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# ACCOUNTANTS AND ACCOUNTING FOR HUMAN RESOURCES ACCOUNTABILITY AND INTELLECTUAL ENTREPRENEURSHIP

For ages accountants were not positively perceived by people. In the old times, long ago, Sumerians had a saying about ,,dub-sar" (a man with a tablet to measure): „... *From the outside you are an accountant but from the inside you are not a man...".* Common opinions heard from time to time have not always been favorable to this group of specialists (the Monty Python stereotype of the boring accountant). Most intellectual accountants are presently CPA fellows who in the eyes of many are much like the accountant described by poet Adam Kazan in his ,,0de to CPA Man" below.

Oh to be a CPA

From which all morals we shall stray.

Numbers are his only games.

Schoozing, adding, dropping names,

Pencil, pen, ledger sheet

Having hair his greatest feat.

So far, the reputation of an accountant is similar to that portrayed in ,,0de to CPA Man", despite many positive changes in the last decades. For instance S. Wallman, an SEC commissioner, attests that present financial reporting is a critical component of our capitalistic and democratic system. We may conclude that he highly appreciates accounting and accountants. One can believe that in the New Age (the forthcoming epoch where life will likely exist without money), the picture of an accountant will reshape to a more friendly fellow. A fellow who no longer cares for norm, usage, costs and cash. We believe that despite the many changes, in the future in a more intellectual society, an accountant will play an equally important role. This is since an accountant is a person who, among other things, professionally assigns measures (positive numbers) to objects and events in the field of economic activities. This side of the accounting activity is mysterious, scientific, responsible and extremely useful for society. Accountants, from the early unknown beginnings, were concerned with various aspects of representing different forms of economic or commercial activity and with the correspondence of representations of such activity. We believe that their role will strengthen in the future.

The most scientific aspect of an accountant's activities is measuring and the process of measurement itself. According to a well known researcher, G. J. Staubus, accounting is,,...a *set of activities, focused on an economic entity, and concerned with information regarding the economic effects of events of the entity".* We shall accept this brief definition and use it as a basis to investigate the scope of accounting. A listing of accounting activities sufficient to provide a basis for the explication needed here includes: discovering, identifying or recognizing; classifying, measuring, recording, summarizing, analyzing, interpreting, and reporting. The subject matter of all these activities is the effects of economic events on the entity.

Let us note that present accounting is focused mostly on the economic entity. The focusing of accounting activities on one ,,entity" is occasionally suggested as the key difference between accounting and other activities dealing with economic information, such as economic analysis. That usage appears to be generally accepted. Beyond that, little needs to be said about the entity concept in the present context. Whenever the question is raised as to what point of view is taken in accounting, the definition of the entity is likely to be questioned, but these matters are well settled in practice. The ..accounting entity" is

generally viewed as an economic unit under one management, so the scope of the management's power determines, in a general way, the boundaries of the entity.

As the definition states, accounting is also focused on economic effects of events. Millions of events occur every day, so accounting faces the task of screening out those to be ignored. Some events, e.g. securities transactions, may generally be viewed as having a more distinctly economic character than others. Surely most events have some economic effect on someone. The accounting screen is designed to separate those events having an economic effect on the entity, from the total set of events. Thus the work which accountants now undertake ranges far beyond that of simply collating data in order to assess business profitability and liquidity. Although this work is still very important, accountants have gradually extended the scope of their responsibilities. At some point in time, some observers expected accounting to be superseded by the newer and more scientifically based disciplines. As yet this has not happened, although many accountants now work in those areas, while others have absorbed the methods into the solution of accounting problems. Accountants have always been well placed in this respect, since specialist techniques have to be translated into a language that everyone can understand if any benefit is to be obtained. The accountant uses money as his language, and since the language of money is generally understood by everyone, accountants have always been at an advantage.

Similar to business in general, accounting in an organization and in information disclosure practices is strongly influenced by a variety of economic, social and political factors. These include the nature of enterprise ownership, the business activities of the enterprise, sources of finance, stage of development of capital markets, the taxation system, the social climate, the position of the accounting profession and the nature of the accounting regulation. Of particular importance to accountability and disclosure, have been the emergence of corporations, the separation of ownership and control, and the development of the securities market. The characteristics of these organizations necessitated disclosure for protection of two groups in particular. First, as a consequence of limited liability, the resources available to creditors in the event of a corporation's liquidation were limited to those of the corporation itself. Given that the liability of the shareholders was limited to their investment, disclosure was seen as a necessary means of regulation. Information disclosure and accountability would assist creditors in determining the extent to which they were prepared to commit resources to the corporation and the use of resources they had committed.

