

# Impact of Human Capital Incorporation on Economic Value Added of Large Scale Organizations: A Conceptual Managerial Decision Making Approach

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## Abstract

In today's turbulent times, Corporate have realized the importance of human capital in the corporate world. But there was no such method suggested to show human capital in the framework of conventional accounting. After an exhaustive literature survey, the paper has focused on financial approach towards human capital management and has developed a conceptual managerial decision making model of Economic Value Added (EVA) with incorporation of human capital in the calculation of Weighted Average Cost of Capital (WACC) which will help the organizations in the long run to know the real value of EVA which has become the real indicator for the increase or decrease in shareholders fund. The appropriate value of EVA differs from organizations to organizations depending upon different HR practices, size, and nature and planned outcomes of the business.

The paper first has explored the concept of EVA and Human Capital Management and economic definitions cited in Google website and has attempted in citing human capital definition which has been derived from the conclusion of the study. The paper has also attempted in framing a calculation methodology (Dash. Sujata. P (2013), "Inclusion of human capital in the calculation of WACC", European Scientific Journal, Vol.9, No.28, pp. 405-421) to find out the true economic profit that is the EVA of any organizations in Indian context irrespective of manufacturing and service sector industries which gives an insight about the appropriate value which directly reflects the true wealth of the shareholders after incorporating human capital in the calculation of WACC. Any organizations can utilize the calculation methodology and can thereby enhance the performance of their organization using EVA because EVA is a financial performance metric that measures value based on adjusted accounting data to assess financial performance and help a company grow. (Stewart, p.3, Makelainen & Rozticki, 1998, p.7). EVA measures the profitability of a company after taking into account the cost of all capital including equity. It is the post-tax return on capital employed (adjusted for the tax shield on debt) minus the cost of capital employed.

The paper finally describes the conceptual managerial decision making model of EVA with inclusion of human capital and tested the role of human capital management in economic value addition of large scale organizations empirically.

**Keywords:** Human Capital, Human Capital Management, Economic Value Added, Weighted Average Cost of Capital.

## 1. Introduction to EVA<sup>®</sup>

EVA is the profit that remains after deducting the cost of the capital invested to generate that profit. As **Roberto Goizueta**, the late CEO of Coca-Cola, an early convert to EVA, once put it, "You only get richer if you invest money at a higher return than the cost of that money to you." Economists have termed EVA as economic profit. EVA was launched by **Stern Stewart & Co. in 1989**. Since then, more than 300 companies worldwide adopted the discipline- among them are Coca-Cola, Tata & Lyle, Telecom New Zealand, Briggs & Stratton, Lafarge, Siemens, Quaker Oats, Boise Cascade, Telstra, Monsanto, SPX, Herman Miller, JCPenney and the U.S. Postal Service. Real economic profit is now the measure of corporate performance- clearly, a goal that benefits the stockholders. EVA is the prime mover of shareholder value. The virtue of EVA is that it is a system for gauging corporate performance based on hard data rather than projections. EVA is defined as net operating profit after tax (NOPAT) less a capital charge that reflects a firm's cost of capital. One must first determine the company's cost of capital, often called the required rate of return. That is the rate that compensates investors for their perceived risk, and it naturally varies from industry to industry, from company to company, and even from project to project within a firm. If the company's profits are only equal to the required rate of return, the investor has not made any money- he has not earned economic profit. He only makes an economic profit if the company earns more than the cost of its capital.

EVA's key ingredient is the capital charge- the cost of the capital invested in a company. And capital, of course includes equity as well as debt; equity does not ride free. EVA is found out by deducting the capital charge from NOPAT (net operating profit after tax- and after adjusting accounting numbers to reflect economic reality). EVA will grow if NOPAT increases, either through a cut in operating expenses or a rise in gross revenues that is

greater than an increase in expenses. EVA will also rise if there is a decline in the use of capital.

### 1.1 Calculation of EVA®

The economic value addition concept takes into account the economic cost of capital invested by shareholders. If the EVA is positive, it indicates that the company has created value for shareholders. If the EVA is negative, it signifies the contrary.

