



# Intellectual capital: extended VAIC model and building of a new HCE concept: the case of Padang Restaurant Indonesia

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## Abstract

The objectives of this paper are (1) building a Value-Added Spiritual Capital (VASC) model which is an extended VAIC model; (2) Building a New Concept of Human Capital Efficiency. The paper employs an interpretive paradigm by reinterpreting the existing text about the intellectual capital concept and synergizing it with value added of accounting for Mato -based profit-sharing system. This study produced an extended VAIC model, namely Value Added Spiritual Capital (VASC). Three development results are firstly, adding a new element of intellectual capital, namely the organizational spiritual capital. Secondly, measuring the role of each intellectual capital (IC) element to create value added. Thirdly, conducting an extended measurement of Human Capital Efficiency (EHCE), which is represented by Value Added Per Mato (VAPM) as the proxy to result EHCE model.

**Keywords:** Model VASC, Mato System, extended human capital efficiency (EHCE), value added per mato (VAPM)

## Introduction

Value added is a tool to measure financial performance achievement of a company. A company is established to create value added (VA). Pulic (2004) formulated  $VA = OUT - IN$ , in which value added is created by tangible assets and intangible assets of the company (Bontis et al, 2000; Pulic, 2000, 2004; Choong, 2008; Nazari & Herremans, 2007). IC reflects intangible assets (IA) of a company (Choong, 2008). IC is formed from four elements: Human Capital (HC), Structural Capital (SC), Customer Capital (CC), and Property Rights Capital (PRC) (Choong, 2008). Yet, Pulic (2004) noted that there were only two elements of the IC, that are HC and SC. All elements besides HC, is classified into SC, therefore IC is formulated as  $IC = HC + SC$  (Pulic, 2004). It means that Choong (2008) makes CC and PRC distinct elements inseparable from SC. VAICTM is efficiency measure of Intellectual Capital (IC) to create VA or performance (Pulic, 2000, 2004).

Indeed, significant weaknesses have been investigated in the formula composition. It basically reveals inconsistent argumentation built to create the VAICTM measurement. The argumentation of creating VAICTM is based on the company balance sheet, which is a conventional accounting output: a sum of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employee Efficiency (CEE). Pulic's argumentation in fact suggested that VAICTM is required due to having the conventional accounting limitedly be able to serve as a means of measure to capture "current business" condition (Pulic, 2000, 2004).

“Current business” is a present condition of a business that exists in a very dynamic or highly changing environment so that how the “current business” is formed may not be typically along “conventional business” lines that gives rise to “conventional accounting”. Pulic’s claim to agree with VAICTM as a compatible tool to measure financial performance of “current business” remains inappropriate since the formula of VAICTM, itself stems from conventional accounting, in other words, VAICTM is indeed considered as a conventional accounting measuring tool (Pulic, 2000, 2004).

This paper aimed to generate VAICTM on the basis of “current business”. In order to formulate a measurement with “current business” feature, VAICTM needs, developing – it should not only involve a financial accounting element, but also a more appropriate approach to measure performance existing in a rapidly changing business environment. The development addressed in this study is focused on exploring SC element, which is elaborated in-depth and in details.

In addition, an extended Human Capital Efficiency (EHCE) coefficient is revealed. Pulic (2004) introduced a formula of  $HCE = VA/HC$ . If the value of  $VA/HC$  is 3, it will mean that each 1 USD of company load is worth value added of 3 USD. This is a very useful information for management; for instance, if  $VA/HC=3$ , it means that each 1 USD of company load will be worth value added of 3 USD. The result of this measurement is useful for completely noticing human resource efficiency. Nevertheless, the ratio derived fails to investigate each employee’s contribution to value added creation. The information is also greatly significant for internal interest of the company management in order to fairly determine reward and punishment.

Development of HC measurement in order to refine human resource management should be conducted. This is in line with Pulic and Choong studies considering the importance of one heading step to redefine employee position with the intellectual capital as human capital becomes a crucial element of it (Pulic (2000, 2004; Choong (2008). Thus, there are two sorts of development to address in this paper: firstly, extended VAICTM and secondly, extended HCE.

## Literature Review

### Intellectual Capital

Choong (2008) noted that several definitions of IC (IA) have been revealed by experts and most of them generally stated that IC (IA) was a non-monetary set with the absence of physical substance, but had a value and generated benefit in the future. Defining IC or IA should apparently begin with defining the asset itself. IA (IC) has been regarded as the most important resource companies have nowadays; unfortunately, most of them are not able to define what IA truly means.

