Introducing Intellectual Capital Analysis To Soccer Club Management: An Integrated Map Of Intangible Sources Of Value

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09-06-2006

Abstract

This paper introduces intellectual capital analysis to soccer club management. Applying a holistic approach to the soccer club organization, we set up an intellectual capital map of value-creating intangible resources of a soccer club, such as player performance, fan loyalty, club winning performance, and so forth. Proceeding beyond the scope of current accounting regulations, we build an analysis mechanism -the soccer scorecard- based on a unified quantification approach to a soccer club's organizational performance.

Keywords: intellectual capital, soccer management

Introduction

Intangible resources that are usually beyond the scope of established codifying settings, such as accounting regulations, have emerged as major value drivers and critical determinants of organizational identity. In the setting of the knowledge economy, value creation mostly stems from intangible resources –the primary of which being knowledge- rather than from traditional sources of value like physical and financial capital. The field of intellectual capital stem from the need to systematically codify intangible sources of value, map them in quantitative terms and, hopefully, valuate them financially to the end of incorporating them into accounting regulations on intangibles. In this setting, efficient management of intellectual capital arises as an organizational necessity, directly linked to measurement and valuation (Andriessen, 2004). However, feasibility of quantification approaches is seriously questioned by well-known arguments on the profoundly qualitative nature of major organizational traits. . Despite objections of this sort, the persistent challenge of measurement has necessitated the introduction of novel reporting and valuation models for intellectual capital (Liebowitz & Suen, 2000). Comprehensive identification and monetary valuation of intellectual capital could support its legal protection, financial reporting and standardization as well as corporate contracting focused on the management of intellectual capital. Furthermore, managers could make efficient strategic decisions with respect to the creation, management and dynamics of intellectual capital. The demand for intellectual capital reporting could stem from other stakeholders, such as the shareholders, the creditors, the employees, the customers, the suppliers, and policy making institutions. Intellectual capital could prove to be a decisive factor in constructing a nexus of contracts among these interested parties. Andriessen (2004) suggests that the purpose for the measurement and management of intellectual capital is threefold: it will ultimately lead to the improvement of internal management, the enhancement of external reporting, and to the accommodation of

statutory and transactional issues. These are the prominent reasons that led to the development of the major quantitative approaches to intellectual capital. One of the most popular measures suggested in the literature for the quantitative approximation of intellectual capital (financial and accounting) is the difference between the market value and the book value of a knowledge-based firm (e.g. Brennan & Connell, 2000).

Soccer clubs are organizations that may not be usually studied as knowledge-based, but their value is largely due to off-balance sheet intangible resources, as is the case in most knowledge-based firms. The club's age, its scoring performance and placement in the championship, the number and the loyalty of its fans, the talent of the players, the experience of the management team, and many other qualities of a soccer club define most of its organizational identity and value-creating processes, but fail to appear in financial reports. These sources of value may help explain large differences between the market value and the book value of the soccer club. This study does not provide new measurements for approximating qualitative aspects of a soccer club. It provides a holistic approach, in which the analytical norms of intellectual capital reporting lead to the construction of a comprehensive organizational map for soccer clubs. For the purposes of the present study, we suggest the following definition of intellectual capital: Intellectual capital is the nexus of the intangible resources available to the soccer club that facilitate the successful implementation of its stakeholders' objectives.

A few comments are needed to clarify this definition. According to it, intellectual capital consists of intangible resources. These resources form a nexus: they are interdependent and it is through their interaction that a soccer club's identity should be studied. These resources may be the property of the soccer club and their value may be reported in the club's financial statements (e.g. a trademark). On the other hand, assets like

"a 30-match winning streak" are important reputation assets of the soccer club and help create value, but no property right could be defined and no monetary value could be assigned to such a quality. Moreover, assets that constitute third party property rented to the club (e.g. the players' abilities) are not exclusively owned by the soccer club (they are also owned by the players) and cannot be easily valued. Finally, the purpose of intellectual capital is to serve the needs of the club's stakeholders: our analysis is not founded solely upon shareholder value maximization, but it necessarily includes other groups of stakeholders, such as the fans, the players, and the media.

The following section provides a brief review on the intellectual capital literature. Then we proceed to construct an intellectual capital map for the soccer club. Having established an organizational map for the soccer club, our analysis presents a "soccer scorecard" for analyzing the interactions between the various components of intellectual capital and derives a single index of organizational performance. In the concluding section, we provide a brief overview of the analytical approach suggested in this paper and indicate directions for future research.

A brief literature review on intellectual capital

The term "intellectual capital" was first coined in the discipline of management in the 80's as an attempt to account for the "hidden" assets of firms that drove their performance. The pioneering work of Hiroyuki Itarni in 1980 with his book "Mobilizing Invisible Assets"; of Karl-Erik Sveiby and the Konrad Group in 1989 with "The Invisible Balance Sheet"; and of Thomas Stewart in 1997 with "Intellectual capital: The new wealth of organizations", resulted in the sharp increase of academics' and practitioners' interest on the subject of intellectual capital. The issue studied in the aforementioned books was the identification of the resources that provide modern organizations with the sustainable competitive advantage

that is required in order to achieve high performance. These resources constitute the concept of intellectual capital that does not appear on the firm's financial statements but according to Handy (1989) is worth three to four times the organization's tangible capital.

