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Is it possible to improve methods  
of intellectual property valuation?Czy można ulepszyć metody  
wyceny własności intelektualnej?

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## Abstract

**Purpose:** The purpose of this study is to identify ways to improve or simplify the quality and accuracy of IP valuations via accounting regulation improvements.

**Methodology/approach:** This research relies on qualitative research methods such as case law analysis and comparative research of accounting standards and approaches.

**Findings:** Evidence from this study points towards the conclusion that financial statements currently only reflect a historic financial record of the particular business, profoundly biased by a conservative tangible assets perspective. The central thesis of this study is that it makes sense to adopt a comprehensive intellectual property valuation strategy to ascertain the specific value of the intangible assets since the comprehensive application of valuation models is likely to yield superior results to using them separately.


**Research limitations/implications:** Although the proposed approach seeks to bring more clarity to the valuation process while simplifying the appraisal of intellectual property assets, its efficacy is subject to increased transparency, a maturing intellectual property market, and credible data availability.


**Originality/value:** This study makes a valuable contribution to research on methods that facilitate accurate intellectual property valuation while offering an alternative valuation model which combines the strengths of individual valuation models.

**Keywords:** intellectual property, valuation, IFRS, intangible, research and development.

## Streszczenie

**Cel:** Celem niniejszego artykułu jest wskazanie sposobów poprawy lub uproszczenia jakości i dokładności wycen własności intelektualnej poprzez udoskonalenie przepisów dotyczących rachunkowości.

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**Metodologia/podejście:** Badanie to wykorzystuje jakościowe metody badawcze, takie jak analiza orzecznictwa oraz badania porównawcze standardów i podejść księgowych.

**Wyniki:** Dowody z niniejszego badania wskazują, że sprawozdania finansowe odzwierciedlają obecnie jedynie historyczny rejestr zdarzeń ekonomicznych danego przedsiębiorstwa, głęboko zniekształcony przez konserwatywną perspektywę aktywów materialnych. Główną tezą tego badania jest to, że racjonalne jest przyjęcie kompleksowej strategii wyceny własności intelektualnej w celu ustalenia konkretnej wartości aktywów niematerialnych, ponieważ kompleksowe zastosowanie modeli wyceny prawdopodobnie przyniesie lepsze wyniki niż stosowanie ich oddzielnie.

**Ograniczenia badawcze/implikacje:** Chociaż proponowane podejście ma na celu zapewnienie większej zrozumiałości procesu wyceny przy jednoczesnym uproszczeniu wyceny aktywów własności intelektualnej, jego skuteczność jest uzależniona od zwiększonej przejrzystości, dojrzewającego rynku własności intelektualnej oraz wiarygodnej dostępności danych.

**Oryginalność/wartość:** Niniejsze opracowanie wnosi cenny wkład do badań nad metodami ułatwiającymi trafną wycenę własności intelektualnej, oferując jednocześnie alternatywny model wyceny, który łączy w sobie mocne strony poszczególnych modeli wyceny.

**Słowa kluczowe:** własność intelektualna, wycena, MSSF, wartości niematerialne, badania i rozwój.

## Introduction

In today's world, IT services, business services, and intellectual property royalties are growing two to three times faster than the trade in traditional goods (Woetzel, Seong, 2019). Analysis of the Fortune 500 companies shows that in 1975, tangible assets represented up to 60 percent of company value (Chaplinsky, 2008). More recently, tangible assets represent as little as 20 percent of company value (Tomo, Davis, 2013). Since investments in intellectual property assets seem to be approaching levels comparable to investment in fixed assets (OECD, 2008) – in the context of expenditure – experts project that intellectual property value will continue to rise both for individual companies and national economies (ibid.). Thus, in the context of the knowledge economy, in times when the drivers of global competition are shifting dramatically, the valuation of intellectual property becomes increasingly important for commercial reasons.

Nevertheless, many companies and financiers have little idea of how to objectively value, account for, or utilize this significant value. Current financial statements provide very little information about these assets, which becomes evident in this research. Even worse, much of the accounting information is partial, inconsistent, and confusing for companies, investors, and society (Lev, 2003). Thus, the underlying research question of this study is: "In what way is it possible to improve or simplify the quality and accuracy of IP valuations via accounting regulation improvements?"

The principal aims of this study are the following: 1) to examine the theoretical concepts of the existing intellectual property valuation models; 2) to investigate the issue of IP valuation uncertainty in accounting based on a selected case study

analysis by identifying whether there was detailed reporting on the obtained intellectual property assets as a result of the Salesforce and Demandware acquisition; and 3) to offer an alternative valuation strategy, combining the strengths of the individual valuation models, as a possible model for the comprehensive valuation of intellectual property.

This study includes three main sections. The first section examines the IP valuation uncertainty in accounting. The second section presents a comprehensive intellectual property valuation strategy. The third section contains a comparative analysis of the Canadian forensic approach. Afterward, the main research findings are presented.

## **2. Methodology**

Considering that qualitative and comparative research methods are widely accepted in the fields of social science and allow for breadth and depth of research in areas of uncertainty, including accounting regulations and incentives, this study relies on qualitative research methods of case analysis, comparative research of accounting standards and intellectual property valuation models.

In this sense, the case study approach offers an effective way of revealing the practical issues of companies with significant, under-accounted intellectual property assets which they are not able to easily convert into working capital. The applied qualitative methods of case analysis offer an effective way of establishing whether the consolidated balance sheets of the companies provide detailed information on the intellectual property possessed at the moment of acquisition and as a result of its transfer.

The study uses comparative analysis to gain insights into IFRS and GAAP accounting standards. Although approximately 120 nations and reporting jurisdictions permit IFRS for domestic listed companies while GAAP is primarily used in the United States (IFRS, Questions and Answers: Developed by American Institute of Certified Public Accountants, 2020), there is an increasing tendency of companies to raise capital across borders, which highlights the growing importance of understanding the differences in the context of intellectual property valuation.

Furthermore, the comparative method was applied to select the Canadian forensic approach for in-depth research. Precisely, the comparison of Canada with the other Western jurisdictions determined that Canada is the only system that has well-developed standards for intellectual property damage calculations at the Federal level. While damage calculations are not intellectual property valuations, damage calculations are a subset of the greater problem of intellectual property valuation. By applying Canadian forensic standards to larger portfolios of intellectual property, it is possible to yield a basic standard for intellectual property valuation that has been regularly, practically applied.

### **3. Intellectual property valuation uncertainty in accounting**

#### **3.1. Current accounting standards**

Valuation of intellectual property may have different purposes, including sale or license transactions, capital raising, company valuation, litigation, internal management of intellectual property assets, and financial reporting (Gajland, 1998). Although intellectual property and intangible assets can be bought, sold, licensed, or exchanged, they cannot be easily identified by physical parameters (Chaplin-sky, 2008). There is no generally agreed definition of the term intellectual assets due to the diversity of perspectives involved, e.g., academics, accounting bodies, investors, lawyers, managers, and policymakers (OECD, 2008). From the stand-point of accounting, based on IAS 38, an intangible asset is an identifiable non-monetary asset without physical substance, e.g., software, brands, music and film rights, and development assets (Chaplinsky, 2008).

The intangible nature of intellectual property assets, such as trademarks, design rights, copyrights, patents, know-how, and trade secrets, has become an obstacle for how they are reported in financial statements (Singla, 2005). In general, the value of intellectual property depends on multiple factors, including its utilization, the expected time to generate returns, the significance of those returns, and the risks involved. Consequently, its valuation process is no different from developing business performance forecasts, though there is typically less due diligence concerning commercial use, market size, profitability, and forecast time-horizon (Ocean Tomo, 2014). However, considering that the central purpose of accounting is to provide objective commercial data, financial statements can currently only reflect a historical financial record of the particular business, profoundly biased by the conservative tangible assets perspective (Ghafele, 2003). Furthermore, it is crucial to highlight that companies tend to underreport the worth of their intellectual property assets on the balance sheets due to the conservative view that this information would probably be less valuable for investors and expensive for companies to provide (Bertolotti, 1996a).