A couple of terms have been employed to describe IC (IA). One researcher defined IC as a difference between the market value of a company and its book value, in the meantime, the other researchers introduced “Goodwill”, a difference between entity market value and book value, which is known as “unreal asset” (Choong, 2008). In accounting, “goodwill” is, however recognized when a purchase transaction upon a company takes place and the transaction costs higher than the book value. Goodwill is “an unreal asset” of “intellectual capital”. Conversely, Choong (2008) did not seem to agree with the idea of having IC or IA represented by goodwill since this term covers a wide range area of discussion. In addition, the researcher has not completely explained what it means yet. Kaufmann and Schneider (2004) elaborated well a bunch of terms and definitions for each type of IA. Some terms used by researchers i.e. “unreal asset”, “unreal resources”, or “intellectual capital”, “intellectual wealth”, “intellectual knowledge”, and “material values”, have more or less a similar meaning. On the other hand

IC is concisely elaborated upon as an unreal asset: an asset that cannot be seen and includes such varied activities as technology, consumer trust, brand image, company culture, and managerial skills.

Choong (2008) revealed that the perspectives of IASB and IAS 38 accounting policies define IA to be identified as a non-monetary asset without physical substance it owns. IA is used in the production or supply of goods and service, for rent, or for administrative matters. IAS 38 defines IA to cover expenses for advertisement, training, research and development. There is a wide range of activities that can be treated as IAS, but it is expected that all of them will benefit in the future (cash flow). Such activities include advertising (marketing), distribution, research and development, human resource empowerment, and values of brand, copyrights, agreement for zero completion, franchise, future interest, license, operating rights, patent, record holder, confidential process, trademark, and trade name.

### **Intellectual Capital Elements**

Choong (2008) suggested four intellectual capital elements: Human Capital (HC), Structural Capital (SC), Customer Capital (CC), Property Rights Capital (PRC). Meanwhile, (Pulic (2000, 2004) simplified them into two elements of Human Capital (HC), and Structural Capital (SC). The red tape of both researchers is that IC can be simplified or in return, developed.

In the “current business” context as explored by Pulic (2000, 2004) it is possible that the IC be more developed not only into two or four elements but also more varied elements. Owing to the fact that the present business condition of 2019 is much different from that by the time VAICTM was formulated, it is required that improvement and development of VAICTM go along with the development of what Pulic (2004) calls “current business”. For instance, SC element includes one significant variable of “current business” of 2019 that is the phenomenon of industrial revolution 4.0.

### **Intellectual Capital Measurement: VAIC**

Bontis et al., (2000) and Choong (2008) stated that IC comprises four elements: Human Capital (HC), Structural Capital (SC), Customer Capital (CC), and Intellectual Property Capital (IPC). Human Capital involves knowledge and competence, Structural Capital involves development and technology, and Intellectual Capital involves brands and rights. The whole Intellectual Capital measurement is the sum of the total elements. Pulic (2004) pointed out that to figure out IC efficiency, value added was measured to serve as an indicator to notice success of business. Value added is formulated as  $VA = OUT - IN$ , where OUT is total revenues and IN is total expenses (exclusively wages and salaries expenses), or it can also be formulated as  $VA = OP + EC + D + A$ , where OP is operating income, EC is employee cost, D is depreciation, and A is amortization. Pulic (2004) formulated efficiency of each IC element; for example, efficiency of human capital is calculated with  $VA/HC$ , where HC is total salaries and wages. Structural Capital is calculated with  $SC = VA - HC$ , and Structural Capital Efficiency (SCE) is calculated with  $SCE = SC/VA$ . Thus, Intellectual Capital Efficiency (ICE) can be calculated with  $ICE = HCE + SCE$ . Next, Value Added Intellectual Efficiency (VAICTM) is formulated as  $VAICTM = ICE + CEE$ , where ICE IC efficiency (IA) and CEE is efficiency level of real asset (Pulic, 2004).

### **Organizational Spirituality VAIC™ as an Element**

Pros and cons as to whether or not organizational spirituality exists has been addressed by Neal and Biberman (2003) by questioning: Does organizational spirituality exist? Is spirituality of The Highest Thing that goes far beyond human capability necessary? Additionally, can it be measured? Neck and Milliman (1994) claimed that the central aspect of spirituality involves what one's job means, what the employee mostly achieves more and more in a company.



Further, one perspective of a philosopher proves that a job is likely meant to be one way to most deeply experience God's presence in this world. So, the next question will be like: What does spirituality mean at work? How can working be a spiritual experience for members of the organization? Working can apparently be a spiritual experience and it does not depend on how one sees what the work is like. One's attitude toward his or her work becomes the main factor of spiritual process.

Therefore, it is necessary to discuss the meaning of spirituality in a business organization and to suggest how the spirituality affects employees' performance in an organization. Secondly, we will discuss how a new theory of leadership and independent leadership perspective (TSL) can allow employees to affect or lead themselves in order to experience more spirituality at work (Neck & Milliman, 1994). There has been a tendency of the sharp increase in spirituality at work. One perspective said that when they have been advanced in technology and communication, people of a community seem to be more passionate with spiritual matters not only in their personal lives but also in their works where they spend most of their time.