Bearing in mind the definition provided in the previous section, intellectual capital consists of interdependent intangible resources. These resources can be classified into two distinctive groups: Human capital and structural capital. Moreover, structural capital is further analyzed in two sub-domains; Organizational and relational capital. In the following paragraphs we present a brief description of each of these constructs.

Human capital

Human capital consists of the skills of the organization's members. According to Mayo (2001) human capitals is composed of the human element's current and prospective talent, as well as of each person's commitment to assist the organization realize its goals. In the setting of the soccer club, this concept incorporates the players', the management's and the supporting staff's present and potential skills.

Structural capital

The organization can not solely depend on human capital to achieve its goals. human capital's contribution without the proper supporting tools is of limited potential. This is because the firm's employees lack the necessary instruments that will act as a lever to their abilities. These instruments comprise the construct of structural capital, which according to Edvinsson and Sullivan (1996), "…is the infrastructure that firms develop to commercialize their human capital". Structural capital consists of organizational capital and relational capital.

Organizational capital

It is evident that since the human capital of a firm is characterized by its volatile nature -an employee can unexpectedly depart from the organization- it is of utmost importance that the organization develops competencies that sustain its continuation beyond certain individuals. These competencies constitute the portion of organizational capital which assists employees achieve high performance and consequently enhance the firm's performance (Bontis, 1998).

Relational capital

The second component of structural capital is relational capital. This construct represents the potential an organization has due to ex-firm intangibles. These intangibles include the knowledge embedded in customers, suppliers, the government, or related industry associations (Bontis, 2002). The relationships a firm establishes with its customers constitute a significant part of relational capital known as "customer capital".

Intellectual capital should not be confused with intangible assets; according to IAS 38, "An intangible asset is an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes". Caddy (2000) states that intellectual assets "…do provide a differentiating characteristic, not only from tangible assets but intangible assets as well. Indeed it would seem that intellectual assets fail the third condition of ``IAS38: Intangible Assets'' in terms of being recognized as intangible assets". The following figure portrays the difference among the three types of resources the firm has at its disposal.

"TAKE IN FIGURE 1"

Due to the fact that the discipline of financial accounting was developed when the dominant business model was based on the use of physical assets (Vasilatou-Thanopoulou, 1996), current accounting standards were developed with the rationale to provide stakeholders with information concerning the firm's tangible assets, totally disregarding at the same time the organization's intellectual assets. Since then, however, a change of paradigm has occurred in the global economy; nowadays the resources that provide organizations with the sustainable competitive advantage they require for their continuance are primarily of intangible nature (Drucker, 1988). At the same time, soccer has evolved from being the amateur sport of its infant age, into a major entertainment industry. Under the need to provide equivalent information to other corporations, soccer clubs face the same problem each intellectual capital-driven firm confronts; current standards fail to present internal and external stakeholders with adequate information regarding the club's resources.

Apart from IAS 38 and the accounting approach to intellectual capital, there is a pressing need for a comprehensive measuring and reporting system of intellectual assets. During the last decades a number of measurement systems has been proposed, including the Balanced Scorecard (Kaplan & Norton, 1992); Skandia's Navigator (Edvinsson, 1997); Human resource accounting (Brummet, Flamholtz & Pyle, 1968); the Technology Broker (Brooking, 1996); FiMIAM (which is the acronym for Financial Method of Intangible Assets Measurement) (Rodov and Leliaert, 2002), and so forth, each with its own unique strengths and weaknesses. An exhaustive analysis of such methods is beyond the scope of this paper. Nevertheless it is interesting to review two of the most influential methods of intangible resources' management that set the framework for the analysis of the following sections: the balanced scorecard; and Skandia's Navigator.

The balanced scorecard (Kaplan & Norton, 1992) is a multi-dimensional performance measurement system that utilizes leading and lagging indicators alongside measurements focusing on the inside as well as on the outside of the firm, in order to provide integrated information regarding the firm's resources. More specifically, it monitors the organization's mission and strategy in the following four interdependent areas; learning and growth performance, customer performance, financial performance, and business and production process performance. While the Balanced Scorecard clearly offers an enhanced view of the firm's resources, it cannot be a panacea for organizational analysis. For instance, Bontis, Dragonetti, Jacobsen and Roos (1999) indicate that the rigidness of the system coupled with its lack of consideration for other external stakeholders than its customers, as well as the fact that employees are hardly contemplated at all, constrain its potential. In our scorecard approach for the soccer club we tackle these arguments by incorporating a broad network of stakeholders in the relational capital and allowing for organization-specific definitions of performance and priorities.

"TAKE IN FIGURE 2"

Skandia AFS was the first firm to issue supplementary reports regarding its intellectual capital along with its annual financial statements. These reports utilized the internally developed model referred to as the Skandia Navigator. The Skandia Navigator (Edvinsson, 1997) constitutes a holistic approach to the management of the organization's resources; through the use of various indices, it focuses on the monitoring of five value creating dimensions, namely: financial, customer, process, renewal and development, and human capital. Even though it appears to have significant similarities with the balanced scorecard, the Navigator "… amplifies the renewal and development dynamics, as well as the operating environment. These different focus areas all add up to the intellectual value of

the organization" (Edvinsson, 1997). Even though the Navigator goes beyond our traditional view of the firm's value creating process, it fails to provide a solid alternative method of external reporting. It does not calculate monetary value for intellectual capital and its components and provides a static rather than a dynamic view for the organization (Roos & Roos, 1997).

