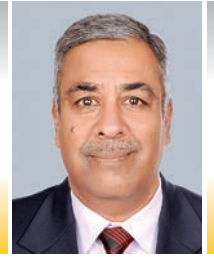


Intangible Assets : An Exploratory Study on the Nature, Approaches and Methods of Valuation

Intangibles are inherently different from physical and financial assets. These differences are responsible for the unique potential of intangibles to generate vast economic value and growth at both the corporate and national levels as well as pose serious difficulties in managing, measuring and reporting the value of intangibles. Various approaches and methods are available to overcome the valuation challenges, but efforts to improve the measurement and reporting of intangibles should continue. The challenge is the will to scale up the acceptable uniform regulatory framework for valuation of intangible assets.



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Usually, all assets in business can be divided into one of three categories: monetary, tangible, and intangible. Historically, the assets of a traditional “bricks and mortar” company were either monetary or tangible, and intangible assets were items such as patents, trademarks and copyrights with commercial value. Today, more and more of business enterprises’ worth are tied up in intangible assets. Intangible capital is not a distinct factor of production as is physical capital or labor. Rather it is the “glue” that creates value from other factor inputs.

Intangibles have been around a long time. The first prehistoric cave dweller who was able to start fires on purpose possessed some extremely valuable knowledge. That know-how was an intangible asset. Early agrarian societies that farmed together possessed valuable organizational capital. Their collective effort created an intangible asset. The people who created an alphabet, or a calendar, or a system of numbers were early inventors of extremely important intangible assets. If only they had been able to patent their inventions or copyright their works. There is a dramatic increase in the number of companies whose value lies largely in their intangible assets; with relatively little or no value associated with their tangible assets. Traditional methods of valuation, based on accounting principles, where the value of the firm’s assets is a portion of the value, have systematically undervalued companies such as these.

The nature of the emerging knowledge economy, and the importance of intangible assets within it, is neatly summarized by Stanford economic growth theorist Paul Romer:

‘How can it be that we are wealthier today than people were 100 years ago? . . . This question is puzzling because, if you add up all the things we own, it is clear that the underlying quantity of raw materials has not changed over time,. . . The total physical mass here on earth is the same as it has ever been, and now we have to divide this up among a much larger group of people. So how could it be that we have more total wealth per person than we ever did before? . . . There’s only one explanation for this increase in wealth. We took this raw material that was available to us and rearranged it in ways that made it more valuable. We took stuff that was not very valuable and made it much more valuable. . . . What lies underneath this process of rearrangement are instructions, formulas, recipes, methods of doing things – the things accountants classify as intangible assets if they recognize them at all. They tell us how to take something that is not very valuable and rearrange it into a new configuration that is more valuable.’

As the name suggests, Intangible Assets are assets which are not tangible in nature. Typically any organization which is run either for profit or non-profit motive has to use a combination of physical assets and intangible assets to derive its objectives. By the end of the last century the economic literature has witnessed an increased interest in intangible assets, intellectual capital, knowledge assets, and other related terms. An operational definition of intangible assets is given by Zaman Gh. (2009, pg.944) comprising identifiable non-monetary goods category, without physical substance, specific to the capital and intellectual property, including knowledge of the results of the research and development (embodied in the concept studies, scientific, treatises, documents, patents, innovative certificates etc.), brands or trademarks, trade secrets and industrial, advertising titles, software, copyrights, licenses to use , training activities and education etc.

