

## ***Glossary of terms KM and IC terms***

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### ***Introduction***

This chapter contains the glossary of terms and the description of relating concepts. Usually definitions are included in the appendix sections of reports such as this one. Here, they make up a separate chapter. The reason for this is that successful benchmarking requires participation from the collaborating partners. Intellectual Capital benchmarking concerns intangible, often abstract and hard to grasp concepts. Establishing a common language is a prerequisite for mutual learning.

When “reading” the IC Report, a variety of interpretations are possible. This range of possible interpretations is broader than with traditional documents such as the Balance Sheet. The absence of standards and collective reference framework decreases the opportunities for benchmarking Intellectual Capital. This chapter is intended to not only play a supplementary role but also to serve as a “manual” for managers beginning their experience with IC capital measurement.

**Absorptive capability** – the ability to take in and effectively use new technologies or knowledge.

D. Leonard-Barton (1992) in: M. Hales, *Competences as service products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 13.

**Act** – an effort guided by a particular rule under particular conditions having particular result.

S. Cavaleri, F. Reed, *Designing Knowledge Creating Processes*, Knowledge and Innovation: Journal of the KMCI, Vol. 1, October 15, 2000.

**After Action Review (AAR)** – a reflective tool that prompts a team or an individual to ask the following questions: What were the desired outcomes? What were the actual outcomes? Why were the outcomes different to those planned? What was learnt? What will be done differently next time? The AAR was developed in the U.S. Army for providing performance feedback from a collective training exercise. It is defined as “ *a professional discussion of an event focused on performance standards, that enables soldiers to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses.* “ In the business context an AAR review is a discussion of a business event that enables the individuals involved to learn for themselves.

D. C. Buchan, *Strengthening After Action reviews through Double-loop learning*, a comment posted at Thought Horizon, October 2002, [www.thoughthorizon.com](http://www.thoughthorizon.com); *After Action Review: Methods and Tools*, U.S. Army Research Institute for the Behavioural & Social Sciences, FACT SHEET; *A Leaders Guide to After Action Review* (TC 25-20) (1993), U.S. Department of The Army.

**Assets** – resources of a company which have the following properties: (a) legally belong to the company, (b) have real or perceived future benefits, (c) the benefits must be exclusive to the time or service, (d) the item must have been acquired as a result of a transaction of the

firm. Assets are economic resources controlled by an entity whose cost at the time of acquisition can be objectively measured.

An asset is an item of economic value owned by an individual or corporation, especially that which could be converted to cash. Examples are cash, securities, accounts receivable, inventory, office equipment, a house, a car, and other property. On a balance sheet, assets are equal to the sum of liabilities, common stock, preferred stock, and retained earnings. Assets are possessions of value, both real and financial.

According to the Financial Accounting Standards Board Statement of Financial Accounting Concepts No. 6, Elements of Financial Statements, paragraph 26 assets have probable future economic benefits controlled by a particular entity. The Statement of financial concepts cites three essential characteristics of an asset. The first essential characteristic of an asset is:

- It embodies a probable future benefit that involves a capacity, singly or in combination with other assets, to contribute directly or indirectly to future net cash inflows
- It is a particular entity can obtain the benefit and control others' access to it . . . (The human capital asset appears to meet the requirement of this essential characteristic. Employees are restricted to providing their services for the entity by which they are employed. The restriction, however, may not be as permanent or controlling as is the case with other assets. Employees generally are able to leave their present employment to work for another entity).
- It is the transaction or other event giving rise to the entity's right to or control of the benefit has already occurred (This requirement appears to be met when the employee is hired. There is no certitude of benefit from the work of employees no matter how talented. Nevertheless there is no certitude of benefit from the use of any asset.

Human assets would not seem to meet the requirements identified in these features. However, the statement then goes on to include intangible assets by stating: *... assets may be acquired without cost, they may be intangible, and although not exchangeable they may be usable by the entity in producing or distributing other goods or services.*

*Oxford Dictionary of Economics*, Oxford University Press, Oxford 2002; <http://www.investorwords.com>; *Macmillan Dictionary of Marketing & Advertising*, Edited by M. J. Baker, Macmillan Business, London 1998; M. Hales, *Competencies as service products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 2; Bernard H. Newman, *Accounting Recognition of Human Capital Assets*, Department of Accounting, Pace University, New York.

**Balance sheet** – A quantitative summary of a company's financial condition at a specific point in time, including assets, liabilities and net worth. The first part of a balance sheet shows all the productive assets a company owns, and the second part shows all the financing methods (such as liabilities and shareholders' equity) also called statement of condition.

**Benchmark** – the standard against which other results are judged. A surveyor's mark ... a standard or point of reference in measuring or judging quality, value, etc.

D. Mercer, *Marketing, The Encyclopaedic Dictionary*, Blackwell Business, Malden 1999;  
*Webster's New World Dictionary*, Second College Edition.

**Best practice** -

- A corporate or organisational practice that results in superior performance, as documented by empirical benchmark data
- An integrated, comprehensive method of doing things more efficiently or with greater operational effectiveness
- A framework for achieving consistent quality, deployed by leading-edge companies to manage their organisations to deliver world-class performance.

The Hackett Group, [www.thehackettgroup.com](http://www.thehackettgroup.com)

**Business Process** - A Business Process is best defined as any function within an organisation that enables the organisation to successfully deliver its products and services. A simple analogy would be to look at an organisation as a wheel and the individual Business Processes are the spokes to the wheel.