"TAKE IN FIGURE 3"

Both the balanced scorecard and the Skandia Navigator were developed as management information systems that would serve the needs of knowledge-driven firms. However, soccer clubs operate in an entirely distinct industry; thus, a different set of tools should be elaborated in order to provide the information stakeholders require. For this purpose, we introduce in this paper the "soccer scorecard", a mechanism for organizational analysis, developed on the theoretical framework defined by the two analysis tools presented above.

An intellectual capital map for the soccer club

Applying the previous analysis on intellectual capital to the organizational particularities of a soccer club help us to set the framework for our work in this section. We construct a map of the soccer club, quantifying major qualitative traits and unifying existing measurements. After having constructed the map –a static snapshot on the soccer club– we introduce the "soccer scorecard", an analysis tool that helps us analyze the interactions between the various components of the intellectual capital map.

Our mapping approach closely follows the intellectual capital classification scheme presented in the previous section. A soccer club's market value breaks down to its book value

(debt + equity) and intellectual capital. Intellectual capital consists of human capital and structural capital. Structural capital consists of organizational capital and relational capital. At this point, it is important to stress that this analysis of soccer-club value components is not essentially opposed to traditional financial accounting explanations for the spread between the market value and the book value of a firm. These differences are usually attributed to the present value of future proceeds from prospective business opportunities or operating and growth options (e.g. Kasanen and Trigeorgis, 1993). Operating options for the soccer clubmainly stem from its athletic performance and prospects and major intangible value aspects of these prospects are reported in financial statements, such as the players' talent, the club's history or fan loyalty.

Human capital includes all the skills, performance data, and value approximations for the people who work for the soccer club: the players, the manager, the soccer director, the coaches, the administrative staff, and so forth. Organizational capital refers to all the features of the soccer club 's identity that are independent of the physical presence of the human capital at a given point in time: for example, Barcelona FC traditionally plays offensive football, Ajax FC has a policy of investing in the academies, Real Madrid's president is elected by the club's members, and so forth. Relational capital refers to the way in which external stakeholders define the soccer club's identity: relationship with the media, the fans, and society. Our suggested map is presented in the following figure.

"TAKE IN FIGURE 4"

Human capital is a major source of corporate value in an intangibles-based firm, such as the soccer club. Starting with the players, qualitative aspects of their value can quantitatively be approximated by variables such as: arithmetic average and standard deviation of salary, number of goals scored, age, value of their release clause, number of

appearances as a member of the first squad, number of minutes played per season or per match, number of international appearances, value of player-related merchandise revenue (e.g. sales on a club's shirt bearing his name), and so forth. Other variables could be match-specific statistics such as passes completed, shots on target, tackles per game, discipline (i.e. fouls committed, yellow or red cards), distance covered during the game, and so forth. When it comes the manager, statistical measures such as his age, his salary, career length, career win ratio, win ratio in his term in the soccer club, titles won in his career, titles won with the soccer club, average time spent with former employers, average league position with previous employers and with the soccer club, the ratio of goals-against to goals-scored in his career as well as within his term in the soccer club. Measures of head coach efficiency can be econometrically evaluated following Dawson, Dobson and Gerrard (2000). The medical team plays a significant role in soccer club athletic performance. In this domain of human capital we could use quantitative proxies, such as the number of doctors and physiotherapists, their career length, salaries and training expenses (e.g. participation in medical conferences etc). This quantitative evidence could also be employed in other groups of the coaching team, such as the scouts and assistant coaches. For the purposes of the intellectual capital map, one could gather data including the number of scouts, man-hours spent in scouting, scouting expenses (e.g. journeys), percentage of recommended players acquired by the team, and so forth. Finally one could include human-resource accounting data on the administrative staff of the soccer club (public relations managers, financial managers, members of the board of directors and principally the soccer director) such as salaries, age, career length, and so forth.

As noted previously, a soccer club's relational capital is about the club's relationship to external stakeholders. A major stakeholder in contemporary soccer is the media. In this area, we could calculate indices such as: the number of club-owned media (periodicals, television channels, radio stations), the number of club-friendly media (e.g. Marca supports real in

Spain), the percentage of equity capital owned by media, the number of visits to soccer club 's internet site, the number of viewers, listeners, readers in club-friendly media, the ratio of television rights to total revenue for the soccer club, the ratio advertisements revenue in club-owned media to total revenue, and the number of favorable media quotes (the annual FORTUNE list of World's and America's most admired companies, measures favourable media quotes as a measure of corporate reputation). The fans are perhaps the most important stakeholder for the soccer club, mainly because they are the source of revenue for other major stakeholders, such as the media (through the advertisements) and the capital providers –equity and debt– whose proceeds depend on variables such as match attendances and club merchandise sales and the players whose pecuniary and mostly the non pecuniary benefits usually come from the appreciation of the fans. In this domain of relational capital, one could use indices such as the number of fan clubs and the number of their members, number of season tickets, total number of tickets sold per season as well as average number of tickets sold per match, the amount paid in fines due to fan behavior, and so forth. When it comes to society as a stakeholder on the soccer club, representative indices of corporate social responsibility could include the amount paid for taxes or the amount contributed to charity events and organizations. Finally, the capital providers evaluate their investment on the soccer club mostly based on financial criteria, even though there have often been documented cases of soccer club owners also motivated by political, sentimental and entrepreneurial criteria quite distinct from the financial performance of the soccer club. On the financial track, equity holders could assess their investment on the basis of measures such as the dividend yield, the return on equity, the capital gain on the stock price and the risk inherent in stock price returns. Stadtman (2005) documents cases where athletic performance is a significant driver for the stock price of a publicly traded soccer club. Creditors could measure the market value of corporate debt, the return on debt as well as the risk of corporate debt.

