2,041,815,173
Average AR	699,920,334	629,042,379	658,488,136
	2.64	3.14	3.10
Malayan			
Net sales	1,490,125,362	1,642,191,363	1,715,553,833
Average AR	113,651,966	109,607,843	114,812,787
	13.11	14.98	14.94

Table 5.2.1 Accounts receivable turnover of CEU, FEU, and Malayan

Analysis and insights. This ratio evaluates the effectiveness of the firm in managing its receivables. As a rule of thumb, the higher the ratio, the more effective is the firm's management. Based on Table 5.2.1, though the highest among the three, CEU's ratio is steadily decreasing. CEU's high ratio can be attributed to the way it keeps its receivables at a low level. FEU's and Malayan's remain consistent but with four-basis-decline points in the most recent period. The dismal ratios of FEU can be attributed to its poor collection initiative as discussed in the previous ratios. As such, for this financial ratio, CEU gets three points while Malayan and FEU get two points and one point, respectively.

Accounts payable turnover = Cost of sales/Average AP (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
COS	811,739,851	923,911,061	852,634,633
Average AP	135,160,681	156,354,202	179,949,922
	6.01	5.91	4.74
<u>FEU</u>	Mar-10	Mar-11	Mar-12
COS	1,322,781,293	1,451,911,734	1,501,971,010
Average AP	416,781,486	392,356,649	391,167,142
	3.17	3.70	3.84
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
COS	897,793,527	945,760,157	927,550,316
Average AP	308,992,628	298,403,534	275,263,469
	2.91	3.17	3.37

Table 5.2.2 Accounts payable turnover of CEU, FEU, and Malayan

Analysis and insights. This ratio evaluates the effectiveness of the firm in managing its payables. As a rule of thumb, the lower payables turnover indicates that the firm is taking longer to repay payables. Based on Table 5.2.2, though the highest among the three, CEU's ratio is steadily decreasing which means its paying pattern is becoming longer every year. FEU and Malayan, on the other hand, are steadily improving. As such, for this financial ratio, FEU gets three points while Malayan and CEU get two points and one point, respectively.

Fixed assets turnover = Net sales/Average net property, plant, and equipment (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Net sales	1,326,895,164	1,368,039,079	1,432,298,612
Average net PPE	2,934,467,902	2,929,931,306	2,909,021,789
	0.45	0.47	0.49
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Net sales	1,844,526,747	1,974,930,193	2,041,815,173
Average net PPE	722,208,950	782,100,372	887,458,421
	2.55	2.53	2.30
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Net sales	1,490,125,362	1,642,191,363	1,715,553,833
Average net PPE	2,980,662,646	2,993,261,610	3,023,250,191
	0.50	0.55	0.57

Table 5.2.3 Fixed assets turnover of CEU, FEU, and Malayan

Analysis and insights. Generally, the higher this ratio is, the smaller is the investment required to generate revenues and thus the more profitable is the firm. In other words, this ratio evaluates the effectiveness of the firm in utilizing its property, plant, and equipment. As a rule of thumb, to be considered effective, it should be at least 0.30 times. Using this, it can be said that all three firms keep an effective mechanism on utilizing their property, plant, and equipment to generate sales. Overall, for this financial ratio, FEU gets three points, followed by Malayan getting two points, and CEU getting one point.

**Total assets turnover = Net sales/Average total assets
(in times)**

CEU	Mar-10	Mar-11	Mar-12
Net sales	1,326,895,164	1,368,039,079	1,432,298,612
Average total assets	3,241,932,725	3,232,154,400	3,184,017,611
	0.41	0.42	0.45
FEU	Mar-10	Mar-11	Mar-12
Net sales	1,844,526,747	1,974,930,193	2,041,815,173
Average total assets	3,741,171,725	3,893,932,742	4,288,655,543
	0.49	0.51	0.48
Malayan	Dec-09	Dec-10	Dec-11
Net sales	1,490,125,362	1,642,191,363	1,715,553,833
Average total assets	3,519,926,077	3,624,128,511	3,833,056,862
	0.42	0.45	0.45

Table 5.2.4 Total assets turnover of CEU, FEU, and Malayan

Analysis and insights. Generally, the higher this ratio is, the more effective. In other words, this ratio indicates the effectiveness of using total assets to generate revenues. Similar to the previous financial ratio, as a rule of thumb, to be considered effective, it should be at least 0.30 times. Using this, it can be said that all three firms keep an effective mechanism on utilizing their total assets. Overall, for this financial ratio, CEU gets three points for being consistently increasing, followed by FEU getting two points, and Malayan getting one point. Summing all the points up, in terms of activity, FEU gets a total of nine points, followed by CEU with eight points, and Malayan with seven points.

