

# Intellectual Capital and IFRS3: A New Disclosure Opportunity

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**Abstract:** As a response to the absence of an exhaustive generally accepted accounting principle handling the issue of intangibles, academics and practitioners have developed a plethora of models, methods and tools for identifying, measuring and valuing intangibles. Conscious of this situation, some authors have started asking for empirical studies of how these models make the IC issue clearer to stakeholders in general and specifically to the capital market (Guthrie, et al., 2001; Marr and Chatzkel, 2004).

The introduction of International Financial Reporting Standard (IFRS) 3 (a regulation demanding the identification and valuation of intangible assets in business combinations) may be considered as the opportunity for a practical application of the methods and tools proposed by the Intellectual Capital (IC) community, i.e. to make intangible assets such as customer capital, know how, etc. visible in the financial statement. IFRS3 is a possibility to disentangle the “black-box” of goodwill and for the financial accounting issue to adhere to some of the critique emanating from the IC debate. As a result, IFRS3 can be seen as an opportunity to test the relevance of the IC models and to reduce the gap between IC Accounting and Financial Accounting (Petty and Guthrie, 2000; Roslender and Fincham, 2001). Drawing on the debate of how to frame intangibles (Chaminade and Catasús, 2007), the aim of the paper is to analyze the distance, from an empirical perspective, between IC accounting and financial accounting in order to understand if a gap exists. Thus we will investigate how firms have applied IFRS3 by studying what the relevance of intangibles is, which intangible assets have been identified and valued and what goodwill is disclosed as in the purchase analyses. The empirical corpus consists of financial statements of Swedish and Italian listed firms.

The methodology adopted is based on an empirical analysis of the purchase analyses supplied by the firms in the financial statements, referring to the first year mandatory adoption of IFRS3 (fiscal year 2006). The disclosed information is analyzed through both quantitative and qualitative analyses.

The study finds that the analytical methods are still at a very first stage and consequently there is the trend to appreciate, at least in the financial statement, the majority of the IC as goodwill. The second finding is that even if they represent the minority part of the invisible value of the company, IFRS3 has really allowed for several intangible assets usually not disclosed in the financial statements such as customer relationships, contract portfolio, etc to be made visible. A third finding is the lack of explanations for this amount of goodwill. All in all, the paper highlights that, from an empirical perspective, both financial and IC accounting models are not able to adequately grasp IC “at work”.

**Keywords:** intellectual capital, valuation, financial accounting, goodwill, purchase analysis

## 1. IC accounting: The value creation and value realization perspectives

As response to the increasing relevance of Intellectual Capital (IC) accounting changes have been introduced (Marr and Chatzkel, 2004; Petty and Guthrie, 2000; Roslender and Fincham, 2001). In particular, with reference to the external reporting, IC poses complex information asymmetry challenges which governments, regulators and researchers aim to reduce in promoting greater corporate IC disclosure in mandatory and voluntary statements (Kaufmann and Schneider, 2004). The scientific and practical responses to this request of transparency can be divided into two main broad streams.

The first one, with focus on the value creation process, is characterized by the presence of many IC concepts, taxonomies, methods and tools. The reporting models proposed by this literature have some common aspects (Van der Meer-Kooistra and Zijlstra, 2001). First, in these models a strategic perspective is stressed putting the accent on the value creation process; second, they highlight the interaction between resources; third, they adopt different measures (quantitative, qualitative, financial, non financial) and include narrative. Thus, these models are not intended for supplying data to be incorporated into the financial statements but mainly for supporting the voluntary disclosure. In this context, even if not in a unanimous way, IC is generally considered to be composed of all the intangible resources and activities. That is to say non-monetary sources of probable future economic profits, lacking physical substance and open to influence of the firm, strategically relevant for a company (Meritum, 2002). Hence, in abstract terms IC becomes a wide area of items where the firm specificities are emphasized.