Finally, the organizational capital of the soccer club is made up of all its organizational features that are related to its infrastructure, managerial principles and strategic orientation. We will focus our discussion of infrastructure on the soccer club's stadium and academies. When calculating quantitative proxies for the contribution of soccer club's stadium to its organizational identity, one could use measures such as the number of sits in the stadium, the amount of stadium repair expenses to total revenue, the number of square centimeters available per sit, total depreciated stadium value over total stadium construction value, and so forth. The soccer academies constitute a principal infrastructure investment for the soccer club. A collection of indices in this area could help map the soccer club's organizational emphasis on infrastructure: the number of players (and their contract value) in the first team squad that come from the academies, the number of players coming form the club's academies that play in clubs of the same league, the amount spent in academies over the amount of total expenditures and, so forth. Perhaps the most important component of a club's organizational identity is its athletic performance and history. This identity could be quantitatively sketched by measures such as the club's age, the number of years spent in various leagues, the number of titles won, the win ratio, dispersion measures on player data such as the number of minutes played per game, the number of matches appearing as a member of the first squad and the number of international appearances, its discipline record and the placement in the previous championship.

A balanced scorecard for the soccer club

The intellectual capital map for the soccer club constructed in the previous section is an extensive but static account of the soccer club's organizational identity. We now need a mechanism for organizational analysis, so that we can see the link between the various

components of intellectual capital presented in the map and discover the process of value creation in the soccer club. We employ a scorecard approach drawing on the balanced scorecard model of Kaplan and Norton (1996). This scorecard can also serve as a "navigator" for organizational analysis, in the spirit of the Skandia Navigator analyzed in our review of the intellectual capital literature. Our scorecard is centered in the athletic performance of the soccer club. This lies in the very core of its organizational capital. Keeping the athletic performance as a point of reference in our analysis, we identify three major peripheral dimensions of organizational analysis and performance stemming from the athletic nature of the soccer activities: the fans, the capital providers and the media. A sketch for this scorecard approach is provided in the following figure

"TAKE IN FIGURE 5"

In our approach, sport lies in the center of value creation, or –more consistently with our definition of intellectual capital for soccer clubs– in the center of meeting the objectives of the stakeholder. It is the athletic performance that is the source of value for the media (through advertisements revenue), it is the athletic achievements of the soccer club that meet the emotional needs of the fans and it is the revenue generated by high-achieving athletic performance that generates proceeds to capital providers (e.g. victories in the UEFA champions league provide cash flows for soccer club owners). On the other hand, these three dimensions of organizational analysis are not only "fed" by the athletic performance of the soccer club, but they also support it. Fans provide emotional and financial support that helps produce athletic achievements, the capital providers supply the funds necessary for the athletic activities of the soccer club and the media advertise the club's athletic efforts, thus promoting fan support.

The two-directional arrows in the previous figure also indicate that the three peripheral dimensions of organizational identity of the soccer club are also fundamentally linked to each other. Fans are viewers and listeners of the media thus creating value for advertising time. The media constitute a major determinant of match attendance (Baimbridge, Cameron & Dawson, 1996) and help the fans meet the emotional needs of supporting the soccer club as well as being present in its athletic efforts. The media proceed to a cash outflow, thus generating revenues for the club owners. These revenues can benefit the media in the sense that some of the cash flow is reinvested by the owners back into the club, thus enhancing the media product quality (soccer athletic spectacle). When they own part of the soccer club, they receive benefits such as capital gains and dividends. Finally, the fans support the owners of the soccer club by generating income through the purchase of tickets and club merchandise and the owners can reinvest some of this cash to improve athletic performance of the soccer club and thus satisfy the needs of the fans. In the cases where the fans provide (equity or bond) capital to the club they receive capital gains, dividends, or coupon payments in return. Finally, we note that the network of organizational aspects centered at athletic performance is not exhaustive. Nevertheless, it is analytically efficient in studying the nature and strategy of a soccer club. For instance, one might be tempted to provide additional dimensions such as the sponsors, the government, the society, and so forth. However it is mostly through the media that the sponsors are advertised and it is among the fans that they seek to expand their customer base. As for the government, it is through the taxation of capital providers, media and athletes that it attracts income and it is through legislation on the operation of these stakeholders that it affects the scorecard network presented in this section.

Our scorecard approach aims at constructing a single, comprehensive index of organizational performance for the soccer club. We employ a weighted average

methodology. In each dimension of organizational identity presented above (capital providers, fans, media, and athletic performance) we assign a weight "w", all the weights summing to 1. In this framework, negative weights can be assigned to undesirable organizational features, such as the number of cards received. The organizational performance of the soccer club is the weighted average of the performance in each of these organizational dimensions. Organizational performance in each of these dimensions is a weighted average of the performance in the sub-domains of this organizational dimension. The weights in each organizational dimension also sum to 1. The performance data have been gathered for the purposes of the intellectual capital map provided in the previous section. Measures such as the win ratio, the number of goals scored, and the number of goals suffered are performance elements in the dimension of athletic performance. Data like the number of favorable media quotes, or the amount of broadcasting time dedicated to club are performance measures in the organizational dimension of the media. The weighted average return on capital can approximate organizational performance in the dimension of capital providers. Finally, evidence like average attendance, the number of season tickets, or the number of fan-club members can measure performance in the organizational dimension of the club's fans. Performance is measured as placement in a ranking of all the clubs in the league. For instance, if the league consists of 18 clubs and the club has the third highest scoring performance, then its performance rate in this organizational sub-domain is 3. In practice, our proposed method relies heavily in cooperating with league decision makers, so as to assign the correct magnitude to each weight.

