About Technology Valuation

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Abstract--**The research is based on a review of the literature about technology valuation. First, it illuminates the mechanism of the valuation of technology, which is rooted in the intrinsic value of the technology, and how the price is set by negotiation during the trade of intellectual property. Then the study examines the existing pricing methodology for new technologies. Three approaches, the market approach, the cost approach and the income approach, are compared.**

The research differs from the prior literature by considering the process of technology transfer and the bargaining considerations of the supplier party, the licensor, the negotiating parties, the licensee, of a technology itself.

The result of the research provides a template for the process of technology pricing in view of the negotiation process, taking into consideration the market, cost and income aspects of a technology.

I. INTRODUCTION

The valuation of technology is a difficult, particularly for start-up ventures, where valuation of the technology is dependent on many assumptions. The subject has become more pressing for those involved in the valuation of developed or developing technologies for the purpose of acquisition or to obtain financing. [1]

In most cases, technologies are developed for incorporation in a product. In order for a technology to be used, knowledge has to be transferred from the creator to the user. This process is called "technology transfer." Both public and private technologies are engaged in technology transfer. [2] The price that is paid for a public technology is basically the transfer cost. Under intellectual property law, newly developed technology is private property; thus the right to use it has a price in addition to the transfer cost.

This research is based on the existing methodologies of technology valuation: the cost, market and income approaches. The study does not confine itself to the three approaches, but looks through the process of technology transfer and emphasizes the negotiation of technology pricing.

The paper first discusses the cost and revenue of public and private technologies during the creation, transfer and use phases. This discloses the value difference between public and private technologies. The study then examines the existing methodology of pricing. Lastly, the study provides a model of negotiation based on the literature review.

II. THE VALUATION OBJECTIVE - TECHNOLOGY

A. Technology as a Pricing Target

Technology can be defined as a body of processes or methods that are used to produce goods; in other words, the practical knowledge necessary to manufacture a product. Some implicit knowledge cannot be transferred. The valuation objective must be able to be transferred. So the objective of valuation is the technology that can be embodied and transferred.

There are two types of technologies: public and private. Technology is public when it is freely accessible, with no restrictions, such as published technologies or open source codes. Technology is private when its access is restricted by proprietary rights, which are patents and trade secrets related to technologies. Not all technologies are patentable, especially if their novelty is questionable; but on the other hand a manufacturing secret can apply, independently of any notion of novelty. [2]

Both public technologies and private technologies bring profit. However, when the technology is public the barrier of entry is very low. With the large number of entries of competitors, the profit will rapidly decline to average. Private technology provides a higher barrier for imitators, excluding them from the market -- thus private technologies can bring greater profit. This motivates the inventors to do research and apply for proprietary rights for the invention. It also motivates the companies to purchase technologies that will bring greater profits.

B. The Cost and Revenue Related to Technologies

Public and private technologies both need to be transferred in order to be used in large scale. However, public technology doesn't require payment for proprietary rights. The cost and revenue of using public or private technology is listed as Table 1.

Table 1 shows the cost and revenue for the technology provider and the technology user in the different phases of technology creating, transfer and use.

During the product development phase, revenue is usually *de minimus*, whether it is public or private. The structures of cost are similar, but the allocation of costs is different for public vs. public. If the purpose of the development is for a private technology, the developer is willing to invest more in the R&D activities. But, public technologies are often derived as an ancillary by-product of producing, learning, teaching and research.

During the transfer and licensing process, the cost differential between public and private technology amounts to the IP payment. Patents and trade secrets involve a payment for license or permission to use. Public technologies don't require a payment for the right to use them. Private technologies impose a licensing cost, for example, the licensor has to recoup fees for the any relevant patent applications, copyright registrations, and/or any contractual costs associated with trade secret protection.

