Core Intangible Assets Reports: Concept and Design
I. Purpose and Background of the Study
   I-1. Current reporting status of Intangible Assets
   I-2. Current reporting limitations of Intangible Assets

II. Intangible Asset report Improvement Plan
   II-1. Improvement study case: AASB & FRC
   II-2.『The Third Way』: Concepts and Reporting of core Intangible Assets
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Number of companies reporting Intangible Assets

- 1998: 80.4%
- 1999: 95.2%
- 2000: 98.0%
- 2001: 96.2%
- 2002: 95.2%
- 2003: 98.0%
- 2004: 98.0%
- 2005: 98.0%
- 2006: 98.0%
- 2007: 98.0%
- 2008: 98.0%
- 2009: 98.0%
- 2010: 98.0%
- 2011: 98.0%
- 2012: 98.0%
- 2013: 98.0%
- 2014: 98.0%
- 2015: 98.0%
- 2016: 98.0%
- 2017: 98.0%
- 2018: 98.0%
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Intangible Assets to market capitalization ratio

![Graph showing the percentage of Intangible Assets to market capitalization ratio from 1998 to 2018. The percentage for 2018 is 4.76%.]
Ⅰ. Purpose and Background of the Study
Ⅰ-1. Current reporting status of Intangible Assets

Intangible Assets to M&A PC ratio

Intangible Assets as % of Purchase Consideration by Transaction Size

$ in millions

자료: 2017 Purchase Price Allocation Study, Houlihan Lokey
Ⅰ. Purpose and Background of the Study
Ⅰ-1. Current reporting status of Intangible Assets

<table>
<thead>
<tr>
<th>Year</th>
<th>Intangible Assets to S&amp;P 500 Market Value ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>17%</td>
</tr>
<tr>
<td>1985</td>
<td>32%</td>
</tr>
<tr>
<td>1995</td>
<td>68%</td>
</tr>
<tr>
<td>2005</td>
<td>80%</td>
</tr>
<tr>
<td>2015</td>
<td>84%</td>
</tr>
</tbody>
</table>

(출처:Ocean Tomo Website)
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Ohlson (1995) admits the existence of goodwill, which defines as the flow of abnormal results that the company expects to receive, and which are derived from trademarks, patents, location, customer loyalty, investment in R&D, advertising and specificity of the organizational model—intangible assets, which are potential sources of value creation.

\[ P_t = b v_t + \alpha_1 x_t^a + \alpha_2 v_t \]  
\[ P_t - b v_t = \sum_{\tau=1}^{\infty} R_f^{-\tau} (x_{t+\tau}^a) \]  

\( P_t \): market value of the company  
\( b v_t \): capital invested in the company  
\( x_t \): abnormal results  
\( v_t \): other than the financial information
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Market-to-Book Ratio

- Market-to-book ratios (the ratio of market capitalisation to the carrying amount of net assets of an entity) are sometimes invoked as a measure of the significance of unrecognised intangible assets.

- In addition, the upward trend in mean market-to-book ratios is sometimes used as evidence of the ‘new economy’, characterised by the arrival of a new breed of more valuable unrecognised intangible assets. (Lev, B. 2001; Beattie, V. and Thomson, S.J. 2005)

- Intangible assets becoming an increasingly significant driver of corporate value;
- Investors becoming increasingly aware of the role that intangible assets play with respect to corporate value.
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

¶ Market-to-Book Ratio of Listed Companies
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

