Impact of Expenditure on Human Capital and Human Capital Accounting On Firms’ Financial Performance in Sri Lanka

H. L. D. J. Chathurika¹ and R. T. V. De Silva²
¹Assistant Lecturer, University of Kelaniya
jianuchathurika@gmail.com
0718717335/ 0715305033
²Department of Commerce and Financial Management
University of Kelaniya

ABSTRACT This study conducted with the purpose of investigating the impact of expenditure on human capital and human capital accounting on financial performance of Sri Lankan Listed companies. This study employs panel data over five years from 2011 to 2015 of forty listed companies across all sectors in the Colombo Stock Exchange Sri Lanka. Financial performance was measured through Return on Equity and Return on Assets. Aggregated expenditure on human capital was determined using all employee related financial information published in annual reports. An index was developed using disclosures on human capital accounting. Panel regression was applied using STATA v.13 in order to analyze the data. Expenditure on human capital significantly influences on firm’s financial performance and the relationship is found to be positive. However human capital accounting disclosure level does not significantly influence towards the financial performance. The finding of the research implies that spending more on human capital of the organization improves the financial performance. Thus spending on human resources is no longer a burden to the firm’s financial performance. Further research by extending the sample and time period under analysis may improve the generalizability. To the authors’ best of knowledge, there are dearth of researches on human capital expenditures and reporting in Sri Lankan country context.

Keywords: Human capital, Expenditure on human capital, Human capital accounting disclosures, Sri Lanka

1. Background of the Study

The business environment appearing in the 21st century is becoming increasingly competitive, thus, the organizations that deal with traditional way, will be victims of it. Hence if any organization wants to survive or develop a sustainable competitive advantage, the key is to focus on new ways rather than practicing tradition. The transition from tradition to modern way of “knowledge intensive organization” is the change that occurs in present which leads interpretation of certain tradition, practices and concepts in different ways. Normally, before the new era of knowledge based economies, Traditional product based organizations recognize their “capital” as goods, Properties, cash, and net worth of the company or other valuables. Instead, knowledge based organizations got deferent sense on their capital as intangibles or intellectual capital (Hendricks, 1976). Intellectual capital (IC) has become an important “driver” in creating Competitive advantage and value for a firm (Bunjongjit Rompho.,Sununta Siengthai., 2012). In the new economic era the intellectual capital assets in companies are seen as the most important force behind wealth creation in businesses (Firer, S. & Williams, S.M., 2003). Human capital (HC) is recognized as most important thing among three categories of Intellectual capital which can creates competitive advantage for any organization.

Human capital can define as collective skills, energies, talents and knowledge or other intangible asset of any individuals which are, or which potentially can be applied for production of goods or rendering useful services for an organization and that can be used to advance its goals also. The knowledge within companies is mostly contained in the human Resource and this is one of the most important resources (Bontis, N., Keow, W.C. & Richardson, S., 2000). Most researchers and economist today have viewed, identified that human capital as a necessary ingredient for the performance of any company. Supporting, motivating and investing in human capital and finally keeping them in the firm will help organizations to move forward from their current status, and finally for the country also.

When doing these all the things it would cost for the firms in different natures. Nature of this cost can be defined based on the benefits which occurs because of the expenditure incurred reasons. Benefit can come through for several years and only for shorter period like one year. So expenditures on human capital can be divided in to two components. Revenue nature human capital expenses and capital nature human capital expenses are the components.

When comes to capital nature human capital expenditure cost element will be benefited last more than one year ,human capital acquisition
developing, training are comes under capital nature expenditures. Briefly can say expenditures incurred on human capital investment can be identified as capital nature expenditures.

When comes to revenue nature human capital expenditures, it is quite different when compared with capital nature expenditures and it just can say revenue nature expenses help to retain their employees than creating more values on the employees. And some kind of revenue nature expenditures such as bonuses cause employee satisfaction and make them loyal to the organization also. Based on the nature there should be different accounting treatment for both revenue and capital nature expenditures. But in practice because of several limitations, total cost incurred on human capital are treated as expense in the statement of comprehensive income statement. Almost of the Sri Lankan organizations treating to both capital and revenue nature, in an aggregate manner. Charging the investment in human capital as expenses (capital nature) in statement of comprehensive income is traceable to the inability of firms to separate the expense element such as salaries, wages, commission, maintenance, bonus, allowances from the capital expenditure element of acquisition, recruitment, training, development and retraining (Ifurueze Meshack S, et al., 2014). As In traditional practices this treatment effect negatively on profitability also. With this matter of treating both as revenue nature expenditure, lot of arguments and concepts have been developed since last two three decades. Eventually these thing build a path to concept of Human capital accounting, in this concept of HCA can see lots of development stages since 1960 and this stages supported the need for developing ways of measuring human capital.