The other approach, centred on value realization, is to improve information about IC by making it easier to treat its components (intangibles) as assets in financial statements (defined "intangible assets"), thereby increasing their visibility in financial accounting and reporting. The International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) define an intangible asset as an identifiable non-monetary resource, without physical substance, controlled by an entity, expected to provide future economic benefits (see IAS 38). Albeit the principle proposed has been heavily criticized for recognizing only a fraction of what are considered to be intangibles by the IC-community and consequently referring to a very narrow IC concept (Lev and Zarowin, 1999), it has the merit to supply one single definition of what is and what is not an intangible. The latest relevant step in developing the analysis on intangible assets has been done by the International Accounting Standard Board in 2004 with the approval of IFRS3. This principle has stimulated the identification of intangibles in business combinations: it means that an acquirer has to recognize separately, at the acquisition date and in a specific prospectus, intangible assets regardless of whether they have previously been recognized or not. This consequently concerns the gap between market value, purchase price, and book value earlier only referred to as goodwill and becomes a possibility to identify IC in the financial statement.

The two aforementioned streams are usually presented as separated instead as complementary (Chaminade and Roberts, 2003; Petty and Guthrie, 2000; Roslender and Fincham, 2001). When trying to bridge the gap between them it appears interesting to analyze if and how firms have considered the IC scientific contributions when applying IFRS3. Thus, drawing on the debate of how to frame IC (Chaminade and Catasús, 2007), the aim of the paper is to analyze the distance, from an empirical perspective, between IC accounting and financial accounting to understand if the gap exists in practice and not only in theory. To achieve the aim, three research questions have been developed observing how firms have applied IFRS3:

**RQ1:** how much of the purchase price has been recognized as IC?

**RQ2:** which intangible assets have been identified?

**RQ3:** how is goodwill presented from an IC perspective?

## **2. IFRS under the IC lens**

IFRS3 concerns accounting for business combinations and with the introduction of this accounting principle several changes were made on how to account for a business combination. One area is that pooling of interests as an accounting method is not allowed anymore. Another change is that goodwill is no longer amortized but should be tested for impairment at least once a year. A third area, that as well concerns the core of this research, is the recognition of intangible assets even if they previously have not been recognized when they are significant to the acquirer. The process of recognition executed by the buyer concerns an analysis of the gap between the purchase price, that is the amount of money paid to buy a company, and the book value of the acquire. The analysis is an allocation of the gap between the revaluation of already existing items and the identification of new assets or liabilities, of which intangible assets are one category of items possible to recognize. Thus, IFRS3 can be seen for the financial accounting issue as a possibility to disentangle the "black-box" of purchased goodwill and to adhere to some of the critique emanating from the IC debate. The result of the analysis is then presented in a purchase analysis found in the notes to the financial statement.

Albeit IFRS3 belongs to a value realization perspective, it is possible to observe the accounting information produced in relation to its application for value creation. Especially as it is related to new or different elements such as intangibles, it becomes linked to the value creation perspective. In other words, it is possible to observe financial data with an IC lens or from a value creation point of view. As a representation for the value creation perspective the MERITUM Guidelines (2002) is used in this research. There are one of a number of models built on the tri-part classification where the MERITUM Guidelines is one model representing this classification. A suitable feature with this classification type for research is that it comprises a lot of items that could be argued for being IC and consequently the definition of IC becomes broad. The classes used are:

- Human Capital: the knowledge, skills, experiences and abilities that employees take with them when they leave the firm.
- Structural Capital: the pool of knowledge that stays with the firm at the end of the working day. It comprises the organizational routines, procedures, systems, cultures, databases and so on.
- Relational Capital: all the resources linked to the external relationships of the firm such as customers, suppliers or R&D partners, plus the perceptions that they hold about the company.

Moving to the definition of IC used for this research we looked for a definition which can synthesize the value creation and the value realization perspectives. Thus, we have examined the section of the note containing the purchase analyses presented in the financial statements searching for items that could be seen as IC. A problem with many studies within IC is the lack of a clear definition of IC (Beattie and Thomson, 2007). In a purchase analysis the adjustments disclosed could be seen as the recognition of something that has not been disclosed previously and/or the re-valuation of intangible assets already disclosed as they all relate to the gap between market value and book value. The residual left after this procedure is (purchased) goodwill. Consequently, in order to investigate the gap between IC accounting and financial accounting we observed the adjustments disclosed in the purchase analyses and based our investigation on the following equivalence:

$$\text{IC} = \text{identified intangible assets} + \text{purchased goodwill}$$

Using this approach IC becomes the difference between market value and book value (after a re-valuation of tangible assets) (Lev, 2001). A definition of IC as the difference between market value and book value has as well been used by (Brennan, 2001) when studying IC found in annual reports from a value creation perspective. Obviously the underlying assumption is that the purchase price is a fair expression of the market value. In this way IC identified will originate from what is found in the financial accounting but it will not be restricted by any other tool used in our analysis.