Bench Net, the Benchmarking Exchange, [www.benchnet.com](http://www.benchnet.com)

**Business recipe** – consists of the company’s business idea and strategy in the chosen business environment.

J. Lundqvist, *Intellectual Capital in Information Technology Companies - a Correlational Study of IC rating and Variables Measuring Growth and Profitability*, Intellectual Capital Sweden, Örebro University – Sweden, 2000.

**Capital** – the wealth employed in a firm or available for use. [...] The term ‘capital’ is commonly used in three specific senses: capital invested, capital employed and working capital. Capital invested is the amount of money invested by the owner, and represents their investment in the business. Capital employed is the amount of money being used in the firm, i.e. the total amount of fixed and current assets at the disposal of the business. Working capital is the excess of the total current assets over the total current liabilities of the firm.

Man-made means of production. Human capital differs from material capital in that it cannot be bought or sold, and thus cannot be used as a collateral for loan.

In finance and accounting, capital generally refers to financial wealth, especially that used to start or maintain a business. It is assumed that other styles of capital, e.g. physical capital, can be acquired with money, so there is little need for any further analysis.

Capital in classical economic theory is one of three factors of production, the others being land and labour. Goods with the following features are capital:

- It can be used in the production of other goods (this is what makes it a factor of production).
- It is man-made, in contrast to land, which means naturally occurring resources such as geographical locations and minerals.
- It is not used up immediately in the process of production.

*Macmillan Dictionary of Marketing & Advertising*, Edited by M. J. Baker, Macmillan Business, London 1998; *Oxford Dictionary of Economics*, Oxford University Press, Oxford 2002.

**Capability** – The quality of being capable; capacity; capableness; especially intellectual power or ability. It is a strategic skill in the application and integration of competencies.

M. H. Boisot. *Knowledge Assets*, Oxford University Press, New York 1998.

**Competence** – concretely and usefully configured, meaningfully articulated, ready-to-hand assets together with the humans for whom these constitute resources, and the working relationships that the humans have with each other both directly and via the resources.

Competence denotes the organisational and technical skills involved in achieving a certain level of performance in the production of such effects.

Competence refers to the knowledge that is held by the people working for a company. Sveiby distinguishes between experts and administrative personnel, since he argues that they contribute very differently to a company's success. *Competence* mainly measures different aspects of the qualities of the experts, the resources that they require and the value that they create for the company.

'Competence' is often used in the form of technological competence. Even where technology is not mentioned there tends to be an assumption that competencies are equivalent to technologies in use. Despite the strategic, large-scale reference of 'core competence', the competencies referred to in management discussion are often micro-scale characteristics – possessions of individual humans. In this case the term seems almost identical with skills

K.E.Sveiby, *The New Organisational Wealth - Managing and Measuring Knowledge-based Assets*, Berrett-Koehler Publishers, San Francisco 1997; M. Hales, Competences as service products. Literature Review for the RISE project, Centrim, University of Brighton, June 1999, p. 2.; M. Hales, *Competences as service products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 14; M. H. Boisot. *Knowledge Assets*, Oxford University Press, New York 1998.

**Competitive advantage** – any benefit or value provided by a product or company, often unique to the organisation concerned, that gives it superiority in the marketplace.

W. J. Koschnick, *Doctionary of Marketing*, Gower Publishing, Aldershot 1995, p. 95.

**Commercial Knowledge** – an explicitly developed and managed network of imperatives, patterns, rules and scripts, embodied in some aspect of the firm, and distinguished throughout the firm, that creates marketplace performances.

M. Demarset, *Understanding Knowledge Management*, Long Range Planning, Vol. 30, No. 3, 1997.

**Core competency** – a distinguishable, hard to imitate, sustainable, strongly embedded in the organisation element of IC which enables the organisation to create value for the customer. While core competencies and capabilities are internal to an organisation, D. Adcock distinguishes, in addition, external 'assets'. These based on existing trading links and the attitudes customers have regarding the organisation: (1) partnership-based assets; (2) customer-based assets. The concept of strategic competencies is an analytical response to challenges of sustaining the performance of large, diversified, multi-product, multi-division manufacturing firms in highly competitive product markets where radical product innovation is one of the drivers (radical innovations can destroy technological competencies of competitors based in previous technologies).

D. Adcock, *Marketing Staretgies for Competitive Advantage*, John Wiley & Sons, Baffins Lane 2000, p. 15. M. Hales, *Competences as Service Products ...*, p. 8.

**Cost** – there is little harmonisation of cost price accounting within the EU. There is a wide freedom of choice A widely accepted definition of cost in the English-speaking world covers direct costs and indirect production costs but does not cover general overhead costs, interest on loans, the capital costs shareholders' equity.

*Balancing Accounts with Knowledge*, Pilot Project, Report by Walgemoed, The Dutch Ministry of Economic Affairs, The Hague 1999.

**Creativity** – the generation of ideas for new or improved working practices and/or products and services.

EFQM Magazine, Vol. 1, No. 2, 2002.

**External structure** is meant to provide the company with valuable information that mainly concerns the different types of clients that the company serves. This aspect focuses on such things as customer satisfaction, customer profitability and the ability to maintain client.

K.E. Sveiby, *The New Organizational Wealth - Managing and Measuring Knowledge-based Assets*, Berrett-Koehler Publishers, San Fransisco 1997.

**Excellence** – outstanding performance in managing the organisation and achieving results based on fundamental concepts which will include: results orientation, customer focus, leadership and constancy of purpose, processes and facts, involvement of people, continuous improvement and innovation, mutually beneficial partnerships, public responsibility.

EFQM Magazine, Vol. 1, No. 2, 2002

**Goodwill** – a collective term for the sum of intangible assets, which only comes into play in the event of take-overs. For that reason it is strictly of a different order from the other various intangible assets, which are based on expenditures for operational purposes.