According to IAS 38, the recognition of an intangible asset becomes possible only if it is separable, which means that it is possible to sell, transfer, or license it, or where it arises from contractual or other legal rights (International Accounting Standards, 2020). Furthermore, an intangible asset shall be measured initially at cost, involving its purchase price – including import duties and non-refundable purchase taxes – after deducting trade discounts and rebates (*ibid.*). Also, it may include any directly attributable cost of preparing the asset for its intended use (*ibid.*). Unlike GAAP, IFRS does not even allow for the recognition of in-house developed intellectual property, associating R&D expenses with operating costs (PwC, 2019). In practice, internally-generated brands, mastheads, publishing

titles, and customer lists cannot be recognized as intangible assets (International Accounting Standards, 2020). Nevertheless, unlike GAAP, under IFRS, development costs can be capitalized, but they are not expensed (PwC, 2019). Despite this notable difference, the valuation methods of intangible assets remain analogical in both accounting systems, leading to the same difficulties correlated with intellectual property value estimation. The issues are evident in the case study of the Salesforce acquisition of Demandware, considering the corporate reports of Salesforce provide non-comprehensive information about the types of intellectual property received.

### **3.2. The Salesforce acquisition of Demandware: a case study**

Two publicly listed companies in the software sector were selected as the case study, thereby providing increased transparency and access to financial statements. While this case study did not reveal any practical detriment to either Salesforce or Demandware resulting from the acquisition, the most important lessons from this case study are applicable to smaller companies or those that do not wish to be acquired.

Pursuing its strategic goal of delivering new categories of innovative solutions, Salesforce regularly acquires or invests in complementary businesses, services, technologies, and intellectual property rights (salesforce.com, inc., 2016). In 2016, Salesforce, with a prominent gap in its portfolio of customer engagement and CRM products, acquired Demandware for \$2.8 billion (Lunden, 2016). Salesforce paid a 56% premium for Demandware, valuing it at \$75 a share (the initial price was \$47.99) (Konrad, 2016), which was higher, but not dissimilar from other large strategic acquisitions, e.g., Oracle/Eloqua (Ghosh, 2012), or SAP/Ariba (SAP, 2012), among others. The principal motivation for Salesforce was to achieve leadership in the field of digital commerce through this transaction (Business Insider Intelligence, 2016).

Apart from Demandware, Inc., Salesforce's other target companies have included SteelBrick, Inc., MetaMind, Inc., BeyondCore, Inc., Quip, Inc., and Krux Digital, Inc., offering efficient solutions in analytics, commerce, and IoT (ibid.). From an accounting standpoint, during the fiscal year 2016, Salesforce acquisitions accounted for an aggregate of \$60.1 million (ibid.). Furthermore, during the fiscal year 2017, Salesforce acquired seven more companies for \$108.7 million, recording \$34.2 million of identifiable intangible assets (ibid.). Despite the significance of these transactions, the Salesforce corporate balance sheet does not provide any detailed information concerning the acquired intellectual property. Furthermore, there is no distinct reporting of the value of intellectual property assets, either developed in-house or acquired through separate acquisitions. Those

assets remain partially accounted for in a broad category of intangible assets acquired through business combinations (Fig. 1). Although the nature of tech companies is more intangible than tangible, based on Fig. 1, it is possible to identify that the share of intangible assets acquired through business combinations was only 6.33% out of the value of the total corporate assets.

**Figure 1.** Consolidated Balance Sheets, 2017,  
(in thousands, except per share data)

	January 31, 2017	January 31, 2016
<b>Assets</b>		
Current assets:		
Cash and cash equivalents .....	\$ 1,606,549	\$ 1,158,363
Marketable securities .....	602,338	1,567,014
Accounts receivable, net of allowance for doubtful accounts of \$12,039 and \$10,488 at January 31, 2017 and 2016, respectively .....	3,196,643	2,496,165
Deferred commissions .....	311,770	259,187
Prepaid expenses and other current assets .....	279,527	250,594
Total current assets .....	5,996,827	5,731,323
Property and equipment, net .....	1,787,534	1,715,828
Deferred commissions, noncurrent .....	227,849	189,943
Capitalized software, net .....	141,671	123,065
Strategic investments .....	566,953	520,721
Goodwill .....	7,263,846	3,849,937
Intangible assets acquired through business combinations, net .....	1,113,374	490,006
Other assets, net .....	486,869	142,097
Total assets .....	<u>\$17,584,923</u>	<u>\$12,762,920</u>

Source: salesforce.com, inc. (2017).

Fig. 1 demonstrates that goodwill is almost 700% higher than intangible assets in the accounting statements of Salesforce.

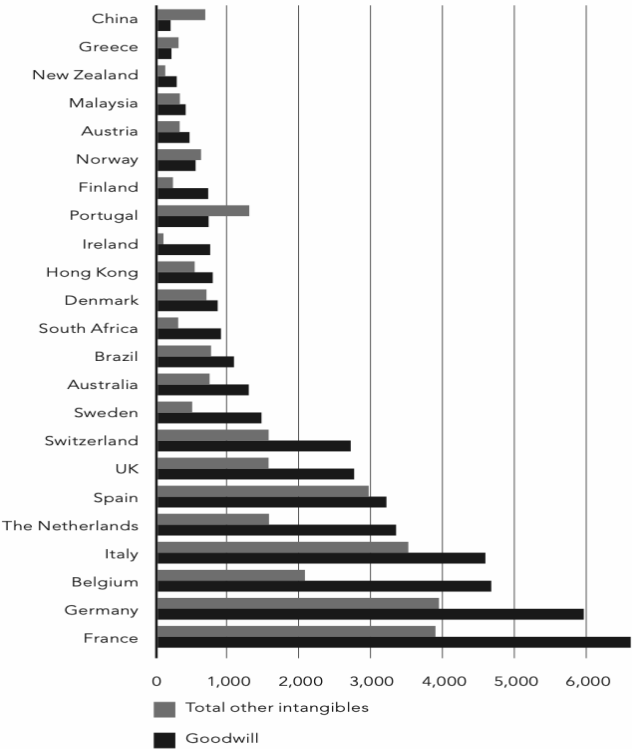
Statistically, out of 544 companies, 517 have at least one type of intangible asset, other than goodwill, recognized in their statement of financial position (ACCA, 2014). Nevertheless, while the mean (median) value of total intangible assets is only €1,310m, it reaches €2,490m for goodwill (ibid.). In this regard, Fig. 2 and Fig. 3 below reveal that the mean value and the recognized goodwill amounts in the context of the total firm assets are often significantly higher than those for intangibles in most of the examined countries. There is an insightful definition in Warren Buffett's 1983 Berkshire Hathaway shareholder letter that fairly states that "businesses logically are worth far more than net tangible assets when they can be expected to produce earnings on such assets considerably in excess of market rates of return. The capitalized value of this excess return is economic Goodwill" (Berkshire Hathaway Inc., 1983).

In accounting, goodwill represents the "excess of cost over equity in net assets acquired" (ibid.), which – from one of the academic views – only exists due to the impossibility to reveal and accurately measure all intangible assets (Giuliani and

Brännström, 2011). Since it includes multiple components for accountants, goodwill seems to be a convenient category, reflecting the sum of unrecognized intangible assets, i.e., purchase premium (ibid.). Nonetheless, the catch-all category of goodwill leads to the problem with other intangible assets being relatively under-accounted-for in financial reports.

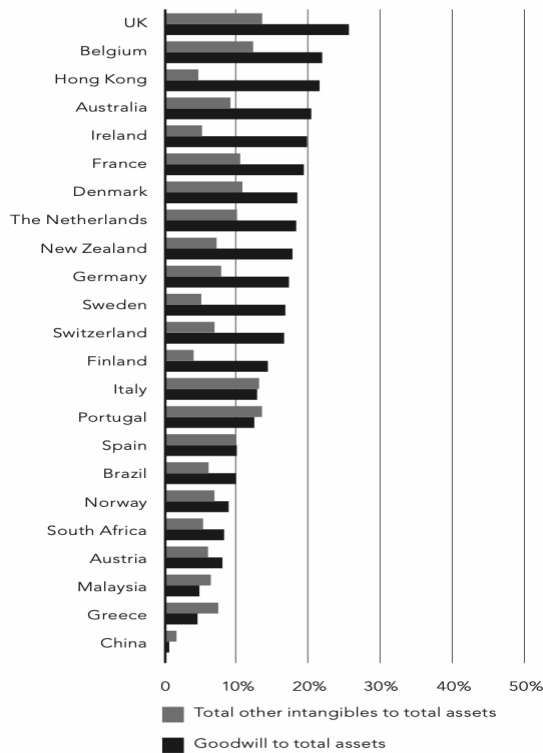
Fig. 4 below reflects in thousands the value of Salesforce's intangible assets acquired through business combinations as of January 31, 2017. It identifies that the estimated worth of the obtained developed technologies tended to be higher compared to other intangibles in the respective years. Nevertheless, there is insufficient information provided regarding the intellectual property assets received as a result of acquiring Demandware. Considering that the net assets figure represents the outcome of all transactions of this kind in the respective years, it is impossible to accurately estimate the value of the intellectual property obtained as a result of Demandware's acquisition.