### 3. Design of the study

In order to have a large sample which is a way of testing models and mitigating context and cultural factors (Marr and Chatzkel, 2004, p. 227) we looked for two European contexts which can be aggregated. The two countries selected were Sweden and Italy. These countries are deemed appropriate for this aggregation and exploration because the listed firms and the markets are quite similar in several aspects such as dimension and characteristics of the markets, law system, ownership structure of the firms and macro-based accounting system applied (Nobes, 1983). Moreover, considering that the researchers represented native speakers of these two nations allows for a better and more complete understanding of the information disclosed that is collected and studied.

We used the firms listed on the Stockholm (SSE) and the Milano Stock Exchanges (MTA/MTAX) on June 19<sup>th</sup>, 2007 with fiscal year ending before December 31, 2006 as our empirical corpus. June 19<sup>th</sup> has been adopted because all the financial statements investigated were available at that time. The reason for our fiscal year approach is that a complete coverage of the stock exchanges of mandatory disclosure by firms was only available for one year at the date of the study and became consequently the cut off point at which our sample was sufficient. Consequently is our analysis a descriptive one and does therefore not aim to analyze trends. Table 1 gives descriptive statistics of the sample. The empirical unit of our investigation is the purchase analysis: thus we have a total of 308 observations. We have to highlight that albeit the average is of about 2 purchase analyses per company (308/161) in reality we have extreme situation such as 1 purchase analysis referred to 38 acquisitions or 11 analyses presented by one firm.

**Table 1:** Sample statistics

	Sweden	Italy	Total
No. of listed companies	264	265	529
No. of listed companies with business combinations	98	63	161
No. purchase operations declared	215	222	437
No. purchase analysis disclosed	170	138	308

The statistics confirm the similarities between the two contexts: numbers of listed companies and of purchases declared and disclosed are close. To guarantee a higher data readability we have excluded negative goodwill from the analyses. Negative goodwill can be considered as future underperformance if the firm. Reasons for causes driving this negative goodwill are out of scope for this investigation and the observations were as well few and could be understood as outliers. Moreover, considering that we want to analyze the identified intangible assets we have also ignored the negative adjustments indicated in the purchase analyses.

Data has been collected consulting the English edition of the financial statements and if it was not available, the Swedish or Italian ones were considered and translated. This translation activity represents the main limitation for our qualitative analysis. With our aim to contain the subjectivity naturally present when doing the translation, we adopted a literal translation instead of considering a translation of the underlying meaning.

Considering that our research questions demand different interpretation models, the data have been analyzed both qualitatively and quantitatively. Content analysis is an empirically oriented method (Krippendorff, 1980) that includes disclosure index (Beattie, et al., 2004) and is the method used here for collecting data, i.e. the examination of the annual report narratives. It has been selected as an overall method since it potentially serves to understand and capture the IC concept and for measuring the extent to which different categories of IC information are disclosed. It can also depict how a possible still existing residual is presented which would describe what IFRS3 does not make visible. In performing content analysis common units used in content analysis is sentence, paragraphs or proportions (Guthrie, et al., 2004). Here the overall study unit is the purchase analysis but when we are recording adjustments we have to use words as the recorded unit as it is the only unit available. In relation to goodwill words has been used as well as recorded unit and the reason for this is that in some situations the explanation given is only presented in one sentence. In the situation with goodwill IC has been defined in relation to the MERITUM Guidelines' classes and an occurrence of a class has only been recorded maximum once for each firm even if it could have been possible to do several registrations in some situations. A possible critique against the use of a word unit is that it lacks context (Beattie and Thomson, 2007) but as the context of a business combination is clear when the overall study unit is the purchase analysis this will not be of any, at least major, problem. In the situation with goodwill this is a reason for not registering a class several times because of the risk of over emphasizing the content of a single sentence.

The quantitative analysis is based on the assumption that companies quantify the value of their intangibles wherever possible. The ratios have been calculated to understand the relevance of the IC evaluation in comparison to the purchase price and if any of the MERITUM's IC categories tends to be more disclosed and evaluated than the others. To guarantee the usefulness of the ratio we have excluded from the quantitative analysis the purchase analyses in which the purchase price or the IC value are equal to zero.