EVA® the surplus left after deducting the weighted average cost of capital from the net operating profit after tax. It can be calculated in the following way.

$$\text{EVA} = \text{NOPAT} - \text{WACC}$$

Where, EVA-> Economic Value Added  
NOPAT-> Net Operating Profit After Tax  
WACC-> Weighted Average Cost of Capital

**Net Operating Profit After Tax (NOPAT)** is defined as profits derived by the company's operations after taxes before financing costs and non-cash bookkeeping entries. It is the total profit available to provide a cash return to those who provide or invest capital to the firm.

**Weighted Average Cost of Capital (WACC)** is defined as given the cost of specific sources of finance and the scheme of weighting, the WACC can be readily calculated.

$$\text{WACC} = W_E r_E + W_P r_P + W_D r_D$$

Where  $W_E$ ,  $W_P$  and  $W_D$  are the proportion of equity, preference and debt and  $r_E$ ,  $r_P$  and  $r_D$  are the component costs of equity, preference and debt.

EVA® is the profit earned by the firm less the cost of financing the firm's capital.

The concept of EVA® is well understood by the Corporate as it has already been established in the financial world. It has become the base for business planning and performance monitoring.

### 1.2 Introduction to Human Capital Management (HCM) and Human Capital (HC)

Human Capital Management (HCM) was described by the **Accounting for People Task Force (2003)** as 'a strategic approach to people management that focuses on the issues that are critical to the organization's success.' It treats people management 'as a high-level strategic issue and seeks systematically to analyze, measure and evaluate how people policies and practices create value'. **John Sunderland, Task Force member and Executive Chairman of Cadbury Schweppes** plc commented: 'An organization's success is the product of its people's competence. That link between people and performance should be made visible and available to all stakeholders. **Chatzkel (2004)** states that: 'HCM is an integrated effort to manage and develop human capabilities to achieve significantly higher levels of performance.' **Kearns (2005)** describes HCM as: 'The total development of human potential expressed as organizational value.' He believes that 'HCM is about creating value through people' and that it is 'a people development philosophy, but the only development that means anything is that which is translated into value.'

HCM is concerned with measurement (metrics) but there is more to it than that. As **Duncan Brown, Assistant Director of the CIPD** commented in 2006: 'Human capital management is not primarily about measurement. It is about creating and demonstrating the value that great people and great people management add to an organization'.

**Donkin (2005)** believes that the organizational strength of HCM lies in three areas: 'development and application of relevant measures, both quantitative and qualitative; gathering and interpreting results; utilising this information for strategic advantage'. He continues: 'Companies that concentrate management efforts on these areas will be best positioned to align their employment policies with strategic intent. Good human capital management, therefore, is all about learning, understanding, intervening and adjusting.' **Kearns (2006)** sees HCM as being about having 'fully competent, fully informed employees who are in a position to make critical decisions in a flexible but well-controlled organization.' HCM is about 'harnessing people measures to drive business performance' (Penna Consulting, 2003). The prime purpose of HCM is to establish 'an employment proposition that links the work of employees to strategy and profits' (**Donkin, 2005**). 'HCM demands the measurement of human assets and an evaluation of their overall impact on corporate performance' (**IRS, 2004**). Human capital management (HCM) is an approach to employee staffing that perceives people as assets (human capital) whose current value can be measured and whose future value can be enhanced through investment as rightfully commented by **Margaret Rouse (2012)**.<sup>1</sup>

#### 1.2.1 Introduction to Human Capital (HC)

The term 'human capital' is now accepted as a common definition of the all important people element of intangible value. HC is often represented as both a challenge and an opportunity. A challenge to identify relevant measures and provide meaningful information which can be acted on, and an opportunity to both evaluate and

<sup>1</sup> <http://searchfinancialapplications.techtarget.com/definition/human-capital-management>. Accessed on 19/11/13.

maximize the value of people. As expressed more colourfully by **Jac Fitz-enj (2000)** that, human capital is the intellectual asset that goes home every night with the employee'. **Lepak and Snell (1999)** commented that: 'The value of human capital is inherently dependent upon its potential to contribute to the competitive advantage or core competencies of the firm.' **Ulrich (1998)** states that human capital consists of 'competence × commitment'. HC is not owned by the organization but secured through the employment relationship. People bring human capital to the organization although it is then developed by experience and training. **Davenport (1999)** comments that:

*"People possess innate abilities, behaviours and personal energy and these elements make up the human capital they bring to their work. And it is they, not their employers, who own this capital and decide when, how and where they will contribute it. In other words, they can make choices. Work is a two-way exchange of value, not a one-way exploitation of an asset by its owner"*.

