

The development of an instructional design model as a strategic enabler for sustainable competitive advantage

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In a business environment of continuous change and in light of a defined need to fast track skills improvement and development in South Africa and Africa, training strategies and practices are under increasing pressure to develop a more productive and skilled workforce. Demands on training and the practices it employs increasingly focus on the alignment with strategic imperatives of organisations and the country.

This research presented an instructional design (ID) model positioned in intersection between the positioning-based and resource-based theories and used a multi-disciplinary approach to extend the literature on ID models with the aim to offer measurable improvements in job-specific knowledge and productive behaviour as proxies for sustainable competitive advantage. The research confirmed the contribution of the ID model in this regard and described and substantiated the pivotal link between training and ID models and the application thereof in practice to aid organisations and, by extension, countries, in the achievement and sustainability of competitive advantage. This, the first of two articles, presents not only the theoretical and practical context of the research, but also the development of a revised and advanced ID model. In the second article the ID model will be subjected to empirical investigation and evaluated through the application thereof in a case organisation and a grounded conclusion provided.

This is the first in a series of two articles.

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Introduction

Over the last two to three decades, organisations increasingly operate in a time of rapid, all pervasive, continuous change that places new demands on organisations and the business-level strategies they develop and employ to remain in business and perform and prosper. Fundamental to strategic thinking and management is how organisations can, through ongoing superior organisational performance, achieve and sustain competitive advantage (SCA). Achieving and sustaining competitive advantage is not only pertinent to organisations, but also to countries and the global nature in which they compete.

The empirical link between strategy and national advantage as proposed by Porter (1990:71-73) identified the relationship between “firm strategy, structure and rivalry and national advantage”. The World Economic Forum (WEC), (2006, Chapter 1.1) highlights the important relationship between organisational operations and strategy, and the improvement of productivity and the relative competitiveness of the country. In fact, the WEC (2007:5) highlights “higher education and training” as one of the 12 pillars of national competitiveness. Therefore it is disturbing that the WEC in “Assessing Africa’s Competitiveness in a Global Context” (2007:13) states “... companies are not providing on-the-job training ... a stronger culture of

training will be important for Africa as it continues on its path of development”. In terms of South Africa, “this year’s ranking for higher education and training shows a drop to 57th place from 47th last year” (2007:20).

Increasingly, the value of a competent, well-skilled workforce is seen to be of high strategic value (Brown & Seidner, 1998) and organisations are turning to learning and employee development (i.e. development of intangible assets in human resources) as a means to achieve strategic aims (Beckett, 2000; Maurer, 2001). In Africa (Tikly *et al.*, 2003) and South Africa (Mayer & Altman, 2005) in particular, the shortage of skilled workers has been identified as a major impediment to the application of optimal business-level strategies and consequently to economic growth and well being of citizens (Jinabhai, 2005; Madlana, 2007). “Corporate South Africa can’t afford to simply wait for universities to deliver, it needs to invest in its own people” (Gillingham, 2008:16).

Skilled workers allow organisations to develop and implement value-adding strategies aimed at improving productive behaviour and concomitant superior performance of organisations. However, current training practices are found to often fail to meet the dual demand of enabling economic competitiveness and providing organisations with the capabilities needed to achieve performance targets.

When assessed, these shortcomings of training practices relate, amongst others, to job-specific knowledge improvement, understanding of key concepts and the application thereof in practice (Oliver & Fleming, 1997; Sumner *et al.*, 1998), which negatively impact on the organisation's ability for superior organisational performance and SCA. Traditional training practices for organisational training need revising and improving to strongly align with the strategic intent of organisations, so that relevant knowledge is increased and productive skills enhanced to support and expedite the achievement of SCA.

This research puts forward a training practice (i.e. an instructional design model) that intersects with business-level strategy and aims to improve job-specific knowledge and productive behaviour as factors pertinent for achieving sustainable competitive advantage.

The contribution of this research is in providing and evaluating an instructional design (ID) model positioned within the ambit of business-level strategy, and in exploring, describing and substantiating the pivotal link between training and ID models and the application thereof in practice to aid the organisation in the achievement and sustainability of competitive advantage. The research brings about the capacity for action by human resources (HR) and training personnel to implement training practices that intersects with business-level strategy and contributes to the attainment of organisational SCA.