The second major reason for the close relationship between limited liability and disclosure was the protection of shareholders. The emerging entrepreneurs often came from backgrounds that did not give them easy access to the capital necessary to launch and expand individual projects. The introduction of limited liability removed a major disability. Those who owned capital were unwilling to become involved in what frequently were risky projects as they stood to lose not only their investment but the rest of their personal wealth as well. Limited liability restricted the potential loss to the investment in the corporation. As many of these investors were not directly involved in the running of the business, it was considered essential for their protection that they should have access to information on a regular basis.

Accountability to those with a direct financial relationship with corporations has been strongly influenced by two additional developments - the growth of professional management and the emergence of securities markets. The separation of ownership and control of corporations appears to have resulted from the emergence of professional management composed of individuals whose positions of power within corporations stemmed from their possession of administrative and/or technical skills rather than ownership of the corporation's capital. The growth in size and increasing complexity of business is the basis for the growth in importance of management.

Corresponding to the growth in the number, size, and complexity of corporations was the demand for finance in the form of shares, or what is termed as equity investment, as well as loans. This gave rise to the development of capital markets, where the raising of finance could be facilitated. A major factor influencing accounting was the emergence of stock exchanges or securities markets, which have their origins in the desire of shareholders to

trade their investments without liquidating the company, and the need for a mechanism for raising new finance in an efficient manner.

The growth of securities markets necessitated the expansion of information availability to a wider audience: in particular, potential investors interested in buying and selling shares. As most private shareholders were not capable of comprehensively analyzing the financial disclosures of corporations, they tended to rely on specialist advisers and financial analysts. These analysts now act as interpreters of corporate reports for many investors, both current and potential. In this way the information needs of investors, and financial analysts in particular, have acted as a constant pressure on corporations to increase both the quality and the quantity of their disclosures. Further, it has often been in the interest of corporations, and their managers who are concerned with raising capital at favorable rates and maximizing the value of their corporation, to respond to such pressures. Thus the emergence of securities markets have served to both deepen and broaden the disclosure.

Accountability and information disclosure by corporations as explained by L.H. Radebaugh and S.J Gray has developed historically in response to corporations with a direct financial investment. In recent years, however, there has been an increasing acknowledgment that since finance providers, such as shareholders, bankers, lenders, and creditors, are not the only group affected by the actions of a corporation, there is an obligation to report to a wider audience, which includes employees, trade unions, consumers, government agencies, and the general public. A variety of reasons has contributed to this widespread belief that companies should explicitly disclose information to groups other than finance providers. These include the development and growth of the influence of trade unions and employees in most developed countries. There is some recognition of the view that those who are significantly affected by decisions made by institutions in general must be given the opportunity to influence those decisions. Furthermore, there is growing public concern about the impact of corporations, especially in relation to so the called ..externalities" (pollution, social costs).

These developments, among others, have expanded the concept of ..accountability" and the desire of various groups in society to monitor/influence the behavior of business corporations. Wider corporate accountability has thus become an issue of major interest in recent years. To what extent has it affected corporate reports? The development of accounting by corporations has been magnified by many factors. This is apparent in respect to multinational enterprises. The multinationality and complexity of such organizations have enabled some of them to undertake actions to the detriment of a host country. Thus the accountability of international firms may be differentiated from accountability of domestic corporations, though both are business organizations with many features in common.

Accountants and accounting are still challenged by social and economic development and new needs of accountability. Among European directives and regulations relevant to corporate accounting and disclosure, there have appeared regulations concerning employee information and consultation. This opens a new direction in financial reporting and accounting research. The response of the accounting world to this challenge is research in the field of ,,socio-economic accounting". Social responsibility and accountability of business organizations are the core of these considerations.

We have to pursue a new idea in business and society: social and environmental accounting, in order to develop accountability of present organisations. Accountability is a helpful road sign on this way, together with social responsibility. So far there is no direct line of accountability between a business and the general public. If a business is to be responsible for social improvements then that link must be established. As an example of the lack of such line of accountability, let us consider a company which moves one of its facilities to a foreign country due to lower labor costs. As a result people are left without jobs, however they cannot do much about it. Corporate donations can be yet another example of the lack of a direct line of accountability. If community organizations believe that corporate contributions are not adequate, they cannot do more than complain. According to W.C. Frederick, K. Davies and J. E. Post, such lack of direct accountability of social activities is one of the shortcomings of allowing a business firm to be responsible for social matters.