**Figure 2.** Mean Value of Intangible Assets (Other than Goodwill) and Goodwill, per country, in Euros



Source: ACCA, Research Report 134 (2014).

**Figure 3.** Intangible Assets (Other than Goodwill) and Goodwill as a Percentage to Total Assets, per country



Source: ACCA, Research Report 134 (2014).

**Figure 4.** Intangible Assets Acquired Through Business Combinations as follows as of January 31, 2017 (in thousands)

	Intangible Assets, Gross			Accumulated Amortization			Intangible Assets, Net		Weighted Average Useful Life
	Jan 31, 2016	Additions	Jan 31, 2017	Jan 31, 2016	Expense	Jan 31, 2017	Jan 31, 2016	Jan 31, 2017	
Acquired developed technology . . .	\$ 684,260	\$407,901	\$1,092,161	\$(451,889)	\$(126,040)	\$(577,929)	\$232,371	\$ 514,232	3.6
Customer relationships . . . . .	410,763	432,851	843,614	(160,866)	(93,169)	(254,035)	249,897	589,579	5.4
Trade name and trademark . . . . .	38,980	6,970	45,950	(38,980)	(2,369)	(41,349)	0	4,601	2.3
Territory rights and other . . . . .	12,372	3,414	15,786	(8,585)	(3,671)	(12,256)	3,787	3,530	7.3
50 Fremont lease intangibles . . . .	7,713	0	7,713	(3,762)	(2,519)	(6,281)	3,951	1,432	2.1
Total . . . . .	<u>\$1,154,088</u>	<u>\$851,136</u>	<u>\$2,005,224</u>	<u>\$(664,082)</u>	<u>\$(227,768)</u>	<u>\$(891,850)</u>	<u>\$490,006</u>	<u>\$1,113,374</u>	<u>4.5</u>

Source: salesforce.com, inc. (2017).

As a provider of enterprise-class cloud commerce solutions for retailers and branded manufacturers, prominent clients of Demandware included L'Oreal and Marks & Spencer, empowering them to accelerate their revenue growth (Salesforce,



2016; Lunden, 2016). The adjacency of e-commerce and retail is a central focus area for Salesforce, and as a target company, Demandware was a natural fit in the retail and consumer goods industries (Business Insider Intelligence, 2016). Demandware brought not only new functionality in the transactional commerce element but also engagement and personalization technology, which were demanded by Salesforce's retail customers (*ibid.*). The acquisition of Demandware brought Salesforce into competition with such companies as NetSuite and SAP (Wainewright, 2016).

Offering the Demandware Commerce Cloud as the core of its technology, Demandware solutions included Demandware Digital and Demandware Store, as well as providing order management and predictive intelligence capabilities (Demandware Inc., 2016). In general, its technology enabled clients to execute complex digital commerce strategies and provide personalized, one-to-one experiences to consumers "across the web, mobile, social, and in-store" (*ibid.*). Hence, the company derived most of its revenue from subscriptions to the Demandware Commerce Cloud and related services (*ibid.*). No wonder that, on the Demandware consolidated balance sheets, the developed technology accounted for the largest share of its intangible assets (84.6%), as of March 31, 2016 (Fig. 5).

**Figure 5.** Intangible Assets as of March 31, 2016  
(in thousands, except term information)

	Weighted Average Life (Years)	As of March 31, 2016		
		Gross Carrying Amount	Accumulated Amortization	Net Book Value
Developed technology	6.1	\$ 25,700	\$ 6,664	\$ 19,036
Customer relationships	8.1	1,900	437	1,463
Trademarks	2.0	410	254	156
Internal use software	4.7	2,133	284	1,849
<b>Total</b>	<b>6.1</b>	<b>\$ 30,143</b>	<b>\$ 7,639</b>	<b>\$ 22,504</b>

Source: Demandware Inc. (2016).

Nonetheless, like Salesforce, Demandware's consolidated balance sheets do not provide detailed information on the intellectual property the company possessed at the moment of acquisition. As mentioned, in most situations, current reporting practices are focused on backward-looking information and provide limited systematic information about the capacity of the intellectual property assets to generate future revenues (OECD, 2008). Furthermore, in practice, the cost-based accounting approach fails to anticipate not only the potential future profits of intangible assets but also their non-financial gains, e.g., the reduced threat of substitutes, customer loyalty, and brand reputation (The Economist, 2014). Indeed, one of the most crucial aspects of the value of an intellectual property asset that remains ignored on the balance sheets is the ability to exclude competitors from a particular market, preventing them from entering or complicating such an entrance. A comprehensive appraisal of intellectual property assets generally cannot occur when measured solely under the current standards of accounting.

**Figure 6.** Condensed Consolidated Balance Sheets  
(in thousands, except per share data)

	March 31, 2016	December 31, 2015
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 117,841	\$ 114,989
Short-term investments	77,915	82,020
Accounts receivable?net of allowance for doubtful accounts of \$1,738 and \$1,328 at March 31, 2016 and December 31, 2015, respectively	49,790	60,793
Prepaid expenses and other current assets	10,654	8,424
Total current assets	256,200	266,226
Property and equipment, net	27,551	21,862
Intangible assets, net	22,504	23,805
Goodwill	59,465	59,465
Other assets	6,377	6,040
Total assets	\$ 372,097	\$ 377,398

Source: Demandware Inc. (2016).

Under the merger agreement between the parties, intellectual property – as a legal term – included all statutory and common law rights throughout the world, e.g., patents, trademarks, service marks, trade names, trade secrets, copyrights, website addresses, domain names, technology, know-how, computer software programs, and applications (Offer to Purchase for Cash All Outstanding Shares of Common Stock of Demandware, Inc. at \$75.00 Net Per Share by Dynasty Acquisition Corp., a wholly-owned subsidiary of salesforce.com, Inc., 2016). However, Salesforce’s 2017 accounting report does not specifically mention these rights (Fig.1). Although the consolidated balance sheet provides no distinction between the property obtained as a result of different acquisitions, it is possible to conclude that, overall, the share of intangible assets net value increased from 5.0% in 2016 to 9.1% in 2017, or by 4.1% out of the total corporate assets’ value, in part as a consequence of these transactions. Furthermore, the Salesforce report reveals that the total revenues subject to Demandware’s internal control over financial reporting represented approximately 1% of its consolidated total revenues for the fiscal year ended January 31, 2017 (salesforce.com, inc., 2017).

### 2.3. Further developments of intellectual property reporting

Evidence from the Salesforce and Demandware acquisition case study points towards the conclusion that current accounting standards cannot fully reflect the entire value of intellectual assets, often only accounting for a fraction of the value of intellectual property assets. From the perspective of intellectual property valuation, the case study provides ample evidence that, in the context of the Salesforce and Demandware acquisition, there was no detailed reporting on the

obtained intellectual property assets as a result of this transaction. This example highlights the necessity to develop an appropriate reporting framework for intellectual property capital since these issues lead to situations when companies fail to specifically account for significant sums of real value. Therefore, in many firms, accountants do not have an overview of the intangible assets of the entity since these companies do not fully declare their internally developed intellectual property on the balance sheets. In most cases, accounting provides insufficient information, reflecting the significantly underreported, specific value of intellectual property assets. Consequently, these issues limit the transparency of intellectual property valuation, which has the effect of making it difficult for owners of intellectual property assets to know or utilize the specific worth of their intangible assets. Nevertheless, the result of the accounting estimation must be reliable not only for the owners but also for third parties, which further highlights the significance of further improving accounting standards surrounding intellectual property.