TABLE 1. THE COST AND REVENUE FOR THE TECHNOLOGY PROVIDER AND THE TECHNOLOGY USER IN DIFFERENT PHASES

Parties in technology transfer	The Phases	Public Technology		Private Technology	
		Cost	Revenue	Cost	Revenue
The technology provider (Licensor)	Creating	1. R&D 2. By-product of producing, learning, teaching, research		1. R&D 2. By-product of producing, learning, teaching, research	
	Transfer	1. Publishing 2. Marketing	1. Consulting 2. Training 3. Tech services 4. Selling manuals 5. Selling relevant materials	1. Applying for IP 2. Filing the trade secret contract terms 3. Marketing 4. Negotiation 5. IP legal services	1. Down payment of licensing 2. Down Payment of permission for the trade secret 3. Consulting 4. Training 5. Tech services 6. Selling manuals 7. Selling relevant materials
	Using		1. Consulting 2. Tech services 3. Selling relevant materials		1. Royalty 2. Consulting 3. Tech services 4. Selling relevant materials
The technology user (Licensee)	Creating	1. Participating in R&D		1. Participating in R&D	
	Transfer	1. Consulting 2. Training 3. Tech services 4. Buying manuals 5. Buying equipment 6. Buying relevant materials 7. Trial-produce relevant cost	1. Samples	1. Down payment of licensing 2. Down Payment of permission for the trade secret 3. Consulting 4. Training 5. Tech services 6. Buying manuals 7. Buying equipment 8. Buying relevant materials 9. Trial-produce relevant cost	1. Samples
	Using	1. Consulting 2. Tech services 3. Buying relevant materials 4. Marketing 5. Mass-production relevant cost 6. Other operation cost	1. Products/services sales revenue (with excess profit in the early stage and profits decline fast to average)	1. Royalty/permission fee 2. Consulting 3. Tech services 4. Buying relevant materials 5. Marketing 6. Mass-production relevant cost 7. Other operation cost	1. Products/services sales revenue (with excess profit for a specific period designated by the licensing or permission)

These processes usually involve and investment in legal services. As a result, the IP transaction costs are higher commanding a higher price during negotiations and licensing of the correspondent IP. But, the potential profit from licensed technology may be higher revenue due to the IP protection. However, without the barriers to entry that IP protection affords, public technology will be subject to imitation within a relatively short period. A patent or trade secret can sometimes insure that the user of the technology will obtain a longer period where high profits may be obtained compared to the profit obtained from a public

technology (e.g. open source technology or public domain technology).

C. The Holistic Pricing of Technology Deals

The above analysis shows that the cost of licensing is made up of complex ingredients. There is a prior method created by Contractor which takes into consideration the lifetime cost of the deal. [3] The empirical pricing method of Contractor examines the whole process of technology creating, transfer and usage. Contractor strove to express these in the form of variables that could be measured in surveys. Hence Contractor took into consideration, as assumptions, the factors played by the age of the technology, the existence of a patent protection, the size of the production plant acquired by the licensee, etc. His model throws light on a particular variable, which is the transfer cost, not only as one factor determining the minimum price, but also as a "standard" for evaluating a license by calculating the margin on the transfer cost.

The other method to deal with technology licensing is to develop a licensing business plan. [4]. First, the business plan must address the strategic concerns of the company and show that these strategic concerns are advanced by a licensing program or, at least, not hurt by the program. Secondly, the plan must identify the major costs associated with the program such as: licensing costs (associated with negotiating and preparing agreements); technology transfer costs (associated with training, document reproduction, and helping to solve technical problems of the licensee); and other costs such as lost sales and delays in the licensor's own R&D programs because of the use of its engineering resources on behalf of the licensee. Thirdly, the plan must identify the benefits of the program such as: proposed revenue streams; access to technical improvements developed by the licensee; access to new markets; improvement in the stature of the licensor in the industry; and greater likelihood that a standards committee will issue a standard based upon a widely adopted technology.

The plan should also honestly address the issue of whether the people involved, whose support is essential to a smooth transfer of technology, are supportive or obstructionist. The parties to a licensing agreement should realize that the license is a mutual cooperative agreement which requires good faith on the part of both parties to achieve its full potential. The fee payments by the licensee should be established so that the licensed product may be priced competitively. The licensor will benefit from the successful sales levels of the licensee. On the other hand, if the licensor strikes too hard a bargain, the licensee will seek renegotiation of the rates when sales falter because the product cannot be priced competitively.