However, the social arena is not the same as the market for economic goods. When it comes to economic goods, any firm that does not perform satisfactorily is held accountable to the buying public which may take its business to another company. It is clear that in such a situation there is a direct penalty for not performing well. In government programs aimed at solving social problems, politicians have to face the electorate and describe what they have and have not done.

In reaction to the mentioned lack of accountability of social activities of companies, accountants have started to develop corporate social accounting and socio-economic accounting. Applying their own methodology to the measurement process which differs greatly from traditional practices. What characterizes Social Accounting is its concern with a widening of both the content of accounting reports and the audience at which they are aimed.

The view taken by supporters of such an extension of the accounting system is that modern business enterprises have responsibilities which are wider than their legal obligations to shareholders and which encompass social obligations to other ..stakeholders". The list of stakeholders of a firm includes: equity investors; loan creditors;

employees; analyst-advisors; business contacts; consumers and the community or neighborhood. These stakeholders are seen as actual or potential users of information to be provided by accountants. Following this redefinition of ,,users" the content of accounting reports is redefined. For external reports on businesses to the wider society, accounts should include the ,,social contribution of an individual firm". This forms Social Responsibility Accounting which deals with the mentioned ..externalities" and attempts to account for the impact that a company has on society in general. D.J. Cooper and T.M. Hopper also suggest internal social accounting. This means that Employee Accounting is part of an overall strategy of ,,open management";

reports are to include information on job satisfaction and career opportunities as well as existing management information which could be used by trade unions. This form of accounting should also be useful for improvement of the collective bargaining process.

S. Mobley and A. Belkaoui have defined socio-economic accounting as follows: *Socio-economic accounting results from the application of accounting in the social sciences; it refers to the ordering, measuring, analysis, and disclosure of the social and economic consequences of governmental and entrepreneurial behavior. It includes these activities at the macro and micro level. At the micro level, its purpose is the measurement and the reporting of the impact of organizational behavior of firms on their environment. At the macro level, its purpose is the measurement and disclosure of the economic and social performance of the nation. At the micro level socio-economic accounting includes, therefore, financial and managerial social accounting and reporting and social auditing. At the macro level socio-economic accounting includes, therefore, social measurement, social accounting and reporting, and the role of accounting in economic development.*

Accepting this definition we have to realize an extension of the subject of accounting. An economic unit or owner's capital is no longer the only subject arrived at by the entity principle. Socio-economic accounting also involves a second subject. The subject is human capital and society. These two subjects together arrive at the main range and tasks of the socio-economic accounting. One of them is measuring the value of all sorts of capital, the periodical change in financial categories, communicating economic information to all stakeholders as well as protection of capital invested in human and non-human assets. Thus socio-economic accounting accounts for human capital and human assets.

One can see socio-economic accounting as the generalization of the traditional accounting involving financial and managerial accounting, human resources accounting, value-added accounting and tax accounting. In the new emerging accounting all the parts should be melted into one homogeneous theory describing the principles of measuring, evaluating and interpreting all manifestations of capital, no matter what assets embodied the capital.

Having defined socio-economic accounting which widens the space of accountability

involving individuals and society, we have to introduce and consider the fundamental concept related to the new dimension of economic and management thought. This key term is commonly known and frequently used. The typical use of the term is similar to the following way of thinking *..Human capital is the best company asset.* The authors use the terms **human capital** and **intellectual capital** interchangeably. To illustrate a common approach as applied by many authors, we first refer to a well known publication entitled intellectual Capital" by W.I. Hudson who also reported on Stewart's beliefs.