While the developing of concept, Human capital has become and identified as so valuable asset in success of organization since past two decades. As an asset there should be a spot for it to appear on organizations reporting instruments and while it becomes valuable, it builds some arguments about the less attention on this class of asset when do accounting or the reporting part. As a part of intellectual capital, difficulties arise when it accounting.

Traditional accounting practices do not classify human capital as an asset on the balance sheet (Passard C. Dean, Kaitlin McKenna, Vyas Krishnan, 2012). In the information era Society has witnessed a transition from the traditional age to the information age, and accounting has not transitioned along with it. So the concept of human capital accountings’ value has grown more than thought. Even here can find that only wages and salaries but it not just about salaries and wages, it’s about all on human capital. There are some empirical evidence suggesting that when a company practices Human capital accounting or there is human capital information disclosure, investors make different decisions from those that would be made with no such information, because level of sensitivity on this kind of special disclosure has been changed a lot. The primary users of financial statements are investors that use the information to predict future cash flows and decide whether to invest in a company (Kothari, 2001).

Based on the nature there should be different accounting treatment for both revenue and capital nature expenditures. But in practice because of several limitations, total cost incurred on human capital are treated as expense in the statement of comprehensive income statement. Almost of the Sri Lankan organizations treating to both capital and revenue nature, in an aggregate manner.

This study intends to contribute to the existing literature by assessing the impact of aggregated human capital expenditures and human capital accounting on firm’s financial performance.

1.1. Problem Statement

Sri Lanka is planning to be the pioneer of knowledge based economic country in the Asian region. And in the way of achieving that objective, human capital could be the main driving factor. As a country is immensely endowed with human capital any activity on Human capital, significantly effect on firms value as well to the country, because Human capital has always been a critical factor and it is the hub between financial and other all the physical resources towards the success of firms objectives and goals in Sri Lanka. As an organization hugely depend on human capital have to pay good attention on it. And data have indicate which provide through published financial reports, that expenditures incurred on human capital have risen bit faster than non-human capital. In past the decision making system was just based on monetary thing but things have changed a lot with business environmental change.

Sri Lanka is moving towards industrialization era and need more capable human capital in various areas of industrialization, so emerging skills talents And knowledge of people and retain those qualifies personalities, which can say as aggregation of human capital relevant things need to be strengthened and stabilized in order to create
Values for each entity. And we can see There is growing evidence among stakeholders of the interest and demand for information from firm in relation to human capital which will lead better decision making so there should be a way of convening information to interested parties also. Companies in Sri Lanka have recognized the important of these two and now can see companies focus on their human capital (work force) more than before and increasing trend of practicing human capital accounting. And there should be a reason for spending lots of money on human capital and practicing different kind of techniques, methods and treatments or disclosures for human capital. Therefore studying on impact of aggregate expenditure on human capital and human capital accounting against firm’s financial performance is not easily ignorable. However practicing, applying or implementing these two can be different from each company to other company and also the results will also be different to each other’s. To find the impact of independent on dependent separately, can pose following questions.

1.2. Research Question

Accordance with the problem statement, this study is targeting to identify the “Impact of aggregate expenditures human capital and human capital accounting on firms’ financial performance”. Below research questions have used to seek answers for research problem of the study and further to fill the literature gap.

Research Question 01: “What is the impact of aggregate expenditure of human capital on firms’ financial performances in Sri Lanka?”

Research Question 02: “What is the impact of human capital accounting disclosure on firms’ financial performance in Sri Lanka?”

1.3. Objective of the Study

In the international level we could find several literatures regarding the impact of expenditure on human capital on firms’ financial performance. But in local level comparative to international level it is low in general, so the objective of this study is to fill the gap in the existing literature and in order to denote its importance to organizations and also to the community.

Objective 01: To determine the impact of aggregate expenditure of human capital on the firm’s financial performance in Sri Lanka.

Objective 02: To Determine the impact of human capital accounting disclosure on the firm’s financial performance in Sri Lanka.

1.4. Limitation of the study

First, organizational financial performance can be defined occur in various ways. This study focuses only on the impact of human capital expenditures on firms’ financial performance. Second, the sample size is very limited and this study consider only 40 companies among 295 listed companies in Colombo stock exchange. This study focuses on figures within only 05 years of past.

2. Literature Review

2.1. Concept of Human Capital

Now a days can see large and growing body of evidence that demonstrates a positive linkage between the human capital and organizational performance. Originally this Concept of Human Capital was developed by Sir Williams Pretty in the year of 1691. But the empirical studies into human capital began in 1960 by Rensis Likert. Ismaila (2013) Identified HC as a significant factor for the sustainability of companies in a knowledge based economy.