Formally, let w_i be the weight of the i-th dimension of organizational performance in the construction of the organizational performance composite index I, i=1,2,3,4, $\sum_{i=1}^{4} w_i = 1$. Let z_{ji} be the weight of the j-th sub-domain in the i-th dimension of organizational

performance, j=1, … , K_i, $\sum_{j=1}^{K_i} z_{ji} = 1$. Let r_j be the rank of the soccer club in the j-th sub-domain of organizational performance in a league consisting of N clubs, r=1, … , N. Then, the composite organizational performance index i is given by

$$I = \sum_{i=1}^{4} \sum_{j=1}^{Ki} w_i z_{ji} r_j$$

The hypothetical example in the following table could illuminate our model on organizational performance.

"TAKE IN TABLE 1"

This scorecard should be used as analysis tool for the intellectual capital map provided in the previous section, under the established understanding that performances in each of the domains are often interdependent (Petrash, 1996). Drawing insight from our personal involvement in an ongoing project soccer club performance measurement, the key issue in applying the model in real-life soccer is to get a consensus from soccer club decision-makers on the proper magnitude of weights in each dimension of organizational performance. Moreover, If soccer clubs reach a consensus on optimal (or descriptively accurate) weights, then intellectual capital performance would be comparable among clubs and then governing institutions such as soccer federations and sport ministries could use the soccer scorecard as a policy making instrument.

Conclusions

A soccer club's market value springs mainly from qualitative aspects of its organizational identity that are not reported in financial statements, apart from its financial resources, thus spreading the gap between the market value and the book value of the soccer club. It is evident that conventional accounting fails to provide the necessary information

required in order to effectively manage the club's resources. A different set of methodological instruments is required in order to counter the information gap caused by traditional accounting information systems.

The scorecard proposed in this conceptual paper offers an integrated management method of the soccer club's resources. This is achieved by directly linking athletic performance to the club's fan base, the media, and the capital providers; while focusing on all of the club's performance aspects (athletic, financial, etc) along with use of the weighted average methodology. Hence, not only does management possess a spherical view of the club's resources, but also is aware of the bottom-line performance measure; thus underperforming teams/managers are more easily identified. Moreover, it is possible to perform a time-series analysis with the scorecard's data from previous periods in order to assess the club's long-run performance on the various aspects studied. Benchmarking against other teams is possible provided that all the relevant data is available. It should be noted however, that the soccer scorecard is by no means a valuation method; its purpose is through the utilization of indices to provide a proxy of the status of the club's resources.

This paper has been a systematic attempt to employ the intellectual capital theory in order to draw a quantitative map of a soccer club's organizational identity and performance. Our approach offers a holistic management system of the entire breadth of the club's resources which provides useful information to the inside users, but may also set the basis of an external reporting instrument to the external stakeholders.

REFERENCES

Andriessen, D. (2004). IC valuation and measurement: classifying the state of the art. *Journal of Intellectual Capital*, *5*, 230-242.

Baimbridge, M., Cameron, S. & Dawson, P. (1996). Satelite television and the demand for football: a whole new game? *Scottish Journal of Political Economy*, *43*, 316-333.

Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management Decision*, *36*, 63-76.

Bontis, N. (2002). Managing organizational knowledge by diagnosing intellectual capital: Framing and advancing the state of the field. In Nick Bontis (Ed.), *World Congress on Intellectual Capital readings* (13-56). Woburn, MA: Butterworth-Heinemann. .

Bontis, N., Dragonetti, N.C., Jacobsen, K. & Roos, G. (1999). The knowledge toolbox: A review of the tools available to measure and manage intangible Resources. *European Management Journal*, *17*, 391-402.

Brooking, A. (1996). *Intellectual capital: Core asset for the third millennium enterprise.* London: International Thomson Business Press.

Brummet, R.L., Flamholtz, E.G. & Pyle, W.C. (1968). Human resource measurement – A challenge for accountants. *The Accounting Review*, *43*, 217-224.

Caddy, I. (2000). Intellectual capital: recognizing both assets and liabilities. *Journal of Intellectual Capital*, *1*, 129-146.

Dawson, P.M., Dobson, S.M. & Gerrard, B (2001). Estimating coaching efficiency in professional team sports: evidence from English association football. *Scottish Journal of Political Economy*, *47*, 399-421.

Drucker, P. (1988). The coming of the new organization", in Harvard Business Review on Knowledge Management (1-19), Boston, MA: Harvard Business School Press.

Edvinsson, L. (1997). Developing intellectual capital at Skandia. *Long Range Planning*, *30,* 366-373.

Edvinsson, L. & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European Management Journal*, *14*, 356-364.

Handy, C.B. (1989). *The age of unreason*. London: Arrow Books Ltd.