Let us refer to the author in order to show the dilemmas appearing in his consideration and the issues he came up with. W.I. Hudson refers to the article by T.A. Stewart which appeared in the June 3rd (1991) issue of *Fortune.* The article is entitled ,,Brain Power: How Intellectual Capital Is Becoming America's Most Valuable Asset". Stewart says, *,,Every company depends increasingly on knowledge-patents, processes, management skills, technologies, information about customers and suppliers, and old-fashioned experience. Added together, this knowledge is intellectual capital."* In other words, *,,It is the sum of everything everybody in your company knows that gives you a competitive edge in the marketplace."* Hudson comments on Stewart's assertion in the following way. *„/ agreed in general with Stewart, but I had two problems with his thesis. First, I wondered whether the word ,,sum" would be further clarified. I agree with Stewart that the intellectual capital of a firm is the sum of its individual parts, but the important question is how exactly is this sum to be taken? How is addition to be performed on apples and oranges, or on elephants and ants? Will the ordinary rules of arithmetic apply? For instance, what if Albert Einstein works for the company? Will his portion of the total intellectual capital simply be „ 1 unit" or ,,1 Ph.D. unit"?"*

Second, as Hudson points out, a principal component is left out of Stewart's definition; the missing element is one on which tactical enhancement of intellectual capital mainly depends. In his definition intellectual capital is the combination of (a) genetic inheritance, (b) education, (c) experience, and (d) attitudes about life and business. But nowhere in the article is attitude mentioned. Without this component, as one will see from the additional criticism that follows, the overall message of intellectual capital is cybernetic - an almost electromechanical vision of greater profits via controlling human beings as though they were intellectual automations. Each individual, according to Hudson, has a unique combination of these four factors. Whatever total intellectual capital you have is in fact *singular,* its structure is unique. Intellectual capital cannot be mass produced. But the singular structure you presently possess can be significantly enhanced.

*Human capital* has originated with American economist T.W. Schultz who perceived it as attributes of acquired population quality which are valuable and can be augmented by appropriate investment. According to Schultz *human capital* requires investment of physical resources and monetary capital. W. Hudson shifts the meaning of that term and prefers the notion of *intellectual capital.* The mentioned author focuses more on individuals who are highly educated. S. Sunder's characteristics of managers refer to *human capital* and its stock included in these groups of employees, thus the author thinks in *intellectual capital* terms too. B. Olsson uses the term *intellectual capital* as well as the term *human* cap/Ya/ understanding the latter as *„... covering all the knowledge and skills that an individual brings to the workplace..."*

Most authors consider intellectual capital in context with organisation aims and their knowledge management systems. Then the intellectual capital is concerned mainly with the company's ability to deploy its resources profitably into new markets; their ability to translate new ideas into products or services as discussed by R. Booth. In that approach intellectual capital considerations are a part of investment in intangibles. Many similar frameworks have been developed to answer the question of how to define and measure intangibles. The most recent summary, made as a report to the OECD, was prepared by Swedish researchers: U. Johanson, G. Ekiov, M. Holmgren, M. Martensson. In that report, the balance scorecard method is evaluated as one of the ways for description of intangible assets in a non-financial framework.

All the mentioned authors consistently use the capital terms in their line of reasoning, therefore the choice of the term is not an important issue. A socio-accounting point of view

requires however, to perceive human capital and its parts as belonging mainly to a holder, not only in a business framework. Following this point of view, human and intellectual capital should be defined together with their accounting measurement methods. Then the categories could be reported for management aims. This is also a creative way which allows to find additional terms and relationships. Applying this approach, we need two different notions since human capital differs from intellectual capital.

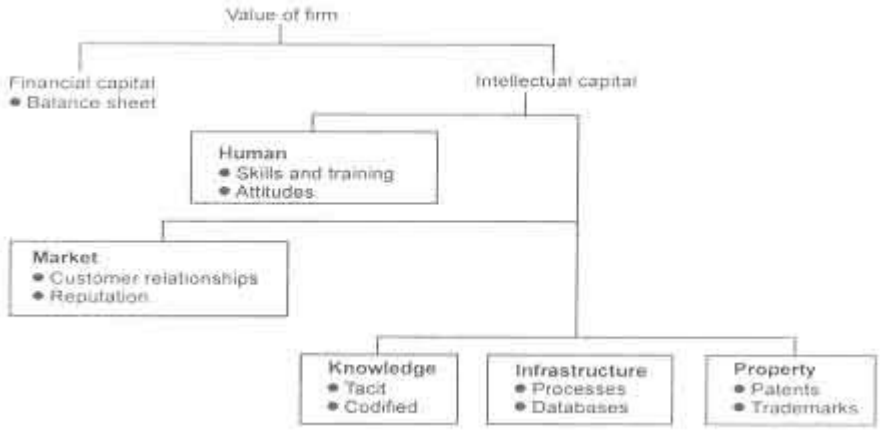
Human capital is inalienable from its holder, nevertheless it possesses an essential feature in respect to the investment that produced accumulated stock of capital. Parts of human capital are additive and the entire human capital is the sum of the capitalised cost of living, capitalised cost of education and the value of experience although it is physically impossible to detach the stock of human capital from its holder as well as its intellectual capital, we may add. There can be no market for such a resource in its capitalised form, nevertheless we can measure it up because capital is measurable category.