Organizational spirituality is a more holistic approach to see organizational life in which people are inherently forced to search for the meaning and goal of all aspects of life. It obviously includes the meaning of one's job. Neal and Biberman (2003) stated that spiritual capital was defined in words as an asset, either real or unreal that comes from the spirit of the managers, employees, staff, and organization volunteers, and all of the things having influence upon the spiritual condition of all members in the organization. Learning from these spiritual sources, it is argued will not only help organizations achieve business objectives but allow human beings to flourish within organisations (Porth et al., 1999).

## **Research Methodology**

An interpretive method was employed in the research paradigm by reinterpreting the text of intellectual capital which is next integrated with the text of business organization concept using a Mato-based profit-sharing system.

Research focus includes two focal points. Firstly, it is the development of VAICTM by integrating organizational spirituality element and extended Human Capital Efficiency (EHCE), which is a development of HCE. Secondly, it is extended Human Capital Efficiency (EHCE) by integrating existing HCE concepts with Mato (point)-based employee management. Every employee no matter what his or her position is in the company will have the contribution measured proportionally toward company's value added creation. It is necessary to consider that the high or low score each employee has does not rely on merely the occupation/position; instead, it depends on the contribution one makes to create the value added (Pirzada, 2016). The load of the contribution is measured with the Mato system (Hanif et al., 2018, 2019). The internal management having the best knowledge of the company's business process is in charge of figuring out each employee's contribution. The roles of management accountants and human resource manager are supposed to be executed in this stage. This will explore energy to identify, to evaluate, and to measure the contribution value added creation.

## **Results**

### **Composing the Concept of Value Added Spiritual Capital as an Extended VAIC Model**

Value Added Spiritual Capital (VASC) is a concept which is created from an extended VAIC model. This concept is created by adding one significant element embedded in the VAICTM concept that is Spiritual Capital (SC). Composing the Value Added Spiritual Capital (VASC) has been crystallization of the Author's reflection while studying the business process occurring in a Padang restaurant management located in Jakarta-Indonesia (Hanif et al., 2015; Hanif, 2015a; Hanif, 2015b ; Hanif, 2017; Hanif et al., 2018; Hanif et al., 2019). The

measurement of a company's financial performance is found to be somewhat unique since it applies VA on the basis of Mato profit sharing system accounting.

Hanif et al (2015) explore the practice of Mato-based profit-sharing system, taking place in the Padang restaurant management situated in Jakarta, Indonesia is using the VA concept for measuring financial performance. VA of the Padang restaurant version is illustrated in Exhibit 1.

Exhibit 1. Value Added Statement Based on Mato System at Padang Restaurant in Jakarta Indonesia

<b>Resources:</b>		
Sales	X	
Reduced: Operational Expenses, not include Salaries and Wages Expenses & Depretiaton	<u>X -</u>	
Value Added (Profit), prepared to distribute		X
<b>Distributed to:</b>		
Zakat (Charity)	X	
"Depretiation" Distributed to Investors	X	
Taxes	X	
Profit sharing Distributed to Investors	X	
Profit sharing Distributed to Management & Brand Owner	X	
Profit sharing Distributed to Employees	X	
Retained Earning	<u>X +</u>	<u>X</u>
Residual		<u>0</u>

Source: Hanif et al (2015)

This paper aims to develop the measurement of Valued Added Intellectual Capital by synergizing the existing VAICTM concept (conventional) with the IC/IA concept using Mato-based profit-sharing system applied in Padang Restaurant management. This is meant to result a more comprehensive VAICTM measurement than that of the former VAICTM concept. The synergy will result Value Added Spiritual Capital Coefficient (VASCC). As revealed by Pulic (2000, 2004), Bontis (1998), Bontis et al (2000) and Choong (2008), it is noted that the VA is derived from the difference between total revenues (symbolized with OUT) and total expenses, excluding "salary and wages expenses" & depreciation (symbolized with IN), having the formula of  $VA = OUT - IN$ . This conventional formula of VA substantially resembles the VA concept using Mato-based profit-sharing system as illustrated in Exhibit 1.

The distinction nevertheless lies in the development of VA creating elements, which are classified into one element of SC in conventional VA. One distinguished feature of the VA using Mato-based profit-sharing system is that it has an organizational spirituality element in its creating process, and the so-named organizational spiritual capital. Another striking distinction is that all VA created from Mato-based profit-sharing system is measured and calculated periodically (usually every 100-working day), and then divided to all stakeholders that comprise: (1) eight beneficiaries of Zakat (Charity); (2) investors; (3) managers and brand owners, and (4) all employees. Originating from this Mato-based profit-sharing system, further is developed (extended) measurement of IC/IA element proportion to create VA.