The concept of human capital has been variously categorized from different perspectives in the academic fields. The first aspect is from the individual point of view. (Schultz, 1961) Recognized the human capital as ‘something akin to property’ against the concept of labour force in Sir Williams Pretty’s’s classical perspective. It can be deduced from his view that human capital is knowledge, skill, attitude and ability acquired through training and embedded in an individual. Conceptualized human capital as the heart that linked together the knowledge, abilities, skills, experiences and creation owned by the members of the organization (Baker Aledwan, 2012).

The accumulation process of human capital was the second view point. The stock of human capital is accumulated through the process of training and education. The educational process categorized into three forms such as compulsory education, vocational education and tertiary education. The training aspect can be acquired through employer-sponsored training, self-sponsored training or training acquired through individual experience (Alan K. M. A., et al., 2008).

The third view on HC is closely connected to the production-oriented aspect of human capital. (Rosen, 1999) Define human capital in different aspect and according to him HC as ‘an investment that people make in themselves to increase their productivity’.

Asian Journal of Multidisciplinary Studies, 7(2) February, 2019
2.2. Human capital accounting

Human Capital accounting has been the focus of much academic research since the late 1960’s. This may be attributed to the apparent increasing recognition within the business community of the importance major stakeholders attach to socially and environmentally responsible corporate behavior. It is also pertinent to note that modern economies are moving from traditional production based operations to service oriented operations thereby rekindling interest in human Capital Accounting.

As early mentioned Concept of Human Capital, Developed by Sir William petty in the year of 1691. But it took some long time to begin research on Human Capital Accounting and it was in 1960 s by Rensis Likert. Since then HCA has been the focus of many academic studies. (Enofe, et al., 2013) Notes that can be so important thing and this creates a path for every business organizations for the recognition in business community of the importance major stakeholder attach to society and environmentally responsible corporate behavior. Up to this point of time, a number of studies have been conducted to find a solution for this issue of HCA in organizations. The postindustrial society has witnessed a transition from the industrial age to the information age, and accounting has not transitioned along with it (Passard C. Dean,.Kaitlin McKenna,.Vyas Krishnan,, 2012).

Since Human Capital (HC) is one of the valuable assets for any organizations but the issue is there is no special statutory requirements to report it in the organization’s annual report and number of previous studies have mentioned the need of capitalizing Human capital asset in the statement of financial position as against charging as a expense in the profit and loss accounts. Traditional accounting practices do not recognize human capital as an asset on the balance sheet (Passard C. Dean,.Kaitlin McKenna,.Vyas Krishnan,, 2012). If it capitalized, it can amortize for a longer period, but it not in practice. In conventional accounting methods, treat equally for all incurred on HC and this aggregate approach and it has effect negatively on the profit or can say it cause to not to show the real profit (Ifurueze Meshack S, et al., 2014).

When studying historical background of human capital accounting can be traced the medieval European practice of calculating cost of keeping a prisoner versus the future expected earnings from him or her. In those days prisoners were seen to be as a part of general property of the capturing side or the authorities. Eventually after the victory quick decision regarding whether to capture a prisoner or to kill him or her had to be taken based on the cost involved in keeping him or her and the benefits accruing from killing him or her (Sveiby, 2004).

According to Ifurueze Meshack S, et al., (2014) five development stages can be identified. Briefly in first stage it took the initiative to build academic interest in the arena. And focus was to derive Human capital accounting concept from other economical, psychological theories. In Second and third stages focused to develop validate various models and tools to manage human capital and development of measurements and reporting models. How away in 4th stage of development, it witness a decline in the arena. Due to lack of sponsorship in the area of research it was difficult to convert earlier simple models to better models. But in final stage this witness a sudden renewal of interest in the area. Economic changes (Manufacturing to Service) and the effect of globalization cause this sudden renewal .when consider service based economics, it deals with more intellectual assets than other physical assets, so the growth, profitability and finally the survival of organizations were depend more on intellectual assets. Briefly intellectual assets have been playing a vital role since after 1980’s till present.

Further in 1960s and 1970s many attempt were made to measure the value of the people to their employers and to account for human resources for instance in 1964 Hermansson published pioneering work concerning valuation of human asset .and according to the American accounting association s definition it indicate the value relevance of such information to both internal and external users of accounting information (Flamholtz, 1985). However it did not receive widespread acceptance and by the end of 1970s, the interest in HCA declined as many conceptual problems and practical difficulties were yet to be overcome. There was also a lack of consensus how human asset should be measures or valued.

Today, Human and other intellectual assets are perceived to be the strategic resource for any business organization there for clear estimations of their value has gained significant important (Ifurueze Meshack S, et al., 2014).