There are too many different definitions and classifications for intangible assets at micro and macro level, which causes its’ recognition and measurement difficulties;

- It is difficult to separate extraneous users of the intangible assets (the problem of public good arises), so company cannot adopt all benefits from investment in such assets
- It is difficult to evaluate reliably inputs needed, future products, time, amount of the benefit for a company from these assets (the problem of uncertainty)

- The transfer or exchange of intangible assets is complicated on as it has no physical form (the problem of making agreements)
- International Accounting Standards (IAS 38 "Intangible assets") defines Intangible Assets as identifiable non-monetary asset, without physical substance. An asset is a resource that is controlled by the entity as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected. To recognize an intangible asset, IAS 38 recommends three critical attributes of an intangible asset:
 - identifiability;
 - control (power to obtain benefits from the asset);
 - future economic benefits (such as revenues or reduced future costs).
 Intangibles are non-physical factors that contribute to, or are used in; the production of goods or the provision of services or that are expected to generate future productive benefits to the individuals or firms that control their use.

CATEGORIES OF INTANGIBLE ASSETS

- **Marketing-related intangible assets:** Trademarks, Trade Names, Service marks, Collective marks, Certification marks, dress (unique color, shape, or package design), Newspaper mastheads, Internet domain names and Noncompetition agreements
- **Customer-related intangible assets:** Customer lists, Order or production backlog, Customer contracts and related customer relationships and Non-contractual customer relationships
- **Artistic-related intangible assets:** Plays, Operas, Ballets, Books, Magazines, Newspapers, other literary works, Musical works such as compositions, Song lyrics, Advertising jingles, Pictures, photographs, Video and audiovisual material, including motion pictures, Music videos, and television programs
- **Contract-based intangible assets:** Licensing, Royalty, Standstill agreements, Advertising, construction, Service or supply contracts, Lease agreements, Construction permits, Franchise agreements, Operating and broadcast rights, Use rights such as drilling, water, air, mineral, timber cutting, Servicing contracts such as mortgage servicing contracts and Employment contracts
- **Technology-based intangible assets:** Patented technology, Computer software and mask works, unpatented technology, Databases, including title plants and Trade secrets, such as secret formulas, processes, recipes. Specifically intangible assets may be defined as **Patents:** Patents provide exclusive rights to produce or sale new inventions
- **Copyrights:** Copyrights provide their owner with the exclusive rights to reproduce and sell artistic works, such as books, songs or movies
- **Trademarks and Trade names:** Trademarks and trade names include corporate logos, advertising, jingles and product name that have been registered with the government and serve to identify specific companies and products
- **Franchise licenses:** The purchaser of a franchise licenses receives the right to sale certain products or services and to use certain trademarks or trade names. This right is valuable because they provide the purchaser with immediate customer reorganization
- **Government licenses:** The purchaser of a government licenses receives the right to engage in regulated business activities
- **Goodwill:** Goodwill equals the amount paid to acquire a company in excess of its net assets at fair market value. It



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should be noted that while goodwill is technically an intangible assets, it is usually listed as a separate item on a company's balance sheet.

WHAT IS NOT AN INTANGIBLE ASSET

A few economic concepts that are not intangible assets are worth mentioning: ■ Competitive advantage ■ Market share ■ Added value ■ Efficiency ■ Repeat business ■ Customer loyalty.

VALUATION OF INTANGIBLE ASSETS

Intangible assets have strategic importance to future of an entity and yet it does not find place in traditional bottom line thinking and contemporary accounting practices. This approach was fine till the time business used to derive its value only from tangible asset. However in today's knowledge based industry, any modern entity derives its value from a mix of tangible assets and intellectual capital. The proportion of intangible assets as a part of the overall total assets is often greater than the proportion of tangible assets. Yet intangible assets do not appear in financial statements due to lack of transparency or absence of a benchmark market.

"Alice: Would you tell me, please, which way I ought to go from here?"

The Cheshire Cat: That depends a good deal on where you want to get to

Valuing intangible assets is a long drawn, complex and controversial issue and is viewed with skepticism because both nationally and internationally there are no clearly defined principles and rules regarding them. Despite their increasingly significant role in enhancing firm value it is difficult to obtain a reliable estimate value for these assets.