International Accounting Standards Board (1998), International accounting standards, IAS 38.

Kaplan, R.S. & Norton, D.P. (1996). *The balanced scorecard: translating strategy into action*. Boston, MA: Harvard Business School Press.

Kaplan, R.S. & Norton, D.P. (1992). The balanced scorecard – measures that drive performance. *Harvard Business Review*, January-February, 71-79.

Kasanen, E. & Trigeorgis, L. (1993). Flexibility, synergy and control in strategic investment planning. In Aggarwal, R. (Ed.), *Capital budgeting under uncertainty* (208-231), Englewood Cliffs, NJ : Prentice Hall.

Liebowitz, J. & Suen, C. (2000). Developing knowledge metrics for measuring. *Journal of Intellectual Capital*, *1*, 54-67.

Mayo, A. (2001). *The Human Value of the Enterprise: Valuing people as assets: Monitoring, measuring, managing*. London: Nicholas Brealey Publishing.

Petrash, G. (1996). Dow's journey to a knowledge value management culture. *European Management Journal*, *14*, 365-373.

Rodov, I. & Leliaert, P. (2002). FiMIAM: financial method of intangible assets measurement. *Journal of Intellectual Capital*, *3*, 323-336.

Roos, G. & Roos, J. (1997). Measuring your company's intellectual performance. *Long Range Planning*, *30*, 413-426.

Roos, J., Roos, G., Dragonetti, N.C. & Edvinsson, L. (1997). *Intellectual capital: Navigating in the new business landscape*, Macmillan, Houndmills, Basingtoke.

Stadtman, G. (2005). Frequent news and pure signals: the case of a publicly traded football club. Retrieved June 3, 2006, from www.ssrn.com.

Vasilatou-Thanopoulou, E. (1996). *Introduction to financial accounting* (3rd ed., Vol. 2). Athens: Benou Publishing (in Greek).

FIGURES AND TABLES

Figure 1

The distinction among the three types of resources the organization has at its disposal (adapted from Caddy, 2000)

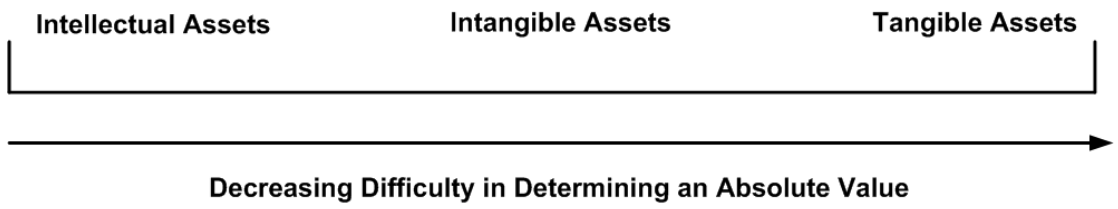

Figure 2

The Balanced Scorecard (adapted from Kaplan and Norton, 1996)

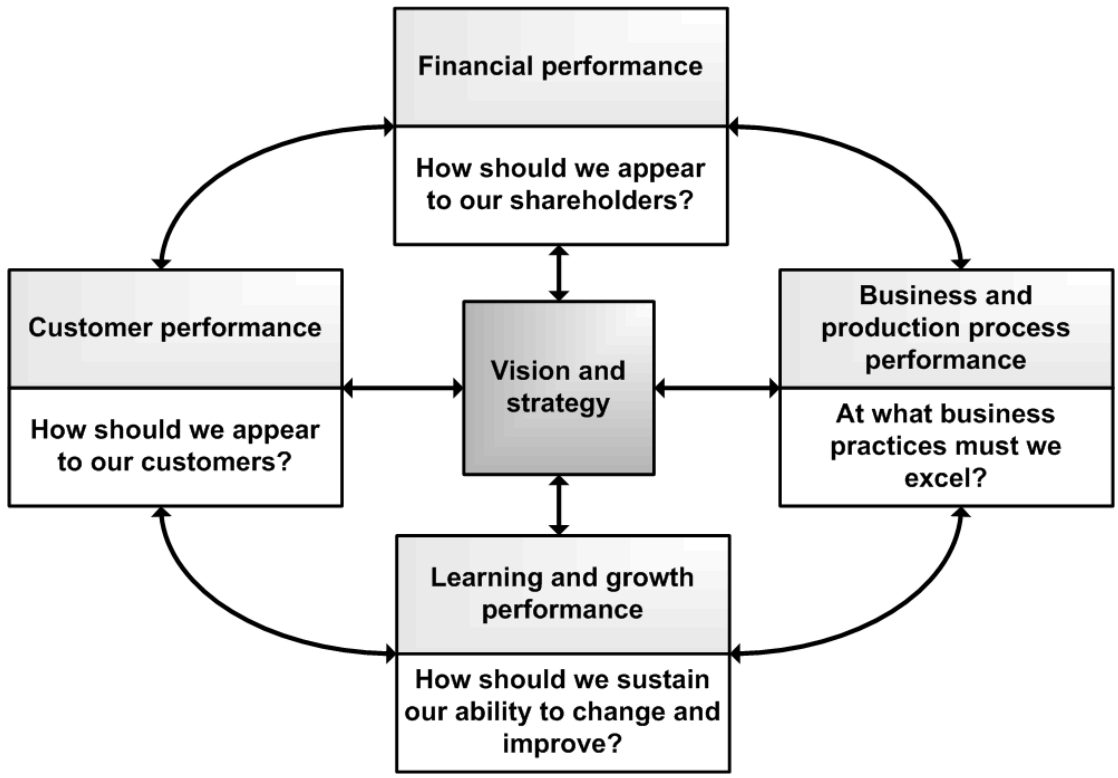

Figure 3

The Skandia Navigator (adapted from Edvinsson, 1997)