2.3. Relationship between human capital expenditure and firm financial performance

The relationship between human capital expenditure and corporate profitability can be assessed by classifying the variables into dependent and independent variables. The human capital expenditure is the independent variable.
while profitability is the dependent variable. The profitability of a listed company is a function of its human capital and the quality of the human capital is also a function of mainly Training and Development and other expenditures incurred in HC, which is a cost to the organization. Looking at the short run effect, if an organization is starting operation newly, the cost incurred to procure staff, train them and pay their salaries may not initially translate to profit. In fact, it may end up with the organization incurring losses all because there is tendency of using up more cash than they earn (Olowolaju, 2016).

Some recent researchers have argued whether the human capital cost and profitability of listed companies are positive related or negative related. Mainly most of the studies were carried out for identifying the relationship between profitability and classified expenditures on human capital rather than total expenditures on human capital. As cited in (Olowolaju, 2016), Mainmuna (2009) considered capital nature expenditures on profitability. And analyzed the positive relationship between HC expenditure and profitability in that expenditure on training and development and education increased profitability over twice the size of the salaries and wages increase of the employee. This is because not all productivity gain brought about by training is compensated by increase in individual remuneration thereby making such investment remains profitable for organizations.

Some recent studies, Salman R.T. & Tayib, M. (2012) examined the relationship between expenditure on human capital and financial performance of 50 public listed companies in Nigeria and give evidence of interaction between the two variables which revealed that expenditure on human capital influence financial performance of the sampled companies positively. (Ahangan, 2011) Found human capital to be relevant in both companies’ financial performance and future benefits using cost models and economic approaches. (Shrade R, & Siegal D.S., 2007) idea was slight different ,he remarked that human capital is like other assets since they are acquired to generate future benefit, hence they should be treated as assets and be considered when valuing a company by capitalizing them instead of expensing all them in for current period. They maintained that there is the need for companies to disaggregate human capital cost as revenue and capital cost and report it with other assets despite the difficulty in quantifying the value, expertise knowledge, skills and competences of human capital. (Ifurueze Meshack S, et al., 2014) in his study identified the impact separately of aggregated and disaggregated expenditures on performance, as per the results it shows positive relationship between profitability and human capital cost and it provide evidence that changes in profitability can be explain when the HC cost are segregated in to revenue and capital nature expenditures. There after The constraint of segregating the cost relating to human capital into its revenue nature and capital nature expenditure element was also noted in following studies. (W.S & Hseih, J.J., 2011) Using the Value Added Intellectual Co-efficient Model (VAICM) found both company performance and market capitalization of the companies have strong correlation with expenditure on HC. (Tseng & Goo, Y. J., 2005) In their studies provided empirical evidence of strong positive relationship between the human capital expenditures and the profitability of some selected sample of Nigerian companies.

2.4. Relationship between human capital accounting disclosure and firm performance

Wagner, (2007) In his study of valuing a company innovators, suggested that HC is one of the intangible assets that investors look in for valuing companies, along with structural and relational capital.in his study Wagner concluded that the long-term value of innovative workers is not getting enough attention from companies when they prepare their annual reports for stakeholders. Similarly, (Syed, 2009) examined the relationship between corporate characteristics and human capital accounting disclosure and concluded that companies with higher profitability intended to disclose more human resource accounting information.

There have been also been some empirical researches on the issues of human resource accounting. (Okpala & Chidi O.C, 2010) in their work examined the relevance of HCA to investment decisions, in this era of knowledge based economy situation, opine that business success now rely on the ability, capacity and knowledge of people who can easily adapt to technological changes basically environment changes and drive organization to attain its goals and objectives quickly. They explain that the function of HCA is to provide information which affords stakeholders opportunity to truly evaluate and understand the complete picture of an organization and make effective decision. (Kirfi & Adbullahi, A, 2012), view the practice of human resources accounting in most of organizations in Asian and African countries, As more of a mirage than reality as human resource is not reported in
financial statements. (Wagner, 2007) Also provided same issue which exists.

However, the issues of human capital reporting on whether it is value relevant to be considered in balance sheet as an asset, even though its association with company’s expected future benefits is not certain and benefits cannot predict in exact manner. The chartered institute of management accountants noted that all drivers of performance and value should be provided to investors including the non-financial ones such as intangibles (human capital). Several authorities and policy maker with accounting standard boards addressed on this issue by encouraging organizations to voluntarily disclose information regarding their intangibles and intellectual capital (more focus on human capital) (FASB, 2001).

Recent emphasis on intellectual capital (IC) and Human capital accounting disclosure can be attributed partly to the increased interest on increasing voluntary corporate disclosure of non-financial information. Some companies in Europe produce a separate IC statement as a supplement to their annual report or as a separate report.

3. Methodology

The intention of this study is to formalize an empirical analysis and to find out the both impact of aggregate expenditures incurred on Human capital and Human capital accounting on firms’ financial performance in Sri Lankan. After referring several books and scholarly journals, research articles, this model has been developed.