*Balancing Accounts with Knowledge*, Pilot Project, Report by KPMG, ...

**Human Capital** – Stewart defines human capital as “that which thinks”. In the OECD definition human capital is defined as the knowledge and skills, competencies and attributes embodied in individuals that facilitate the creation of professional, social and economic well being. Another definition of human capital states that it is the knowledge that individuals acquire during their lifetime and use to produce goods, services or ideas in market or non-market circumstances. The development of Human Capital relates to the activities that influence monetary and psychic income by increasing the resources in people.

J. Mouritsen, H. T. Larsen, P.N. Bukh, M. R. Johansen, *Reading an Intellectual Capital Statement ...p. 362*; *The Well-being of Nations*, OECD 2001; *Measuring what People Know: Human Capital Accounting for the Knowledge Economy*. Paris, OECD 1996; G.S. Becker, *Human Capital*, University of Chicago Press, Chicago 1960.

**Innovation** – Innovation involves change in routine. The uncertainty remains until a certain amount of the routines has been changed, which means that the innovation has been employed

E. Kjellstrom, *Mangement, assessment, and control of intellectual capital*, Department of Business Administration, School of Economics and Management, Lund University, Paper to IPA, March 26, 2000.

**Intellectual Capital**– G. Roos and J. Roos (*Measuring Your Company's Intellectual Performance*, Long Range Planning, Vol. 30, No. 3, 1997, pp. 413-26) define IC as the sum of the knowledge of its members and the practical translation of this knowledge. IC is the knowledge that can be converted into value.

**Intangible resources** – the stock or current value of a given intangible ta certain moment in time. They may or may not be expressed in financial terms.

MERITUM project, Guidelines for Managing and Reporting on Intangibles ...

**Intangible activities** – (dynamic notion) imply an allocation of resources aimed at:

- a) developing internally or acquiring new intangible resources,
- b) increasing the value of existing ones, or
- c) evaluating and monitoring the results of the former two activities.

MERITUM project, „Guidelines for Managing and Reporting ...

**Internal structure** - refers to the structure within the company and mainly focuses on administrative personnel. The *Internal structure* also deals with all other aspects that are of relevance to maintain and improve *Internal structure* and processes.

K.E.Sveiby, *The New Organizational Wealth ...*

**Intangible assets** – 1) Assets of an enterprise which cannot be seen or touched. This includes goodwill, patents, trademarks, and copyright. In the case of goodwill there is no documentary evidence of its existence. There is in all these cases evidence that intangible assets exist, as they are occasionally bought and sold, there is no continuing market, and in their nature they are non-homogeneous, so their valuation is very uncertain. According to the FRS 10 definition Intangible assets are non-financial fixed assets that do not have physical substance but are identifiable and controlled by the entity through custody or legal rights. The International Accounting Standards Committee (1998; IAS 38 definition) defines intangible assets as 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.

*Oxford Dictionary of Economics*, Oxford University Press, Oxford 2002.

**Intangibles** – non-monetary sources of probable future economic profits, lacking physical substance, controlled (or at least influenced) by a firm as a result of previous events and transactions (self-production, purchase or any other type of acquisition) and may or may not be sold separately from other corporate assets.

MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Intellectual Capital statement** – a mix of strategy, management and reporting. These cannot be separated because the IC statement needs a justification for the indicators, and the indicators have to report on something. The indicators are there to make evaluation of the implementation of the firm's knowledge strategy possible, and the knowledge strategy is there to show how the IC statement is intended to be read.

J. Mouritsen, H. T. Larsen, P.N. Bukh, M. R. Johansen,  
*Reading an Intellectual Capital ...* , p. 380.

**Investment** - in classical economic theory is the act of producing capital. In order to invest, goods must be produced which are not to be immediately consumed, but instead used to produce other goods as a means of production. Investment is closely related to saving.

Wikipedia, [www.wikipedia.com](http://www.wikipedia.com)

**Knowing** – Knowing is to interact with and honour the world using knowledge as a tool.

M. Kakahara, C. Sorensen, *Exploring Knowledge Emergence*, Paper presented at the Conference on „Managing Knowledge: Conversations and Critique“ 10<sup>th</sup>-11<sup>th</sup> April 2001, University of Leicester Management Centre, UK

**Knowledge** – knowledge is an activity, which would be better described as a process of knowing.

Michael Polanyi, *The Tacit Dimension*, Routledge and Kegan Paul, 1966.

**Knowledge-based Economy (KBE)** – there is no clear and unique definition of knowledge-based or knowledge-driven economy, however, it can be understood as the outcome of a set of structural changes. First, knowledge is increasingly considered as a commodity and, as such, is subject to economic transactions. Second, the degree of connectivity among knowledge

agents has increased dramatically. Third, Information and Communication Technologies (ICT) are considered as the main vehicle for knowledge diffusion, facilitating the emergence and development of new and intensive global networks of knowledge agents.

MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Knowledge management** – KM consists of managerial activities that focus on the development and control of knowledge in an organisation to fulfil organisational objectives (Army Knowledge Online – An Intelligent Approach to Mission Success, U.S. Department of the Army, Washington D.C., 1999). KM is an integrated, systematic approach to identifying, managing, and sharing all of an enterprise's information assets, including databases, documents policies, and procedures, as well as previously unarticulated expertise and experience held by individual workers. Fundamentally it is about making the collective information and experience of an enterprise available to the individual knowledge worker, who is responsible for using it wisely and for replenishing the stock. This ongoing cycle encourages a learning organisation, stimulates collaboration, and empowers people to continually enhance the way they perform work.