In general, these situations are a consequence of the lack of intellectual property valuation knowledge and the complexity of the current valuation standards, which are not sufficiently aligned with the respective types of intellectual property assets. Bearing in mind that approximately 120 nations and reporting jurisdictions permit IFRS for domestic listed companies (IFRS, Questions and Answers: Developed by American Institute of Certified Public Accountants, 2020), the enhanced recognition of in-house developed intellectual property assets may be the next vital accounting regulation improvement. Furthermore, enhanced narrative reporting may help to promote the disclosure by companies, revealing forward-looking information about value drivers, trends, risks, and uncertainties related to intellectual property assets (OECD, 2008).

Considering the growing importance of intellectual property assets to the global economy (OECD, 2008), it is essential to improve accounting standards surrounding intellectual property. Such an improvement would encourage further economic development and more accurate valuation of intellectual property, providing better access to data and comparable intellectual property transactions. From a global standpoint, establishing a body responsible for setting standards and guidelines worldwide would be promising in terms of simplifying intellectual property valuation, raising awareness, promoting knowledge, and educating a broad audience (*ibid.*). Presently, a lack of sufficient standards surrounding intellectual property assets limits comprehensive decision-making and also limits types of intellectual property transactions to the detriment of the owner of intellectual property assets.

Improved information flows about intellectual assets would be quite promising by reducing information asymmetry and generalized valuations (*ibid.*), while providing improved reference points for future assessments of intellectual property assets and encouraging greater coordination between the lawyers, accountants, and standards boards involved. Moreover, improved information flows could facilitate the collateralization of intellectual property, increasing IP-backed loans and increasing the amount of available credit, liquidity, and working capital for the owner on more favorable terms.

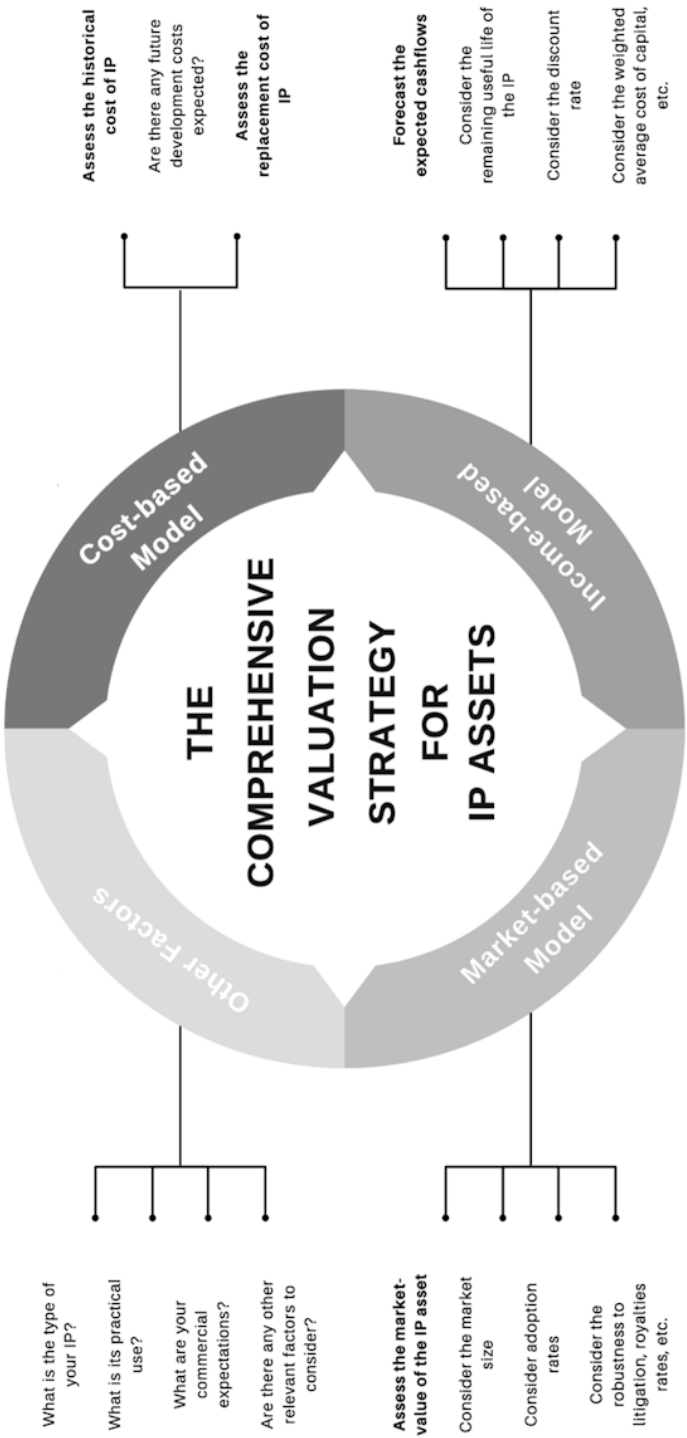
Although the owner is more likely to perceive the value of an intellectual property asset in terms of costs and returns, the potential investor of the intellectual property may see it from the perspective of its market value. In this sense, the absence of a transparent background for an accurate intellectual property valuation and the lack of comparison points from other companies with comparable intangible assets severely limit the range of the beneficial intellectual property transactions for the owner. Without the ability to accurately value intellectual property, innovators are often forced into unfavorable terms with venture capitalists and private equity investors or forced to merge with companies with more substantial financial resources. This decision may lead to investors reaping the highest rewards from the owner's in-house-developed innovations while simultaneously reducing the original owner's control over the intellectual property assets. Increasing the accuracy of valuation through accounting standards could allow for further options for the owner of in-house-developed intellectual property. For instance, it could provide the owners with an opportunity to take a fixed charge over specific intellectual property for the purposes of debt financing. By contrast, taking a floating charge over all assets is currently a more prevalent practice, which gives more favorable terms to larger, more mature companies.

Increasing the accuracy of valuations could also allow the placement of intellectual property assets into a "special purpose vehicle" (SPV) for the purposes of financing, which would enable the owner to maintain the exclusive right to use these assets during the period of finance; further, the investor in the SPV would get the benefit of knowing that if the owner cannot repay the finance money over an agreed period, it is still possible to take the assets of the SPV free and clear of encumbrances. Enhanced transparency in accounting standards and more reference points to similar intellectual property would contribute to achieving much better debt financing interest rates in the SPV for intellectual property. In turn, the owners of these intangible assets would have a better chance of maintaining control over the intellectual property in the long term, allowing them more time to monetize this intellectual property in a way that is often not currently possible.

### **3. A comprehensive intellectual property valuation strategy**

It makes sense to adopt a comprehensive intellectual property valuation strategy to ascertain the specific value of the intangible assets (Fig. 7). After defining the purpose of the valuation, the first step for revealing the value of intangible assets is to develop a precise understanding of the intellectual property elements involved in the project, e.g., patents, trademarks, copyrights, or/and trade secrets. It is also crucial to formulate rational expectations of the commercial potential based on the market, features, functions, and practical use benefits of the specific intellectual property asset.

**Figure 7.** The Comprehensive Valuation Strategy for IP Assets



Source: Seminar on Intellectual Property Licensing and Dispute Resolution (1998).

### 3.1. Cost-based approach

From the cost-based approach of accounting, it is necessary to measure the value of the intangible asset in terms of aggregating the costs involved in its development or acquisition. Thus, the second step of the comprehensive intellectual property asset valuation is to assess the historic and replacement costs of its development. Also, the most relevant data for the cost model implementation include management costs, legal, licensing, patent registration fees, opportunity cost, labor costs, and any material costs involved (OECD, 2008). It is also vital to understand if the intellectual property requires further investments in development or external financial support.

The deal between Cystic Fibrosis Foundation Therapeutics (CFFT) and CombinatoRx, Inc. exemplifies a cost-based valuation model application in practice (Committee on Development and Intellectual Property, 2016). The principal purpose of this collaboration was to discover and develop novel therapeutics designed from synergistic drug combinations to fight cystic fibrosis, which affects about 30,000 people in the United States (Adler, 2006). Under the terms of the agreement, CFFT provided CombinatoRx, Inc. with \$13.8 million in research expenses and up to 75% of clinical development expenses through Phase IIa on the first product candidate in funding (*ibid.*). Furthermore, in the case of the successful realization of clinical and regulatory milestones, CFFT agreed to cover the remaining 25% of costs (Committee on Development and Intellectual Property, 2016). At the same time, CombinatoRx, Inc. maintained worldwide commercialization rights, while CFFT was granted royalties from CombinatoRx, Inc. on net sales of any marketed products (Adler, 2006).