III. THE EXISTING METHODOLOGIES OF DETERMINING ROYALTY

In the holistic price of licensing, overhead expenditures (including the licensing cost, technology transfer cost and other costs related to risks) are dealt with by the licensing business plan. However, to use private technology, the licensee has to pay for the proprietary rights to the licensor, so the royalty is still a key part of negotiation, as it represents the value of the right of using the IP. This section of the research examines the existing methodologies of technology pricing. There are three approaches to technology pricing, which define the price from three angles. The three rules reflect a reality that technology pricing follows the general assumptions of pricing. [5]

1. The price should be greater than cost and less than the customer perceived value.
2. The price is decided by the bargaining power of the supplier and buyer of technologies in the technology market, which is further influenced by the competition of the providers and buyers in negotiation.

A. The Rule of Thumb and Fifteen Georgia-Pacific Factors

The fairly simple "25 percent rule" was published in 1971 by Goldscheider [6] and was widely used in the determination of royalties. However, the Federal Circuit has held that a 25 percent rule for determining royalties in patent infringement cases is fundamentally flawed Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292 (Fed. Cir. 2011)

The 25 percent rule had been a methodology of determining a reasonable royalty rate which has proven successful in many instances over the years. This methodology recognizes the greater risk and capital investment undertaken by the licensee and thus starts the negotiation figure with a 25%-75% split in the pre-tax profitability (25% to the licensor and 75% to the licensee). The 25%-75% pre-tax profitability starting figure must then be "tuned" up or down, depending on the particular circumstances of each case, including the significance of the intellectual property portfolio and the location of the principal burden of risk. With the benefit of considerable experience, the 25 percent rule had helped create a climate of realism in many negotiations that led to mutually satisfactory deals in the past 50 years.

The change in royalty estimates began with the trial court's decision in *Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292(Fed. Cir. 2011).* The Federal Circuit found that the jury's verdict on infringement was supported by substantial evidence and reversed the district court's grant of Judgment as matter of law (JMOL) of non-infringement; the Federal Circuit also reversed the district court's alternative grant of a new trial on infringement as an abuse of discretion. Yet in the most important part of the Federal Circuit's decision, the court concluded that the jury's damages award was fundamentally tainted by the use of a legally inadequate methodology regarding the "25 percent rule"; accordingly, the court affirmed the grant of a new trial on damages. After considering the issue, however, the Federal Circuit stated: "The court now holds as a matter of Federal Circuit law that the 25 percent rule of thumb is a fundamentally flawed tool for determining a baseline royalty rate in a hypothetical

negotiation. Evidence relying on the 25 percent rule of thumb is thus inadmissible under *Daubert* and the Federal Rules of Evidence, because it fails to tie a reasonable royalty base to the facts of the case at issue."

The *Uniloc* decision will have a significant effect on calculating damages and a reasonable royalty in patent cases. No longer can Plaintiffs rely on the 25 percent rule of thumb as a fall-back position. Instead, each Plaintiff and its expert must go through each of the fifteen *Georgia-Pacific* factors in order to calculate a reasonable royalty. [7] In 1970, the court used fifteen 15 factors to determine the type of monetary payments that would compensate for a patent infringement in G*eorgia-Pacific Corp. v. United States Plywood Corp.*, 318 FSupp 1116, 6 USPQ 235 (SD NY 1970).[8] The factors are shown in Table 3.

B. The Three Approaches to Determine Product Royalty

The "25 percent rule" was a pragmatic rule of thumb existing in practice for decades. The flaw of the 25 percent rule is disclosing that the determination of royalty has to consider more substantial facts related to the licensing. The existing methodologies mainly consist of three approaches: market approach, cost approach and income approach. [9]

1) The Market Approach

One of the most common methods used in the establishment of royalty rates is the market approach. Most commonly this approach depends upon an analysis of industry standards or norms. In addition, rules of thumb such as the "25 percent rule" can be included in this approach. In general terms, the market approach gives consideration to royalties charged for similar property in arm's-length transactions contemporaneous with the subject licensing agreement. Adjustment is made, where necessary, to the indicated royalty to reflect the condition and utility of the property being licensed relative to the market factors upon which the royalty is based. This approach is applicable where there is an active market with a sufficient quantity of reliable, verifiable data.