5.3 Leverage ratios

Debt ratio = Total liabilities/Total assets (in percentage)

CEU	Mar-10	Mar-11	Mar-12
Total liabilities	713,548,043	774,145,013	772,716,384
Total assets	3,241,932,725	3,222,376,074	3,145,659,147
	0.22	0.24	0.25
FEU	Mar-10	Mar-11	Mar-12
Total liabilities	518,923,521	468,338,714	488,307,015
Total assets	3,741,171,725	4,046,693,758	4,530,617,328
	0.14	0.12	0.11
Malayan	Dec-09	Dec-10	Dec-11
Total liabilities	1,716,376,895	1,665,768,188	1,555,491,409
Total assets	3,519,926,077	3,728,330,945	3,937,782,779
	0.49	0.45	0.40

Table 5.3.1 Debt ratios of CEU, FEU, and Malayan

Analysis and insights. Total debt includes all current liabilities and long-term debt. Creditors prefer low debt ratios because the lower the ratio, the greater the cushion against creditors' losses in the event of liquidation. Shareholders, on the other hand, may want more leverage because it can magnify expected earnings. Using the perspective of the creditor, it seems like FEU will be highly favored. On the other hand, using the perspective of the shareholders, it seems like Malayan will be highly favored. Striking the balance between two perspectives and using 0.70 as the basis, Malayan will be highly favored. As such, for this financial ratio, Malayan get three points while CEU and FEU getting two points and one point, respectively.

Debt to equity = Total liabilities/Total stockholders' equity (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Total liabilities	713,548,043	774,145,013	772,716,384
Total SHE	2,528,384,682	2,448,231,061	2,372,942,763
	0.28	0.32	0.33
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Total liabilities	518,923,521	468,338,714	488,307,015
Total SHE	3,222,248,204	3,578,355,044	4,042,310,313
	0.16	0.13	0.12
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Total liabilities	1,716,376,895	1,665,768,188	1,555,491,409
Total SHE	1,803,549,182	2,062,562,757	2,382,291,370
	0.95	0.81	0.65

Table 5.3.2 Debt to equity ratios of CEU, FEU, and Malayan

Analysis and insights. This ratio shows the dependence on debt (borrowing) finance compared with equity funding. The greater the reliance on debt financing, the greater the level of interest and the greater the risk from exposure to rising interest rates. Firms listed on stock exchange tend to follow a pattern of raising additional finance through borrowing for a number of years and then raise equity through issuing new shares. Equity will be used more when the interest rate is too high, the share market perceives certain levels of debt funding to be bad, or market conditions favor a share issue just like in the case of rising share prices. As a rule of thumb, the ratio must be 1:1 for the stakes to be balanced. In this regard, FEU needs an improvement with Malayan relatively hitting the rule of thumb with a decent ratio of debt and equity in its capital structure. The only problem with Malayan is that its ratios are steadily declining with CEU the most consistent and stable. Nevertheless, for this financial ratio, Malayan gets three points while CEU and FEU getting two points and one point, respectively.

Times interest earned = Earnings before interest and taxes/Interest charges (in times)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
EBIT	337,916,129	239,676,626	347,351,719
Interest charges	19,566,817	17,584,385	15,409,616
	17.27	13.63	22.54
<u>FEU</u>	Mar-10	Mar-11	Mar-12
EBIT	696,645,774	766,335,726	884,564,498
Interest charges	25,518,419	42,137,064	74,467,660
	27.30	18.19	11.88
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
EBIT	430,426,250	517,676,137	608,765,754
Interest charges	87,427,613	62,987,120	37,811,069
	4.92	8.22	16.10

Table 5.3.3 Times interest earned ratios of CEU, FEU, and Malayan

Analysis and insights. The higher the times interest earned ratio the better; however, if a firm is generating high profits, but no cash flow from operations, this ratio is misleading. For the education subsector, the three firms had a decent cash flow from operations during the past three years. As such, the rule of thumb can be safely used. Table 5.3.3 shows that CEU and Malayan exhibited an increasing trend while FEU demonstrated the other way around. CEU is the most insensitive in terms of not meeting annual interest costs as FEU is deemed as the most sensitive. In other words, CEU has the biggest margin of safety in paying interest while FEU has the smallest margin of safety. Malayan just stands in the middle. Because of this, CEU gets three points while Malayan and FEU get two points and one point, respectively.