Even though the cost-based method may satisfy the criteria of consistency and accuracy in the context of accounting, it may be less efficient when solely applied. For instance, the application of the historical cost-based approach is challenging due to the difficulties with isolating the expenditure that is specifically related to developing the intellectual property, the lack of relevant information on costs for older intellectual property, and the need to adjust them to reflect current prices (Bertolotti, 1996a).

Furthermore, in many cases, the specific value of the intellectual property has little correlation with its cost (WIPO, 1998). For instance, as of April 7, 2021, the Clinical Informatics Research Unit (CIRU) tracked global funding for COVID-19 related research totaling \$3.3 billion (Clinical Informatics Research Unit, 2020). Meanwhile, just one successful, widely available vaccine could help redress the global economy, which has – thus far – lost up to \$8.8 trillion (Asian Development Bank). On the other hand, some vaccines developed at a substantial cost may never even reach the market because, for example, they may unexpectedly fail safety tests and never obtain regulatory approval. Moreover, history knows examples of accidental inventions which proved to have enormous value, e.g., Scotchgard and the microwave oven, whose development costs were incidental to their creators. In other words, the success of some inventions might not reflect the costs incurred in developing them.

### **3.2. The active-market replacement cost approach**

In most cases, intellectual property valuation is incomplete, with no reference to an active market. Under accounting standards, an active market reference may be another source for intangible assets valuation; this approach requires a determination that the worth of the intangible asset does not differ materially from its fair value after its initial recognition (International Accounting Standards, 2020). In this sense, an active market is a market of equivalent objects, in which there are willing buyers and sellers at any time, and the prices are available to the public (*ibid.*). The possible downside is that this approach currently seems to be more suitable for tangible assets since active markets for tangible equivalent objects are more mature (Turner, 2000).

Although the active-market replacement cost approach resolves some issues, the main obstacle is finding an analogous intellectual property, in part, due to the unique nature of intellectual property assets and immature active markets (OECD, 2008). From the accounting point of view, the input data must be available and accurate for a reliable valuation result. Even if there are identical intellectual property assets identified, there could be some other factors, altering their value, e.g., the right-holders of these assets, or their utilization (*ibid.*). The scarcity of available intellectual property market information becomes a substantial challenge in the context of early-stage technologies since it may be very difficult to find equivalents in the market.

When it is possible to apply the active-market replacement cost approach, it requires extensive market research to understand the active market by defining, e.g., its size, adoption rates, robustness to litigation, royalty rates, technology value, and other parameters (Parr, 1999; WIPO, 1998). Other aspects of the relevant market may include the diversity of the products or processes to which the intellectual property object is applicable, the market location and size, and internal competition, among others (*ibid.*). Applying the active-market replacement cost approach only seems to be possible when there is available information concerning the prices and transparent circumstances of the equivalent transactions to consider as benchmarks (OECD, 2008). Hence, the valuation expert has to exercise extreme caution when relying on deals with unconvincing or incomplete information (*ibid.*). For the above reasons, the cost-based approach currently prevails in accounting practice, which means that the source of valuation is the aggregate of the costs involved in its development or acquisition (Ghafele, 2003).

Innovation development often correlates with numerous risks and unpredictable results. The future gains of some inventions are hard to predict. For instance, there is the well-known example of Play-Doh. Initially, the product was a commercial failure, offered as a wall cleaner (Hiskey, 2015.). Fortunately, children and teachers loved its stickiness and started to apply it creatively, using it to make little sculptures (*ibid.*). The message of this story is that, in some cases, it takes time to discover the specific value of the invention, and this discovery may be completely unpredictable. By contrast, in other cases, the significant investment

in developing an innovation does not necessarily reflect its future income since it could fail in terms of its technological parameters or further commercial utilization (Ocean Tomo, 2014).

### 3.3. Income-based approach

A discounted cash flow or a similar technique, applied in the income-based approach, often involves a certain degree of assumption; it considers the expected financial income as another significant indicator of the intellectual property value. This approach requires some reasonable assumptions regarding the remaining useful life of the intangible asset, its appropriate discount rate, and the weighted average cost of capital, among others (OECD, 2008). In this respect, it is crucial to understand that, just like any other asset, intellectual property has a varying ability to generate economic returns based on its economic, functional, technological, and legal life (*ibid.*). For instance, the cash flows for the entire legal length of copyright protection, which may be longer than 70 years, are not equivalent to those for the computer software with a short economic life span of fewer than ten years (*ibid.*).

In a general sense, the useful life of an asset is indefinite when there is no foreseeable limit to the period over which the asset generates net cash inflows for the entity (International Accounting Standards, 2020). The principal difference is that an intangible asset with an indefinite useful life is not subject to amortization (*ibid.*). By contrast, if its useful life is finite, the company is required to amortize it, which is a very similar process to the depreciation of tangible assets over time (*ibid.*). As a result, the amortization of an intangible asset with a finite useful life reduces its value on the balance sheet over time, while being reported as an expense on the income statement each period, which highlights the significance of remaining useful life and depreciation rates for accurate valuation (OECD, 2008). Thus, when applying the income-based approach for intangible asset valuation, it is critical to consider the useful lives of the evaluated intangible assets.

The comprehensive application of the above three valuation models is likely to yield superior results to using them separately. Apart from the worth of the intellectual property asset, it is essential to evaluate the other aspects that may affect its value, e.g., ownership rights and their transferability, intellectual property protection strategies, the market and market competitors, peculiarities about the project, and the potential cost of its protection and management (WIPO, 1998). With this in mind, the comprehensive evaluation of the value of intellectual property assets may require the adoption of an effective strategy, based on credible data and the successful combination of the costs, replacement price, and income approaches. A comprehensive, combined approach should be reflected in the intellectual property owner's accounting policy, rather than attempting to separately implement each accounting approach.



## 4. A Canadian forensic, comprehensive approach

Though the above valuation strategies are helpful in theory, current financial statements prepared in accordance with GAAP or IFRS fail to show how these theories are implemented. Further, due to a lack of agreed-upon accounting standards for intellectual property valuation, the abovementioned approaches are implemented in a haphazard way. The comparison of Canada with other Western jurisdictions determined that Canada is the only system that has well-developed standards for intellectual property damage calculations at the Federal level.

Neither GAAP nor IFRS provides comprehensive guidelines about intellectual property valuation. The closest to a practical, comprehensive standard for intellectual property valuation is in Canada, where courts have developed a well-established jurisprudence in calculating damages related to intellectual property. Though such jurisprudence is imperfect vis-à-vis the valuation of intellectual property, the Canadian forensic approach can be seen as a subset that provides valuable insight into how such an approach may be useful to yield a basic standard for intellectual property valuation which has been regularly and practically applied. Thus, analysis of the Canadian forensic approach can be helpful in exploring, by analogy, how comprehensive intellectual property valuation strategies work in practice.

### 4.1. Canadian forensic, active-market cost consideration

In Canada, if an intellectual property infringement is proved, the intellectual property owner is entitled to reimbursement of the lost profits, calculated as the predictable profit on the lost sales plus the diminished profit on the actual sales (Harington et al., 2012). The broad category of lost profits may include lost profits on sales, from higher production costs, from lost convoyed sales, springboard damages, early adopter advantages, or lost potential (future) profits (ibid.). In this regard, IFRS fairly states that these benefits that flow from an intellectual property asset may include revenue from the sale of products or services, cost savings, or other benefits resulting from the use of it by the entity (International Accounting Standards, 2020).

It is crucial to define what would have been the course of the events if there had been no infringement of intellectual property rights (Harington et al., 2012). Hence, it is important to consider the dynamic interplay of market forces that would have affected the plaintiff's profit over the period of infringement. Based on the *Allied Signal Inc. v. DuPont Canada Inc. and Complx Corp.* of 1998, these factors include, e.g., the presence of competing products in the marketplace, the advantages of the patented products over them and vice versa, the market positions of the owner and the infringer, and the market shares of the parties before and after the infringement (ibid.). In essence, this method of determining the lost profits seems to be loosely related to the active-market replacement approach mentioned above, which seeks market transactions involving comparable assets

and uses them as a source for defining the worth of intellectual property (Singla, 2005). Consequently, this approach to determining profits in intellectual property lawsuits requires complex economic analysis based on the precise reference to the active market and anticipation of certain events (Harington et al., 2012).