The significance of the study is that it extends the current body of knowledge through integrating a multi-disciplinary approach for training practices, specifically in the development of the ID model and by explicitly positioning it within the strategic arena of the organisation. The holistic structure of the proposed ID model and its configuration within the business strategy of the organisation has major relevance to business in that it enhances the endeavour to attain sustainable competitive advantage. Furthermore, to the extent that the public sector is increasingly adopting business principles (Hood, 1991) implications of the research may possibly be transferable from the private to the public sector.

Structure of the article

The article will be presented in three sections. First, an outline of the theoretical background for the article including the line of logic that links together the various constructs in the research will be presented; second, the demands on training and ID models in strategic context will be described; and third, the strategic ID model will be described. The article will be concluded with a summary.

Theoretical background

The fundamental question in strategic management is how organisations can achieve and sustain competitive advantage, i.e. approaches to follow for value-creating strategies. In the micro-economic strategy literature, two broad approaches for value-creating strategies dominate, largely based on two components, namely, external and internal analysis of the environment. Where the external

environment is regarded as the primary determinant of strategy, the work of Michael Porter (1985) and his formalisation of the positioning-based view (PBV – outlined below) is seminal. He maintained that competitive advantage is the ability to manage the organisation's value chain activities in such a way as to achieve optimal external positioning by pursuing one (or a combination) of two generic strategies, namely cost-based or differentiation (Porter, 1985) which may be applied in either a broad or focused context. Where the internal environment is regarded as the primary determinant for strategy, the resource-based view (RBV – outlined below) with its emphasis on the optimal configuration and utilisation of the internal set of resources and capabilities of the organisation predominates (Prahalad & Hamel, 1990; Boxall, 1996).

Within the strategy literature, the matter of what contributes to competitive advantage has seen a shift in emphasis away from a mainly external positioning in the industry and the relative balance of competitive forces, towards an acknowledgement that internal resources be viewed as crucial for sustained effectiveness (Wright, Dunford & Snell, 2001). Today, intangible assets represent up to 85 percent of an organisation's value, compared to just 38 percent 20 years ago. Therefore intangibles, particularly human capital (i.e. the knowledge, skills and experience of the workforce), represent a major potential value driver for business. Yet many organisations today fail to grow that value by making the necessary investment in training employees. It is suggested that in the "new knowledge economy" provision is to be made for considerable levels of human capital development and for a significant investment in education, training, research and development – the major knowledge generating activities (Melody, 2002).

The positioning-based view

In the PBV SCA is ascribed to management's ability to continuously position the organisation's assets against some external context. Strategy becomes a matter of choosing an appropriate position according to a generic strategy of either cost or differentiation (Porter, 1985). Achieving and sustaining competitive advantage by becoming a (low) cost leader or differentiator puts a large premium on having a competent workforce. Therefore, competitive advantage lies not just in becoming a low cost leader or differentiating a product or service, but in being able to tap the organisation's special skills and distinctive competencies vested in its human capital to respond rapidly to customers' needs and the current and expected moves of competitors.

The resource-based view

The RBV regards organisations as potential originators of value-adding capabilities and the underlying organisation competencies involve viewing the assets and resources from a knowledge-based perspective (Prahalad & Hamel, 1990; Conner & Prahalad, 1996). It focuses on costly-to-copy attributes of the organisation as the means to achieve superior performance and competitive advantage (Barney, 1991; Prahalad & Hamel, 1990). In essence, the RBV holds

that organisations can find strategic value-creation through the acquisition, development and deployment over time of scarce resources and skills which are either special and defining in themselves or in the way they are combined with other assets. SCA is thus *inter alia* attained by employing and/or developing employees to have better skills and knowledge to exhibit more productive behaviour than competitors. Consequently, an organisation can attain SCA by differentiating its human resources practices from competitors.

The intersection between the PBV and RBV in this research is seen to be in the SCA offered when an organisation achieves differentiation through the special skills, distinctive competencies and productive behaviour vested in and exhibited by employees. The PBV is relevant in that it describes the value of differentiation as a strategic option, while the RBV provides the theoretical framework for the ID model and its role as a strategic enabler in the organisation.