### VASC: Synergy of Conventional VA with VA Mato-Based Profit-Sharing System

Pulic (2000, 2004) and Bontis et al (2000) stated that the VA was created by the Intellectual Capital (IC) or intangible assets and tangible assets the company owns. How IC or IA contribute to the creation of the VA may be hard to measure. Pulic (2000, 2004) and Bontis et al (2000) noted that IC element included: Human Capital (HC), Structural Capital (SC), and Capital Employee (CE). Pulic (2000, 2004) specifically also pointed out that value added





intellectual coefficient (VAICTM) is the sum of intangible and tangible assets of the company which is formulated as follows:

$$\text{VAICTM} = \text{HCE} + \text{SCE} + \text{CEE}$$

Where, Intellectual Capital Efficiency (ICE) refers to intangible assets, consisting of two elements, namely Human Capital Efficiency (HCE) and Structural Capital Efficiency (SCE) whilst CEE refers to Tangible Assets (TA). The following, Pulic (2000, 2004) formulated HCE, SCE, and CEE as follows:

$$\text{HCE} = \text{VA} / \text{HC}$$

$$\text{SC} = \text{VA} - \text{HC}$$

$$\text{SCE} = \text{SC} / \text{VA}$$

$$\text{CEE} = \text{VA} / \text{CA}$$

Based on the above mentioned, the concept of the VA using Mato-based profit-sharing system is naturally equal to that of conventional. The differences are signified as follows: (1) IC (IA) creating elements do exist; (2) VA's of Mato-based profit-sharing system is attempting to measure the proportion of VA creating elements, in which conventional, VA does not apply; (3) VA distribution to stakeholders as a consequence of point number 2 should meet the proportion.

All elements, creating VA are classified into two in conventional VA. They are HC element, and Structural Capital (SC) element which consists of element besides HC (Pulic, 2000, 2004; Bontis et al (2000). Choong (2008) was developing VA element stemming from SC, which is divided into three: SC itself, Customer Capital (CC) and Property Rights Capital (PRC). Choong (2008) considered CC and PRC being classified into its own group and not belonging to SC since CC and PRC have a determining role that can be identified and measured.

Yet, by reflecting VA practice in the business process of Mato-based profit-sharing system, the Author investigates another significant element in IC (IA) that creates VA namely organizational spirituality element, the so-called organizational spiritual capital. Why does it become essential? In the Mato-based profit-sharing system management, it is believed that wealth or profit or value added is generated due to the blessing of God for all the ease. The prayer and generosity God give in the wealth is an unlimited resource for creating VA. It is however not explicitly stated that this spiritual element does exist in the context of conventional VA. What seems to take into account is only the VA elements besides HC, which all are classified into SC (Pulic, 2000, 2004). Similarly, Choong added that IC (IA) is created from HC, SC, CC, and PRC. Thus, the spiritual capital elements are found in the concept VA with Mato system.

Organizational Spiritual Capital (OSPC) as IC (IA) element, creating VA, began from the business practice of Padang Restaurant that initially applies reduction as much as 2.5% off the created VA on the "zakat (charity)" (See Exhibit 1). "Zakat (charity)" is an obligation of a Muslim to spare his or her portion upon the increase of the wealth that one business entity gains, or one person earns. This is also convinced by the idea that the VA or wealth in the religious term cannot be separated from prayer and generosity of God which remain limitless. SPC also includes in IC (IA) as an unseen, unreal, and immeasurable being. The awareness of the management to implement Mato-based profit-sharing system from which zakat (charity) is allocated has been evidence of faith that the OSPC also contributes to VA creation.

In fact, regardless of the reasons, there has been the universal belief that the VA is not only created from HC, SC, CC, PRC, and CEE, but also is gifted by God and supported by social environment: secure country, stable socio-political condition, natural contribution. The natural contribution of VA can be apparent from the impact of industrial activities that definitely cause natural destruction. In this sense, the nature also sacrifices and contributes. In the context of



restaurant business for example there has been an increase in global warming owing to heat produced in the kitchen, or destruction in ozone layer as to the use of Air Conditioner.

Therefore, zakat (charity) in VA with Mato-based profit-sharing system has been the inspiration of the author to develop an extended VAICTM applicable for companies in general. It may cover not only companies running the values of Islam by means of zakat (charity), but also all industries and companies under the assumption that each of them certainly has a particular spirit named OSPC. To meet this goal, the concept of zakat (charity) is modified into something more common but with typical spirit. The term of zakat (charity) capital is then replaced with spiritual capital.

Pulic (2004) revealed that VAICTM is the sum of three elements: HC, SC and CEE, and formulated as  $VAICTM = HC + SC + CEE$ . The concept and measurement of VAICTM are developed by the Author into Value Added Spiritual Capital Coefficient (VASCC) that includes Organizational Spiritual Capital Efficiency (OSPCE) element, therefore here comes the formula:

$$VASCC = OSPCEC + VAICTM$$

OSPCEC = Organizational Spiritual Capital Efficiency Coefficient

VASCC = Value Added Spiritual Capital Coefficient

The formula is completely written as follows:

$$VASCC = OSPCE + HCE + SCE + CEE$$

$$OSPCEC = VA/OSPC$$

VA=Value Added

OSPC=Spiritual Capital

### **An Attempt to Measure Contribution of Each IC Element to VA Creation**

Since the business processes of the companies are not typical, it is highly possible that the contribution of each IC element to creating VA also remains distinctive. It means that this measurement will not result exactly the same on the contribution made by one company and the others. The concept of conventional, VA noted by Bontis et al (2000), Pulic (2000, 2004), Choong (2008) has not yet measured how much the contribution of each IC (HC, SC) and CE is for the creation of the company's VA. Could the measurement be possible to conduct? To answer this question, the Author will somehow re-deepen the practice of Mato-based profit-sharing system (Hanif et al., 2015). Value Added Statement described on Exhibit 1 states that VA after tax will be distributed to the parties who have created the VA having proportion (load) based on each profit sharing, called Mato score.