2) The Income Approach

Another approach of the method used is the income approach. The licensor gets the royalty, which is a split of the income of the licensee from the intellectual property. The royalty payment represents the compensation for allowing the use of valuable intellectual property by another. The amount of royalty must be equal to the achievement of a fair rate of return on the value of the intellectual property investment that is being transferred. The acceptance of a royalty which represents an amount below a fair rate of return is poor management of a significant corporate asset. To require a royalty that is higher than a fair rate of return is to drive away potential licensees and once again be guilty of poor asset management.

The business enterprise is composed of monetary assets, tangible assets, and intangible assets, which include intellectual property. The integrated employment of these complementary assets yields a stream of economic benefits: net income. The aggregate net income of the enterprise is derived from the integrated complimentary assets. Each asset contributes. Based upon the relative importance of each asset, the risk category and the risk associated with each asset, the aggregate net income of the enterprise can be allocated to its components. Intellectual property rarely generates economic benefits alone. Rather, complementary assets, in the form of working capital and tangible assets, are typically combined into a business enterprise. This "portfolio" of assets generates an overall economic return. Allocation of the overall return among the asset categories that compose the "portfolio" can isolate the amount of return that is attributable to the intellectual property component. This amount can then be used to help establish a royalty.

Isolating the stream of economic benefits that are derived from intellectual property is the key to the development of royalties based upon a fair rate of return. The required analysis allocates economic benefits from the overall business enterprise to the asset categories that are employed in the generation of these benefits. The allocation addresses two important factors: the relative amount of each asset category involved in the business and the appropriate rate of return to associate with each asset category.

3) The Cost Approach

The cost approach seeks to measure the value of intellectual property by quantifying the amount of money that would be required to replace the future service capability of the intellectual property in question. Once the method establishes a value, royalty is derived based upon achieving a fair rate of return for the determined value. The assumption underlying this approach is that the cost to purchase or develop new property is commensurate with the economic value of the service that the property can provide during its life. The cost approach does not directly consider the amount of either economic benefits that can be achieved or the time period over which they might continue. It is an inherent, and poor, assumption with this approach that economic benefits indeed exist and are of sufficient amount and duration to justify the developmental expenditures. The cost approach can provide an indication of an order of magnitude to use as a starting point or as a check on the values derived from other approaches. Use of the cost approach as a means to estimate a range of value for IP is fraught with potential for error.

4) Comparison of Three Approaches

The comparison of the three approaches appears in Figure 1 and Table 2. Figure 1 is based on the literature review of technology valuation approaches and methods.

The factors to consider with each of the three approaches are compared in Table 2.

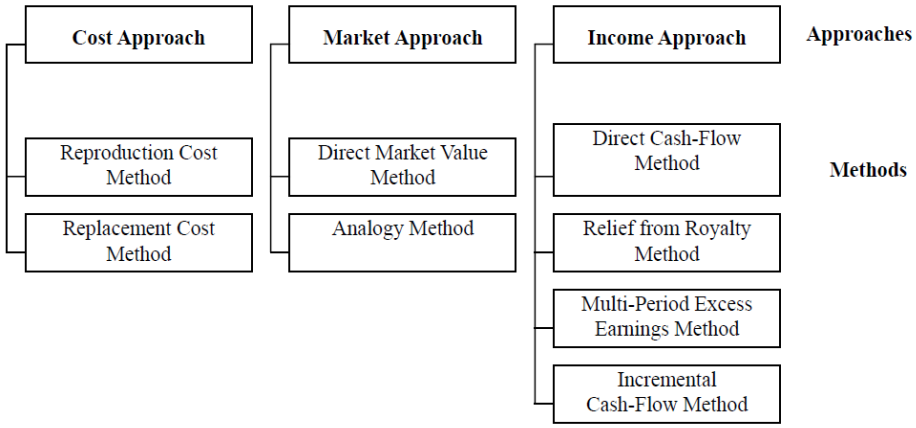

Figure 1. Technology Valuation Approaches and Methods[10]