According to S. Sunder's opinion „.... *managerial capital is used in the job, but it does not get used up. On the contrary, much of it is acquired as a by-product of doing the job. No more than a small part of this capital can be acquired off- the job, for example, by getting a degree in management. Senior managers, with their large stock of human capital, get paid a great deal more than new entrants - the difference between new MBA and new under graduate salaries is* sma// *in comparison". All the above mentioned variables are separable from each other, as the investments were.*

The father of this concept, T. Schultz, prefers the term *human capital* and makes the following distinction:

*Consider all human abilities to be either innate or acquired. Every person is bom with a particular set of genes which determines his innate ability.... Attributes of acquired population quality, which are valuable and can be augmented by appropriate investment, will be treated as human capital.* According to Schultz, the acquisition of human capital is not free. It requires investment of physical resources and monetary capital.

Different authors use many forms of description for illustrating the composition of *human* and *intellectual* capital. Many frameworks have been developed. A particularly well known framework was developed and applied in Skandia. Another one is R. Booth's framework which describes elements and a structure of the term Jntellec-tual capital" as follows:




Accountants, however, keeping in their minds the needs of developing the accountability of an economic event space, have to apply their own ways of thinking. Ways which are appropriate to accounting methodology of research. Their thinking takes into account assigning measures to all components of human and intellectual capital. Let us analyze the terms from that point of view starting from *the roots. We have to refer to capital as a fundamental term and its measurement concept.*

*The term* capital *has a long history and tremendous writings. According to Kari Marx, capital is produced in the process of circulation in the form M-C-M (M - money, C - commodities). In circulation, money converts to capital.*

> If we abstract from the material substance of the circulation of commodities, that is, from the exchange of the various use-values. and consider only the economic forms produced by this process of circulation, we find its final result to be money. This final product of the circulation of commodities is the first form in which capital appears.

*An example of the circulation:*

If I purchase 2000 pounds of cotton for $100, and resell the 2000 pounds of cotton for $110, ! have, in fact, exchanged $100 for $110, money for money. The exact form of this process is therefore M-C-M', where M' = M + $\Delta$M = the original sum advanced, plus an increment. This increment or excess over the original value I call surplus value. The value originally advanced, therefore, not only remains intact while in circulation, but adds to itself a surplus value or expands itself. It is this movement that converts it into capital.

*These short quotations show the way of thinking of this distinguished author. Without going into detail, it is obvious that this concept seems no longer useful for accounting and socio-economic accounting in particular.*

*Irwing Fisher is deemed as the creator of modern understanding of the term; he used the notion of ..capitalisation" as a basic concept related to capital.*

> Capital in the sense of capital value is simply future income-discounted, in other words capitalised. The value of capital must be computed from the value of estimated future net income, not vice versa.

Thus, according to this distinguished author, the capital should be taken as the present value of the income stream discounted by the rate specific to the owner. F. Fetter claims that „... *this conception is ingeniously developed, use being made of mathematical terminology, and is applied in criticism to rival definitions ...„* We however do not see the term fully explained.

Let us look at the same equation from two sides:

$$(1)\ K_0 = K_n(1+r)^{-n} \qquad (2)\ K_n = K_0\,(1+r)^n$$

The first equation discloses that if in the future you receive capital $K_n$ and the real interest rate which is accessible to you is r, then today you may consider value $K_0$. The second equation shows, that if you have capital $K_0$ and n years of time is of front of you then multiply $K_0$ to have the greatest $K_n$. Take all opportunities to maximise yearly rate r.

Why do we insist on interpreting only the first equation when we speak about capital? The equations are equal from a formal mathematical point of view. Also, capitalisation as a process and a concept is basically applied to the second equation. Capitalisation is a process of increasing value.

The king gave gold coins to the servants ( Luke, 19.11-19.24) and told them ,,...See *what you can earn with this while I am gone..."* In this case the earnings mean the increasing of the initial capital. The worst servant was the one, who did not capitalise the received value at a positive rate; did not put the gold in the bank, did not earn any interest, and therefore his capitalised value did not increase despite of passage of time. In this case, the king did not arrange a competition for future inflow determination and hence he did not solve the capital budgeting problem. A present value measure is not appropriate here.