**Renu Singh** has rightfully defined "human capital as the combined knowledge, skill, innovativeness and ability of the nation's individuals to meet the tasks at hand, including values, culture and philosophy. This includes knowledge, wisdom, expertise, intuition and the ability of individuals to realize national tasks and goals. Human Capital is the property of individuals, it cannot be owned by the (organization or) nation". Human capital of all forms of knowledge acquiring which is defined by the OECD (2001, 18) as 'the knowledge, skills and competencies embodied in individuals that facilitate the creation of personal, social and economic well-being'<sup>1</sup>.

### **1.2.2 Economic definition of human capital**

1) Human capital is a measure of the economic value of an employee's skill set. This measure builds on the basic production input of labour measure where all labour is thought to be equal. The concept of human capital recognizes that not all labour is equal and that the quality of employees can be improved by investing in them. The skills, experience and abilities of an employee have an economic value for employers and for the economy as a whole.<sup>2</sup>

2) In Corporate Finance, human capital is the value that the employees of a business provide through the application of skills, know-how and expertise. It is an organization's combined human capability for solving business problems. Human capital is inherent in people and cannot be owned by an organization. Therefore, human capital leaves an organization when people leave. Human capital also encompasses how effectively an organization uses its people resources as measured by creativity and innovation. A company's reputation as an employer affects the human capital it draws.<sup>3</sup>

3) According to researcher, "human capital is defined as deemed to be an important economic capital which plays a major role in economic value addition of large scale organizations irrespective of manufacturing and service sector industries which directly reflects the true wealth of the shareholders".

## **2. Objective of the study**

The objective of the study is to find out the impact on EVA of the large scale organizations after incorporating the cost of human capital in the WACC.

### **3. Impact of human capital incorporation on EVA (Hypothesis Testing)**

Considering the profit and loss account and balance sheet of Infosys Limited for the year 2013, 2012 and 2011 in Crores from the source: India's No.1 Financial Portal, <http://www.moneycontrol.com/financials/infosys/profit-loss/IT> and <http://www.moneycontrol.com/financials/infosys/balance-sheet/IT>, the impact on EVA of the organization after incorporating cost of human capital in the WACC has been found out.

When the researchers explored what could be the book value of human capital, then, the concept of productivity emerged. Quantification of productivity cannot be done taking due consideration only to the line managers or their subordinates who are directly involved into production/operations. The researchers have to consider the staff managers also, who exists in the other functional areas of the organization. So, the measurement of cost of human capital in other departments is quite impossible because the measurement of productivity is divided into sub-components like cost centers, profit centers, investment centers, etc. And it is difficult to quantify the productivity which is always not in quantitative terms like production units, costs, etc. Next to productivity, profitability is again an important issue in any organizations where the researchers have considered Earnings Before Interest, Tax and Depreciation (EBITD) plus cost of employees to be the book value of human capital (Cost of human capital is considered as equivalent to the productivity of human capital, profit being a part of capital). Component cost of human capital can be considered as that of equity shareholders. This is because their returns also depend on the organization's returns.

### **3.1 Conceptual Managerial Decision Making Methodology of Economic Value Added with Human Capital**

#### **A. Impact of human capital on EVA of the Infosys Limited for the year 2013 (Rs in Crores)**

(1) Determination of book value of human capital

<sup>1</sup> <http://www.iisg.nl/indonesianeconomy/humancapital/pdf/7-chapter2.pdf>. Accessed on 28/11/13.

<sup>2</sup> <http://www.investopedia.com/terms/h/humancapital.asp> Accessed on 20/11/13.

<sup>3</sup> <http://www.sveiby.com/articles/IntellectualCapital.html> Accessed on 20/11/13

Book Value of human capital=EBITD + Employee Cost= 13,313.00 +19,932.00 = 33,245

(2) Corporate Tax Rate has been calculated as

$$\frac{\text{Corporate Tax}}{\text{PBT (Post Extra-Ord Items)}} \times 100$$

$$= \frac{3,241}{12,357} \times 100 = 26\%$$

(3) Calculation of Tax Benefit

(a) Employee Cost is a tax deductible item and therefore we get a tax benefit.