3.1. Hypothesis

In order to study the impact of aggregate expenditure of Human capital and Human capital accounting disclosure on firms’ financial performance, the study use following hypotheses:

**H1: There is an impact of aggregate expenditure incurred on human capital on return on asset (RoA)**

**H2: There is an impact of human capital accounting disclosures on return on asset (RoA).**

**H3: There is an impact of aggregate expenditure incurred on human capital on return on equity (RoE)**

**H4: There is an impact of human capital accounting disclosures on return on equity (RoE).**

3.2. Model of the study

As per the study, to measure the impact on dependent (firms’ financial performance), two measures are used as independent variables. Namely, aggregate expenditure incurred in human capital and human capital accounting disclosure levels. More ever to determine the variables to measure profit generated, two measures used to measure firm financial performance, namely Return on Equity ratio (ROE) and Return on Asset ratio (ROA) as used as dependent variables. The multiple regression models have used to quantify above variables in a more accurate manner. The models are as follows,

Model 01: $\text{ROE} = \alpha + \beta_1 (\text{AGGREDHCEXP}) + \beta_2 (\text{HACCDISCL}) + \beta_3 (\text{Firm size}) + \epsilon$

Model 02: $\text{ROA} = \alpha + \beta_1 (\text{AGGREDHCEXP}) + \beta_2 (\text{HACCDISCL}) + \beta_3 (\text{Firm size}) + \epsilon$

**AGGREDHCEXP** - Aggregate expenditure incurred on human capital

**HACCDISCL** - Human capital accounting disclosure level

**ROE** - Return on Equity

**ROA** - Return on Assets

3.2.1. Return on Equity Ratio (ROE)

Basically the return on equity (ROE) measures the profitability of the institution. Further, this ratio asserts, how well the firm has used the resources of owners. The earning of a satisfactory return is the most desirable objective of a business. This ratio reflects the extent to which this objective has been accomplished. Particularly this ratio is relevant for a private or for-profit organization. For the owners this particular ratio pays a greater emphasis, since it measures the return on their investment in the institution.

**Return on equity Ratio = Net Incoe/Average equity**

3.2.2. Return on Asset Ratio (ROA)

Simply stated, the ROA measures how well the institution uses all its assets. Or in other words, it measures how profitable a company is relative to its total asset. RoA gives an idea as to how efficient Management is at using its asset to generate earning.

**Return on Asset = Net income / Average Asset**
3.2.3. Aggregate expenditures incurred on Human capital

Basically human capital expenditures are the expenses incurred by the organizations on their human capital. There are two components can be identified in human capital expenditure and those are capital nature human capital expenditure and revenue nature human capital expenditures, in here in Sri Lanka we practice to pick both type of expenditures in the comprehensive income statement without considering the nature of the expense. In this study took those items aggregately.

3.2.4. Human capital accounting disclosure level

| Aggregate Expenditure incurred on HC = Revenue nature EXP + capital nature EXP |
|---|---|---|---|---|
| ROE | 200 | 0.783 | 32.359 | 8.00 | 0.00 |
| ROA | 200 | 0.775 | 33.630 | 8.09 | 0.00 |
| FIRMZ | 200 | 0.990 | 1.459 | 0.87 | 0.19 |
| AGGEXPHC | 200 | 0.966 | 1.932 | 1.86 | 0.05 |
| HCADL | 200 | 0.972 | 1.723 | 1.66 | 0.08 |

Disclosure can define as making information known. Normally every organization publishes their annual report in every year. Annual reports include much information about the organization. In this study try to capture Information about Human capital related and quantify them.

3.2.5. Control variable

Because of selecting random sampling technique within 295 listed companies which represent different sector, this study took Firm size as control variable to take those different companies in to same level .in here used Total asset as the control variable.

3.3. Sample Design and Method of data collection

The criteria for choosing the sample was the availability and quality of data for a time period of 5 years (2011 to 2015). It is an attempt to make the database of some Sri Lankan 40 companies which listed in CSE as 20 different sectors, as complete as possible. And therefore, the sample consists of 200 observations. The data was collected from published financial statements of the companies selected for the study.

This study takes the more emphasis on assessing the effect of aggregated expenditure and HC accounting disclosures on firms’ financial performance of selected Sri Lankan listed companies. The study anticipates on the secondary data on Audited annual reports of the respective listed companies. Data gathered though Colombo Stock exchange website.

4. Findings and Discussions

This chapter is intending to elaborate the statistical and interpretation of the results of the analysis with the objective of become aware from the data and also this chapter facilitate to check the stated hypothesis of this study to draw the final conclusion regarding the research problem by providing necessary information.

4.1. Findings

4.1.1. Normality testing

In this Study researcher used Numerical method of Shapiro-Wilk W Test for testing data normality.