Summing all the points up, in terms of leverage, Malayan gets a total of eight points, followed by CEU with seven points, and FEU with three points.

5.4 Profitability ratios

Operating profit margin = Operating profit/Net sales (in percentage)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Operating profit (EBIT)	337,916,129	239,676,626	347,351,719
Net sales	1,326,895,164	1,368,039,079	1,432,298,612
	0.25	0.18	0.24
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Operating profit (EBIT)	696,645,774	766,335,726	884,564,498
Net sales	1,844,526,747	1,974,930,193	2,041,815,173
	0.38	0.39	0.43
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Operating profit (EBIT)	430,426,250	517,676,137	608,765,754
Net sales	1,490,125,362	1,642,191,363	1,715,553,833
	0.29	0.32	0.35

Table 5.4.1 Operating profit margin percentages of CEU, FEU, and Malayan

Analysis and insights. This ratio measures operating income relative to peso revenue. As a rule of thumb, a higher operating margin is preferred since lower operating margin (as compared with similar firm) may mean higher operating costs. Referring to Table 5.4.1, FEU consistently showed the highest ratio, followed by Malayan, and lastly CEU. As such, for this financial ratio, FEU gets three points, Malayan gets two points, and CEU gets one point.

Net profit margin = Net income/Net sales (in percentage)

<u>CEU</u>	Mar-10	Mar-11	Mar-12
Net income	654,545,815	199,157,179	297,126,102
Net sales	1,326,895,164	1,368,039,079	1,432,298,612
	0.49	0.15	0.21
<u>FEU</u>	Mar-10	Mar-11	Mar-12
Net income	611,812,394	650,360,280	775,910,045
Net sales	1,844,526,747	1,974,930,193	2,041,815,173
	0.33	0.33	0.38
<u>Malayan</u>	Dec-09	Dec-10	Dec-11
Net income	335,443,693	408,180,799	518,446,745
Net sales	1,490,125,362	1,642,191,363	1,715,553,833
	0.23	0.25	0.30

Table 5.4.2 Net profit margin percentages of CEU, FEU, and Malayan

Analysis and insights. This ratio measures net income relative to peso revenue. As a rule of thumb, a higher profit margin is preferred since lower profit margin (as compared with similar firm) may mean higher interest charges because of higher debt. Referring to Table 5.4.2, FEU consistently showed the highest ratio, followed by Malayan, and lastly CEU. As regards CEU, the high 49% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As such, for this financial ratio, FEU gets three points, Malayan gets two points, and CEU gets one point.

**Return on total assets = Net income/Average total assets
(in percentage)**

CEU	Mar-10	Mar-11	Mar-12
Net income	654,545,815	199,157,179	297,126,102
Average total assets	3,241,932,725	3,232,154,400	3,184,017,611
	0.20	0.06	0.09
FEU	Mar-10	Mar-11	Mar-12
Net income	611,812,394	650,360,280	775,910,045
Average total assets	3,741,171,725	3,893,932,742	4,288,655,543
	0.16	0.17	0.18
Malayan	Dec-09	Dec-10	Dec-11
Net income	335,443,693	408,180,799	518,446,745
Average total assets	3,519,926,077	3,624,128,511	3,833,056,862
	0.10	0.11	0.14

Table 5.4.3 Return on total assets percentages of CEU, FEU, and Malayan

Analysis and insights. This ratio measures efficiency with which assets are used to operate the firm. As a rule of thumb, a higher return on total assets is preferred since lower ROA (as compared with similar firm) may mean higher degree of leverage (more debt), therefore higher interest expense and lower net income. Referring to Table 5.4.3, FEU consistently showed the highest ratio, followed by Malayan, and lastly CEU. In the same manner, as regards CEU, the high 20% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As such, for this financial ratio, FEU gets three points, Malayan gets two points, and CEU gets one point.

**Return on equity = Net income/Average common SHE
(in percentage)**

CEU	Mar-10	Mar-11	Mar-12
Net income	654,545,815	199,157,179	297,126,102
Average common SHE	2,528,384,682	2,488,307,872	2,410,586,912
	0.26	0.08	0.12
FEU	Mar-10	Mar-11	Mar-12
Net income	611,812,394	650,360,280	775,910,045
Average common SHE	3,222,248,204	3,400,301,624	3,810,332,679
	0.19	0.19	0.20
Malayan	Dec-09	Dec-10	Dec-11
Net income	335,443,693	408,180,799	518,446,745
Average common SHE	1,803,549,182	1,933,055,970	2,222,427,064
	0.19	0.21	0.23

Table 5.4.4 Return on equity percentages of CEU, FEU, and Malayan

Analysis and insights. This ratio measures the rate of return on common shareholders' investment. This is considered as the most important accounting ratio as this has something to do with the DuPont equation. As a rule of thumb, the higher the ROE, the better since low ROE but high ROA (as compared with similar firm) may mean that the firm is using greater debt. As depicted in Table 5.4.3, Malayan consistently showed the highest ratio, followed by FEU, and lastly CEU. In the same manner, as regards CEU, the high 26% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period.