Approaches to Valuation: There are three acceptable approaches to valuation. They are Cost based, Income Based and Market Based. The nature of each approach is as follows:

A) Income Based approach: Future earnings which are attributable to the Intangible asset are forecasted over its useful life and discounted to its present value. This approach is appropriate in case of technology, customer related intangibles, trademarks, operating licenses and non competition agreements.

METHODS OF VALUATION UNDER INCOME APPROACH:

- **Excess Earnings Method:** this method removes the earnings attributable to net tangible assets from the total earnings of the Company. The balance earnings represent earnings on account of intangible assets. The same is divided by an appropriate capitalization rate to extrapolate the combined value of Goodwill and other intangible assets.
 - **Relief from Royalty Method:** This method is based on the assumption that a brand owner can license the brand to a hypothetical operating company. The operating company in turn would pay royalty at an expressed rate of sales. The present value of all future cash inflows from royalty will be the value of the Brand.
 - **Multi Period Excess Earnings Management:** This method first calculates the future cash flows from the business in which the intangible asset is engaged. From these cash flows, cash flows attributable to tangible assets and other contributory assets are deducted to zero in on cash flows attributable purely for the Asset in question. They are discounted to present value to find out the value of the Intangible asset. A variant of the Multi period Excess Earnings Management is the Distributor method which attempts to allocate earnings attributable to customer relationships based on profit margins earned by Distributors.
 - **Greenfield Method:** The assumption in this model is that the subject to asset is the only asset owned by business as of the valuation date. Then assumptions are made regarding start-up costs and further capital investment required to utilize the subject asset. These assumptions are made with a view to developing an operation comparable to one in which the subject asset is actually utilized. In this method it forecasts the cash flows attributable to the subject asset by subtracting necessary investments. The projected cash flows are then discounted to present value to determine income based value of the Intangible assets.
- B) Market Approach:** It estimates the value of the asset with reference to market activity i.e. transactions involving identical or similar assets. This approach is useful for valuing broadcast spectrum, internet domain names and taxi medallions.

METHODS OF VALUATION UNDER MARKET APPROACH:

- **Guideline Transaction Method:** In this method, value of an intangible asset is derived based on pricing multiples derived from comparable transactions. Valuer should carefully select the volume of transactions from transaction databases so as to arrive at an accurate multiplier.
- **Guideline Public Company Method:** In this method, value of an intangible asset is derived based on identifying key ratios of similar public companies and uses them to derive the value of other business. By its very nature, this method has very little applicability because an intangible asset will be rarely traded

in public.

C) Cost Approach: In this approach value of the Intangible asset is determined as the cost of replacement or reproducing of a similar asset or an asset providing similar service.

METHODS OF VALUATION UNDER COST BASED APPROACH:

There may be situations where there is no active market for Intangible Assets and so employing the Market approach would not yield proper results. However as sanity check to value derived from Income approach; a valuer may be constrained to also employ the Cost Based approach.

- **Replacement Cost:** It is based on the economic assumption that no investor will pay no more for an asset than the cost to obtain by purchasing a substitute asset of equal utility. This method has limited application for Intangible assets as it might not be possible for an investor to identify a substitute Intangible asset in the market.
- **Reproduction Cost:** It is based on the same economic assumption but with a difference that now investor will try to find a substitute by recreating the asset in question. This method will be still easier for investor to apply as costs required for making a similar asset can be computed.
- **Choice of Valuation Approach:** To sum it up, a valuer should always try to employ the Income based approach for determining value of Intangible assets. However in case it is virtually impossible to attribute earnings and cash flows to the subject asset, then valuer will have to resort to the Market approach and Cost Based approach. As the underlying spirit of any valuation exercise is that value should always be determined from more than one method, so value determined based on Guideline Transaction Method may be cross checked with value determined based on Replacement/Recreation method.