In a growing number of organisations human capital is now viewed as a major source of competitive advantage (Becker, Huselid & Ulrich, 2001) and a large and growing body of evidence demonstrates a positive linkage between the development of human capital and organisational performance (Dearden, Reed & Van Reenen, 2000; Stiles & Kulvisaechna, 2004; Tamkin, 2005). The SCA that can be obtained through a high quality workforce is relevant in this research, since the aim of the ID model put forward is to aid the organisation in not only providing differentiated output quality through improved job-specific knowledge and productive behaviour, but also to differentiate in training practices through the ID model that impacts on the development of organisation resources, capabilities and competencies.

The development of resources, specifically human capital, and the concomitant development of the capabilities and competencies of the organisation, are central constructs in this research. Resources; and sources of output, i.e. capabilities and competencies, are discussed next.

Resources

Resources can be both tangible and intangible, and represent those assets that the organisation has to work with. Tangible resources include, for example, physical resources (e.g. plants and equipment), financial resources, and technological resources. Intangible resources include, for example, reputation, organisation-specific practices and procedures, goodwill, brands, intellectual capital and human capital. Human capital is “generally understood to consist of the individual capabilities, knowledge, skills and experience of the organisation’s employees and managers, as they are relevant to the task at hand, as well as the capacity to add to this reservoir of knowledge skills and experience through individual learning” (Dess & Picken, 2000:8).

In and of themselves, resources do not confer a sustainable competitive advantage – they only become so when applied to an industry or brought to a market. Consequently, the managerial role is specifically one of converting resources into something of value to customers. This involves

identifying, developing, protecting and deploying the organisation’s resource base (Amit & Shoemaker, 1993). This notion has been expanded by, amongst others, Grant (1996) under the ‘knowledge-based view of the organisation’. Knowledge-based resources refer to skills, abilities and learning capacity, and may be developed through experience and training. It is not enough to just acquire employees with the requisite skills and abilities, it is also necessary to develop structures, systems (such as the ID model) and strategies that allow the organisation to gain competitive advantage (DeNisi, Hitt & Jackson, no date, online). However, not all resources are equally important or possess the potential to be a source of sustainable competitive advantage. Therefore there has been much deliberation on the characteristics of value-creating resources. See for example Amit and Shoemaker, 1993; Barney, 1991; Collis and Montgomery, 1998; Grant, 1991; O’Riordan, 2006.

A synthesis of the characteristics of value-creating resources is found in the value, rarity, inimitability and organisation (VRIO) framework, based on the seminal work by Barney (1991). In this research, the focus is on (a) value, (b) rarity, and (c) inimitability.

- a) Value to customers is an essential element of competitive advantage. For a resource to be a potential source of competitive advantage, it must contribute to the organisation conceiving or implementing strategies that improve its efficiency and effectiveness in meeting the needs of customers (Barney, 1991), and thus it must contribute to value creation.
- b) When resources employed in an organisation are rare among the organisation’s current and potential competition, it leads to SCA (Barney, 1991). Rare resources vested in the skills and knowledge of the workforce, may contribute to SCA, if they allow the organisation to implement value.
- c) In terms of inimitability, there are at least two reasons why human resources (in which human capital is vested) may be difficult to imitate: causal ambiguity, i.e. when it is difficult to precisely determine how value is generated; and path dependency, i.e. where systems and practices are developed over time and cannot just be bought in the market (Barney, 1991; Becker & Gerhart, 1996).

In summary, this research focuses on intangible resources, specifically human capital, resident in the skills, productive behaviour and job-specific knowledge of employees. For these resources to create value, the resources themselves must be valuable, rare and difficult to imitate. Where this is so, resources provide the input and source material for the capabilities and core competencies of an organisation. These capabilities and core competencies, as the sources of output, are critical in the organisation’s quest for SCA and are discussed below.