KM is the ability to recognise and manage the system of core competencies required for knowledge-intensive businesses (Ch. Wen Chong, T. Holden, P. Wilhelmij, R. A. Schmidt, *Where does KM Add Value?* Journal of Intellectual Capital, Vol. 1 Issue 4, 2000). According to ICL definition Knowledge Management is a shorthand term covering all of the things that must be put in place in order to maximise value to customers e.g. processes, systems, culture, and roles – to build and enhance this capability. American Productivity and Quality Center defines KM as the broad process of locating, organising, transferring, and using the information and expertise within an organisation. The overall knowledge management process is supported by four key enablers" leadership, culture, technology, and measurement

Karl-Erik Sveiby, 1996 sees KM as the Art of Creating Value from Intangible Assets. R. O. Barclay and Ph. C. Murray (*Knowledge Praxis*, 2002) define KM as a business activity with two primary aspects: Treating the knowledge component of business activities as an explicit concern of business reflected in strategy, policy, and practice at all levels of the organisation. Making a direct connection between an organisation's intellectual assets – both explicit [recorded] and tacit [personal know-how] – and positive business results.

According to Y. Malhorta, (*Knowledge Management, Knowledge Organisations&Knowledge Workers: A View from the Front Lines*, 1998, [www.brint.com](http://www.brint.com)) Knowledge Management caters to the critical issues of organisational adaptation, survival and competence in face of increasingly discontinuous environmental change. It embodies organisational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings. N. Bristow (*Creating a knowledge advantage: making knowledge management everybody's job*, Strategy and Leadership 28.1.2000, p.42) claims that KM is the process whereby every employee is engaged, regardless of position, in the important business of acquiring, applying, creating, sharing, and leveraging knowledge. O. Gupta *et al.* (O. Gupta, S. Pike, G. Roos, *Evaluation Intellectual Capital and Measuring Knowledge Management Effectiveness*, Intellectual Capital Services, PMA Performance Measurement Conference, Boston, July 16-19, 2002) directly relates KM to Intellectual Capital. According to their definition KM is the collective name for a group of processes and practices used by companies to increase their value by improving the effectiveness of the generation and application of their IC.

Managing knowledge is about transforming the individual knowledge (tacit knowledge) into explicit knowledge, selecting the knowledge that will be useful for the firm, and re-using that knowledge in a way that helps increase or acquire intangible resources (P. Sanchez, C.

Chaminade, M. Olea, *Management of Intangibles – An Attempt to Build a Theory*, Journal of Intellectual Capital, Vol. 1, Issue 4, 2000).

**Knowledge strategy** – the story that makes knowledge management relevant. KM strategies are integrally part of intellectual capital statement.

J. Mouritsen, H. T. Larsen, P.N. Bukh, M. R. Johansen, *Reading and Intellectual Capital statement, ...*, p. 378.

**Knowledge management challenges** – set of actions to be performed by management to implement a knowledge strategy. They are developed to realise the KM strategy.

J. Mouritsen, H. T. Larsen, P.N. Bukh, M. R. Johansen, *Reading an Intellectual Capital Statement ...*, p. 380.

**Learning** – the acquiring and understanding of information which may lead to improvement or change. Examples of organisational learning include benchmarking, internally and externally led assessments and/or audits, and best practice studies. Examples of individual learning include training and professional qualifications.

EFQM Magazine, Vol. 1, No. 2, 2002.

**Market positioning** - the choice of target market and it is related to the idea of strategy as a position. These policies often come from addressing the classic *questions* ‘*what market/business are we in?*’ Company (competitive) positioning refers to strategic choices. It is this customer perception of a position, which matters in the end.

D. Adcock, *Marketing Strategies for Competitive Advantage*, John Wiley & Sons, Baffins Lane 2000, p.18.

**Metrics** - normalised, objective, and quantitative measures. They are used to gauge operational performance or resource allocation. Metrics are quantitative key performance indicators, which are essential to understanding operational health.

Cindy Hubert in:

B. Hack, *Designing Performance Measures and Metrics*, APQC 2003, [www.apqc.org](http://www.apqc.org)

**Network** - Network can be viewed as a co-ordinated set of knowledge resources and co-operative relationships.

R. K. Srivastava, T. A. Shervani, L. Fahey, *Market-Based Assets and Shareholder Value: A Framework for Analysis*, Journal of Marketing, Vol. 62 (January 1998), pp. 2-18.

**Organisational learning** - Organisational learning is the process that enables an organisation to adapt to change and move forward by acquiring new knowledge, skills, or behaviours, and thereby transform itself. In successful learning organisations:

- Individual learning is continuous,
- Knowledge is shared,
- The company culture supports learning,
- Employees are encouraged to think critically and to take risks with new ideas; and
- All individuals are valued for their contributions to the organisation.

B. Hackett, *Beyond Knowledge management: New Ways to Work and Learn*, The Conference Board Research Report 1262-00-RR, p.11.

**Organisational knowledge** – According to B. Hackett (*Beyond Knowledge Management: New Ways to Work and Learn*, The Conference Board Research Report 1262-00-RR, p.11) it is the ability to accomplish collective tasks that individuals acting alone cannot, tasks designed to create value for the organisation’s stakeholders. S. H. Akher (*Strategic Planning, Hypercompetition, and Knowledge Management*, Business Horizons, January-February 2003, p.20) defines organisational knowledge as knowledge that is relevant to organisational activities and is available to organisational decision makers.

## Outreach

Scientists are increasingly facing demands for them to play a part in outreach activities and to engage in debates concerning science and society.