<table>
<thead>
<tr>
<th>Year</th>
<th>KOSPI</th>
<th>KOSDAQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>0.52</td>
<td>0.52</td>
</tr>
<tr>
<td>1999</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>2000</td>
<td>1.04</td>
<td>1.04</td>
</tr>
<tr>
<td>2001</td>
<td>1.54</td>
<td>1.54</td>
</tr>
<tr>
<td>2002</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>2003</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>2004</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>2005</td>
<td>1.27</td>
<td>1.27</td>
</tr>
<tr>
<td>2006</td>
<td>1.29</td>
<td>1.29</td>
</tr>
<tr>
<td>2007</td>
<td>1.88</td>
<td>1.88</td>
</tr>
<tr>
<td>2008</td>
<td>1.92</td>
<td>1.92</td>
</tr>
<tr>
<td>2009</td>
<td>1.90</td>
<td>1.90</td>
</tr>
<tr>
<td>2010</td>
<td>2.09</td>
<td>2.09</td>
</tr>
<tr>
<td>2011</td>
<td>1.68</td>
<td>1.68</td>
</tr>
<tr>
<td>2012</td>
<td>1.85</td>
<td>1.85</td>
</tr>
<tr>
<td>2013</td>
<td>2.02</td>
<td>2.02</td>
</tr>
<tr>
<td>2014</td>
<td>1.90</td>
<td>1.90</td>
</tr>
<tr>
<td>2015</td>
<td>2.87</td>
<td>2.87</td>
</tr>
<tr>
<td>2016</td>
<td>2.97</td>
<td>2.97</td>
</tr>
<tr>
<td>2017</td>
<td>2.55</td>
<td>2.55</td>
</tr>
<tr>
<td>2018</td>
<td>4.32</td>
<td>4.32</td>
</tr>
</tbody>
</table>

Market-to-Book Ratio per Market type (KOSPI/KOSDAQ)
## Purpose and Background of the Study

### I-1. Current reporting status of Intangible Assets

<table>
<thead>
<tr>
<th>Company name</th>
<th>Market Cap (1 million KRW)</th>
<th>Market to Book Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samsung Electronics</td>
<td>262,876,300</td>
<td>0.03</td>
</tr>
<tr>
<td>SK Hynix</td>
<td>41,382,109</td>
<td>1.04</td>
</tr>
<tr>
<td><strong>Celltrion</strong></td>
<td>27,724,070</td>
<td><strong>16.17</strong></td>
</tr>
<tr>
<td>Samsung Biologics</td>
<td>25,572,773</td>
<td>6.18</td>
</tr>
<tr>
<td>Hyundai Motor</td>
<td>24,214,125</td>
<td>0.71</td>
</tr>
<tr>
<td>LG Chem</td>
<td>23,922,154</td>
<td>1.86</td>
</tr>
<tr>
<td>Korea Electric Power</td>
<td>21,249,011</td>
<td>0.39</td>
</tr>
<tr>
<td>POSCO</td>
<td>19,440,275</td>
<td>0.48</td>
</tr>
<tr>
<td>SK Telecom</td>
<td>19,368,919</td>
<td>1.99</td>
</tr>
<tr>
<td>Shinhan Financial Group</td>
<td>18,637,777</td>
<td>0.90</td>
</tr>
</tbody>
</table>

(As of the end of 2018)
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Market-to-Book Ratio of Top 10 stocks by market capitalization (KOSDAQ)
(As of the end of 2018)

<table>
<thead>
<tr>
<th>Company name</th>
<th>Market Cap (1 million KRW)</th>
<th>Market to Book Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celltrion HealthCare</td>
<td>10,478,657</td>
<td>6.31</td>
</tr>
<tr>
<td>SillaJen</td>
<td>5,131,552</td>
<td>22.63</td>
</tr>
<tr>
<td><strong>Helixmith</strong></td>
<td>4,052,890</td>
<td><strong>61.58</strong></td>
</tr>
<tr>
<td>CJ E&amp;M</td>
<td>3,963,507</td>
<td>0.67</td>
</tr>
<tr>
<td>HLB</td>
<td>3,122,063</td>
<td>15.92</td>
</tr>
<tr>
<td>Medy-Tox</td>
<td>3,053,779</td>
<td>15.13</td>
</tr>
<tr>
<td>Studio Dragon</td>
<td>2,591,958</td>
<td>10.03</td>
</tr>
<tr>
<td>PearlAbyss</td>
<td>2,500,312</td>
<td>6.44</td>
</tr>
<tr>
<td>Celltrion Pharm</td>
<td>2,161,702</td>
<td>9.12</td>
</tr>
<tr>
<td>Genexine</td>
<td>1,644,167</td>
<td>4.98</td>
</tr>
</tbody>
</table>

※ Lev (2001) “Lack of information and unrecognized Intangible Assets incur social problems and damages, such as excessive capital expense on knowledge-intensive companies in infancy stage and devaluation of Intangible Asset intensive companies”
I. Purpose and Background of the Study

I-1. Current reporting status of Intangible Assets

Focus Group Interview (1)

“Many are voicing concerns of the limitation of financial statements. Intangible Assets play a key role in creating a value for a company, however it is not being recognized properly.”