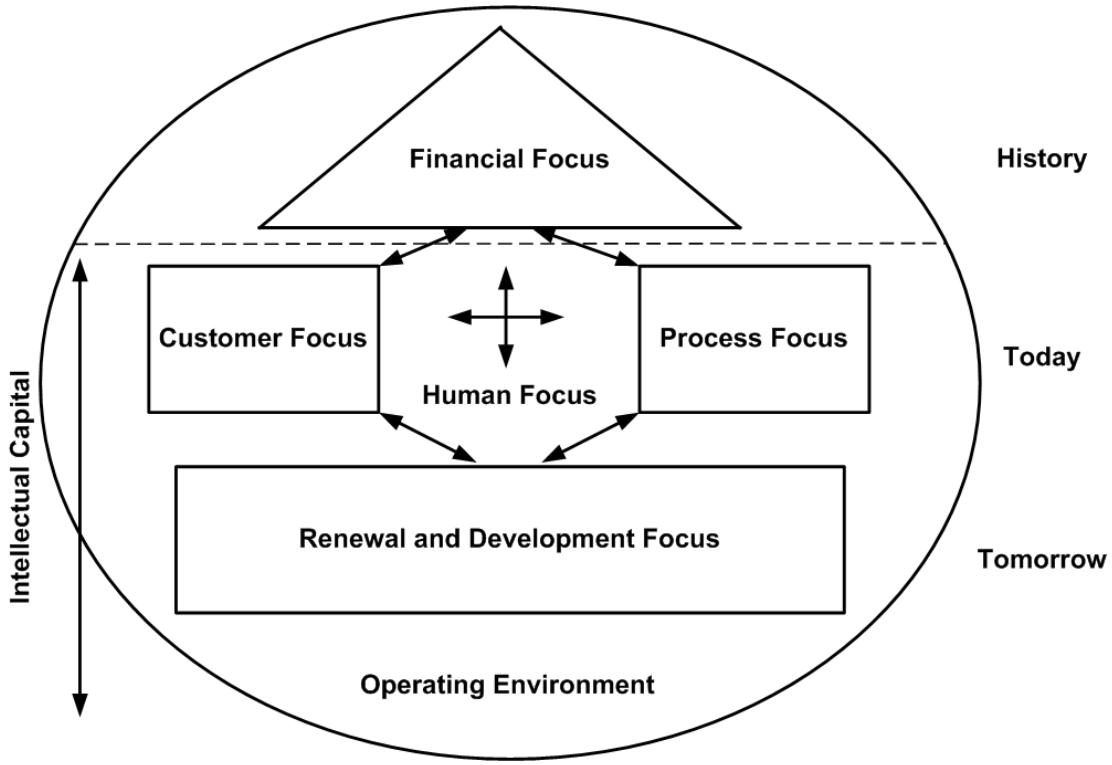

Figure 4

An Intellectual capital Map for the Soccer Club

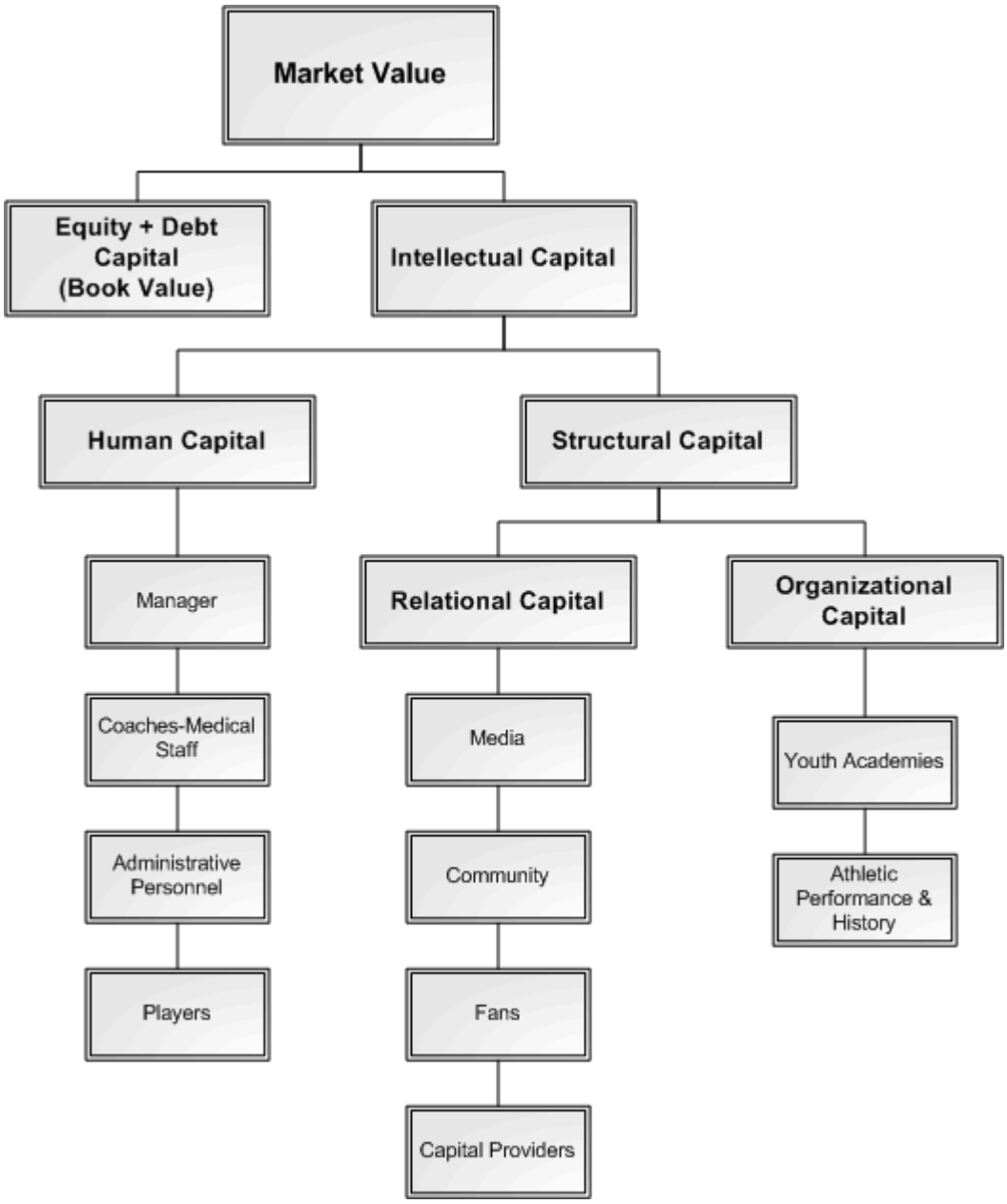

Figure 5

A balanced scorecard for the soccer club

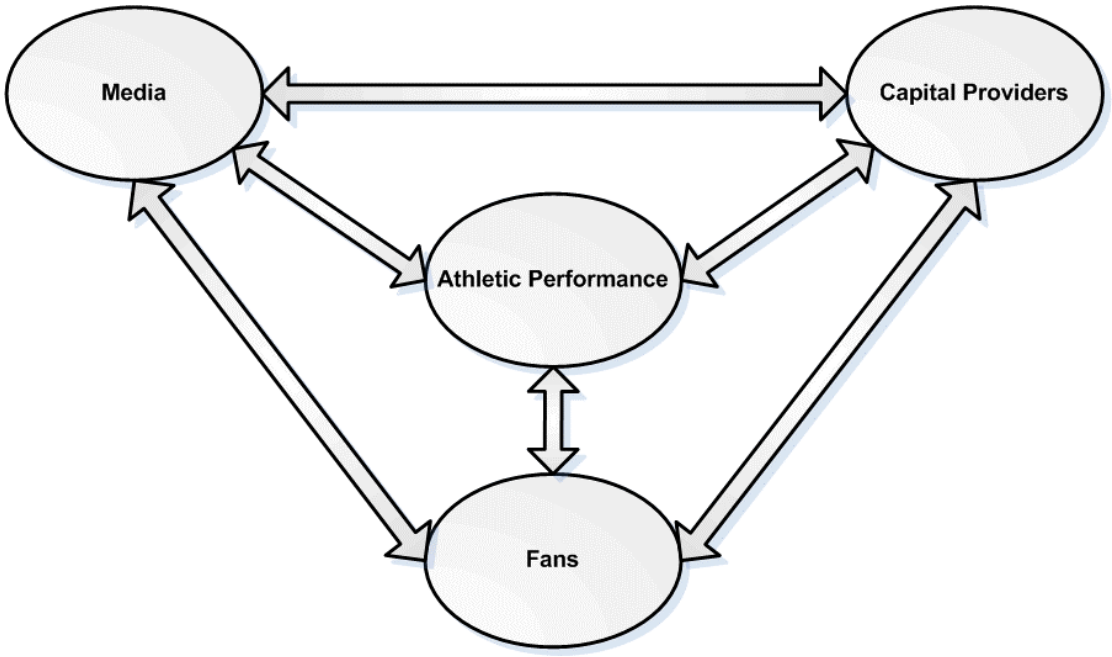

Table 1

Calculation of the soccer club composite index of organizational performance I (Number of league members: 18, weights in parentheses)				
Dimension of organizational performance	**Sub-Domains of organizational performance in each dimension**	**League rank on sub-domains**	**Performance in organizational dimension**	**Composite index I**
Athletic Performance (30%)	Win Ratio (90%)	2		
	Goals Scored – Goals Against (30%)	4		
	Cards Received (-20%)	3	2x0.9+4x0.3-3x0.2=2.4	
Capital Providers (20%)	Return on Equity (30%)	8		
	Return on Debt (70%)	4	0.3x8+0.7x4=5.2	
Fans (20%)	Number of Fan Clubs (50%)	1		
	Number of season tickets (50%)	3	0.5x1+0.5x3=2	
Media (30%)	Number of Favorable Media Quotes (30%)	4		
	Number of readers in club-friendly newspapers (40%)	2		
	Broadcasting Rights / Turnover (30%)	1	0.3x4+0.4x2+0.3x1 =2.3	
				0.3x2.4+0.2x5.2+0.2x2+0.3x2.3 =2.9