19 <sup>th</sup> Century	20 <sup>th</sup> Century	21 <sup>st</sup> Century
Professional popularities.	Intermediaries: Journalists, broadcasters, press officers. Reason: growing complexity.	Reverse the trend: bringing the scientists into direct contact with the public. Professional training of scientists in the E.U. does not include how to deal with science in its public dimension.

Source: Report from the expert group. *Benchmarking the Promotion of RTD Culture and Public Understanding of Science*, July 2002,

Outreach in research includes intellectual, creative, and problem-solving interactions between a research organisation and external constituencies. This includes knowledge transfer, policy review, creative works in the arts, and other events involving information discovery and/or disseminating the results of the discovery between the organisation and outside audiences. For example, publishing a book is research output; giving a reading to the local community is outreach. Examples of outreach: completing a funded research project and publishing a paper related to gender mainstreaming with a colleague at another institution; hosting a workshop for the labour market community to disseminate the results is outreach; completing educational research related to new pedagogical strategies for secondary school chemistry education is research; going into the high schools to assist teachers in the implementation of those strategies. Other examples of outreach include public lectures, electronic outreach (educational websites), and exhibitions.

**Patent strategy** – a framework of decision-making processes and procedures which ought to ensure that the patent activities of a company, or when applicable, of each individual strategic business unit, are consistent with both the business and R&D strategies and their objectives. An appropriate patent strategy includes at least the following elements: education programme; confidentiality programme; monitoring patent activities of third parties; report of inventions; review of inventions; filing programme; enforcement function; infringement of third party patents; patent asset audits; licensing; due diligence.

L. Van Wijk, *Measuring the Effectiveness of a Company's Patent Assets*, Patent Counsel, Corporate Technology, Siemens AG, Munich 2000.

**Performance** - Firms that are earning above-normal economic profits enjoy some sort of competitive advantage in their market or industry. A firm has a competitive advantage when it is implementing a value-creating strategy not being implemented by numerous other firms in that market or industry. Firms that are earning normal economic profits are usually in a

state of competitive parity, and firms earning below-normal performance face a competitive disadvantage.

*Encyclopaedia of Management*, Edited by M. M. Helms, Gale Group, Farmington Hills 2000, p. 45.

**Process** – a sequence of activities which adds value by producing required outputs from a variety of inputs.

EFQM Magazine, Vol. 1, No. 2, 2002.

**Productivity** – the ratio of what is produced to what is required to produce it. Usually this ratio is in the form of an average, expressing the total output of some category of goods divided by the total input of labour or raw materials (*Encyclopaedia Britannica in: Final report of the expert group on “Benchmarking S&T Productivity”*, June 2002). W. J. Koschnick (Dictionary of Marketing, Gower Publishing, Aldershot 1995, p. 477) sees productivity as the ratio of useful results obtained to the resources expended in obtaining them. The resources expended (the input) and the results obtained (the output) are generally expressed in terms of psychological quantities, but output may be measured either in physical quantities or in value units.

**Relational capital** – all resources linked to the external relationships of the firm, with customers, suppliers or R&D partners. It comprises that part of Human and Structural Capital involved with the company's relations with stakeholders, plus perceptions that they hold about the company. Examples of this category are image, customers' loyalty, customer satisfaction, relationships with suppliers, commercial power, negotiating capacity with financial entities, environmental activities, etc.

MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Resources** – Anything which can contribute to economic activity. This includes natural resources [...] human resources [...]. Economics can be defined as the study of how resources are, or should be, allocated. Dodgson&Bessant (1997) define resources as: all the assets of the firm – technological, financial, managerial and organisational – which enable firms to operate in markets. They comprise more than tangible assets, and include the tangible assets such as the skills and knowledge of the workforce and organisational arrangements within the firm, and links with other firms, which allow the firm to operate.

*Oxford Dictionary of Economics*, Oxford University Press, Oxford 2002;  
M. Hales, *Competences as Service Products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 14.

**Resource-based view of the firm** – the theory in management science which suggests that firms derive competitive advantage, in the form of “rents”, from unique, inimitable, and nonsubstitutable resources and capabilities. Whereas resources refer to the stock of factors owned by the firm, capabilities are a firm's capacity to deploy resources using organisational processes. The capabilities that enable entrepreneurial firms to stay ahead of the market and succeed in fast-moving, information intensive environments are those that yield superior private information to the firm. The processes by which firms obtain, process, and utilise information represent invisible assets (Itami, 1987) which may serve as rent-generating capabilities. Kogut and Zander (1992) put forward the notion of knowledge-based view of an organisation. According to this perspective, organisational knowledge such as operational routines, skills, procedures, and know-how are a firm's most valuable assets, and its strategic management capability is the most prevalent source of competitive advantage.

A. Aaheer, S. Zaheer, *Catching the Wave: Altness, Responsiveness, and Market Influence in Global Electornic Networks*, Management Science/Vol. 43., No. 11, November 1997, p.1495; K. C. Desouza, *Knowledge Management Barriers: Why the Technology Imperative Seldom Works*, Business Horizons, January-February 2002, p.25.

**Social capital** – The terms capital usually refers to resources, assets or 'stocks', or less tangible attributes such as power or potential. In everyday usage capital usually refers specifically to the economic value of resources owned by an individual or agency.

It may however be useful to describe other attributes in terms of capital, so capital could be: 'Economic'; 'Educational: intellectual capital'; 'Social'; 'Environmental' or even 'Aesthetic/cultural'. Social capital is trust available to all members of a community (e.g. family, customer base). Financial capital is liquidated as money for trade, and owned by legal entities. Natural capital is inherent in ecologies and protected by communities to support life. Individual capital is inherent in persons, protected by societies, trades labour for trust or money. Instructional capital is knowledge persons and communities and software executes to predict/create or avoid futures. Infrastructural capital is non-natural support systems (e.g. clothing, shelter, roads, PCs) that minimise need for new social trust, instruction, and natural resources.