Table 01: Normality testing (Shapiro-Wilk W test for normal data)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>W</th>
<th>V</th>
<th>z</th>
<th>Prob&gt;z</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>200</td>
<td>0.783</td>
<td>32.359</td>
<td>8.00</td>
<td>0.00</td>
</tr>
<tr>
<td>ROA</td>
<td>200</td>
<td>0.775</td>
<td>33.630</td>
<td>8.09</td>
<td>0.00</td>
</tr>
<tr>
<td>FIRMZ</td>
<td>200</td>
<td>0.990</td>
<td>1.459</td>
<td>0.87</td>
<td>0.19</td>
</tr>
<tr>
<td>AGGEXPHC</td>
<td>200</td>
<td>0.966</td>
<td>1.932</td>
<td>1.86</td>
<td>0.05</td>
</tr>
<tr>
<td>HCADL</td>
<td>200</td>
<td>0.972</td>
<td>1.723</td>
<td>1.66</td>
<td>0.08</td>
</tr>
</tbody>
</table>

According to the Table 01, all variables got higher “W” values and, here “Prob>z” values all are greater than 0.05 except RoA and RoA, it has less “prob>z” value .it may be because of taking random selection between different types companies in different industries. , when considering all, can conclude that all variables are normally distributed.
4.1.2. Multicollinearity testing

As per the results given under Table 02 here researcher does not observe Multicollinearity problems because all VIF s are between 1 and 10. In respect with the study that value more significantly lower. Hence the data variables are properly constructed to form output.

### Table 02: Multicollinearity testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGGEXPHC</td>
<td>3.47</td>
<td>0.288</td>
</tr>
<tr>
<td>FIRMZ</td>
<td>2.94</td>
<td>0.340</td>
</tr>
<tr>
<td>HCADL</td>
<td>1.46</td>
<td>0.685</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>2.62</td>
<td></td>
</tr>
</tbody>
</table>

**Tolerance:** As cited by the (Dissanayake, 2012).this means the percentage of variable which is not associated with another variable. As well as tolerance take value zero to one. If tolerance values close to zero that define the Multicollinearity. As well as, when the figures less than 0.20 that lead to problems of Multicollinearity (Zergaw, 2015). In respect to the research that has lie with the above the zero and distance to the 0.20 so the data set properly constructed.

4.1.3. Correlation matrix

Correlation analysis performed on the variables to check for the degree of correlation among the dependent and independent. Correlation coefficient is expressed as value between +1 and -1, coefficient of +1 indicates perfect positive correlation and 80% above correlation value between the independent variables represent the Multicollinearity of the model. As per the results, in between all the independent variables there is no Multicollinearity because all the values got less than 80% of correlation values.

### Table 03: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>ROE</th>
<th>ROA</th>
<th>AGGEXPHC</th>
<th>HCADL</th>
<th>FIRMZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.7396</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGGEXPHC</td>
<td>0.1024</td>
<td>0.0256</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCADL</td>
<td>0.0300</td>
<td>0.0122</td>
<td>0.5591</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>FIRMZ</td>
<td>-0.0171</td>
<td>-0.0365</td>
<td>0.7968</td>
<td>0.4338</td>
<td>1.000</td>
</tr>
</tbody>
</table>

4.1.4. Heteroscedasticity testing

Heteroscedasticity is about the circumstance in which the variability of a variable is unequal across the range of values of another variable that predicts it Taylor, (2013).since there are two dependent variables (RoE & RoA) in the study have to run Heteroscedasticity for each models separately. Here Breusch-pagan / cook- Weisberg test used to test Heteroscedasticity.

Heteroscedasticity Testing (Model RoA)- Since the value (Prob > Chi2) is greater than 0.05 this there is no heteroscedasticity problem.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

\[
\text{chi}^2(1) = 2.14
\]

\[
\text{Prob} > \text{chi}^2 = 0.1435
\]

Heteroscedasticity Testing (Model RoE)-Since the value (Prob > Chi2) is less than 0.05 this there is heteroscedasticity problem, so used robust method when running regression to drop heteroscedasticity problem.
4.1.5. Hypothesis testing

In order to achieve objectives of the study panel regression method used to test hypothesis as the testing of four hypothesis in this study had run two regressions for each models of RoE and RoA.

4.1.6. Model 01 (RoA)

In this study used panel data. When run a panel regression there are two ways of running regression, and fixed and random effects regressions run for the model of RoA, and the selection of interpretation model was selected based on “Hausman test”, for the RoA model it shows less than 0.05 level of significant (prob>chi2), as the results of Hausman test, it recommended to select fixed effect regression for further interpretation of model RoA.