## **4. Results and discussion**

### **4.1 RQ1: how much of the purchase price has been recognized as IC?**

Our first focus is to produce ratios that are useful for understanding the relevance of the IC phenomenon.

**Table 2:** The relevance of IC

	<b>Average</b>	<b>Std Dev</b>
Intellectual Capital/Purchase Price	93,49%	2,58
Material fixed assets/Purchase Price	6,04%	0,23
Identified Intangible assets/Intellectual Capital	12,52%	0,27

From table 2 it is evident that IC makes up a substantial part of the price, on average 93% even if with a high variability (std. dev. 2,58). This is in line with the gap between market value (purchase price) and book value highlighted by Lev (2001), mainly attributable to the presence of valuable intangibles not represented in the financial statement. The values of intangible assets identified and evaluated represent a minor part of the IC complex value (12%). For this discrepancy there are at least two different explanations. The first concerns the actual accounting principles which seem to not provide adequate guidelines for identifying and disclosing intangible assets. The second explanation is the desire of the firms for continuing the use of the goodwill as "black box" in which they can include the items they do not want to disclose or value for analytical purposes (Van der Meer-Kooistra and Zijlstra, 2001).

Observing the data it seems possible to highlight that IC stands for a large part of the purchase price. Considering that we have focused our analysis on the adjustments, items existing previously but visualized only after the combination, the evidences underline the relevance lost of the financial statement because the criteria used for the identification, measurement and valuation of intangible assets are based on premises no

longer responding to the characteristics of the present economy. This means that despite the several accounting changes that has occurred the critique argued by Lev and Zarowin (1999) ten years ago about the need to extend the boundaries of financial reporting are still valid and maybe more pressing today.

#### 4.2 RQ2: Which intangible assets have been identified?

In table 3a the labels used by the firms to disclose the IC components are presented and classified in the MERITUM classes. However, in some cases it was not possible to fit the label into the mentioned model and, as a consequence, we introduced a fourth category labeled “Intersectional Capital” which included a mix of the other classes. This pinpoints that the MERITUM classification (a probable result for the other classifications proposed based on a clear tri-partition of IC as well) is not followed and applied in practice. Moreover we have to underline that the class “Human Capital” was not considered because no evidences have been found, in consistency with the IAS/IFRS do not allowed to account specifically for it (see the reference to IAS38 done by IFRS3) unless it is contractualized. No support for such behaviour by firms is found.

The labels are listed according to ranking where the numbers within brackets shows how many times the label was mentioned. This will not match the sample size since not all of the purchase schemes give useful information of adjustments. For example, in approximately 60 cases the adjustments referred only to “unspecified” intangible assets (typically “Other intangible assets” or “Intangible assets”).

**Table 3a:** Qualitative analysis

Relational capital	Structural capital	Intersectional capital
Customer/Client relations/ships (22)	Distribution rights (2)	Agencies, trademarks, customer lists, licences, etc. (1)
Trademarks/Brands (17)	Concession right (2)	Airline concession and terminal catering for customer list value (1)
Contracts (6)	Licenses/Licence rights (2)	Customer relations and production technologies (1)
Customer contracts (3)	Developed software (1)	Development cost and other intangible assets (1)
Customer contracts, trademarks and similar (3)	HUMIRA royalty system (1)	Supplier relationships, customer relationships & technology (1)
Customer list (3)	Intellectual property rights (1)	Technology, productive know how and customer relations (1)
Contract portfolio (2)	Know how (1)**	
Insurance portfolio (2)*	Patents and un-patented know-how (1)	
Customer agreements (2)	Products rights (1)	
Customer benefits (1)	Product technology (1)	
Customer contracts and customer relations (1)	Products, technology & software (1)	
Franchise relations (1)	Software licences and similar rights (1)	
In force business (1)	Technology (1)	
Magazine titles (1)		
Voice portal (1)		
Assurance contracts acquired (1)* <sup>1</sup>		
Deferred charges arising from the fair value measurement of 42 leases for stores at rents that are lower than current market rates (1)		
Expense for taking over the rental contracts for the two mega-stores (1)		
Service and support contracts (1)		
Non-competition clause (1)		

\* The items are reported by insurance companies thus they have to be interpreted as contracts with customers.