Social capital is generally regarded as intangible, relating largely to interpersonal networks. Robert Putnam describes it in the following way: "*The central premise of social capital is that social networks have value. Social capital refers to the collective value of all "social networks" and the inclinations that arise from these networks to do things for each other.*" *The idea is that "a wide variety of quite specific benefits flow from the trust, reciprocity, information, and co-operation associated with social networks. Social Capital creates value for the people who are connected and - at least sometimes - for bystanders as well"*.

Putnam also describes channels by which Social Capital manifests itself:

- a. Information flows (e.g. learning about jobs, learning about candidates running for office, exchanging ideas at college, etc.) depend on social capital
- b. Norms of reciprocity (mutual aid) are dependent on social networks.
- c. Bonding networks that connect folks who are similar sustain particularized (in-group) reciprocity.
- d. Bridging networks that connect individuals who are diverse sustain generalized reciprocity.
- e. Collective action depends upon social networks (e.g., the role that the black church played in the civic rights movement) although collective action also can foster new networks.
- f. Broader identities and solidarity are encouraged by social networks that help translate an "I" mentality into a "we" mentality.

London Health Observatory, O. Harding (Lambeth, Southwark & Lewisham HA) and L. White (South Bank University), July 2002, <http://www.lho.org.uk/meth/socap.htm>

**Social network** - A social network consists of a few dozen to at most 150 people organised in social relationships and weak friendships with every other member - but strong friendships mostly within the group.

The number arises from cross-cultural studies in sociology and especially anthropology of the maximum size of a village (in modern parlance most reasonably understood as an eco-village). It is theorised in evolutionary psychology that the number may be some kind of limit of average human ability to recognise members and track emotional facts about all members

of a group. However, it may be due to economics and the need to track "free riders", as larger groups tend to be easier for cheats and liars to prosper in. Either way, it would seem that social capital is maximised by this size.

Joi Ito suggests that the concept of the social network is crucial to what he calls emergent democracy - the vital link between the creative network of at most a dozen people, and the global power networks created by religion, language, tribe and kin affiliations, and ethical traditions associated with them. These he sees as the only path to a so-called Second Superpower.

Wikipedia, [www.wikipedia.org](http://www.wikipedia.org)

**Structural capital** – the knowledge that stays within the firm at the end of the working day (as opposed to human capital, which the employees take with them when they leave the firm). It comprises the organisational routines, procedures, systems, cultures, databases, etc. Examples are organisational flexibility, a documentation service, the existence of a knowledge centre, etc. Some elements of structural capital may be legally owned by the firm under separate title.

MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Strategy** - Porter warns about failure to distinguish between operational effectiveness and strategy. In many cases management tools have taken the place of strategy. One has to be cautious to distinguish between operational effectiveness and strategy. In many cases management tools have taken the place of strategy. Strategy does not always require change; a perfectly acceptable strategy in some circumstances could be no change, but every strategist should guard against complacency as past success can be a real barrier to much-needed future change. Strategy does not always require change; a perfectly acceptable strategy in some circumstances could be no change, but every strategist should guard against complacency as past success can be a real barrier to much-needed future change.

D. Adcock, *Marketing Strategies for Competitive Advantage*, John Wiley & Sons, Baffins Lane 2000, p. 12.

**Transaction** - An agreement between a buyer and a seller to exchange an asset for payment ([www.investorwords.com](http://www.investorwords.com)). In accounting, any event or condition recorded in the book of accounts.

**Vectors** – another form of measurement that works well when measuring intellectual capital activities. Vectors are helpful because they provide information on direction as well as on amount.

S. Harrison, P. H. Sullivan Sr, *Profiting from Intellectual Capital Learning from Leading Companies*, Journal of Intellectual Capital, Vol. 1, Issue 1, 2000.

## ***Relating Concepts***

## ***Introduction***

Many concepts relating to IC and benchmarking and Intellectual Capital may cause confusion when related to each other. People may engage into a dialogue using the same, seemingly synonymous terms but carrying different meanings to them. The discussion about the complex reality is more fruitful when abstract concepts are related to each other. This section's aim is clarify most commonly confused terms and concepts and provide the explanation of differences.

### **Benchmarks vs. Benchmarking**

Benchmarks, in contrast to benchmarking, are measurements to gauge the performance of a function, operation or business relative to others. Operating statistics employed as benchmarks provide incomplete comparisons. In a sense, they are "superficial," for they draw attention to performance gaps without offering any evidence or explanation for why those gaps exist. At times, the performance gaps surfaced through benchmark comparisons may reflect significant differences in operating systems and procedures; on other occasions, benchmark variances may reflect differences in the way different organisations track and measure the performance of their systems. The root causes of operating differences usually cannot be discerned from the "benchmarks" alone. In this respect, the benchmarks are like divining rods that lead the organisation to hidden opportunities to innovate and improve performance.

Christopher E. Bogan and Michael J. English. *Benchmarking for Best Practices: Winning Through Innovative Adaptation*, McGraw-Hill, [www.benchmarkingreports.com](http://www.benchmarkingreports.com)

### **Benchmarking vs. best practice**

Best practices refer to how a certain organisation or case study achieves the highest indicator score(s) during benchmarking, and thus becomes the "benchmark" for others. Depending on the type of benchmarking used, the "best practice" can be for example a method, a tool, an organisation, a system or a technology, i.e. everything used to achieve the excellent performance seen. If establishing what is best practice is not based on benchmarking, there must at least be some assumptions, explicit or implicit, why a certain initiative, process or method is considered as best practice.