<table>
<thead>
<tr>
<th>Table 04: Hausman test of Model RoA</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) fixed</td>
</tr>
<tr>
<td>AGGEXPHC</td>
</tr>
<tr>
<td>HCADL</td>
</tr>
<tr>
<td>FIRMZ</td>
</tr>
<tr>
<td>ch2(3) = (b-B)/(V_b-V_B)^(-1/(b-B))</td>
</tr>
<tr>
<td>Prob&gt;chi2 = 0.0336</td>
</tr>
</tbody>
</table>

As per the fixed effect regression results it indicates the reliability of independent variables (X) to predict dependent variable (Y). Usually it required significant value for p-value. And according to the results, overall P value got 0.0105 (significant level) and it shows a statistically significant relationship between independents and dependent in model 1. And overall R-square shows the amount of variance of Y explained by X. In this case the model explains approximately 0.5% of the variance in return on asset(Y). Two-tail p-values test (P> |T|) the hypothesis that each coefficient is different from 0. To reject this, the p-value has to be lower than 0.05.

<table>
<thead>
<tr>
<th>Table 05: Regression Table Model RoA</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-sq: within</td>
</tr>
<tr>
<td>between</td>
</tr>
<tr>
<td>overall</td>
</tr>
<tr>
<td>ROA</td>
</tr>
<tr>
<td>AGGEXPHC</td>
</tr>
<tr>
<td>HCADL</td>
</tr>
<tr>
<td>FIRMZ</td>
</tr>
<tr>
<td>_cons</td>
</tr>
</tbody>
</table>
In this case, Aggregated HC cost (0.039) and firm size (0.009) are statistically significant in explaining ROA, and HC disclosure level the only variable that has no significant impact on Return on asset. The t-values test (t) the hypothesis that the coefficient is different from 0. To reject this, it should be greater than ±1.96 (at 0.05 confidences). The t-values also show the importance of a variable in the model. In this case, both HC expenditure (2.08) and firm size (-3.15) are the most important in the model.

From the results of the coefficient the researcher establish the nature of the relationship among Expenditures of HC and HCA Disclosure on firm financial performance. The relationship from model 1 of the study is,

\[ \text{RoA} = 128.9627 + 2.690233 \text{AGGEXPHC} + 3.507587 \text{HCADL} - 7.614087 \text{FIRMZ} + e \]

The impact of aggregate expenditure of human capital on Return on Asset, above shows that the correlation coefficient of 2.960233 (Table 05). but it shows significant value in two tail p value (0.039) (table 05) this value is high implying that strong positive impact on return on asset. There for researcher accept the hypothesis 1.

**H1: There is an impact of aggregate expenditure incurred on human capital on return on asset (RoA)**

The impact of Human capital accounting disclosure on Return on Asset above shows that the correlation coefficient of 3.507587 (Table 05). And it show insignificant value in two tail p test (0.592) (table 05) this value is high implying that there is insignificant positive impact on return on asset. There for researcher reject the hypothesis 2

**H2: There is an impact of human capital accounting disclosures on return on asset (RoA)**

4.1.7. Model 2 (RoE)

For the ROE model it shows greater than 0.05 level of significant (prob>chi2), as the results of Hausman test, it recommended to select random effect regression for further Interpretation of Model ROE. And also it was found Heteroscedasticity problem for model 2, as per husman test run random effect regression with robust to drop heteroscedasticity problem.

As per the random effect regression with robust results it indicates the reliability of independent variables (X) to predict dependent variable (Y). Usually it required significant value for p-value. And according to the results, overall significant level is 0.0497 and it shows a statistically significant impact of independents on dependent in model.

And overall R-square shows the amount of variance of Y explained by X. In this case the model explains approximately 4 % of the variance in return on equity(Y). Two-tail p-values test (P>|z|) the hypothesis that each coefficient is different from 0. To reject this, the p-value has to be lower than 0.05. In this case, Aggregated HC cost (0.026) is statistically significant in explaining Return on equity and HC disclosure level and the firm size are the variables that have no significant impact on Return on equity.

<table>
<thead>
<tr>
<th>Table 06: Hausman Test of Model RoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) fixed</td>
</tr>
<tr>
<td>AGGEXPHC</td>
</tr>
<tr>
<td>HCADL</td>
</tr>
<tr>
<td>FIRMZ</td>
</tr>
<tr>
<td>chi2(3) = (b-B)/<a href="b-B">(V_b-V_B)^(-1)</a></td>
</tr>
<tr>
<td>Prob&gt;chi2</td>
</tr>
</tbody>
</table>
Table 07: Regression Table Model RoE

|                | Coef.     | Robust Std. Err. | z      | P>|z|   | [95% Conf Interval] |
|----------------|-----------|------------------|--------|-------|---------------------|
| AGGEXPHC       | 3.915436  | 1.760694         | 2.22   | 0.026 | 0.464539            |
| HCADL          | -5.100023 | 10.85617         | -0.47  | 0.639 | -26.3777            |
| FIRMZ          | -4.242358 | 2.755607         | -1.54  | 0.124 | -9.64325            |
| _cons          | 39.63506  | 36.03012         | 1.1    | 0.271 | -30.9827            |

The Z-values test (z) the hypothesis that the coefficient is different from 0. To reject this, it should be greater than ±0.05 confidences. The t-values also show the importance of a variable in the model. In this case, HC expenditure (2.22), firm size (-1.54) are the most important in the model 2.