TABLE 2. COMPARISON OF THE MARKET, COST AND INCOME APPROACHES IN TECHNOLOGY PRICING

Features	Market Approach	Cost Approach	Income Approach
1. The technology supply and demand 2. The R&D level 3. The similar provider's offer 4. The bargaining power of licensor and licensee			
1. Less than the cost of replacement or reproduction 2. Greater than transfer cost 3. Irrelevant to the sunk cost			
1. The evaluation of the excess profit 2. The risk associated 3. The market competition evaluation			

IV. THE NEGOTIATION OF TECHNOLOGY PRICING

"There exists no standard method for determining a fair price for a technology." [11] "There is no insufficient or excessive price, there is a price, accepted by the two parties to the transfer." [12] The price of a technology is the result of negotiation.

A. The Range of Negotiation for Licensing

The range of the price negotiation of technology is between the transfer cost and the perceived income brought by the intellectual property as discussed above. It is an overlapped range for the licensor and licensee. The range is reflecting a reality: the price of a technology should be greater than the cost, and less than the customer-perceived value.

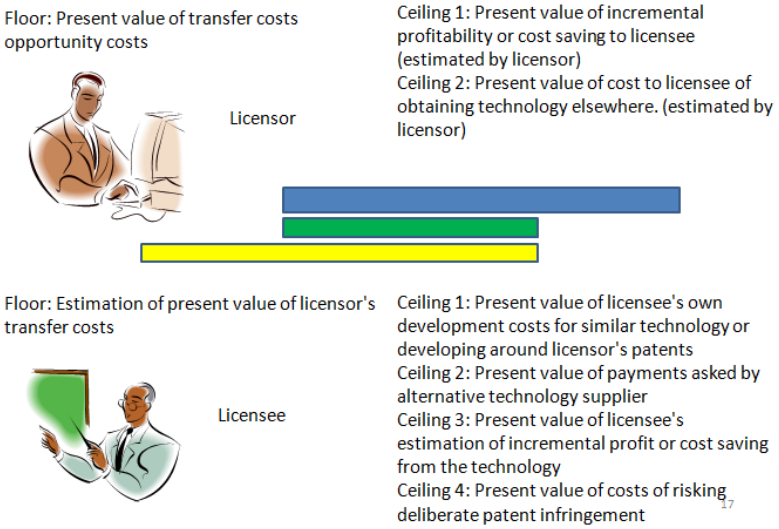

Figure 2. The Base of Negotiation for Licensing [2]

The lower limit of the price is the transfer cost, which has not happened; the R&D cost is the sunk cost which doesn't influence the lower limit. The licensor tends to evaluate the transfer cost higher than the licensee. This will improve the lower level and be beneficial to the licensor.

The upper limit of the price is the lower number of several ceilings. The upper limit is showing the price has to be less than the perceived value brought to the licensee. Here the income brought by the technology and the replacement or reproduction cost of the technology is considered the customer value.

For the licensor the ceilings are:

- Ceiling 1: Present value of incremental profitability or cost saving to licensee, estimated by licensor;
- Ceiling 2: Present value of cost to licensee of obtaining technology elsewhere, estimated by licensor.

For the licensee the ceilings are:

- Ceiling 1: Present value of licensee's own development costs for similar technology or developing around licensor's patents;
- Ceiling 2: Present value of payments asked by alternative technology supplier;
- Ceiling 3: Present value of licensee's estimation of incremental profit or cost saving from the technology;
- Ceiling 4: Present value of costs of risking deliberate patent infringement.

B. The Bargaining of the Licensor and the Licensee

The negotiation then focuses on the problem of an exact royalty rate. The negotiation is influenced by many factors. The following section discusses the factors that both parties of licensing are concerned with when reaching an agreement.