Tax Benefit amount = 26% of Employee Cost= 26% × 19,932.00=5182.32

(4) Tax savings benefit is a kind of inflow in financial management. Therefore, cost of human capital will be- Average dividend % of last three years will be divided by after tax profit i.e., (9+11+18) %/3=12% (component cost)

(5) Tax Adjusted Cost

(a) No tax benefit for equity.

(b) In case of human capital

(i) Cost of Employees = 19,932.00

(ii) Tax Rate = 26%

(iii) After Tax Cost = Employee Cost – Tax Benefit = 19,932-5182.32 = 14,749.68

(c) Total After Tax Cost = After Tax Cost of Equity (287 ×12%) + After Tax Cost of Human Capital (14,749.68) = (287 × 12%) + 14,749.68 = 34.44 + 14,824.3 = 14,784.12

(6) Calculation of WACC

$$\frac{\text{Total After Tax Cost}}{\text{Total Book Value of Equity + Human capital}} \times 100$$

$$= \frac{14,784.12}{840 + 33,245} \times 100 = \frac{14,784.12}{34,085} \times 100 = 43\%$$

(a) 43% of Σ of Book Value of Sources of Capital = 43% × 34,085 = 14,656.55

(7)  $EVA_{HC} = NOPAT - WACC = 11,015.00 - 14,656.55 = -3,641.55$

(8)  $EVA = NOPAT - WACC = 11,015.00 - 840 = 10,175$

### **B. Impact of human capital on EVA of the Infosys Ltd for the year 2012 (Rs in Crores)**

(1) Determination of book value of human capital

Book Value of human capital=EBITD + Employee Cost= 12,374.00+15,481.00 = 27,855

(2) Corporate Tax Rate has been calculated as

$$\frac{\text{Corporate Tax}}{\text{PBT (Post Extra-Ord Items)}} \times 100$$

$$= \frac{3110}{11,580} \times 100 = 26\%$$

(3) Calculation of Tax Benefit

(a) Employee Cost is a tax deductible item and therefore we get a tax benefit.

Tax Benefit amount = 26% of Employee Cost= 26% × 15,481=4,025.06

(4) Tax savings benefit is a kind of inflow in financial management. Therefore, cost of human capital will be- Average dividend % of last three years will be divided by after tax profit i.e., (11+18+8) %/3=12% (component cost)

(5) Tax Adjusted Cost

(a) No tax benefit for equity.

(b) In case of human capital

(i) Cost of Employees = 15,481.00

(ii) Tax Rate = 26%

(iii) After Tax Cost = Employee Cost – (Tax Benefit) = 15,481.00 – 4,025.06 = 11,455.94

(d) Total After Tax Cost = After Tax Cost of Equity ( 940 × 12%) + After Tax Cost of human capital = (940 × 12%) + 11,455.94= 112.8 + 11,455.94 = 11,568.74

(6) Calculation of WACC

$$\frac{\text{Total After Tax Cost}}{\text{Total Book Value of Equity + Human capital}} \times 100$$

$$= \frac{11,568.74}{940 + 27,855} \times 100 = \frac{11,568.74}{28,795} \times 100 = 40\%$$

- (a) 40% of  $\Sigma$  of Book Value of Sources of Capital =  $40\% \times 28,795 = 11,518.00$   
 (7)  $EVA_{HC} = NOPAT - WACC = 10,061.00 - 11,518.00 = -1,457$   
 (8)  $EVA = NOPAT - WACC = 10,061.00 - 940 = 9,121.$

**(C) Impact of human capital on EVA of the Infosys Ltd for the year 2011 (Rs in Crores)**

- (1) Determination of book value of human capital

Book Value of human capital = EBITD + Employee Cost =  $9561 + 12,464 = 22,025$

- (2) Corporate Tax Rate has been calculated as

$$\frac{\text{Corporate Tax}}{\text{PBT (Post Extra-Ord Items)}} \times 100$$

$$= \frac{2,378}{8,821} \times 100 = 26\%$$

- (3) Calculation of Tax Benefit

- (a) Employee Cost is a tax deductible item and therefore we get a tax benefit.

Tax Benefit amount = 26% of Employee Cost =  $26\% \times 12,464 = 3,240.64$

- (4) Tax savings benefit is a kind of inflow in financial management. Therefore, cost of human capital will be Average dividend % of last three years will be divided by after tax profit i.e.,  $(18+8+8) \% / 3 = 11\%$  (component cost)

- (5) Tax Adjusted Cost

- (a) No tax benefit for equity.