“The current financial statement is analyzing 2018 company with 1900s view point. Intangible Assets, such as technology, business model, brand, network, IP, subscribers account are taking a big part in company’s value. However, financial statements are recorded with tangible asset, such as land, equipment and machinery.”

“As financial statements fail to keep up with the company’s rapid change, it is not delivering useful information to investors.”
I. Purpose and Background of the Study
   I-1. Current reporting status of Intangible Assets

Focus Group Interview(2)

“Analysts from Internet games, entertainment and bio sectors even say FS is useless. I/S reflected on FS is mostly goodwill and it is not a critical factor when evaluating a company’s value. However, factors that can estimate future profit such as, license, IP, subscriber accounts are not included and it leaves FS impractical.”

“If Intangible Assets are hard to evaluate objectively, experts have an obligation to deliver details through footnotes or disclosure”
I. Purpose and Background of the Study

The Purpose of the Study

• The purpose of the study is to present a new concept and reporting method of Intangible Assets in order to overcome the limitation, which Intangible Assets are not faithfully reported in financial information based on current accounting practices.

• Specifically, the Study intends to define Core Intangible Assets, which is core driver of corporate value and set an evaluating and reporting method

  * The UK’s FRC and Australian Accounting Standards Board(AASB) have came up with alternatives and the Study is proposing another option

• As we are including value driver, which has been reported as non-financial information to financial reporting as core Intangible Assets, flexible use of financial information(externally) and evaluating management’s accountability are expected.
I . Purpose and Background of the Study
I -2. Current reporting limitations of Intangible Assets

I Consistency of “Enact” and “application” in accounting principles

bullet **Consistency Principle**: Financial accounting’s theoretical framework (e.g. 『The conceptual Framework for Financial Reporting』) was enacted to establish Generally Accepted Accounting Principles (GAAP) in consistent manner (refer to: QC22)

bullet **Three Inconsistency in financial reporting of Intangible Assets**

✓ Intangible Assets 『Definition』 Inconsistency of accounting principles
✓ Intangible Assets 『Recognition』 Inconsistency of accounting process
✓ Intangible Assets 『Evaluation』 Inconsistency of accounting conception
I. Purpose and Background of the Study

I -2. Current reporting limitations of Intangible Assets

- **Definition**
  - *individually identifiable*

- **Recognition**
  - *internally generated vs. externally acquired*

- **Evaluation**
  - *revalued by reference to an active market*

- **Insufficient & Misleading information on Intangibles**
I. Purpose and Background of the Study
I - 2. Current reporting limitations of Intangible Assets

Three Inconsistency in financial reporting

of Intangible Assets (1)

- **Definition of Intangible Assets**: control, future economic benefits + identifiability

  ✓ Including **identifiability** concept to Intangible Assets definition perpetuates **Intangible Assets are fundamentally different from tangible assets.**

  ✓ Not recognizing internally created Intangible Assets conveys the idea of the need of new recognition criteria differed from tangible assets.

  ※ The core issue of recognition, whether tangible or intangible is “unit of account”, not “identifiability”. (AASB, 2008)
I. Purpose and Background of the Study

I -2. Current reporting limitations of Intangible Assets

Ⅰ Three Inconsistency in financial reporting of Intangible Assets (2)

- Recognition of Intangible Assets: Followed by inconsistency of acquisition and non-acquisition (e.g. Internally developed)
I. Purpose and Background of the Study
I -2. Current reporting limitations of Intangible Assets

† Three Inconsistency in financial reporting of Intangible Assets (3)

● Initial measurement of Intangible Assets: Inconsistency between fair value of acquired Intangible Assets, internally developed Intangible Assets or cost measurement of expense

● Subsequent measurement of Intangible Assets: Revaluation model can be applied. However, unlike tangible assets, FV assessment of Intangible Assets is limited to when there’s an active market → As revaluation model is useless, discrepancy between BV and FV is expanding

※ It is reasonable to assume that tangible assets are going to provide future economic benefit at least as much as the cost of acquisition, however it is hard to evaluate future economic benefits of I/A, due to scalability, synergies and network (It is irrational to estimate I/A will provide future economic benefits as much as the cost of acquisition), cost measurement of I/A has low relevance.
Ⅱ. Intangible Assets report Improvement Plan