The *Beep* methodology contains a template for describing best practice. The template consists of seven sections: (1) Background; (2) Objectives; (3) resources; (4) Activities; (5) Outputs/results; (6) Lessons and conclusions; (7) References and links.

*Beep – Best eEurope Practices. Beep methods and domains*, Information Societies Technologies Programme, January 2002.

**Complementor vs. competitor** – A player is a *complementor* if customers value your product more when they have that player's product than when they have your product alone. A player is a *competitor* if customers value your product less when they have that player's product than when they have your product alone.

B. J. Nalebuff, A. M. Brandenburger, *Co-opetition: Competitive and Cooperative Business Strategies For the Digital Economy*, Strategy&Leadership, 11-12/1997, p.30.

**Embodied vs. disembodied knowledge** – embodied innovations have the form of tangible goods and systems (product innovations in manufacturing, process innovations in physical production and supply or machine-processing of information). ‘Disembodied’ innovations have the form of practices (institutional and organisational innovations, new marketing techniques).

M. Hales, *Competences as Service Products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 22.

**Data vs. information vs. knowledge** – the three terms help to explain the contrast between physical assets and knowledge assets. Knowledge builds upon information that is extracted from data. In contrast to data that can be characterised as a property of things, knowledge is a property of agents predisposing them to act in particular circumstances. Information is a subset of the data residing in things that activates an agent through the perceptual or cognitive filters. In contrast to information, knowledge cannot be directly observed. Its existence can only be inferred from actions of agents. Similarly knowledge assets cannot be directly observed in nature – they need to be apprehended indirectly. Hence, in contrast to the emphasis on tangible input-focused measures of physical assets, knowledge assets require understanding in terms of quality and content of performance outcomes.

Y. Malhotra, *Measuring Knowledge Assets of a Nation: Knowledge Systems for Development*, United Nations Advisory Meeting of the Department of Economic and Social Affairs, New York, 4-5 September 2003.

**Expenditure vs. Costs** – expenditure refers to all spending, while ‘costs’ refers only to the necessary expenditure. The expenditure must not only be necessary for the asset, but there must also be a reasonable assumption that it can be covered by future earnings.

*Balancing Accounts with Knowledge*, Pilot Project, Report by Walgemoed, The Dutch Ministry of Economic.

**Evaluation vs. performance management** – evaluation is the scientific-oriented approach with in-depth analysis, carried out at certain points of time, while performance management systems are characterised by a pragmatic approach, primarily based on output indicators, derived from the goals. In practice, both are implemented simultaneously. Performance management systems document outcomes, but to a lesser extent give information to understand the complex nature of knowledge-production.

	Performance management	External evaluation	Intellectual Capital reporting <sup>1</sup>
Focus	Measuring via indicators	Assessment of efficiency and effectiveness	Intangible resources and its management
Approach/methods	Performance indicators, gathered via information systems mainly based on information systems & databases	Scientific-oriented and in-depth, tailored to the specific goals, qualitative measures often in use	Indicator-based obligatory measures, the report is supplemented by narration
Data collections	Continuous, based on information systems	Periodically (3 – 5 years) or at discrete points	Periodically, preferably based on information systems
Recommendation	No	Party	No

<sup>1</sup> As conceptualised for the implementation in Austrian universities.

Responsibility	Organisation (unit)	National agencies	Organisation (unit)
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Karl-Heinz Leitner, *Intellectual Capital Reporting for Universities: Conceptual Background and Applications within the Recognition of Austrian Universities*, Paper prepared for the Conference “The Transparent Enterprise. The Value of Intangibles”, November 25-26 2002, Madrid, Spain.

**Intangibles vs. Intellectual Capital** - often used in different contexts although they seem to be accorded in the same meaning. While intangibles appear to be an accounting term with a balance sheet orientation, intellectual capital is more frequently used in the realm of human resources. It is convenient to take into account that when the term *Asset* is associated to *Intangible*, it should only refer to intangible investments that, according to accounting standards, may be recognised and reflected in the firm’s balance sheet. Therefore, while *Intangible* and *Intellectual Capital* can be considered to be equivalent, the concept *Intangible Asset* is more restrictive, representing the set of *Intangibles* or elements of *Intellectual capital* that are susceptible of being recognised as assets in accordance with the current accounting model.

P. Sanchez, C. Chaminade, M. Olea, *Management of Intangibles ...*;  
MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Intangible Assets vs. Goodwill** – some examples of intangible assets can be found in the balance sheet: copyrights, franchises, patents, trademarks, brand names, etc. In contrast, elements of intangible nature such as advertising and promotion expenses, marketing research expenses, restructuring costs, organisation costs, training costs, corporate culture, customer loyalty, employee satisfaction, etc., are not normally included separately in the balance sheet. They appear only aggregately under goodwill after the acquisition of a company or at the time of the first consolidation of a group’s financial statements.

Historically, intangibles were classified as ‘goodwill’ in accounting practices and IC was a part of the goodwill. A number of contemporary classification schemes have refined the distinction and classified IC into categories described in Chapter 2 (Figure 7). Traditional accounting does not provide for the identification and measurement of these “new” intangibles in organisations.

MERITUM project, *Guidelines for Managing and Reporting on Intangibles ...*

**Knowledge Management vs. Business Process Reengineering (BPR)** - While reengineering implies one shot radical change in organisational processes to achieve maximum increases in efficiency, knowledge management implies continuous and ongoing renewal of organisational schemes to anticipate the future opportunities and threats. While reengineering shifts the organisational processes from one stage of mechanisation to a more efficient phase of mechanisation, knowledge management shifts the organisation to an ongoing organic mode of functioning.