Analysis and insights. This ratio indicates the ability of the firm’s assets to generate operating income. As a rule of thumb, the higher this ratio is, the better. As depicted in Table 5.4.5, FEU and Malayan demonstrated steadily increasing ratio. CEU, on the other hand, has been inconsistent. The highest ratios were observed in FEU, followed by Malayan, then CEU. Because of this, FEU gets three points while Malayan and CEU get two points and one point, respectively.

Summing all the points up, in terms of profitability, FEU gets a total of 14 points, followed by Malayan with 11 points, and CEU with five points.

5.5 Market value ratios

Price/Earnings ratio = Price per share/Earnings per share (in times)			
CEU	Mar-10	Mar-11	Mar-12
Price per share	9.30	9.00	9.90
EPS	0.77	0.53	0.80
	12.08	16.98	12.38
FEU	Mar-10	Mar-11	Mar-12
Price per share	755.00	770.00	960.00
EPS	43.29	46.43	51.93
	17.44	16.58	18.49
Malayan	Dec-09	Dec-10	Dec-11
Price per share	3.60	4.00	4.40
EPS	0.3912	0.5005	0.6374
	9.20	7.99	6.90

Table 5.5.1 Price-earnings ratios of CEU, FEU, and Malayan

Analysis and insights. This ratio shows how much investors are willing to pay per peso of reported profits. Among the three, FEU seems to be the firm of choice of the investors in the education subsector. This ratio is relatively high for firms with strong growth prospects and little risk but low for slowly growing and risky firms. In this financial ratio, FEU gets three points while CEU and Malayan getting two points and one point, respectively.

Market/Book ratio = Price per share/Book value per share (in times)			
CEU	Mar-10	Mar-11	Mar-12
Price per share	9.30	9.00	9.90
BVPS	6.79	6.57	6.37
	1.37	1.37	1.55
FEU	Mar-10	Mar-11	Mar-12
Price per share	755.00	770.00	960.00
BVPS	328.52	364.82	294.39
	2.30	2.11	3.26
Malayan	Dec-09	Dec-10	Dec-11
Price per share	3.60	4.00	4.40
BVPS	2.42	2.75	3.18
	1.49	1.45	1.38

Table 5.5.2 Market-book ratios of CEU, FEU, and Malayan

Analysis and insights. This ratio gives another indication of how investors regard the firm. As a rule of thumb, highly regarded firms have high market-book ratios which means they are low-risk and high-growth firms. In this regard, market-book ratios have to be at least 1.0. Using this, it appears that the three firms have inviting ratios. And among the three, an investor has to get three folds when investing in FEU, and at most two folds when investing in CEU and Malayan, though Malayan's ratios are declining. Overall, for this financial ratio, FEU gets three points, CEU gets two points, and Malayan gets one point.

Dividend yield = Dividend per share/Price per share (in percentage)			
CEU	Mar-10	Mar-11	Mar-12
DPS	1.00	0.75	1.00
Price per share	9.30	9.00	9.90
	10.75	8.33	10.10
FEU	Mar-10	Mar-11	Mar-12
DPS	30.00	30.00	22.72
Price per share	755.00	770.00	960.00
	3.97	3.90	2.37
Malayan	Dec-09	Dec-10	Dec-11
DPS	0.24	0.22	0.26
Price per share	3.60	4.00	4.40
	6.57	5.42	5.84

Table 5.5.3 Dividend yield percentages of CEU, FEU, and Malayan

Analysis and insights. It is important to realize that this ratio shows the return shareholders are actually achieving on their investment, using current market value for listed shares. As a rule of thumb, a yield of three percent to five percent is considered enticing. As depicted in Table 5.5.3, at an average, all the three firms fairly meet the standard. Similar to the preceding ratio, investors may be expected to invest anywhere among the three firms. As such, choosing the highest percentage, CEU gets three points, Malayan gets two points, and FEU gets one point.

Summing all the points up, in terms of market value, CEU and FEU both get a total of seven points while Malayan gets a total of four points.