\*\* The item is referred to codified know how so it was classified as Structural capital instead as Human Capital.

In accounting terms it is obvious that Relational Capital, in term both of number of labels and of number of times its item are mentioned, has a primary role. In particular, analyzing which relations are identified and valued we discover that Relational Capital is mostly related to Customer Capital driven assets. This could be explained by Customer Capital being the most relevant part of the Relational Capital (Edvinsson, 1997; Stewart, 1997) or because the sell-side analysts pay the most attention to such information (Flöstrand, 2006). The relationships with suppliers exclusively can be seen in only two cases (“Deferred charges...” and “Expenses for taking over...”) while the other categories of traditional stakeholders (community, government, etc.) are only once highlighted (“Non competition clause”), indicating that the concept of Relational Capital in the accounting practice is considered almost coincident with the one of Customer Capital even if in theory the first includes the latter. There are also some labels which are difficult to refer to a specific stakeholder (e.g. “Contracts”, “Contract portfolio”, etc.) and some of these could as well refer to Human Capital. For Structural Capital, the total number of uses of labels is far behind Relational Capital. The different items in this category are to some extent related since the labels in fact mainly refer to rights, licenses and technologies. Finally, Intersectional Capital gives a picture of assets that are identified but seems to a certain degree to be hard to separate from each other. This could mean that different parts of the IC are dependent on each other in order to generate value (Marr, et al., 2004) which is not at all any new idea especially within the value creation stream.

The counting of labels, however, does not indicate how important the labels are in relation to value (measured by capitalization). Such an analysis, seen in table 3b, highlights that goodwill is still the most valued part. In consistency with the previous table Relational Capital continues to be the most relevant part of the identified assets while Structural Capital and the Intersectional Capital play a minor role. The low value of especially these two last categories and the high number of labels used point out the risk of label overuse and the consequent loss of understandability (a lot of labels referred to a very little value). As support of the notion that not all intangible assets are possible to be clearly identified or that firms do not want to disclose them, it is interesting to notice that in addition to the black box of goodwill firms attribute an interesting part of the gap price/book value to the intangible assets not specified.

**Table 3b:** Value of classes of Intellectual Capital / Intellectual Capital

	Average	Std Dev
Relational Capital	9,37%	0,23
Structural Capital	2,29%	0,12
Intersectional Capital	0,86%	0,08
Unspecified immaterial assets	7,56%	0,20
Goodwill	79,93%	0,31

From the two analyses here discussed it emerges that the MERITUM Guidelines are not applied in practice even if the aim of the proponents was to support the firms in identifying, measuring and reporting of intangibles. At the same time firms adopting the IFRS3 visualize intangibles previously not disclosed in the financial statements and it is done without following any distinct classification. This is demonstrated by the existence of “Intersectional Capital” and goodwill which in a “good classification” should not be present (Gröjer, 2001). With “good classification” Gröjer is referring to the idea of an exhaustive classification where a residual class is not present. Even if the IC movement is grounded in practice (Petty and Guthrie, 2000), these evidences clarify not only the gap between financial accounting and IC accounting but also the one between IC theory and practice (Roslender and Fincham, 2001): the MERITUM model, probably as well as the other models proposed by the IC literature (for a review of the models see (Kaufmann and Schneider, 2004)), are distant from both from financial accounting and from the empirical world. In fact, the firms have not used the opportunity represented by the IFRS3 to practically apply the suggestions of the IC community. This can be explained by that companies do not consider the IC models applicable in the mandatory disclosure, by the fact they do not want to identify and disclose intangibles considering their strategic nature or by the problems related to their measurement and evaluation (Van der Meer-Kooistra and Zijlstra, 2001)

or, finally, by the fact that the gap observed and partially nourished by the IC community between the two accounting systems here examined is too wide to be bridged.

### 4.3 RQ3: How is goodwill presented from an IC perspective?

In our sample the purchase price consists of IC to more than 90%. Out of this IC, close to 80% is still in the “black-box” of goodwill (see table 3b). Having the transparency issue in mind, the next part of our study is dedicated to analyzing how firms present what their goodwill consists of.