Mato score is proportional in nature and is in line with VA profit sharing (Hanif et al., 2015; Hanif et al., 2018; Hanif et al., 2019).

It can be illustrated, for example, in a management practice of one Padang Restaurant in Jakarta. There are three parties involved in the establishment of the business: (1) investors (2) management and brand owners at once (3) employees. The profit sharing upon VA applied as norm in the restaurant is the ratio of Mato score to all employees, to investors, to management and brand owners that is 10:7:3 (Hanif et al., 2019). The calculation can be easily performed by assuming the total Mato score for all employees = 100 Mato (details will follow in Section 4.2.). Based on the ratio, the total Mato of the company derived is 200 Mato and the details are shown in Exhibit 2.

Exhibit 2. Distribution of Mato Score

Total Mato Score for All Employees	100	Mato (Point)
Total Mato Score for Investors	70	Mato (Point)
Total Mato Score for Management and Brand Owner	30	Mato (Point)
Total Mato Score	200	Mato (Point)

Referring to *Mato* score ratio read on Exhibit 2, the value-added distribution can be calculated on Exhibit 3.

Exhibit 3. Value Added Distribution to Stakeholders:

Value Added (Profit), after tax, prepared to distribute		X	100%	
Reduced : Zakat (Charity) or Corporate Social Responsibility		<u>X</u>	<u>2,50%</u>	.....(1)
Value Added After Zakat (Charity)		X	97,50%	
Reduced: "Depreciation Distributed to Investors, 10% x 97,50%		<u>X</u>	<u>9,75%</u>	.....(2)
		<u>X</u>	<u>87,75%</u>	
=====				
Profit Sharing Distributed:				
To All Employees,	$100/200 \times 87,75\%$	0,43875	43,88%	.....(3)
To Investors,	$70/200 \times 87,75\%$	0,307125	30,71%	.....(4)
To Management and Brand Owner	$30/200 \times 87,75\%$	0,131625	<u>13,16%</u>	.....(5)
	} Based on Mato Score		<u>87,75%</u>	
=====				

Hanif et al (2015)

The profit-sharing proportion is based on the Mato score load of each party in a proportional manner. This proportion also reflects the contribution of each VASC element that creates VA. On Exhibit 3, there are five groups of VA distribution:

- (1) Zakat (charity) which is replaced with Corporate Social Responsibility (CSR) terminology and distributed as much as 2.50%.  
It is the VA created by Social Capital (SC) to which the socio-cultural aspect contributes. In the restaurant business, each respective VASC element can be summarized as follows in order to create the VA.
- (2) "Depreciation", which is distributed to Investors as much as 9.75%.  
It is the contribution upon the investment of production equipment in order to create the VA. As much as 9.75% is distributed to the investors who have provided the equipment. The portion distributed is picked from the VA created by Capital Employee (CE).
- (3) Profit Sharing, which is distributed to all Employees as much as 43.88%.  
It reflects the contribution of all employees to VA creation. The contribution of each employee will be elaborated in EHCE section.
- (4) Profit Sharing, which is distributed to Investors as much as 30.71%.  
Investors are parties who support the funding of all investment in the restaurant. This reflects the contribution of investment in addition to production equipment to generating VA. It, together with point (2), belongs to CE element.
- (5) Profit Sharing, which is distributed to Management and Brand Owners as much as 13.16%.  
The distribution is shared to the management, who creates the operating system and business process, plans, executes the plan, controls, fosters, and the Brand Owners of "Padang Restaurant". They belong to Structural Capital/SC.

In Exhibit 4 there is the proportion of VASC creating element on the basis of the Mato system is formulated as follows OSPC: CE: HC: SC = 2,50%: 40,46% : 43,88% : 13, 16%.



Exhibit 4. Distributed VASC, after tax, consists of :