Y. Malhorta, *Knowledge Management, Knowledge Organisations&Knowledge Workers: A View from the Front Lines*, 1998, [www.brint.com](http://www.brint.com)

**Management of Intangibles vs. Knowledge Management** - Management of Intangibles is a much broader concept than knowledge management. Its main purpose is to enhance the firm’s value through the creation of competitive advantages. Managing intangibles involves identifying them, assessing their links with the present and future value of the firm, measuring their value, discovering intangible activities and, finally being able to efficiently manage

those activities. Knowledge creation is an intangible, so it means that KM is a subset of the management of intangibles.

P. Sanchez, C. Chaminade, M. Olea, *Management of Intangibles ...*

### **Measures vs. Measuring vs. Measurements**

- **Measures** – the dimensions to be used in the act of measuring.
- **Measuring** – the act of comparing the thing to be measured against the standard dimensions prescribed.
- **Measurements** – the numerical results of measuring.

S. Harrison, P. H. Sullivan Sr., *Profiting from Intellectual Capital ...*

**Resources vs. Capabilities vs. Competencies** - Resources are relatively tangible, visible assets. Capabilities (i.e. skills) are somewhat less tangible and competencies are the various value-adding combinations of resources and capabilities. The less visible and inimitable knowledge contained in a competence is the more valuable source of competitive advantage. While core competencies and capabilities are internal to an organisation, there are, in addition, external 'assets' which are equally important. These will be based on existing trading links and the attitudes customers have regarding the organisation: We consider them as: partnership-based assets and customer-based assets. M. Hales notes that there are different scales of competence, with big strategic competencies ('core competencies') being assembled out of smaller operational ones – 'capabilities' or routines. Intangible resources and capabilities such as „close relationships with customers”, „close co-operation among managers”, and „brand awareness” are fuzzy and difficult to describe yet are often important determinants of a firm's success.

J. Barney, *Gaining and Sustaining Competitive Advantage*, Addison-Wesley, Reading 1996; P. Gorman, H. Thomas, *The Theory and Practice of Competence-based Competition*, Long Range Planning, No. 30, 1997, pp. 615-620 ; M. Hales, *Competences as Service Products. Literature Review for the RISE project*, Centrim, University of Brighton, June 1999, p. 8.

**Intellectual Capital vs. Market-to-book ratio** – the idea that the total value of the company, which is not accounted for in the balance sheet, is the representation of the intellectual capital has become very popular. The proponents of this approach (e.g. Edvinsson (1997), Roos *et al.* (1997), Stewart (1997) and Sveiby (1997)) never show how this number can be computed. Intellectual Capital statement is published primarily to discover the true value of the company rather than to *explain* the market-to-book ratio difference. Mouritsen *et al.* (2001) argue that “*the Intellectual Capital statement is not there to explain the market-to-book ratio but to change it*”.

J. Mouritsen *et al.*, *Reading and Intellectual Capital Statement, ...*

**Knowledge management vs. Intellectual Capital** - Measurement of the Intellectual Capital and the management of knowledge and information go hand in hand. Intellectual Capital is concerned with how better to manage and other intangibles in the company an Intellectual Capital statement has to be about a firm's KM activities. The management of knowledge and the intellectual capital could not be separated. They are part of the same network of arguments, artefact, decisions and effects. Traditional economic theory tended to see capital as physical items such as tools, buildings and vehicles. More recently economists have focussed on broader forms of capital. For example, investment in skills and education can be viewed as building up human capital (or in more detailed analyses, building up individual capital using instructional capital, recognising that both the individual and the instruction may benefit from the interaction).

G. Roos, J. Roos *Measuring Your Company's Intellectual Performance*, Long Range Planning, Vol. 30, No. 3, 1997, pp.413-26; J. Mouritsen, H. T. Larsen, P.N. Bukh, M. R. Johansen, *Reading and Intellectual Capital Statement, Describing and Prescribing Knowledge Management Strategies*, Journal of Intellectual Capital, Vol. 2, Issue 4, 2001, p. 360; Wikipedia, [www.wikipedia.com](http://www.wikipedia.com)

**Output vs. outcome vs. impact** – output refers to the routine products of research activities, such as publications, conference papers, training courses, degrees etc. Outcome means the achievements of the activity such as new theories, new devices or analytical techniques. Impact is a measure, the influence or benefit of the research outcome or output, either within the research community itself or the wider society. It thus includes the social, economic or environmental benefit.

Karl-Heinz Leitner, *Intellectual Capital Reporting for Universities: Conceptual background and applications within the recognition of Austrian Universities*, Paper prepared for the Conference "The Transparent Enterprise. The Value of Intangibles", November 25-26 2002, Madrid, Spain.

**Physical assets vs. knowledge assets** – accountants define an asset as a stock from which a number of future services are expected to flow. Knowledge assets are defined as stocks of knowledge from which services are expected to flow for a period of time that may be hard to specify in advance. In contrast to physical assets that may have a limited life because of wear and tear, knowledge assets may in theory last forever. Given their open-ended value, there is no one-to-one correspondence between the effort required to create knowledge assets and the value of services they yield. They are non-linear with respect to the effects they produce. In the case of physical capital, present and future benefits are made comparable through the use of discount rates, while costs are measured through depreciation. However, in the case of knowledge assets, there is no way of counting costs and benefits over any period of time except in the immediate accounting period.

M. H. Boisot. *Knowledge Assets*, Oxford University Press, New York 1998; Y.Malhotra, *Measuring Knowledge Assets of a Nation: Knowledge Systems for Development*, United Nations Advisory Meeting of the Department of Economic and Social Affairs, New York, 4-5 September 2003.