1) The Forms of Royalty Payment

Compensation or royalties under license agreements may take many forms, including one or a combination of two or more of the following [13]:

- Running Royalty. This is a percentage of income/sales. This is the most common form of royalties. These royalties may be expressed as a percentage of net sales of the licensed product or as a per unit charge based on goods produced or sold. To apply this form of royalty, a "Royalty Base" must be established. The royalty base includes the production volume, the cost of the products, net or gross profits, the invoice value, and net or gross sales prices. Once the royalty base is established, a "Royalty Rate" or "Percentage" must be fixed. The determination of the royalty rate will depend on a host of economic and legal factors.
- Minimum Royalty Payments. Such payment guarantees the licensor certain income on a regular basis, regardless of the licensee's performance. This type of payment is often required as part of a running royalty scheme.
- Ascending or Descending Royalties. A form of running royalties whereby payments either increase or decrease gradually over the term of the license, as per a pre-determined schedule.
- Variable Royalties. This royalty rate may vary depending on a number of specified factors. For example, several rates can be in place, the highest to apply to the first $100,000 of sales, the next highest to the next $100,000 of sales, etc.
- Initial Front Payment. It is the down payment for the license. An initial lump sum payment from licensee to licensor often accompanies a running royalty obligation structure. This payment gives the licensor an immediate opportunity to recoup some of its costs in developing the technology.
- Set Annual Fees. A pre-determined annual fee to be paid by the licensee annually, irrespective of sales/production volume or licensee's profitability.
- Equity Interest. In exchange for use of technology, the licensee can grant the licensor an equity interest in its business.
- Lump Sum Payment. The licensee would pay one amount up-front which would cover all amounts due throughout the entire term of the license. This is risky for both licensee and licensor as it may later be determined the agreed-upon amount was too low or too high.
- Cross-licensing of Technologies. This arrangement involves a mutual exchange of technology between the parties, for the parties' mutual advantage.
- Grant-back of Research and Development by the Licensee. This arrangement provides for the licensee's conveyance to the licensor rights to patents or other intellectual property which the licensee develops after the execution of the arrangement.

2) Considerations in Bargaining

Bargaining for a royalty rate is complex and involves many considerations.

- The positions of the licensor and licensee in the technology market will influence the royalty rate. For a particular kind of technology, there might be one or more licensors existing. In that case, the bargaining power of the licensor is decreased. Similarly, if two or more licensees are competing for one particular technology licensed by a licensor, the licensor will have more bargaining power. A licensee with bigger market share in the goods market is superior to another licensee with less market share, since the royalty will come out of the ultimate sales in the goods market.
- The industry norm of royalty rate. The negotiation usually will refer to similar deals in an industry. The standard rates and ranges by industry are factors in negotiation functioning as benchmarks. In the computer field, the usual royalty rate is in the range of 3-5% of the net sales price of the item, which represents the gross sales price

less sales tax, transportation, installation, shipping, insurance, and the like. Rates in cross license agreements (e.g., bilateral license agreements) tend to be substantially lower, reflecting the fact that each party is using the other's patents. Such rates may be in the range of 2% or less. In the semiconductor field, where competition is fierce and profit margins are low, a rate of 1.75-3% is common. Billion-dollar producers sometimes agree to rates as low as 0.1%. Competitive pressures coupled with enormous royalty bases can lead to such low rates. Similarly, in the pharmaceutical field a royalty rate of 8-15% or higher reflects the high profit margins on most drugs and the enormous expenses associated with testing a drug, getting FDA approval, and bringing it to market. Chemical companies often license patents at low rates of 1-3%. [4]

- The willingness to deal of the licensor and licensee will influence the bargaining process, as will the cash-flow and financial condition of both parties. The compromises of both parties are based on the actual situation in business operation and financial aspects.
- International licensing sometimes has concerns about production and marketing in developing countries. The motivation to license a technology is often based on the effort of entering a new market or production in a low-cost firm in a developing country. In these cases, the royalty rate is often very low, just enough to cover the technology transfer cost. [14]
- The relationship between the licensor and licensee, whether beneficial or competitive, determines the degree of compromise. A licensor is not willing to license a patent to a competitor that will result in fierce competition in the goods market. A licensor is willing to license IP to the beneficial party such as a supplier or partner to help the licensor to be successful.
- Other factors such as tax concern could also influence the royalty rate. For example, between a parent and its off-shore subsidiary, it may define a rate that was selected for tax purposes rather than commercial purposes.