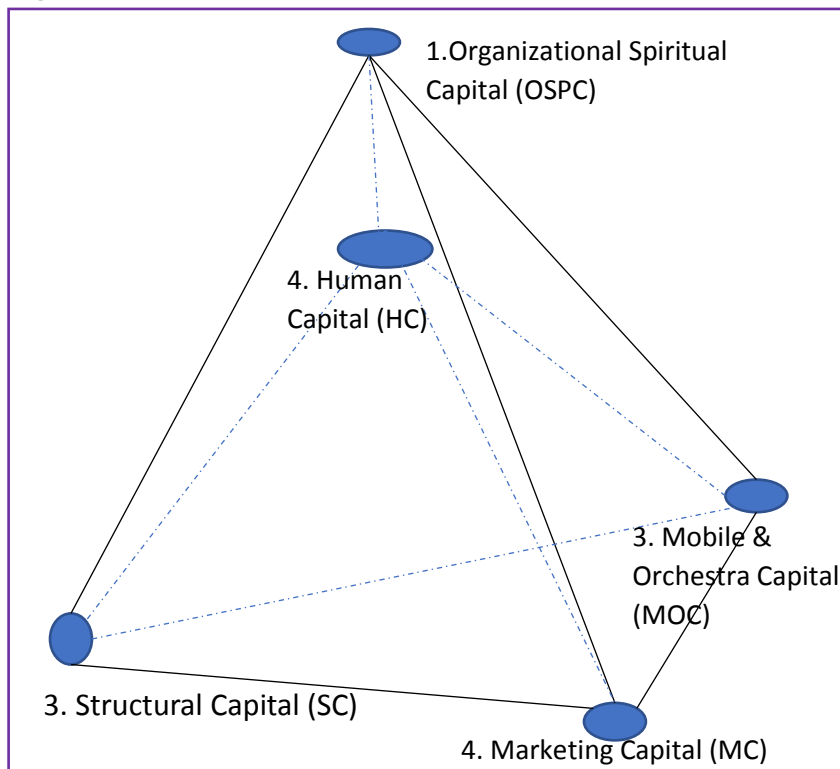
(1) Zakat (Charity) or Organizational Spiritual Capital (OSPC)	2,50%
(2) Capital Employee(CE) ... (2) + (4)	40,46%
(3) Human Capital (HC)	43,88%
(4) Structural Capital (SC)	13,16%
TOTAL VASC AFTER TAX	100,00%

Can this proportion inspire the measurement of VA creating element proportion of other organizations and companies? Certainly, it can be applied on one condition, that this is not a standardized proportion which all kinds of industries and companies may use. The proportion of OSPC, CE HC and SC to create VASCC can vary in accordance with the respective business process uniqueness of the industries and companies.

### VASCC Qualitative Aspect

Learning curve of Padang Restaurant management shows that the distribution of zakat (charity) is only 2.5% of the VA. This percentage does not only represent the amount reduced, but also something more on qualitative aspect. Zakat (charity) is symbolized as a business “guard” to maintain its long-term sustainability. It is a symbol of spiritual values the company has. A company is established not only for creating economic performance, but also a journey heading to the blessing of God. These values are embedded in Organizational Spiritual Capital (OSPC) and function to guard or protect how the business is supposed to run as a whole. OSPC becomes qualitatively prominent as OSPC has been the “soul” of the organization. Therefore, these five VASC creating elements are described as a triangular base pyramid, of which bases are three VASC elements i.e. CE, SC, and HC. The OSPC ranks on the top pyramid and becomes the “soul” of the complete capital existing in the organization as seen in Figure 1.

Figure 1. Model of Extended VAIC





Mobile and Orchestra Capital (MOC) are company's wealth to utilize the technology of industrial revolution 4.0 or industrial revolution 5.0 by utilizing the changing business environment such as the use of internet, AI, etc. Amazon.com, alibaba.com are examples of companies having high MOC and being able to utilize the industrial revolution 4.0. and industrial revolution 5.0 from which they also create their wealth.

Why SC is included in independent IC stems from Zohar (2010) perspective, suggesting that a company would maintain its long-term sustainability if it possibly developed spiritual capital either in individual or organizational level. Neubert et al (2017) added that spiritual capital is an individual or organizational ability to deeply comprehend company's existence. The most striking and interesting perspective of his is that spiritual capital is neither meant to be anti-material being, nor anti-capitalism; instead, it's final output is to increase company's strength mentally so that the company is capable to gain profit by multiplying its wealth. Spiritual capital is situated at the peak of the pyramid indicating that the spiritual capital through spiritual intelligence can lead to value creation. Zohar (2010) asserts that the existence of a company is to make profit, but this achievement by considering long-term sustainability cannot merely rely on material aspect – which somewhat might trap the company into making short-term profitability and neglecting long-term interest. This may even be worsened with the company's capability to only fulfil its short-term necessities because it may eventually come to a point of destruction.

### **Extended Human Capital Efficiency (EHCE)**

It has been clearly explained that HC is IC or IA element. Pulic (2000, 2004) and Bontis et al (2000) claimed that HCE could be calculated from monetary value of the total value added generated within one period of time divided by monetary value of HC expenses within the same period; therefore, it is formulated into VA/HC. It means that the higher ratio attained, the better efficiency level of HC, and vice versa. Unfortunately, this HC efficiency level, which is placed as an object of efficiency, will be too tempting for the company management to have HCE increased particularly under the stagnant value of VA throughout the periods. In consequence, the HC monetary value should be the target to reduce. It means that the welfare and cost on development will be eliminated. It can be summed up that HC efficiency is likely to be met, but HC effectiveness is not (Pirzada, 2019). This can in fact decrease employee work motivation in long-term period so that the goal congruence will go far beyond the company unless such increase of HCE value does not take place.