5.6 DuPont equation

5.6.1 CEU		Mar-10	Mar-11	Mar-12
<i>Profit margin</i>	Net income	654,545,815	199,157,179	297,126,102
	Sales	1,326,895,164	1,368,039,079	1,432,298,612
		0.49	0.15	0.21
<i>Total assets turnover</i>		Mar-10	Mar-11	Mar-12
	Sales	1,326,895,164	1,368,039,079	1,432,298,612
	Average total assets	3,241,932,725	3,232,154,400	3,184,017,611
		0.41	0.42	0.45
<i>Equity multiplier</i>		Dec-09	Dec-10	Dec-11
	Average total assets	3,241,932,725	3,232,154,400	3,184,017,611
	Average common SHE	2,528,384,682	2,488,307,872	2,410,586,912
		1.28	1.30	1.32
ROE – CEU		0.26	0.08	0.12

Table 5.6.1 DuPont equation of CEU

5.6.2 FEU		Mar-10	Mar-11	Mar-12
<i>Profit margin</i>	Net income	611,812,394	650,360,280	775,910,045
	Sales	1,844,526,747	1,974,930,193	2,041,815,173
		0.33	0.33	0.38
<i>Total assets turnover</i>		Mar-10	Mar-11	Mar-12
	Sales	1,844,526,747	1,974,930,193	2,041,815,173
	Average total assets	3,741,171,725	3,893,932,742	4,288,655,543
		0.49	0.51	0.48
<i>Equity multiplier</i>		Dec-09	Dec-10	Dec-11
	Average total assets	3,741,171,725	3,893,932,742	4,288,655,543
	Average common SHE	3,222,248,204	3,400,301,624	3,810,332,679
		1.16	1.15	1.13
ROE – FEU		0.19	0.19	0.20

Table 5.6.2 DuPont equation of FEU

5.6.3 Malayan		Mar-10	Mar-11	Mar-12
<i>Profit margin</i>	Net income	335,443,693	408,180,799	518,446,745
	Sales	1,490,125,362	1,642,191,363	1,715,553,833
		0.23	0.25	0.30
<i>Total assets turnover</i>		Mar-10	Mar-11	Mar-12
	Sales	1,490,125,362	1,642,191,363	1,715,553,833
	Average total assets	3,519,926,077	3,624,128,511	3,833,056,862
		0.42	0.45	0.45
<i>Equity multiplier</i>		Dec-09	Dec-10	Dec-11
	Average total assets	3,519,926,077	3,624,128,511	3,833,056,862
	Average common SHE	1,803,549,182	1,933,055,970	2,222,427,064
		1.95	1.87	1.72
ROE – Malayan		0.19	0.21	0.23

Table 5.6.3 DuPont equation of Malayan Colleges

Analysis and insights. Having considered individual financial ratios as well as groups of financial ratios measuring short-term liquidity, operating efficiency, capital structure and long-term solvency, and profitability, it is helpful to complete the evaluation of a firm by considering the interrelationship among the individual ratios. The DuPont equation ends up with ROE which is considered as the most important accounting ratio.

6. Conclusion

After conducting a comprehensive financial ratio analysis, FEU (44 points) ranked first as the most financially healthy, followed by Malayan (40 points), then CEU (36 points).

Moreover, the following education subsector figures were derived from this research paper which can be used by future researchers and financial analysts:

Categories	Benchmark figures	Peculiarities
Liquidity ratios:		
Current ratio	2.32	
Quick or acid-test ratio	2.31	Maintains immaterial inventory
Cash flow liquidity ratio	2.21	
Average collection period	50.82 days	Follows term-end collection of tuition and other fees
Days payable outstanding	93.96 days	Tends to disregard prompt payment discounts
Activity ratios:		
Accounts receivable turnover	30.81	
Accounts payable turnover	4.09	
Fixed assets turnover	1.16	
Total assets turnover	0.45	Utilizes fairly the assets in rendering services Meets 30% threshold
Leverage ratios:		
Debt ratio	0.27	Keeps significantly higher assets
Debt to equity ratio	0.42	Tends to be equity-laden
Times interest earned	15.56	
Profitability ratios:		
Operating profit margin	0.31	Meets 30% threshold
Net profit margin	0.30	Meets 30% threshold
Return on total assets	0.13	Manifests strong asset utilization
Return on equity	0.19	
Basic earning power ratio	0.14	
Market value ratios:		
Price-earnings ratio	13.12	
Market-book ratio	1.81	Meets 1.0 threshold
Dividend yield	6.36	

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