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**THEME III: METHODOLOGIES FOR DETERMINING THE VALUE OF INDUSTRIAL
PROPERTY ASSETS - VIEWPOINT OF AN INSTITUTION FOR THE MANAGEMENT
OF INDUSTRIAL PROPERTY RIGHTS**

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Those factors and the way in which they are taken into account when valuing intellectual property include the following:-

I. NET CASH FLOW

1. The net cash flow takes into account costs of doing business as well as additional capital investment needed to sustain the cash flow. The net cash flow represents the economic benefits derived from ownership of the property. These are not determined solely by management actions and other factors such as profitability, competition, economic climate and capital requirements are relevant.

Economic climates

2. These are cyclical. The value of intellectual property is not insulated from the general economic situation in which the industry must operate.

Profitability

3. This aggregates the cost element, such as wages, procurement of raw materials, conversion of raw materials, sales and other overheads. The value of intellectual property is directly related to its ability to contribute towards the attainment of substantial profits. Thus intellectual property which can enhance the profits of a mature product line is inherently valuable. The contribution may be processed technology that saves raw material or labour or it may allow a higher sales price on the final product.

Competition

4. The strategies of competitors can limit the amount and duration of future net cash flows and must therefore be taken into account. If the product is unique, a higher price can probably be charged. If there is a good deal of competition, price cutting will probably result.

Capital requirements

5. This can reduce the amount of future net cash flows that are derived from employment of an asset. The value of an asset is measured by the cash flow that is generated after allowing for reinvestment. Reinvestment can take the form of plant expansions and higher working capital requirements.

6. The important aspects of the net cash flow component to value can be summarised as:

- (i) the amount of future benefits,
- (ii) the potential for benefits; and
- (iii) the duration over which these benefits will be enjoyed.

II. ACTUAL AND POTENTIAL VALUE

7. Intellectual property need not have immediate economic benefits for it to be valuable. Indeed, embryonic technology or brands may often need further development or application before it has actual value. This approach takes into account the following factors;

Discount rate

- Inflation: Clearly the rate of inflation can diminish a purchasing power of future economic benefits and must therefore be taken into consideration.
- Liquidity: This is another risk that must be rewarded. Liquidity represents the difficulty with which an investment can be quickly be converted into cash. Intellectual property, particularly during the early days of a technology do not provide this benefit.

Real interest

8. This represents the component of return from investment associated with sacrificing alternative use of the invested funds.

Risk premium

9. This is the ended amount of return that investors demand for the assumption of risk.

III. DISCOUNTED CASHFLOW METHOD

10. This approach determines the present value of projected cashflows associated with the intellectual property. The present value is the value in today's money of the expected cashflows generated by the asset being valued. Cashflows are adjusted for the time value of money and the risk of their eventual realisation. The manner in which expected cashflows are related to present value is detailed in the following discounted cashflow model.

$$PV = E(CF1) / (L + R) + E(CF2) / (L + R)^2 + E(CF3) / (L + R)^3 + \dots + E(CFM) / (L + R)^n$$

11. In this model PV is the present value of cashflows of the investment. Discount rate is signified by "R". The expected cashflow each year is signified by "E (CF)". In other words, the equation states that the present value of the expected cashflows is equal to the sum of the expected cashflows where each cashflow is adjusted by facts relating to the length of time and to the individual cashflows expected and the riskiness of the cashflow. Thus there are three rates which must be estimated, namely the number of years in the projection, the discount rate and the cashflow for each period.

IV. COST METHOD

12. The second way of valuing the intellectual property is the so-called "cost method". This approach focuses upon the cost of creating an economically equivalent substitute, i.e. replacement value. It is interesting to note that in determining the value of intellectual property rights, the cost of the original research and development is rarely discussed. The reason for this seems to be that they do not fit into the equation suggested. They are seen as necessary but irrelevant as regards calculating the value. Many millions of pounds can be spent upon R and D, but if the final product does not have any application, it will have no value.

V. COMPARABLE VALUE METHOD

13. Market value can be transaction based or security price based. In order to make progress with this approach it is important to identify assets that are truly comparable in an economic sense and secondly once such a comparable property has been identified obtaining the relevant information - much of which will be extremely confidential and therefore inaccessible.

14. As will have been noted, there is considerable overlap between these methodologies.

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