There should be improvement and development in measuring HCE required for improving the weakness of VA/HC ratio. The measurement has to be useful for portraying employee work productivity, effectiveness and efficiency achievement in order that the goal congruence can be met at the same period.

HCE development is performed by re-interpreting the concept of the VA using Mato-based profit-sharing system that places HC in a strategic position in the company, as a partner in adjacent with other stakeholders, under profit sharing concept with VA proportion distributed as shown on Exhibit 6. According to HCE concept of Pulic (2000, 2004) and Bontis et al (2000) stating that  $HCE = VA/HC$ , HCE of a company can directly be calculated:

$$VA/HC = VA/0,4388VA = 2.28.$$

The ratio of 2.28 means that each 1 USD of expense on HC will contribute to the company's VA as much as 2.28 USD. Unfortunately, the ratio in the concept of the VA using this Mato system cannot be applicable to measure HC efficiency achievement for the ratio of VA/HC in such concept has been fixed with approximately 2.28. Thus, the concept in VA with Mato profit sharing system turns out to be the concept of EHCE (Extended Human Capital Efficiency), and followed as well with a complete change of HC efficiency measure, which is no longer based on a formula of VA/HC but Income per Mato (IPM).

## Income per Mato

Human capital efficiency in VA, conventional concept differs from that of Mato-based profit-sharing system. When the former calculates it by VA/HC, the latter calculates the human capital efficiency by focusing more on the effort performed to measure each employee's contribution toward the value-added creation using Mato score. The more Mato score the employees have, the more contribution they have made to create the VA. IPM is the proxy of EHCE.

To depict EHCE with IPM proxy, the Mato score of each employee in the company (Padang Restaurant in this case) should first be counted. For instance, a Padang Restaurant franchise with 38 employees of varied position has a 100 total Mato score as seen in Table 1.

**Table 1. Mato Score Distributio of Padang Restaurant in Jakarta - Indonesia**

Number	Number of Employee	Position	Mato Score	Number	Number of Employee	Position	Mato Score	
1	1 Person	Head of Restaurant	6	20	1 Person	Waiter	2	
2	1 Person	Head Chef	5,5	21	1 Person	Waiter	2	
3	1 Person	Vice Head/Head Cashier	5	22	1 Person	Waiter	2	
4	1 Person	Head Paluang	4,5	23	1 Person	Waiter	2	
5	1 Person	Head of Service Section	4,25	24	1 Person	Waiter	2	
6	1 Person	Waiter	4	25	1 Person	Waiter	2	
7	1 Person	Waiter	3,75	26	1 Person	Personnel of Noodle	2	
8	1 Person	Paluang Member	3,25	27	1 Person	Personnel of Noodle	2	
9	1 Person	Waiter	3,25	28	1 Person	Cashier Member	1,75	
10	1 Person	Waiter	3,25	29	1 Person	Waiter	1,75	
11	1 Person	Head of Beverage	3	30	1 Person	Waiter	1,75	
12	1 Person	Waiter	2,75	31	1 Person	Personnel of Noodle	1,75	
13	1 Person	Waiter	2,75	32	1 Person	Personnel of Noodle	1,75	
14	1 Person	Waiter	2,75	33	1 Person	Personnel of Noodle	1,75	
15	1 Person	Kitchen Personnel	2,5	34	1 Person	Dish & Cleaning Sevice Personnel	1,75	
16	1 Person	Paluang Member	2,25	35	1 Person	Dish & Cleaning Sevice Personnel	1,75	
17	1 Person	Kitchen Personnel	2	36	1 Person	Dish & Cleaning Sevice Personnel	1,75	
18	1 Person	Kitchen Personnel	2	37	1 Person	Dish & Cleaning Sevice Personnel	1,5	
19	1 Person	Kitchen Personnel	2	38	1 Person	Dish & Cleaning Sevice Personnel	1,5	
Number of Employee					38 persons	Number of Mato Score		100

Hanif et al (2015)

Mato score reflects the employees' contribution to the VA creation of the company. It signifies that Mato score is proportionally in line with the contribution to the company's VA. For example, let us see the Mato score of employees #2, the Head Chef (1 person), who has "6" Mato score. Another is employee #17, the "Kitchen Staff" (1 person) who has "2" Mato score. This means that the contribution of "Head Chef" is three times as much as the "Kitchen Staff" (6/2). Continued with the rest, the contribution of each employee is comparable in the VA creation.

The measurement system of each employee's Mato score is the most strategic activity and has to be professionally and accurately executed by internal management of the company.