QUALITATIVE AND QUANTITATIVE VALUATION

IP valuation is both qualitative and quantitative in nature, as calculations are always based on qualitative analysis. Qualitative methods provide a value guide through the rating and scoring of IP based on factors which can influence its value. It examines, at a micro level: the quality of intangible assets themselves; their position and importance, relative to other business drivers; the broader industry within which the business operates; the potential value for business's competitors and potential competitors, the macro-economic outlook, over the useful life of the intangibles for the economy in which the business operates. The qualitative study is used to formulate (and justify) assumptions on which the financial models, used to determine a numerical value to the IP under consideration, will be based.

OPTION PRICING APPROACH – A NEW FRONTIER

Intangibles are all options on tangible assets, intangible assets and intellectual capital. The option pricing method represents a relatively new path for the evaluation of intangibles. Myers (1984) has been the first to recommend the application of the option-pricing theory (Merton, 1973; 1998) to the valuation of a particular intangible asset that was research and development (R&D). He states the discounted cash flows method (DCF) is of "no help at all" and "the value of R&D is almost all option value". Kaplan (1986), through investments' cases, concluded that DCF methods were unable to catch the value of "intangible benefits" such as flexibility and learning. According to Baldwin & Trigeorgis (1993), the solution to under-investment and lack of competitiveness should be found in



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the management of real options, and Faulkner (1996) analyzing the Japanese investment decisions, advises to apply real option pricing methods for evaluation of R&D investments. Valuation techniques based on real options are perhaps the most promising area for valuation of intangible assets, the point is how to identify and evaluate this “intangible value” represented by opportunities that are real options. As regards techniques for calculating the optional value of intangibles, the Black & Scholes formula, or the decision tree analysis applied to investments should be appropriate for the most of the cases.

CONSIDERATIONS IN VALUATION METHODOLOGY

- Choosing an appropriate valuation methodology. Although market methods are best where available, the lack of market evidence means that income methods are more often used
- The determination of appropriate assumptions requires experience and judgment due to the subjectivity involved
- The process of selecting an appropriate royalty rate range based on market evidence needs to be rigorous, as the value implications of a small change in the royalty rate can be significant
- The determination of the cost of capital requires experience and judgment. The cost of capital should be consistent with the risks and rewards of the intangible asset being valued
- Projections need to be carefully reviewed as this will impact on the value of the intangibles and will have a bearing on future impairment reviews
- Avoiding double counting of intangible value as two or more intangible assets may contribute to the same stream of earnings e.g. a well-known trade mark and the underlying technology.

The company is not only a center for the production of profit and capital accumulation, but also a collection center for technological and organizational knowledge and experience, and when all these forms of accumulation evolve into a balanced way, the enterprise carries out its mission for which it was created. The value of an enterprise can be measured by the size of its material heritage, but also subsists in the ability to acquire, generate and distribute intangible resources. In the last two decades, intangible assets have grown in importance in the economic system and in determining the success of a business enterprise and it appears that the traditional economic and managerial concepts are not adequate enough to provide answers and accurate and satisfying interpretations to the new reality of industrial and corporate systems where the change is attributed to the creation and proper management of intangible assets.

The measurement of the total value of intangibles has always been problematic. The task is made harder by the fact that values can change rapidly. For instance, the image and hence value of a brand can be seriously harmed by a product scandal of one sort or another. Equally, the value attributable to a firm’s workforce could

be reduced significantly by the loss of key people. But the fact that it’s hard doesn’t mean that it shouldn’t be attempted.

VALUE OF INTANGIBLE ASSET NOT YET RELEASED

To value productions or new works not yet produced and marketed, one may follow basically the same rules as presented above, but with some notable exceptions. First, he must investigate with great care what the projected economic life will be on the new asset. That means asking question, how much use has been realized out of similar rights, licenses, lists or other assets. The estimate of a usable economic life should not just be some “wild guess”. If the asset is to have a long economic life, costs are to be factored into updating the asset to keep it valuable. Since one does not have a track record on this asset, projections and cost projections must be made to forecast, best and a conservative net operating income for the asset. This is called a “proforma” in financial circle. The Performa on the new asset, divide the forecasted net income by its proposed economic life and divide by the anticipated capitalization rate to arrive at the estimated present value of that intangible asset.