## 4.2. Canadian forensic, income-based consideration

In Canada, if an intellectual property infringement is proved, the court can also award damages equal to the amount of the lost sales or licensing fees or an account of profits (Andrews, De Beer, 2009). In the accounting of profits, the amount of an award would depend on the defendant's profits attributable to the infringement (ibid.). The potential advantage of the accounting of profits is that, in some cases, it is easier to prove the infringer's revenues from its infringing sales compared to measuring the extent of the lost sales or licensing fees resulting from the infringer's conduct, which is essential for awarding the damages (Want, Davies, 2018).

Nevertheless, the central challenge of this approach is to distinguish income earned as a result of the infringement and the profits that the infringer would gain in any case. The Canadian courts have adopted the differential profits approach, also known as the “non-infringing alternative” defense to overcome this issue (ibid.). According to the non-infringing alternative defense, courts award owners based only on the portion of the earnings that would not have arisen but for the infringing activity (Andrews, De Beer, 2009). If a defendant could use a non-infringing alternative instead of the account for profits, then the profits to be disgorged are calculated by deducting the earnings that would have arisen in the absence of the infringing activity (ibid.).

We analyze two accounting of profits cases, starting with the decision in *Monsanto v. Schmeiser*, and followed with *Monsanto v. Rivett*. In the course of these trials, the Canadian Courts elaborated on the basic rules applicable to the accounting of profits remedy, declaring when it is possible to award them, as well as the methods for determining the quantum (Horne, 2011). Monsanto Company of St. Louis, Missouri, and its Canadian subsidiary, Monsanto Canada Inc., sell several genetically modified seed varieties (Andrews, De Beer, 2009).

In *Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34, the Trial Division of the Federal Court ruled that the defendant infringed Monsanto's patent, growing 950 acres of canola in breach of the Patent Act, RSC 1985, c. P-4 (ibid.). As a result, the court awarded profits of \$105,000 for Monsanto US and damages of \$15,450 for Monsanto Canada, as well as exemplary damages of \$25,000 and pre-judgment and post-judgment interest (Andrews, De Beer, 2009). The judge rejected the defendant's argument that there were no measurable earnings gained as a result of the infringement and considered the defendant's labor as a deduction in accounting for profits (ibid.). Since the trial judge determined that the monetary award should equal no more than the profit from the sale of the defendant's 1998

canola crop, the court calculated as the attributed a net profit of \$35,034 minus the allowance of \$15,202 for the defendant's labor and other indirect fixed expenses (ibid.). After both parties appealed to the Federal Court of Appeal, it allowed the non-infringing alternative defense, ruling that a patent owner should only be entitled to the infringer's profits enjoyed as a result of the infringement (ibid.).

In *Monsanto Canada Inc. et al. v. Rivett*, 2009 FC 317, if the defendant was selling a non-infringing alternative instead of infringing soybeans, he would have earned 18% less if he had not infringed Monsanto's patent (Horne, 2011). The higher income is a result of Monsanto's technology, producing higher yields and being a less expensive weed control (Canadian Biotechnology Action Network, 2009). The trial judge allowed the non-infringing alternative defense. The Federal Court of Appeal rejected Monsanto's argument that the non-infringing alternative defense is inadequate in the context of intentional infringement. Similar to the Schmeiser case, in *Monsanto Canada Inc. et al. v. Rivett*, the Federal Court of Appeal stated that this approach is preferable when calculating an accounting of profits.

The two cases discussed above bring to light the evidence that, in some cases, the difference in the quantum of profits determined under the non-infringing alternative defense may be substantial. Although an accounting of profits as a remedy may, in some cases, result in lower monetary recovery for plaintiffs than damages, in other situations, it may still maximize the sum awarded.

The analysis reveals that Canadian courts take a comprehensive approach to intellectual property damage and loss calculation, with an emphasis on trying to apply the most accurate approach, given the situation. Analysis of the Canadian forensic approach can be helpful in exploring, by analogy, how comprehensive intellectual property valuation strategies work in practice. Particularly useful to intellectual property valuation, by analogy, is the Canadian Federal Court of Appeal's preference for appraisal based only on the portion of the earnings that would not have arisen but for the intellectual property. The reasons given for this approach reflect an emphasis on the type of accuracy that is also essential to improving intellectual property valuation. Thus, the Canadian forensic approach could be helpful in considering accounting standards improvements regarding intellectual property.

## Conclusion

The current study found that there are particular difficulties correlated with intellectual property value estimation. The results of the Salesforce and Demandware case study indicate that analyzed corporate reports of the companies for the respective years provide non-comprehensive information about the types of intellectual property received. Specifically, the balance sheets for the respective years do not provide any detailed information concerning the acquired intellectual property, and there is no distinct reporting of the value of intellectual property assets, either developed in-house or acquired through separate acquisitions. Furthermore,

based on the analyzed reports, it is impossible to accurately estimate the value of the intellectual property obtained as a result of the Demandware acquisition. Another important finding is that, contrary to the expectation that the nature of tech companies would be more intangible than tangible, the reported share of intangible assets acquired through business combinations was relatively insignificant compared with the value of the total corporate assets. Furthermore, the study suggests that the catch-all category of goodwill may lead to the problem of other intangible assets being relatively under-accounted-for in financial reports. Considering that in the context of the Salesforce acquisition of Demandware, there was no detailed reporting on the obtained intellectual property assets as a result of this transaction, a comprehensive appraisal of intellectual property assets generally may not occur when measured solely under the current standards of accounting.

From a global standpoint, the enhanced recognition of in-house developed intellectual property assets may be the next vital accounting standards improvement regarding intellectual property. Furthermore, enhanced narrative reporting may help to promote the disclosure by companies, revealing forward-looking information about value drivers, trends, risks, and uncertainties related to intangible assets. Moreover, increasing the accuracy of valuation through accounting standards could allow for further options to the owner of in-house-developed intellectual property, e.g., taking a fixed charge over specific intellectual property for the purposes of debt financing, and including the possibility of placing intellectual property assets into an SPV for the purposes of financing.

Furthermore, the careful examination of the theoretical concepts of the existing intellectual property valuation models suggests the central thesis of this paper, that it makes sense to adopt a comprehensive intellectual property valuation strategy to ascertain the specific value of the intangible assets since the comprehensive application of valuation models is likely to yield superior results to using them separately. Overall, it seems critical to reconsider the uncoordinated application of the diversified valuation models, striving to estimate its value creation capacity from different angles, without any alignment or consensus. This paper offers an alternative comprehensive valuation model, combining the strengths of individual valuation models. The proposed approach seeks to bring more clarity to the valuation process while simplifying the appraisal of intellectual property assets. Considering that every model applied as part of the comprehensive intellectual property valuation reflects a different aspect of value, the combination of models seems to be the optimal approach. Although this study contributes to research on methods that facilitate accurate intellectual property valuation, the efficacy of our proposed approach is subject to increased transparency, a maturing intellectual property market, and credible data availability. Therefore, there is ample room for further research in the field of the intellectual property valuation framework.

A basic case analysis of the Canadian forensic approach, exploring, by analogy, how comprehensive intellectual property valuation strategies work in practice, reveals that Canadian courts take a comprehensive approach to intellectual property damage and loss calculation, with an emphasis on trying to apply the most accurate

approach, given the situation. The reasons given for this approach reflect an emphasis on the type of accuracy that is also essential to improving intellectual property valuation. Thus, the Canadian forensic approach could help consider accounting standards improvements regarding intellectual property, which can become a starting point for future research.