Some parties are involved in this Mato score measurement i.e. Owner-Director, Management Accountant, Operating Manager, and Human Resource Manager. Having determined the Mato score accordingly seen in Table 1, the management proceeds to distribute the VA portion to the stakeholders by referring to Exhibit 4. In this case, HC specifically has the right to claim as much as 43.88% of the total created VA (profit), called VA for HC (VAHC). Then, IPM can be calculated by dividing VAHC with a total Mato score formulated as follows:

$$\text{Income per Mato (IPM)} = \text{VAHC} / \text{Total Mato}$$

IPM is the monetary value of VA per Mato that reflects employee effectiveness, efficiency, and productivity as well as productivity and financial performance measure of the company. In addition, IPM is the meeting point of achieving the interests of all stakeholders. Unlike ratio of VA/HC, higher VA does not positively reflect goal congruence achievement. In reverse, higher IPM surely proves better productivity, effectiveness and efficiency of HC as well as goal congruence achievement level. The concept of EHCE and HCE are compared briefly in Table 2.

**Table 2. Compare EHCE with HCE Measurement**

EHCE	HCE
VA = OUT – IN	VA = OUT – IN
VA = HC + SC	VA = HC + SC
HC = VA – SC	HCE = VA/HC
EHCE= VAHC / Total Mato Score	
EHCE = VAHC Per Mato Score (abbreviated “VAPM”)	

### VAPM Performance Measurement

For example, PT. ABC (imaginary title) has three business units: Business Unit A, Business Unit B, and Business Unit C with respective data on employees and Mato score as seen on Table 3. Firstly, out of three business units, PT ABC has, the number of employees is classified into the smallest (6 employees), but it might have the most Mato (36). Thus, HC resource is measured by the number of Mato, instead of the employees under the assumption that the measurement of each employee’s Mato has been accurately conducted by the accounting information system by PT ABC management on the basis of criteria that can be scientifically reliable. It means that the employees’ Mato in each working unit is the apples to apples. Similarly described between business unit A and business unit B, the number of Mato they have is equal, 35 Mato, despite the fact that business unit B has a greater number of employees (8) than that of business unit A (7).

Secondly, having had the Mato score figured out, the contribution of each employee to generate value added can also be investigated. For instance, if “employee D” has 4 Mato score in business unit A, his contribution to create value added will be half of “employee A”, or the contribution of “employee D” is four thirty fifth of the total employees in the unit. Thirdly, it has been previously clarified that VAPM is the effectiveness, efficiency, and productivity measurement of the employees and the company at once. Assumed that each value added human capital (VAHC) of business unit A is 1,400,000 USD, of business unit B is 700,000 USD, and of business unit C is 1,400,000 USD.



**Table 3. Mato Score of Each Employee for One Business Unit**

Business Unit A	Business Unit B	Business Unit C
employee A, 8 Mato	employee A, 7 Mato	employee A, 9 Mato
employee B, 10 Mato	employee B, 8 Mato	employee B, 10 Mato
employee C, 5 Mato	employee C, 5 Mato	employee C, 6 Mato
employee D, 4 Mato	employee D, 4 Mato	employee D, 5 Mato
employee E, 2 Mato	employee E, 2 Mato	employee E, 3 Mato
employee F, 3 Mato	employee F, 3 Mato	employee F, 3 Mato
employee G, 3 Mato	employee G, 3 Mato	-----
-----	employee H, 3 Mato	6 employees, 36 Mato
7 employee, 35 Mato	-----	
	8 employees, 35 Mato	
		VAHC = 1,400,000 USD
VAHC = 1,40,000 USD	VAHC = 700,000 USD	thus,
thus,	thus, VAPM=700,000/35	VAPM=1,400,000/36
VAPM=1,400,000/35	VAPM=20,000 USD	VAPM=38,889 USD
VAPM=40,000 USD		

The VAPM of each unit can then be formulated as follows:

$$\text{VAPM} = \text{VAHC} / \text{Mato Score Total}$$

Thus, VAPM of business unit A is the highest (40,000 USD) compared to that of business unit B (20,000 USD) and of business unit C (38,389 USD). It can be concluded that business unit A has the highest productivity and performance of the employee and the company at once.

### Final result of VASC

To have “HCE” been developed into EHCE, than VASCC becomes

$$\text{VASCC} = \text{EHCE} + \text{SCE} + \text{CEE} + \text{OSPCE}$$

VASCC = value added spiritual capital coefficient

EHCE = extended human capital efficiency

SCE = Structural capital efficiency

CEE = Capital employee efficiency

OSPCE = Organizational spiritual capital efficiency

### Conclusion

Value Added Spiritual Capital Coefficient (VASCC) is in essence a refinement and development of VAICTM. VASCC is a comprehensive financial work performance on the basis of value added used to measure financial performance of a company with “current business” property. A management accounting approach is employed to develop VASCC measurement by integrating organizational spirituality element.

EHCE, which is one element of VASCC, is next developed by measuring the contribution each employee makes to create company’s VA. Consequently, an extra work should be taken into account by internal management to identify, to evaluate, and to measure relatively accurate contribution. Firstly, it is by determining the HC value of the company. Secondly, it is by determining each employee’s Mato score in the contribution to the value-added creation of the company. Mato score can be adopted from that implemented in Padang Restaurant management called the Mato system.





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