Narrative reporting
: IASB*, FRC**

Cost spent for Intangibles
: FRC, FASB***

FV for intangible assets
: FASB, AASB****

Metrics reporting
(e.g. customer satisfaction, employee turnover rate, etc.)
: Integrated reporting, FRC

* Management commentary project
** Discussion paper(2019)
*** FASB research on disclosure of R&D expenditure and FV of intangibles(2004)
**** AASB DP Initial accounting for Internally generated intangible assets(2008)
II. Intangible Assets report Improvement Plan
II-1. Improvement study Case: AASB

I. Internally developed Intangible Assets reporting plan of AASB(1)

- **Identify**
  - Basically apply principles and guidelines of IAS 38(Intangible Assets) and IFRS 3(business combinations)

- **Recognition**
  - **IAS 38 cost-based model**: recognize *internally developed Intangible Assets*
    - Technical · commercial feasibility → evidence of plan exists or implementation of plan
  - **IFRS 3 valuation-based model**: Based on hypothetical *business combination*, internally developed Intangible Assets are recognized and evaluated as FV
    - (IFRS 3 BC126) When Intangible Assets are evaluated by FV, there’s no need to precondition recognizing future economic benefits. This is because the measurement reflects expectations (i.e. probability effects) of future economic benefits.
II. Intangible Assets report Improvement Plan
II-1. Improvement study Case: AASB

Internally developed Intangible Assets reporting plan of AASB(2)

- Presentation and disclosure
  - IAS 1: Separate Presentation of internally developed Intangible Assets
    Management’s judgement on internally developed assets and disclosure of accounting policy
  - Cost-based model: Disclosure of total internally developed Intangible Assets cost and recognized cost
    Disclosure of grounds for capitalization by management
  - Valuation-based model: Disclosure of assumption and method for determining FV
    In case the assumption is changed, such changes and result shall be disclosed
    Disclosure of total cost of internally developed Intangible Assets and original cost per project.
Ⅱ. Intangible Assets report Improvement Plan
Ⅱ-1. Improvement study Case: FRC

Ⅱ Business Reporting of Intangibles of FRC(1)

● Narrative reporting

✓ Management Commentary or Strategic Report

✓ Since including all intangibles is impractical, value added activities of the business, Intangible Assets which plays a critical role in business model shall be reported

✓ It can be differed based on business sector and companies, therefore the company shall select and input basis for such selection

⇒ In order to address comparability and reliability, definitions and calculations are being used
II. Intangible Assets report Improvement Plan
II-1. Improvement study Case: FRC

Business Reporting of Intangibles of FRC(2)

- Metrics reporting
  - Set metrics that can be used within specific sectors
  - Repurchase rate or customer satisfaction measurement, in case customer loyalty is compulsory factor in successful business
  - Sales ratio of new products, in case innovation ability is the company’s competitive edge
  - Employee T/O rate, in case an employee’s talent is critical value driver

<table>
<thead>
<tr>
<th>CUSTOMER SATISFACTION</th>
<th>20X1</th>
<th>20X2</th>
<th>20X3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat customer ratio</td>
<td>55.0</td>
<td>60.0</td>
<td>65.2</td>
</tr>
<tr>
<td>(Percentage of customers who purchase again within 12 months)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We believe that the increase in the repeat customer ratio reflects improvements in both our products and customer service. It continues to fall short of our target of 75%.

<table>
<thead>
<tr>
<th>Return ratio</th>
<th>20X1</th>
<th>20X2</th>
<th>20X3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Value of products returned as a percentage of items delivered)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As we consider it a necessary investment in our relationship with customers, we willingly accept customer returns. However, we recognise that returned sales indicate a disappointing customer experience and also increase our costs. The reduction in returns in 20X2 followed changes to our product specifications to provide more helpful information about our products. The slight increase in 20X3 was due to returns of new product X; excluding product X, the return ratio was 5.8%. We aim to achieve a return ratio of 5%.
Ⅱ. Intangible Assets report Improvement Plan
Ⅱ-1. Improvement study Case: FRC

Ⅰ Business Reporting of Intangibles of FRC(3)

- Disclosure of expenditure on future-oriented Intangibles
  - Expenditure on future-oriented Intangibles (e.g.: employee training, brand advertisement, newly developed of business process), for the purpose of earning benefit after the current period, but recognized as expense shall be separately disclosed.