- (b) In case of human capital

- (i) Cost of Employees = 12,464.00

- (ii) Tax Rate = 26%

- (iii) After Tax Cost = Employee Cost - (Tax Benefit) =  $12,464 - 3,240.64 = 9,223.36$

- (e) Total After Tax Cost = After Tax Cost of Equity ( $287 \times 11\%$ ) + After Tax Cost of human capital =  $(287 \times 11\%) + 9,223.36 = 31.57 + 9,223.36 = 9,254.93$

- (6) Calculation of WACC

$$\frac{\text{Total After Tax Cost}}{\text{Total Book Value of Equity + Human capital}} \times 100$$

$$= \frac{9,254.93}{287 + 22,025} \times 100 = \frac{9,254.93}{22,312} \times 100 = 41\%$$

- (a) 41% of  $\Sigma$  of Book Value of Sources of Capital =  $41\% \times 22,312 = 9,147.92$

- (7)  $EVA_{HC} = NOPAT - WACC = 8,414.00 - 9,147.92 = -733.92$

- (8)  $EVA = NOPAT - WACC = 8,414.00 - 287 = 8,127$

**Table 1. IMPACT OF HUMAN CAPITAL ON EVA OF INFOSYS LIMITED**

Particulars	2013	2012	2011
$EVA_{HC}$	-3,641.55	-1457.00	-733.92
EVA	10,175.00	9121.00	8,127.00

Sources: Author's Computation

**3.2 Description of calculation methodology**

- 1) EBITD has been considered as the contribution of human capital. In other words, EBITD is the productivity of the human capital excluding the fixed costs and contribution of other factors (such as equity, preference, debentures, and retained earnings) than human capital.

- 2) Employee cost has been deducted to arrive at EBITD. To know the overall revenue generation, the employee cost has been added back.

- 3) Corporate Tax is paid on the net profits of the company after considering extra-ordinary items (these are the activities related with mergers and acquisition, expansion, divestment, etc).

- 4) Employee cost is shown in the debit side of profit and loss account and hence qualifies for tax benefit. Therefore, the employee cost after tax will be  $19,932.00 - 5182.32 = 14,749.68$  for the year 2013,  $15,481 - 4,025.06 = 11,455.94$  for the year 2012, and  $12,464 - 3,240.64 = 9,223.36$  for the year 2011.

- 5) Cost of equity is the average dividend of last three years.

- 6) Cost of equity is dividend that is known as component cost.

- 7) The researcher has considered after tax cost in the calculation of WACC.

- 8) In the calculation of WACC, tax adjusted book values of equity and human capital are calculated by considering the respective component cost i.e., the respective book values are multiplied by after tax cost and

finally the summation of this value is known as tax adjusted book value.

9) To derive the value of WACC, firstly, the percentage of WACC is derived by dividing total after tax cost by the total book value of equity plus the book value of human capital. Then the WACC % is multiplied with the summation of book value of sources of capital.

10) EVA with human capital is derived by subtracting WACC value from NOPAT (figure from P & L A/C) and also EVA is derived without inclusion of human capital by subtracting WACC (equity figure from balance sheet) from NOPAT to know the real value i.e., increase or decrease in the wealth of the shareholders fund.

### Findings

It has been observed that the EVA with inclusion of human capital becomes negative from the year 2011 to 2013. And EVA without human capital becomes positive from the year 2011 to 2013. Higher the WACC, the less likely it is that the company is creating value because it has to overcome more expensing borrowing cost in order to make profit.

When the organization take profit as positive indicator, it has been observed that in EVA calculation, after inclusion of human capital, profit becomes a negative indicator which is the true projection of the financial position of the company because when the organization shows profit as positive, even then, the EVA is negative. Therefore, EVA is the real indicator for the increase or decrease in shareholders fund. The concept of EVA becomes even more emphatic when we include human capital in the calculation of WACC.

### Conclusion

Through EVA managerial decision making calculation methodology, the study gives perspective of Indian organizations adaptability about the impact of human capital inclusion on calculation of WACC which will thereby gives an appropriate value of EVA. The above mentioned calculation methodology is same for all the Indian business organizations irrespective of manufacturing and service sector industries. However, the outcomes of EVA with inclusion of human capital will differ between organizations depending on their planned outcomes. The study focuses that EVA® has emerged as a powerful conceptual framework and is practically implemented in most of successful corporations across globe. In near future the EVA concept will become more appropriate reporting tools of financial decision making considering human capital to be an important capital in addition to existing mode of capital required to finance the business. Indian organization will have to change the reporting methods and financial statement for better forecasting of the company's future prospects in terms of their requirement for business transformation if needed to stand in competitive environment. This will become more or less mandatory considering the second generation reforms. The study finally has tested empirically about the role of human capital management in economic value addition of large scale organizations.