From the results of the coefficient the researcher establish the nature of the relationship among aggregated expenditures of HC and HCA Disclosure on firm financial performance. The relationship from model 1 of the study is,

\[ ROE = 39.63506 + 3.915436 \text{AGGEXPHC} - 5.100023 \text{HCADL} - 4.242358 \text{FIRMZ} + e \]

The impact of aggregated expenditure on Return on Equity above shows that the correlation coefficient of 3.915436 (Table 07). And it show significant value in two tail p test (0.026) (table 07) this value is high implying that strong positive impact on return on equity. There for researcher accept the hypothesis 3.

**H3: There is an impact of aggregate expenditure incurred on human capital on return on equity (RoE)**

The relationship between Return on Equity and Human capital accounting disclosure level above shows that the correlation coefficient of -5.10023 (Table 07). And it show insignificant value in two tail p test (0.639) (Table 07) this value is high implying that there is insignificant negative impact on return on equity. There for researcher reject the hypothesis 4.

**H4: There is an impact of human capital accounting disclosures on return on equity (RoE)**

4.2. Discussions

This study undertaken only forty listed companies across all sectors in Colombo Stock Exchange. The purpose of selecting random sampling method, is to provide a wide opinion which can apply all industries rather than giving a narrow one.

The study sought to examine empirically the effect of expenditure on human capital and Human capital accounting on firms’ financial performance in Sri Lanka. The finding of the study as presented above confirm results from previous similar literatures as well as also contradict some. The study found that a positive relationship between the financial performance and expenditure on Human Capital. The finding is in line with the studies conducted by Salman R.T. & Tayib, M, (2012) and Ifurueze Meshack S, et al., (2014). However Human capital accounting disclosure level does negatively influence towards the financial performance it shows higher negative relationship in RoE model and less positive relationship in RoA model. So the finding is in line with the study conducted by (Ofurum & Ihendinihu, 2012) but contradict the work of Syed, (2009), Williams, (2001) and Micah, et al., (2012).

The finding of the study revealed that human capital expenditure significantly influenced financial performance of Sri Lankan quoted companies on Colombo stock exchange. From these findings, the study therefor conclude that companies that place more emphasis on HC, maintaining it and treating it as a pure asset will beneficial. And this result verify the expert says of “the work force is the primary way to drive revenue”. Also companies do a proper job of making sure they have the right people at the right
time at the price are going to be in the position to have a sustainable competitive advantage.

Human capital accounting information of an organization is very important factor to decision makers in an era of knowledge economy, but in Sri Lanka it is found to be less valued the importance of Human capital accounting practices when compared to overseas organizations. The study also finds that most companies in the sample still used notes to the financial reports as the preferred medium of disclosing HC accounting information. As per content analysis it is found that average disclosure level for the sample was 43%. So can conclude that the level of human capital accounting disclosing in Sri Lanka is still very low.

5. Conclusion and Recommendations

Human capital expenditure is being incurred by firms to ensure that their financial performance is enhanced for the overall performance of their business. On the other hand when consider HC accounting disclosing, the findings in the study are also important to both firms and policy makers. Both academics and policy makers expressed that the traditional financial reporting model fails to provide investor of valued information. In this context it is found that the overall financial performance and HCA disclosure have negative relationship, the reason can be lower level of practicing HCA. From the finding of the study researcher recommend the followings.

- It is important for decision makers of organizations and they should invest in their knowledge asset and incur other necessary expenses to retain the work staff to attain desired profitability. And it will help the organization to obtain greater success and take the leadership in competitive market place for a longer time.
- Organizations should to the culture of capitalizing and reporting capital nature expenditure (investment) on HC that can help to improve quality and productivity, and it will direct the organization to the success.
- Should develop policy for HRA practices to give guidelines and encourage compliance with such guidelines.
- Should educate management and other decision makers on human capital accounting.
- Should insert a supplemental report on human capital, such as separate human capital statement in annual reports
- Standard should be created for human capital identification and measurement.

5.1. Further Research

It was found that there is a positive relationship between human capital expenditure and firms’ financial performance. And this study considered both revenue and capital nature expenses as an aggregate manner, so it would beneficial to do further research to find disaggregate (separate impact of capital and revenue nature expenses) impact on financial performance. And to find what are the most important expenses.

This study took only forty companies and five year data for each ones. Altogether it was two hundred observations. In further research it can be taken larger number of observation than this and provide much strong results and finding.

References