<table>
<thead>
<tr>
<th>Production staff training for the future</th>
<th>20X1</th>
<th>20X2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative amount at the beginning of the year</td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Expenditure in the year</td>
<td>510</td>
<td>627</td>
</tr>
<tr>
<td>Deemed to have benefited current year</td>
<td>337</td>
<td>418</td>
</tr>
<tr>
<td>Reduction to reflect the abandonment of project X</td>
<td>(170)</td>
<td>(209)</td>
</tr>
<tr>
<td>Cumulative amount at the end of the year</td>
<td>(50)</td>
<td>—</td>
</tr>
</tbody>
</table>

Cumulative amount at the end of the year

<table>
<thead>
<tr>
<th></th>
<th>20X1</th>
<th>20X2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>627</td>
<td>836</td>
</tr>
</tbody>
</table>

Training for production staff is deemed to benefit operations over the average product cycle of three years.
Ⅱ. Intangible Assets report Improvement Plan

Ⅱ-2. 『The Third Way』: the core Intangible Assets

- Cost
- FV
- Metrics
- Narrative

KASB’s approach

Short Term*

Long Term

* with current IFRS framework
Ⅱ. Intangible Assets report Improvement Plan
Ⅱ-2. 『The Third Way』: the core Intangible Assets

وحد Why do we need 『The Third Way』?

(출처: 월간공인회계사 ‘18년 5월호 특별기고문, 한국회계기준원 서영미 책임연구원)

- As user’s demand for Intangible Assets information is increasing, many companies are making their efforts to meet the demand. However, the changes in non-financial sector is not making any significant result. This is because the information is scattered and it makes difficult for users to be provided with consistent form of information with low comparability.

- Many efforts have been made in non-financial sectors to provide Intangible Assets information, whereas efforts are lacking in financial accounting sector. Not enough efforts are being put to find measurement and reporting of Intangible Assets that can be directly used to evaluate a company’s value.
Ⅱ. Intangible Assets report Improvement Plan

Ⅱ-2. 『The Third Way』: the core Intangible Assets

The background of 『The Third Way』

- Financial information user note more Intangible Assets in decision making, in addition to the amount already acquired in a business combination, and reflect the recognition method to accounting principles as a way of reforming Intangible Assets accounting process.

※ In M&A practice, recognition practice of the core Intangible Assets by each industry is already established.

☑ Therefore Association of Invest Management Research (AIMR) argued that “Financial reporting shall be revised to recognize more economic reality of I/A”.

☑ In addition, CFA Institute pointed out inappropriateness of I/A recognition. “Many companies around the world are being led by creation and usage of I/A. Much of the world’s economic growth is derived from intangibles. However, current reporting lacks recognition of I/A and requirements of disclosure. Reporting of I/A has to be revised in a way that enables investors to understand companies rely on intangibles and provide necessary information to analyze values”.
Purpose and method

Purpose: The value of Intangible Assets, which is not recognized in the current BS shall be reported with the same level of importance as other assets on a BS and provide information for decision making

Three methods

- New definition of core intangibles, which is the main driver of company’s value

- Measured in fair value of a monetary unit
  
  * Information which investors want is quantified in monetary unit. As information is reported with monetary unit, which suits basic format of financial reporting, it serves information demand from BS users with direct and various format (which correspond to general purpose BS)

- Present and disclose as core intangible assets on separate reporting, with the aim of including BS context
Ⅱ. Intangible Assets report Improvement Plan
Ⅱ-2. 『The Third Way』: the core Intangible Assets

† Overview

Reporting the intangibles which are not recognized under current IFRS with an equal importance as other elements, so as to help with investment decisions.

- Monetary
- Valuation (of)
- Core Intangibles
- (in) Separate Report
II. Intangible Assets report Improvement Plan

II-2.『The Third Way』: the core Intangible Assets

I. New definition of core Intangible Assets (1)

- Core intangibles are intangible factors that are important to an entity in its creation of value, whether or not they are secured by legal means and whether or not they meet the current definition of 'assets'.