## References

- Abell M. (1996), Theme I: *The Importance of Assessing the Value of Industrial Property Assets - Viewpoint of a Right Holder Inventor, Enterprise or Institution*, WIPO National Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China)
- Adler N. (2006), *Cystic Fibrosis Foundation funds R & D of CombinatoRx*, "Washington Business Journal", <[https://www.bizjournals.com/washington/stories/2006/05/29/daily\\_26.html](https://www.bizjournals.com/washington/stories/2006/05/29/daily_26.html)> (access 19.09.2020).
- Andrews K., De Beer J. (2009), *Accounting of Profits to Remedy Biotechnology Patent Infringement*, "Osgoode Hall Law Journal", 47 (4), pp. 619–662, <<https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1127&context=ohlj>> (access 19.08.2020).
- Bertolotti, N. (1996a), *The Valuation of Intellectual Property*, WIPO National Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China), <[https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/ip\\_bj\\_96\\_7.pdf](https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/ip_bj_96_7.pdf)> (access 19.07.2020).
- Bertolotti N. (1996b), Theme I: *The Importance of Assessing the Value of Industrial Property Assets – Viewpoint of a Right Professional Consultant Engaged in Valuating Industrial Property Assets*, WIPO National Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China)
- Bertolotti N. (1996c), Theme II: *Parameters for Assessing the Economic Value of Industrial Property Assets - Viewpoint of a Right Professional Consultant Engaged in Valuating Industrial Property Assets*, WIPO National Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China).
- Bertolotti N. (1996d), Theme III: *Methodologies for Determining the Value of Industrial Property Assets - Viewpoint of a Professional Consultant Engaged in Valuating Industrial Property Assets*, WIPO National Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China).
- Chang J., Hung M., Tsai F. (2005), *Valuation of intellectual property: a real option approach*, "Journal of Intellectual Capital" <[https://www.researchgate.net/publication/242020023\\_Valuation\\_of\\_intellectual\\_property\\_A\\_real\\_option\\_approach](https://www.researchgate.net/publication/242020023_Valuation_of_intellectual_property_A_real_option_approach)> (access 19.07.2020).
- Chaplinsky, S., 2008. Methods of Intellectual Property Valuation. *University of Virginia - Darden School of Business* <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1279326](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1279326)> (access 20.07.2020).
- Committee on Development and Intellectual Property (CDIP). Seventeenth Session (2016), *Intellectual Property Valuation Manual for Academic Institutions*, April 11 to April 15, 2016 (Geneva, Switzerland).
- Cordson P. (1997), Theme III: *Valuation of Industrial Property Assets - Methodologies of Determining the Value of Industrial Property Assets*, WIPO Asian Regional Symposium on the Promotion of Inventive and Innovative Activities and their Valuation and Commercialization, March 5 to March 7, 1997 (Ho Chi Minh City, Viet Nam).

- Cullet P. (2005), *Monsanto v Schmeiser: A Landmark Decision concerning Farmer Liability and Transgenic Contamination*, "Journal of Environmental Law" 17 (1), pp. 83–108, <<https://www.jstor.org/stable/44248498?seq=1>> (access 23.08.2020).
- Firth M., Liao-Tan C. (1997), *Signaling models and the valuation of new issues: An examination of IPOs in Singapore*, "Pacific-Basin Finance Journal", 5 (5), pp. 511–526, <<https://www.sciencedirect.com/science/article/pii/S0927538X97000243>> (access 19.07.2020).
- Gajland D. (1998), *Valuation of Intellectual Property Assets: Significance, Parameters, Methodologies and Limitations*, WIPO Asian Regional Seminar on the Promotion of the Use of the Intellectual Property System by Private Sector, November 17 to November 19, 1998 (Daeduk, Republic of Korea).
- Ghafele R. (2003), *Getting a Grip on Accounting and Intellectual Property*, Intellectual Property and Economic Development Department, WIPO, [www.wipo.int/sme/en/documents/ip\\_accounting.html](http://www.wipo.int/sme/en/documents/ip_accounting.html)
- Ghosh S. (2012), *Oracle Buys Web Firm Eloqua To Boost Cloud Presence*, <<https://www.reuters.com/article/us-eloqua-offer-oracle/oracle-buys-web-firm-eloqua-to-boost-cloud-presence-idUSBRE8BJ00N20121220>> (access 14.09.2020).
- Giuliani M., Brännström, D. (2011), *Defining goodwill: a practice perspective*, "Journal of Financial Reporting & Accounting", 9 (2), pp. 161–175, <[http://file:///C:/Users/1535831/Downloads/Defining\\_goodwill\\_.pdf](http://file:///C:/Users/1535831/Downloads/Defining_goodwill_.pdf)> (access 15.09.2020).
- Harrington A., Davidson A., Dovey W., Perry J., Jaishankar S., Martin T., Cole S. (2012), *Damages Calculations in Intellectual Property Cases in Canada*, Duff & Phelps Canada Limited, Toronto, <<https://www.duffandphelps.in/-/media/assets/pdfs/publications/disputes-and-investigations/damages-calculations-monograph.pdf>> (access 20.09.2020).
- Heinrich R. (2011), *Valuation in Intellectual Property Accounting*, UNECE Team of Specialists on Intellectual Property Bishkek, 11 October 2011, <[https://www.unece.org/fileadmin/DAM/ceci/ppt\\_presentations/2011/SubRegConf\\_Bishkek/Heinrich\\_Accounting.pdf](https://www.unece.org/fileadmin/DAM/ceci/ppt_presentations/2011/SubRegConf_Bishkek/Heinrich_Accounting.pdf)> (access 19.07.2020).
- Hiskey D. (2015), *The Shocking Story Behind Playdoh's Original Purpose*, Business Insider, <<https://www.businessinsider.com/the-shocking-story-behind-playdohs-original-purpose-2015-9>> (access 19 September 2020).
- Horne D. (2011), *Patents Part II – New(?) Things to Consider When Considering Seeking an Accounting of Profits Arising from Patent Infringement*, [in:] *Legal Education Society of Alberta Intellectual Property Law Update*, <<https://www.lesaonline.org/product/seeking-an-accounting-of-profits-arising-from-patent-infring/>> (access 20.08.2020).
- International Accounting Standards. 38 — Intangible Assets (2020).
- Konrad A. (2016), *Salesforce Will Acquire Demandware for \$2.8 Billion In Move into Digital Commerce*, "Forbes", <<https://www.forbes.com/sites/alexkonrad/2016/06/01/salesforce-acquires-digital-commerce-company-demandware-for-2-8-billion/>> (access 14.09.2020).
- Lev B. (2003), *Remarks on the Measurement, Valuation, and Reporting of Intangible Assets*, "Economic Policy Review", 9 (3), pp. 17–22, <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=788927](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=788927)> (access 19.07.2020).
- Lianyuan M. (2000), *Valuation of Intellectual Property Assets; Valuation Techniques: Parameters, Methodologies and Limitations*, WIPO Asian Regional Forum on the Intellectual Property Strategy for the Promotion of Innovative and Inventive Activities, November 22 to November 24, 2000 (Daeduk, Republic of Korea).
- Lunden I. (2016), *Salesforce Buys Demandware for 2.8B, Taking A Big Step into E-Commerce*, <<https://techcrunch.com/2016/06/01/salesforce-buys-demandware-for-2-8b-taking-a-big-step-into-e-commerce/>> (access 14.09.2020).
- Lück G. (1996), *Theme I: The Importance of Assessing the Value of Industrial Property Assets - Viewpoint of a Right Holder Inventor, Enterprise or Institution*, WIPO National