Assets create a stream of future benefits according to the accounting theory. By examining a stream of inflows we can evaluate whether the capital embodied in the assets is multiplied (capitalised) at an expected rate. Let us consider the historical cost in the context of the two streams: past and future. First, let us consider an example. A town council decided to build a settlement to rent apartments to citizens. The council resolves to finance issuing 3-year zero coupon bonds sold according to the needs for cash. The construction works will last three years. The cost of the capital (rate r) is included in the cost of the construction, so that the interest is a part of the historical cost of manufacturing the apartments. Having built the houses, the council rents them, establishing a yearly payment of P = r *HC, where HC is the historical cost of created assets ( apartments) and r is the same rate as the cost of capital. In such a case we can see that:

(1) HC = future value of cost stream =

$K_1 (1+r)^3+K_2(1+r)^2+K_3(1+r)^3$

where ($K_1$, $K_2$, $K_3$) are annual costs;

(2) HC = present value of inflows = $\frac{P}{r} = \frac{HC \cdot r}{r} = HC$

In the present case, concerning the accounting measure of the assets, the historical cost is both the future value of the stream of cost and the present value of the stream of inflows. This case could be very realistic at an efficient market assumption. The historical cost concept may be generalised to a future (capitalised) value of cost if construction/production lasts longer. That is, a case in respect to the human resources.

Outstanding premises to understanding capital are formulated by Y. Ijiri. *..Capital" and ..resources" are the two financial sides of the same entity... Since current liabilities ...are for the most part generated in the process of managing resources, they are often netted against assets. Following this practice, we state equality of capital and resources as:*

**Resources = Capital**

*Capital is abstract, aggregated, and homogenous, while resources are concrete, desegregated and heterogeneous. The double entry bookkeeping system that has been the backbone of accounting in more than five countries, has since its inception recorded recourses and capital in tandem.*

One more feature may be added to Ijiri's description of capital. Capital has an ability to multiply (capitalisation). An entrepreneur cannot multiply his trucks directly but he is able to multiply the capital embodied in the trucks and then purchase a new truck.

Thus, the definition which involves the nature of capital is:

*Capital is the value of economic means capitalised in physical and human resources. The rate of capitalisation is determined through natural and social conditions of environment.* The definition shows capital as a measure of economic value, thus it must be abstract and homogeneous category that is a measure of economic value. The nature of capital (i.e., its ability of capitalisation) is the reason for discounting of the expected future stream of inflows.

The extended definition may involve the natural resources as well. *Capital is the value of economic means capitalised in natural, human and physical resources.* The value always has to be taken at a certain point in time, so that it may be the present value but in some cases it ought to be computed as the future capitalised value of the past stream of a used means.

Capital defined above may be classified assuming different criteria:

1. Equities: equity capital, debt capital;
2. Placement: human, physical, natural;
3. Kind of fund: fixed, circulating

The value of capital or the capital embodied in assets will be maintained (preserved), provided the assets will generate a stream of inflows that will yield a sufficient rate of return. The rate should not be less than the capitalisation rate. Otherwise, the value of capital declines and becomes less than the historical cost value. This is also the essential feature of capital, and this measurement process is the main accounting function.

In order to synthesise the measurable model of human and/or intellectual capital, we apply the following variables:

K - physical human capital (involves a particular set of genes as discussed by Schultz and Hudson). The value of the variable can be measured as capitalised cost of living;

E - education which creates an important part of intellectual capital (measured by capitalised costs);

Q(T, w) - experience which definitely depends on time (T) and personal skills (learning parameter w). These variables increase the sum of K and E.

The sum of human capital H(T, w) is then

$$H(T, w) = (K + E) [1 + Q(T, w)]$$

The existence of the sum and product in function Q show an existence of interrelation and synergy between the set of variables. To some extent the model also expresses an individual attitude about life and business. We can hardly describe all synergetic relationships but there is a more appropriate means of approaching the synergy of human and other factors affecting intellectual capital. Let us now consider a poem by D.C. Wanergin.

**Synergy**

Debits and credits.

Profits and loss.

Public and private.

Women and men. Equal and opposite,
similar but different. Great cogs in the mechanism of The company,
The job, The career.

All

Working and shifting together.