THE VALUE PARADOX OF INTANGIBLE ASSETS

Accounting for intangible assets within the firm confronts the Value Paradox in terms of the problem of capture and accounting. Is it possible to capture the value of such assets, and if so, how? Is it desirable to measure their value? Who actually requires such measurement, and to what end? Once again, the Value Paradox is this: intangible assets have evident value, yet this encompasses inadequate measure to capture value.

REASONS FOR VALUING INTANGIBLE ASSETS

Since there is no universally accepted methodology for valuing intangible assets, the technique adopted in any particular instance is based on the reason that the valuation is required. The following are the major reasons for valuing intangible assets:

- Management of the Firm**
Management needs to measure the performance of each aspect of the business. Ignoring either the benefits or cost of intangible assets would lead to sub-optimal decision making. Activities such as investment in new productive capacity or formulating strategy are examples of such management activities.
- Mergers and Acquisitions**
When entire business or stand-alone subsidiaries are bought or sold, the value of the intangible assets must be taken into account.
- Reporting to Stakeholders**
Management’s responsibility to report to stakeholders often extends beyond the requirements of GAAP statements. It is common to report the impact of the firm on the environment and the community within which the firm operates. The impact of the firm on the human capital and health of both its employees and the local community is often considerable and it may be desirable to include these effects in the firm’s

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reporting objectives. The acquisition of productive intangible assets, whether through purchase or internal development, should be reported in a manner that is both transparent and reliable.

d) **Amortization and Impairment**

IAS 38 requires an entity to assess the useful life of its intangibles into those with finite and those with indefinite lives. Amortization applies to those with finite lives and requires an estimate of the useful life of the asset. There is a rebuttable presumption that the maximum amortization period is 20 years. Those with indefinite lives are not systematically amortized but must be assessed at least annually for possible impairment adjustments. According to IAS 38, intangible assets have an indefinite life when "there is no foreseeable limit to the period over which the asset is expected to generate net income or free cash flows.

CONCLUSION

Companies operate in a dynamic and challenging business environment with a constant battle to become and stay competitive and achieve sustainable growth. The business environment has transformed rapidly in the past decade due to major globalization and internationalization processes, which have created a demand for mapping and understanding business value and core competences. Intangible and knowledge assets have become a key requirement for companies to present a sustainable

competitive advantage. Parting from the traditional, the focus within companies and research is shifting to intangible assets. Analysis shows that the concept of intangible assets, although has been examined by many researchers, is still not clearly understood - there is no universal definition of this economic category, the researchers emphasize different characteristics of intangible assets and, although it is possible to distinguish the common points in definitions, which allows the standardization of the concept at some level, but there still remain a lot of divergent criteria of the analysis of intangible assets, what makes it a very complicated concept and a basic measurement problem. Intangible assets' valuation process is very complicated because of its unique features, and the approaches and methods used have many drawbacks: a lack of consistency, their insufficient credibility; subjectivity, when for every company model is individualized; because the models are not able to perform a comprehensive evaluation of intangible assets. The high level of subjectivity in choosing the indicators, reflecting company's activities in the most proper way for a company does not allow an objective evaluation of intangible assets, which leads to the emergence of non comparability between companies.

Intangible assets reached prominence in the business world in the late 20th century and will surely persist to capture the centre stage in the future. Intangibles are inherently different from physical and financial assets. These differences are responsible for the unique potential of intangibles to generate vast economic value and growth at both the corporate and national levels as well as pose serious difficulties in managing, measuring and reporting the value of intangibles. Various approaches and methods are available to overcome the valuation challenges, but efforts to improve the measurement and reporting of intangibles should continue. The challenge is the will to scale up the acceptable uniform regulatory framework for valuation of intangible assets. CS

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