- Seminar on the Valuation of Industrial Property Assets, November 26 to November 27, 1996 (Beijing, China), <[https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/ip\\_bj\\_96\\_1.pdf](https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/ip_bj_96_1.pdf)> (access 19.07.2020).
- Ocean Tomo (2014), *Intellectual Property Valuation: Early-Stage Technology*, <<https://www.oceantomo.com/insights/intellectual-property-valuation-early-stage-tech-nology/>> (access 29.07.2020).
- Parr R. (1998), *Pricing Intangible Assets: Methods of Valuation of Intellectual Property*, Seminario Sobre Valorización De La Propiedad Intelectual, November 19 to November 20, 1998 (Lima, Peru).
- Parr R. (1999), *Module 6: IP Valuation Issues and Strategies*, Singapore-WIPO Joint Training Course for Asia and the Pacific Region on Intellectual Property and Technopreneurship Development, November 9 to November 18, 1999 (Singapore, Singapore).
- Petersen M. (2007), *Retained Inside Ownership, Signaling, and the Valuation of Initial Public Offerings – Evidence from Germany*, “European Business School”, <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1017473](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1017473)> (access 19.07.2020).
- PwC (2019), *IFRS And US GAAP: Similarities and Differences*, <<https://www.pwc.com/us/en/cfodirect/assets/pdf/accounting-guides/pwc-ifsr-us-gaap-similarities-and-differences.pdf>> (access 14.09.2020).
- Seminar on Intellectual Property Licensing and Dispute Resolution* (1998), Intellectual Property Exploitation and Valuation, March 9 to March 10, 1998 (Cairo, Egypt).
- Singla A. (2005), *Valuation of Intellectual Property*, <<https://www.semanticscholar.org/paper/Valuation-of-Intellectual-Property-Singla/95dd5f21a744463f3c5919d977b78ca274aed86d>> (access 19.07.2020).
- Smith G. (1998), *The Importance of the Valuation of Intellectual Property Assets. Valuation Mechanism*, Seminario Nacional De La Ompi Sobre La Importancia De Los Activos De Propiedad Intelectual En Las Estrategias De Gestión Empresarial, November 25, 1998 (Buenos Aires, Argentina).
- Smith G. (2002), *Assessment and Valuation of Inventions and Research Results for their Use and Commercialization*, International Workshop on Management and Commercialization of Inventions and Technology, April 17 to April 19, 2002 (Monterrey, Mexico).
- Solovieva G. (2000), *Commercialization of Intellectual Property; Valuation of Intellectual Property Rights; Management of Intangible Assets*, Moscow Intellectual Property Forum, October 13 to October 19, 2000 (Moscow, Russian Federation).
- Titman S., Trueman B. (1986), *Information quality and the valuation of new issues*, “Journal of Accounting and Economics”, 8 (2), pp. 159–172. <<https://www.sciencedirect.com/science/article/abs/pii/0165410186900169>> (access 19.07.2020).
- Tomo O., Davis N. (2013), *Intangible Asset Market Value*, <https://www.oceantomo.com/intangible-asset-market-value-study/> (access 28.07.2020).
- Turner J. (2000), *Valuation of Intellectual Property Assets; Valuation Techniques: Parameters, Methodologies and Limitations*, WIPO Asian Regional Forum on the Intellectual Property Strategy for the Promotion of Innovative and Inventive Activities, November 22 to November 24, 2000 (Daeduk, Republic of Korea), <[https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/inn\\_ddk\\_00\\_5xax.pdf](https://www.wipo.int/export/sites/www/sme/en/documents/valuationdocs/inn_ddk_00_5xax.pdf)> (access 19.07.2020).
- Varco Canada Limited v. Pason Systems Corp.* (2013) 2013 FC 750 T-436-05 (Federal Court Decisions), [varco-canada-limited-v-pason-systems-corp.pdf](https://www.varco-canada-limited-v-pason-systems-corp.pdf)
- Wainewright P. (2016), *Salesforce Acquires Demandware To Add Commerce Cloud*, <<https://diginomica.com/salesforce-acquires-demandware-to-add-commerce-cloud>> (access 29.08.2020).

- Want J., Davies D. (2018), *Accounting of Profits Offers Significant Benefits to Patent Owners*, <<https://www.smartbiggar.ca/insights/publication/accounting-of-profits-offers-significant-benefits-to-patent-owners->> (access 19.09.2020).
- Woetzel J., Seong J. (2019), *Staying competitive in next round of globalization*, “China Daily”, 2019-04-18, <[http://www.chinadaily.com.cn/global/2019-04/18/content\\_37459680.htm](http://www.chinadaily.com.cn/global/2019-04/18/content_37459680.htm)> (access 31.08.2020).
- Wojtyra U. (2017), *Astrazeneca Succeeds in Omeprazole Patent Infringement Profits Case*, <<https://www.smartbiggar.ca/insights/publication/astrazeneca-succeeds-in-omeprazole-patent-infringement-profits-case>> (access 23.08.2020).

### Internet sources

- ACCA (2014), *Worldwide Application of IFRS 3, IAS 38 And IAS 36, Related Disclosures, And Determinants of Non-Compliance*. ACCA Research Report 134, London: Certified Accountants Educational Trust, <<https://www.accaglobal.com/content/dam/acca/global/PDF-technical/financial-reporting/rr-134-001.pdf>> (access 20.08. 2020).
- Asian Development Bank (2020), *COVID-19 Economic Impact Could Reach \$8.8 Trillion Globally – New ADB Report*, <<https://www.adb.org/news/covid-19-economic-impact-could-reach-8-8-trillion-globally-new-adb-report>> (access 26.09.2020).
- Berkshire Hathaway Inc. (1983), *Berkshire Hathaway Inc. Shareholder Letter*, <<https://www.berkshirehathaway.com/letters/1983.html>> (access 15.09. 2020).
- Business Insider Intelligence (2016), *Demandware rebrands after Salesforce acquisition*, <<https://www.businessinsider.com/demandware-rebrands-after-salesforce-acquisition-2016-10>> (access 16.09. 2020).
- Canadian Biotechnology Action Network (2009), *Seed Piracy: Recent Litigation in Ontario*, <[https://cban.ca/wp-content/uploads/seed\\_piracy\\_newsletter\\_oct\\_2009-1-1.pdf](https://cban.ca/wp-content/uploads/seed_piracy_newsletter_oct_2009-1-1.pdf)> (access 23.08.2020).
- Clinical Informatics Research Unit (2020), *R&D Data & Dashboard to Support The COVID-19 Pandemic Response*, <<https://www.the-ciru.com/resin-covid19>> (access 14.09.2020).
- Demandware Inc. (2016), *Quarterly Report – April 27, 2016*, Washington, D.C., <<https://fintel.io/doc/sec-dwre-demandware-10q-2016-april-27-18023>> (access 14.09.2020).
- European Commission (2014), *Final Report from The Expert Group on Intellectual Property Valuation*. Research and Innovation, Luxembourg: Publications Office of the European Union, <<https://op.europa.eu/en/publication-detail/-/publication/797124c6-08cb-4ffb-a867-13dd8a129282>> (access 15.07.2020).
- IFRS Resources (2020), *IFRS Questions and Answers: Developed by American Institute of Certified Public Accountants*. <[https://www.ifrs.com/ifrs\\_faqs.html#ftnt1](https://www.ifrs.com/ifrs_faqs.html#ftnt1)> (access 14.09.2020).
- OECD (2008), *Intellectual Assets and Value Creation Synthesis Report*, <<https://www.oecd.org/science/inno/40637101.pdf>> (access 19.07.2020).
- Offer to Purchase for Cash All Outstanding Shares of Common Stock of Demandware, Inc. at \$75.00 Net Per Share by Dynasty Acquisition Corp., a wholly-owned subsidiary of salesforce.com, Inc.* (2016), <<https://www.sec.gov/Archives/edgar/data/1108524/000119312516618536/d188876dex99a1i.htm>> (access 14.09. 2020).
- Salesforce (2016), *Salesforce Completes Acquisition of Demandware*, <<https://www.salesforce.com/company/news-press/press-releases/2016/07/160711-2/>> (access 14.09.2020).



- salesforce.com, inc. (2016), *2016 Annual Report*, [online], Delaware: salesforce.com, inc. <[https://s23.q4cdn.com/574569502/files/doc\\_financials/2016/Annual/Salesforce-FY-2016-Annual-Report.pdf](https://s23.q4cdn.com/574569502/files/doc_financials/2016/Annual/Salesforce-FY-2016-Annual-Report.pdf)> (access 3.09.2020).
- salesforce.com, inc. (2017). *2017 Annual Report*, Delaware, <[https://s23.q4cdn.com/574569502/files/doc\\_financials/2017/Annual/Salesforce-FY-2017-Annual-Report.PDF](https://s23.q4cdn.com/574569502/files/doc_financials/2017/Annual/Salesforce-FY-2017-Annual-Report.PDF)> (access 14.09.2020).
- SAP (20120), *SAP to Expand Cloud Presence with Acquisition of Ariba*, <<https://news.sap.com/2012/05/sap-to-expand-cloud-presence-with-acquisition-of-ariba/>> (access 14.09. 2020).
- “The Economist” (2014), *What are brands for?* <<https://www.economist.com/business/2014/08/30/what-are-brands-for>> (access 19.07.2020).