Sources of output

Within the RBV, sources of output, i.e. the capabilities and core competencies of the organisation are closely linked to SCA. The strategic value of resources is indicated by the extent to which the resources contribute to the development of capabilities, core and distinctive competencies and ultimately, a competitive advantage for the organisation. Although resources, capabilities and competencies are interlinked, their distinctive values to the organisation differ, as outlined below in par. a - capabilities and par. b - competencies.

a) Capabilities

There is a key distinction between resources and capabilities. A capability is what an organisation does, it is the capacity for a bundle of resources to perform some task or activity to achieve a desired goal; while resources are the source of an organisation's capabilities (Segal-Horn, 2002). Amit and Shoemaker (1993) define two key features in this distinction between capabilities and resources. Firstly, a capability is organisation-specific since it is embedded in the organisation and its processes. Secondly, the primary purpose of a capability is to enhance the effectiveness and productivity of resources in an organisation in order to achieve its targets. Capabilities are developed over time as a result of complex interactions that take advantage of the interrelationships between tangible and intangible resources, and based on the transmission and sharing of information and knowledge as carried out by the workforce.

Thus, "while resources are the source of a firm's capabilities, capabilities are the main source of competitive advantage" (Grant, 1991:119).

In the strategic management literature the emergence of the "dynamic capabilities" concept (Eisenhardt & Martin, 2000; Protegerou, Caloghirou & Liokas, 2005; Teece, Pisano & Shuen, 1997; Zollo & Winter, 2002) considers how some organisations seem to secure SCA in volatile and competitive markets. Dynamic capabilities are defined as "a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness" (Zollo & Winter, 2002:340) and "the firm's ability to integrate, build and configure internal and external competencies to address rapidly changing environments" (Teece *et al.*, 1997:516). Inherent in these definitions is the understanding that intangible assets, including the knowledge and skills of employees, can be reconfigured into routines to create capabilities that provide SCA in a changing market. Dynamic capabilities are viewed as opportunities to generate or acquire new competencies, and training offers one such opportunity.

b) Competencies

There are various views on and definitions of competencies suggested in the literature (see for example Fahy & Smithee, 1999; Hamel & Prahalad, 1994; Lado & Wilson, 1994; Nordhaug, 1993). These definitions refer to "some key constituent elements of competencies, such as skills, capabilities, learning, coordination, organisation and

relationships" (Sanchez, 2004:519). Competencies are accumulated and developed by, amongst others, organisation-specific knowledge creation, which is disseminated through specific knowledge of codification procedures. Value is created when these knowledge codification procedures or activities allow the organisation to generate, acquire or develop competencies. Distinctive competencies are competitively valuable activities that an organisation performs better than its rivals (Thompson, Strickland & Gamble, 2005:90-91). Core and distinctive competencies are seen as a collection of skills, technologies and learning that contribute to competitive success (Prahalad & Hamel, 1990). It is the essence of what makes an organisation unique in its ability to provide value to customers.

Nordhaug (1993:28) offers four stages in a "competencies development process". Fundamentally, the competencies development process involves planning for it in relation to current and future organisational goals; acquiring it from outside the organisation; developing it through, for example, specifically training; and using the acquired competencies to the benefit of the organisation. The focus of this research is on the development of competencies, (i.e. that which an organisation is good at doing, e.g. skills, technologies and learning) through an attempt at increasing the constituents thereof in job-specific knowledge and productive behaviour.

In summary, the dynamic capabilities of an organisation are embodied in a pattern of activities through which the organisation aims to improve and sustain its competencies, which are a source of SCA. The capabilities and competencies of an organisation are brought about through, amongst others, the job-specific knowledge and productive behaviour of the employees of the organisation. All of the constructs discussed so far are interlinked, and form the basis for the theoretical frame of reference for the research – as presented in Figure 1. It draws on the literature to represent the line of logic linking the various constructs of the research together and depicts the flow from ID models to SCA. No claim is made that these links are direct causal links, or that there is a one-to-one relationship between an intangible asset (like the knowledge of workers) and, for example, return-on-investment (ROI). Of importance is that training needs to improve outcomes for, or an impact on the organisation, however these outcomes and impact are defined. In this research, outcomes are defined as job-specific knowledge and productive behaviour (core and situation-specific) since, in the context and theoretical frame of reference they relate to organisational capabilities and competencies, key for the strategic success and SCA of organisations.

a) Sustainable competitive advantage can be attained in a number of ways. These are largely based on the positioning-based view on the development of expertise and resource strengths (Porter, 1985) and the resource-based view forwarding the value brought to an organisation through its tangible and intangible resources (Halawi, Aronson & McCarthy, 2005).