The MERITUM classification is used once more and did again not suffice since one specific concept recoiled: Synergies. Table 4 describes the goodwill findings. The total number of purchase analyses in which goodwill is explained is 106, which is in less than 50% of the cases investigated in which goodwill is present (251). This means that the main component of the IC is not clearly explained and so, from an external point of view, is not identifiable and consequently it is still appreciable as a black box.

**Table 4:** Classifications of explanations given for goodwill

Human Capital	28
Relational Capital	36
Structural Capital	28
Synergies	73
Other unspecified intangibles	5
Total items mentioned	170

Moving the focus to the disclosed origin of the goodwill, the IC categories are not so relevant in order to understand what the item under analysis is formed of. In fact, on average, each of them is mentioned only in about 18% of the cases (28/36 on 170), supporting our previous finding that the tripartition of the intangibles suggested by the MERITUM is not used or acknowledged in practice. Goodwill is not either seen as an account for Human Capital not possible to account for separately. This verifies the notion that using goodwill is a possibility of keeping the intangibles black boxed.

Confirming the results of Brännström et al. (2007), this wider investigation finds that a primary role is played by Synergies but these are never explained. From an IC perspective Synergies can be due to that goodwill is mainly the financial accounting representation of the interaction between the three categories of IC and/or between the resources of the acquirer and the one who acquires (Gupta and Roos, 2001).

## 5. Conclusions

From the analysis it emerges that IC represents a large part of the purchase price, the IC components identified are many but with low value and that goodwill is mainly referred to the interaction between IC components (Synergies). Moving from these results we can discuss them in relation to the aim of this paper.

The dynamicity of IC creates problem when applying the classification and measurement models proposed by the literature (Mouritsen, 2006). Both financial and IC accounting models have the ambition to represent the reality. When facing the IC issue, these accounting models seem to assume the hypothesis that a clear definition of the boundaries of each IC component is possible in order to classify and measure them. Observing the reality, boundaries are not so clear thus classifying and measuring becomes difficult especially considering the interaction between IC components (Mouritsen, 2006). Consequently, following an accounting perspective in general, it appears not possible to achieve a complete explanation of what IC is or what it does. There is still lacking a process of how to identify IC components as single items. Alas, these tools have practical problems in case of classification of values or of IC “at work” were, inevitably, the interactions between the categories have to be considered. In this context the financial accounting approach seems to solve this interaction problem inside the residual class of goodwill under the label of “Synergies” (Gupta and Roos, 2001) which are never explained.

This finding has bearing points with the fact that IC is formed of resources bundled one to another (Roberts, 2000). Intersectional Capital can be considered the main evidence of the practical and consequent difficulty of identifying, classifying and valuating all the IC components as single units. This class is not present in any classification model because what could be considered to be a "good" or "ultimate" framework should provide only exhaustive and mutually exclusive classes (Gröjer, 2001), alas no intersectional classes. This theoretical assumption appears to not be completely compatible with the character of IC examined here and thus the IC models appear to have a weakness in approaching IC "at work". For the financial accounting framework the result is a creation of the class Intersectional Capital which can be considered as goodwill (sum of values not analytically identified) but with a different label. Thus the willingness of the IASB to increase the firms' disclosure of IC through a more analytical identification of the intangibles purchased is a start but needs improvement.

The final aspect is related to the label creativity which can be considered a consequence of the firm-specific nature of IC (Marr, et al., 2004). Analyzing the labels used it emerges that they are very close to each other and consequently on the one hand there can be the risk of labelling the same item with different names while, on the other hand, items labelled the same can be deeply different in nature or contribution to the value creation process. These results can be due to the specificity of IC which makes impossible to propose an exhaustive inventory list of intangible assets but rather only give examples of what could be an asset. At the same time the solution adopted to allow for an high degree of freedom seems that it could imply a reduction of the understandability (of the single statement), comparability (inter-firm comparisons) and, not least, usefulness of the information.

Future research opportunities can be twofold. Moving from the same sample, the first research path is represented by the investigation of the diversities between Sweden and Italy, instead of on the whole, to understand if a best practice can be found and if the problems we highlighted exist also at a sub-level. The second research path is a more in depth study of the possible evolution of the accounting principles to make them able to represent adequately the specificity of IC and its components, that is to say its dynamicity, connectivity and specificity.

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