※ In M & A practice, the identification practices of core intangible assets have already been established by industry. For example, according to HOULIHAN LOKEY’s 『2017 Purchase Price Allocation Study (2018.12)』 the identifiable core intangible assets are divided into five groups: ① developed technologies (including patents), ② ongoing R & D, ③ customer related factors. (Including orders remaining, customer contracts, customer relationships) ④ trademarks and names (including domain names) ⑤ other (including non-competition agreements, licenses, contracts, core deposits, etc.)
New definition of core Intangible Assets (2)

- Core intangible assets are important intangibles that could affect the market as it continue to generate excess profits in relation to the reporting company’s (value creation) primary operating activities, and if the information is (important) omitted or misrepresented, it effects information user’s decision making (e.g. description on gap between market value and book value).

※ In the past structure, tangible assets mainly generated excess profit, but in the knowledge-based economic structure, intangible assets generate excess profit.

※【Importance of Conceptual Framework QC11 for Financial Reporting】 In case the information is omitted or misrepresented and if there’s any possibility that such actions could influence user’s decision making, it can be said the information is important. In other words, importance refers to characteristics and scope of relevant items in terms of a company’s financial report or conformity based on the company’s specific purpose.
Core Intangible Assets can be ① existing identifiable Intangible Assets* (e.g., industrial property rights, software, trademarks, memberships, licenses, etc.)

* Identifiable Intangible Assets are reported in the financial statements, but as mentioned above, it implies limitations of cost measurement due to following factors (scalability, synergies, network effects)

In addition, it can be ② synergies of identifiable assets or ③ internally developed intangibles and not reported in FS, because of not meeting recognition criteria, such as goodwill.

Aforementioned three core intangible assets, like the CGU, can be divided into ④ (measurement) units of accounting that generate cash inflows and unit of accounting which of independently generates cash inflows (This does not simply refers to existing identifiability)
Core Intangible Assets of a reporting company may be more than one at the same time, depending on its importance.

- For example, not only games but also trademark rights can be core intangibles in game industry.

Core Intangible Assets can be differed based on sectors, and examples of plausible core Intangible Assets are as follows;

- Airline company: Brand name, Air route, Maintenance skills, Service quality
- Telecommunications company: IP, communication networks, customer relationships
- Web-based company: Software, Website platform, Development technology
Core intangible assets are measured at fair value at the point of initial recognition and continue to be evaluated as FV (not optional selection between cost model or revaluation model).

Specifically, core intangible assets are measured and valued as “the present discounted value of future net cash inflows” (conforms PV concept in『Conceptual process for financial reporting』).

Core Intangible Assets has to be assessed based on rational and objective assumption which reflects optimized estimation of the management.

Therefore, even in the planning stages, net cash flows generated from the core intangibles of internal planning shall be also assessed based on reasonable and objective assumptions.
Ⅱ. Intangible Assets report Improvement Plan 
Ⅱ-2. 『The Third Way』: the core Intangible Assets

† Measurement of core Intangible Assets (2)

• Multi-period Excess Earning Method
  ✓ Deducting contributory assets charge (i.e, excess profits) from core Intangible Assets gains and discount at a discounting rate which reflects intrinsic risks of the core Intangible Assets
  ✓ The cost of a contributing asset is measured at the cost of renting or leasing of other asset to make a profit of the core Intangible Assets

• Relief-From-Royalty Method
  ✓ Mainly used for licensed assets such as trademarks and patents
  ✓ The asset value is the PV of the royalty exemption
  ✓ Multiply objective and appropriate royalty rate to the future cash flows generated by the core Intangible Assets and calculate annual royalty rate and discounting the number to their PV.
Ⅱ. Intangible Assets report Improvement Plan
Ⅱ-2. 『The Third Way』: the core Intangible Assets

Ⅲ Reporting of core Intangible Assets (1)

- Separate reporting

  ✓ Intangible elements that are critical to a corporate value are all marked as Intangible Assets regardless of internal developed or externally acquired

  ✓ Voluntary · supplementary disclosure

  ✓ Consists of summary of core Intangible Assets, main assumptions, evaluation details, disclaimer

  ✓ Disclosure of the current year and estimation of the previous 2 years
Statement of Core Intangibles Assets

AB company
Evaluation date December 31, 2018
“The attached Core Intangible Elements Report has been reported by our company.”
AB Representative Director XXX

[ Disclaimer]
The report is the management's estimation of the core intangible assets held by AB. It is not the subject of external audit and is intended to supplement the financial statements to help understanding the company’s financial position.