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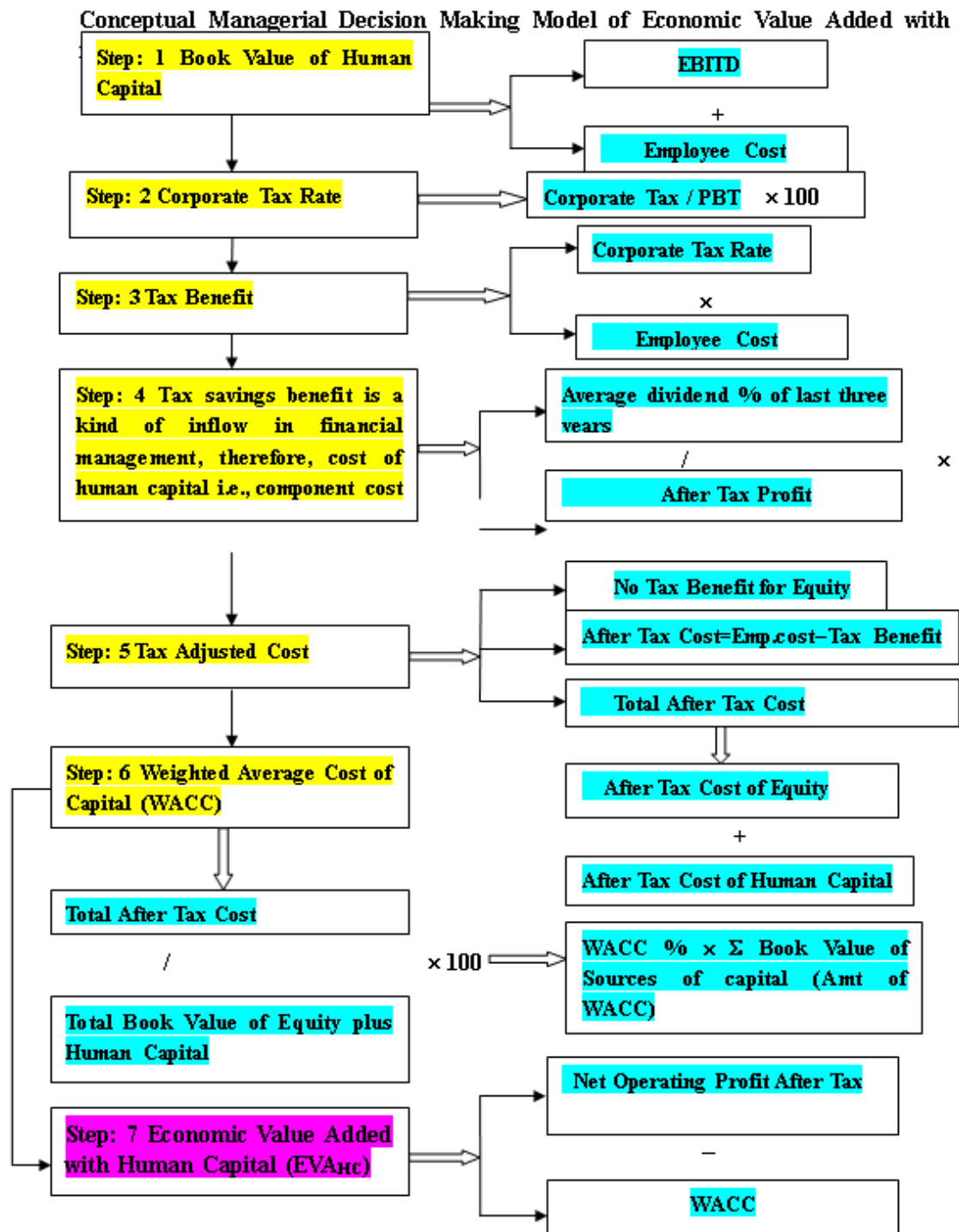
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