- b) Through the development of tangible and intangible resources, for example the human capital resident in the job-specific knowledge, skills and experience of employees SCA may be achieved. Within the RBV, resources output is contained in the capabilities and core competencies of organisations, which in turn are linked to SCA.
- c) Capabilities are the processes created through the collective skills, abilities and expertise of an organisation and they come about through organisational investments in, for example, compensation, training/development and other human resource areas (Ulrich & Smallwood, 2004). In rapidly changing environments, dynamic capabilities are the tools used by organisations to continuously reconfigure and coordinate resources to cope with the changes through learning – in this instance learning brought about through training (Eisenhardt & Martin, 2000; Zollo & Winter, 2002). Collective skills (capabilities) provide organisations with the basis for core competencies.
- d) Core competencies are internal activities central to an organisation's strategy and competitiveness that the organisation performs better than other internal activities. Most often core competencies are knowledge-based and vested in its employees. Core competencies become distinctive competencies when they represent competitively superior resource strength. This may be, for example, through the productive behaviour of the workforce of the organisation.

Productive behaviour is linked to those activities of the workforce that improve and enhance an organisation's competitive performance. At its elemental level, productive behaviour may be seen to consist of core behaviour (relevant for the successful competitive performance of the organisation, for example proficiency in distribution) and situation-specific behaviour (relevant at particular points in the value-chain of the organisation, for example customer contact). Both core and situation-specific behaviour (which are intrinsically developed through relevant, job-specific knowledge) relate to and define the productive behaviour in an organisation.

- e) One of the ways in which the productive behaviour (in core- and situation-specific situations), and by association, the capabilities and core competencies of an organisation is developed is through training (Ulrich & Smallwood, 2004).
- f) Instructional design (ID) and ID models are systems or processes of organising learning to increase the achievement of pre-defined learning objectives and outcomes. Training and ID models are encompassed in an organisation's HR function, which is aligned with

the organisation's business-level strategy through strategic HR deliverables. In this research, the ID model will be seen as a strategic enabler provided it contributes to SCA through developing and improving job-specific knowledge and productive behaviour as proxies for SCA.

Demands on training and id models in strategic context

The broad, encompassing field known as training is facing an onslaught of significant change with concomitant new and challenging demands. The focus of training practices is increasingly on organisation performance and learning and not merely on individual learning. There is a defined need to measurably demonstrate that training plays a role in strategic initiatives and performance, core and distinctive competencies, organisation effectiveness and, by implication, ultimately also the bottom line. There is a shift from training to learning and the heightened role of learning in work (Sugarman in Brown & Seidner, 1998). In addition, the audience at which training is directed, i.e. the workforce or learners, is receiving specific attention as adult learners (Jarvis, 1995; Knowles, Holton & Swanson, 2005; Merriam, 1993; Van Dyk, Nel & Loedolff, 1992). Offering training that merely improves the skills of the workforce is not enough. Training must visibly, measurably and substantially contribute to the fulfilment of business strategy (Van Adelsberg & Trolley, 1999).

The relationship between training, learning and work has changed. Learning is no longer regarded as solely a classroom activity necessary to enable the workforce to become more capable at work tasks. Rather, learning is increasingly considered as a continuous work-based activity, necessary to cope with the changing business environment. The importance of the focus on learning is as follows:

- Organisations that want to keep pace with the changes and be or become leaders in the competitive arena, need to look at ways to induce and improve their employees' learning capability and optimise their knowledge (Grant, 1996). This implies that organisations need to ensure that their employees have a minimum threshold of knowledge and motivation to learn in order to be able not only to absorb new knowledge, but also be better able to apply what they have learned.
- Empirical studies (see, amongst others, D'Netto & Sohal, 1999; Goh, 2002) show a significant and positive relationship between employee development and learning capability. Appropriate training lays the foundation to absorb knowledge, and in turn smooths the way for continuous learning that contributes to organisation performance.