List
1. Summary
2. Major Assumptions
3. Evaluation Details
4. Annex
1. The Core Intangible Assets Summary
As of December 31, 2018 (“Evaluation Date”), the details of the Company’s core intangible assets and the fair value of each element are as follows. (단위: 억)

<table>
<thead>
<tr>
<th>핵심무형자산(예: 게임)*</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XXX</td>
<td>XXXX</td>
<td>XXX</td>
</tr>
</tbody>
</table>

① 제공 중인 서비스
AA
BB  XX  XX  XX
CC  XX  XX  XX
...                            

② 제공 예정인 서비스
DD  XX  XX  XX
...                            

③ 기타 내부창출핵심무형자산
EE  XX  XX  XX

* The above intangible components are not included in the statement of financial position as of the evaluation date, or are included at cost. In addition, the evaluation results may vary significantly depending on the evaluation point due to changes in the business plan and market environment.

[General Principle]
- The general principles for evaluating our core intangible assets are as follows:
- In accordance with the Guidelines for Reporting Core Intangible Assets (“Guidelines”), the Company classified its core intangible assets into services that are currently offered at the date of evaluation and those that are to be provided in the future. Given the uncertainty in estimating future cash flows, each valuation result may differ in confidence.
- Services that are in the process of being created internally but not planned for the future are excluded from evaluation because they have a low reliability in the cash flow estimates according to the guidelines.
- In accordance with the guidelines, the value of our core intangible assets was assessed using the “Multi-Term Excess Profit Act,” and the value of trademark rights was evaluated using the “loyalty Exemption Act.”
- Future cash flows based on core intangible asset valuations are estimated based on our business plan, and the discount rate used in the assessment is an additional risk premium to the weighted average cost of capital (WACC), taking into account the inherent risks of core intangible assets.
2. Main Assumptions

2.1 Identification of Core Intangible Assets
The Company identified and measured the services AA, BB, CC, etc., DD, and other core intangible elements, such as Trade Name, as core intangible assets.

2.2 Intangible Asset Valuation Method
The following valuation techniques are used to evaluate the core intangible assets held by the Company: Multi-period Excess Earning Method, Relief-From-Royalty Method.

2.3 Discount rate
The discount rate used to assess the Company's core intangible assets is xx%.

2.4 Costs of Contributing Assets
To assess core intangible assets, the cost of contributions made by assets other than the intangibles are deducted from the cash flows of the core intangible assets.

2.5 Amortization Effect
In order to evaluate core intangible assets, we considered tax benefits. Amortization effect: ...... Applicable tax rate: ......

3. Evaluation details
3.1 Key Input variables and major assumptions for Valuation of AA

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>xx</td>
<td>xxx</td>
<td>xxxx</td>
<td>xxxx</td>
<td>...</td>
</tr>
<tr>
<td>EBIT</td>
<td>xx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>...</td>
</tr>
<tr>
<td>EBIT Margin</td>
<td>xx%</td>
<td>xx%</td>
<td>xx%</td>
<td>xx%</td>
<td>...</td>
</tr>
<tr>
<td>CEIR(Net Income Before Interest and Tax)</td>
<td>(xx)</td>
<td>(xx)</td>
<td>...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asbestos</td>
<td>xxx</td>
<td>xxxx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unip.</td>
<td>(x)</td>
<td>(x)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/A Asbestos</td>
<td>xxx</td>
<td>xxx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current ratio</td>
<td>x.xxx</td>
<td>x.xxx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue growth</td>
<td>x.xxx</td>
<td>x.xxx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/A Asbestos</td>
<td>x.xxx</td>
<td>x.xxx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/A Asbestos</td>
<td>xxx</td>
<td>xxx</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tax</td>
<td>xxx</td>
<td>xxx</td>
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</tr>
</tbody>
</table>

The major assumptions applied to assess the core intangible assets AA are: Valuation approach: Sales-remaining periods of service
Thank you