Bits and pieces,

Different details based on different perspectives,

But a cohesive whole.

Monetary cycle.

Fiscal cycle.

Career cycle.

Life cycle.

The ,,grindstone", ,,the office", the ,,nine-to-five" -Where numbers and statements and opinions and lives Come together to present a uniform face, So many elements achieving with grace That improbable but inescapable synergy Of business.

The ultimate in yin and yang.

Deborah G. Wanergin (1995)

This accounting approach will yield its fruits and will prove beneficial; this means a number of terms useful in quantitative description of human and intellectual capital. We obtain the following set of measurable categories:

$H = H(0) = K + E$ - human capital at the threshold of a professional career;

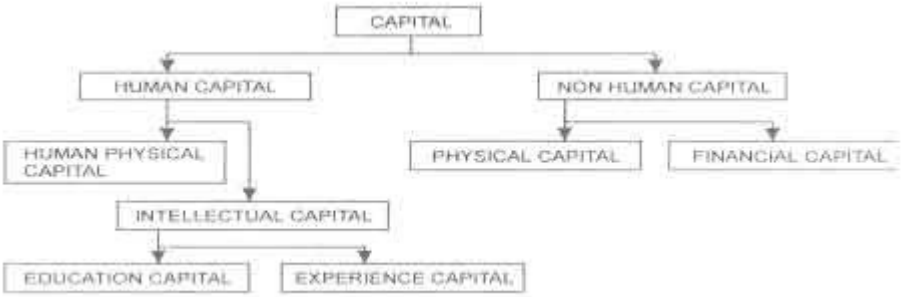
$D(T, w) = H * Q(T, w)$ - experience capital

$I(T, w) = E + D(T,w)$ - intellectual capital

$H(T, w) = K + I(T,w)$ - total human capital and

$H(T, w) = K + E + D(T, w)$

According to these quantifiable variables, we can draw an accounting framework describing the structure of the measurable categories of human capital.




*Now, we feel greatly prepared to comment on intellectual entreprenuership and on how accountants can add their bit into this new idea and concept. Standing aside, as an accountant should stand, we agree however with S. Kwiatkowski who highlights an increasing intellectual factor in services, products and enterprises. He writes,* ,,The growing role of intellectual products is visible on both consumer and industrial markets. On both these markets almost purely intellectual products, often devoid of their material supplement, successfully compete with those which clearly dominated several years ago. Thus, in manufacturing we witness expansion of technical consultancy-a purely intellectual and markable *component contributing to value creation in a client organisation through technology development."*

Speaking about consultancy, we can show an excellent example of a CPA firm as a world wide known intellectual enterprise. We believe that it will erase the not so pretty picture of a CPA which was introduced in the beginning. Traditional accounting is no longer a well fitted system describing economic performance of such a firm. Also, the balance sheet does not show a true and fair view of this highly intellectual unit. We speculate that some kind of human resource accounting, which makes their activities more accountable, is required. But a CPA company is only one example of existing intellectual entreprenuership in the accounting world. Accountants can also serve in their appropriate way, by measuring the intellectual input in the output. They can set into motion a measurement process like costing systems which produce appropriate cross sections of costs.

Besides the above mentioned matters, accountants and accounting systems will assist intellectual entreprenuership in recording the socio-economic events and summarising them in a set of useful reports. The stock market will benefit from the success of intellectual entreprenuership. As experience shows, the stock market appears to be fully aware of the potential value of intellectual capital. If a ratio is taken between the book value of a company and its market value, this ratio will generally be much higher for intellectual enterprises than for ..hardware" companies. In such a case an accounting system can be updated in order to report the intangibles which cause the difference.

An intellectual entrepreneur may request one more aide from the accountant. Persons who represent this high level of intellectual capital should be paid accordingly. Having measured the different components, they will be regarded in the pay system with an appropriate rate of return. A human capital wage theory should be developed and utilised in intellectual entreprenuership. Human resources costing and accounting can benefit in a relevant pay system.

The last but not least field of accounting input in intellectual entreprenuership success, is commanding the firm's risk. Intellectual activities are risky ones, as commonly known. Accounting assistance can however be a critical component providing relevant timeline information for decision making. Without appropriate information, risk increases as do demanded returns and the costs of capital. Intellectual entreprenuership requires a wise accounting system, which we believe is a feasible system to design. Intellectual entreprenuership is a new challenge for accounting and a positive response from the accounting world can be expected.

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