V. REEXAMINATION OF THE FIFTEEN GEORGIA-PACIFIC FACTORS

This research differs from the prior ones by outlining the bargaining considerations of the licensor and licensee. After April 2011, the 25 percent rule of thumb is flawed and the pragmatic rule turns to the fifteen Georgia-Pacific Factors. The research reexamines the fifteen factors and categorizes them according to four aspects: the cost approach, the market approach, the income approach and the bargaining considerations as shown in Table 3.

The result shows that the bargaining consideration has 8 factors, compared with the other three aspects (the cost approach with 2 factors, the market approach with 11 factors and the income approach with 8 factors). There are 2 factors which can only be explained by the bargaining considerations. As a result of comparison, the bargaining consideration proved to be another aspect which shouldn't be neglected in technology valuation.

VI. CONCLUSION

This paper examined the nature of technology as an objective of valuation through the process of creating, transfer and use. The holistic pricing of technology includes the licensing cost, transfer cost and other costs related to risk.

The royalty rate is still the key part of the pricing. The "25 percent rule" had been a pragmatic rule for decades but was stated to be flawed in 2011. The determination of royalty has to consider more substantial facts related to the licensing. The new pragmatic rule turns to the fifteen Georgia-Pacific Factors.

The existing methodologies mainly consist of three approaches: market approach, cost approach and income approach. The price of any given technology is the result of negotiation. The range of the price negotiation of technology is between the transfer cost and the perceived income brought by the intellectual property. The form of royalty payment is a major concern in negotiation; forms include minimum royalty payment, ascending or descending royalties, variable royalties, initial front payment, set annual fees, equity interest, lump sum payment, cross-licensing, grant-back of R&D.

The negotiation is also influenced by the bargaining considerations. The position of the licensor and licensee in the technology market, the industry norm for royalty rates, the willingness of the licensor and licensee to compromise, and other concerns such as tax all influence the royalty rate. At the last part of the research, the categorizing of the fifteen Georgia-Pacific factors shows that the bargaining considerations form an aspect which shouldn't be neglected in technology valuation.

TABLE 3 THE CATEGORIZING OF THE FIFTEEN GEORGIA-PACIFIC FACTORS

The fifteen *Georgia-Pacific* factors	The Cost Approach	The Market Approach	The Income Approach	The Bargaining Considerations
1. The royalties received by Georgia-Pacific for licensing the patent, proving or tending to prove an established royalty.			×	
2. The rates paid by the licensee for the use of other similar patents.	×	×		×
3. The nature and scope of the license, such as whether it is exclusive or nonexclusive, restricted or nonrestricted in terms of territory or customers.		×	×	
4. Georgia-Pacific's policy of maintaining its patent monopoly by licensing the use of the invention only under special conditions designed to preserve the monopoly.		×		×
5. The commercial relationship between Georgia-Pacific and licensees, such as whether they are competitors in the same territory in the same line of business or whether they are inventor and promoter.				×
6. The effect of selling the patented specialty in promoting sales of other Georgia-Pacific products; the existing value of the invention to Georgia-Pacific as a generator of sales of nonpatented items; and the extent of such derivative or "convoyed" sales.				×
7. The duration of the patent and the term of the license.			×	
8. The established profitability of the patented product, its commercial success and its current popularity.		×	×	
9. The utility and advantages of the patent property over any old modes or devices that had been used.		×	×	
10. The nature of the patented invention, its character in the commercial embodiment owned and produced by the licensor, and the benefits to those who used it.			×	×
11. The extent to which the infringer used the invention and any evidence probative of the value of that use.			×	
12. The portion of the profit or selling price that is customary in the particular business or in comparable businesses.		×	×	×
13. The portion of the realizable profit that should be credited to the invention as distinguished from any nonpatented elements, manufacturing process, business risks or significant features or improvements added by the infringer.			×	
14. The opinion testimony of qualified experts.		×	×	×
15. The amount that Georgia-Pacific and a licensee would have agreed upon at the time the infringement began if they had reasonably and voluntarily tried to reach an agreement.	×	×	×	×
Total Number	2	8	11	8

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