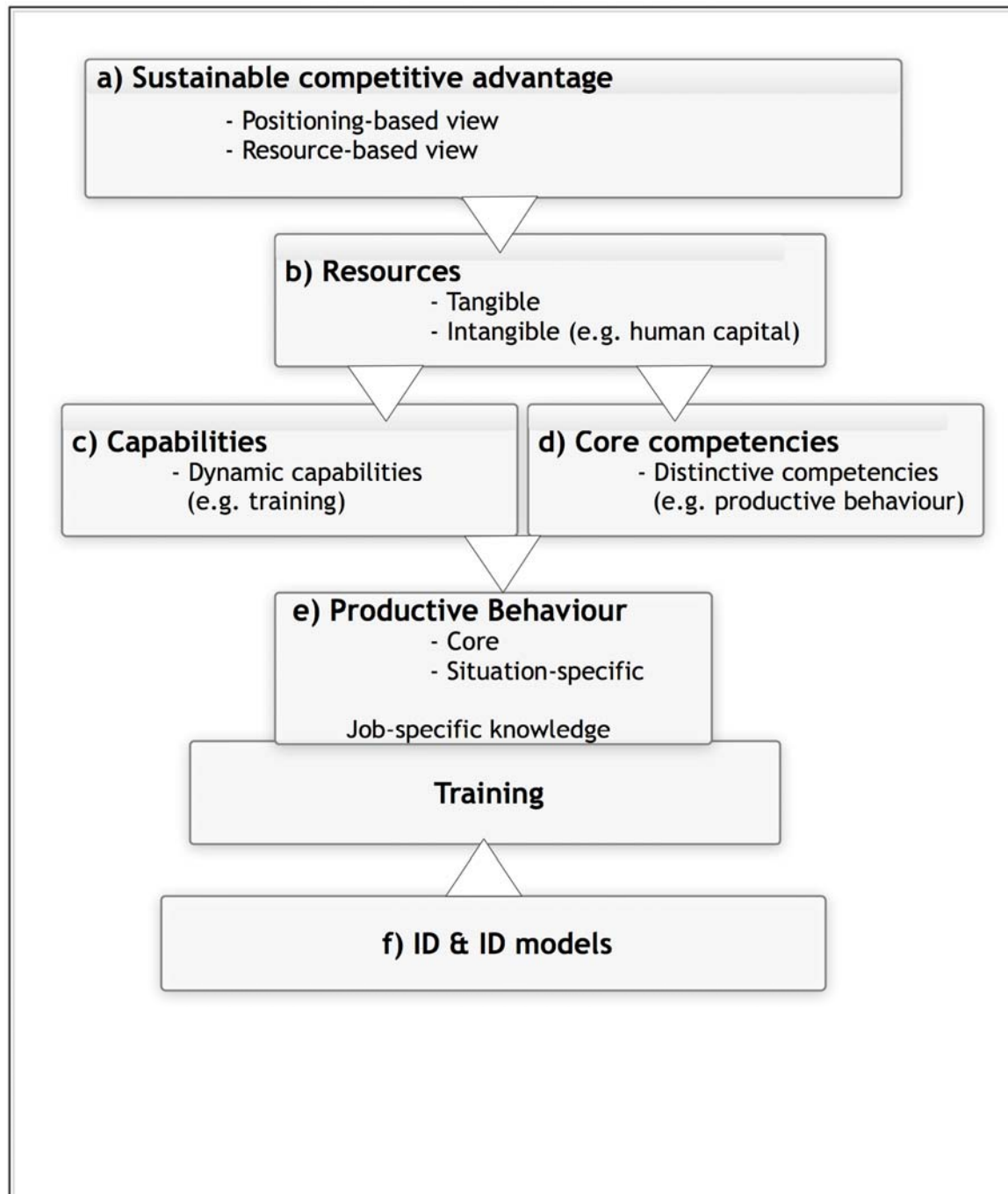


Figure 1: Theoretical frame of reference

- Training and the consequent learning for individuals and organisations have a strong potential to shape and develop work behaviour (Soliman & Spooner, 2000; Shipton *et al.*, 2002; Ulrich & Lake, 1991). Organisations need to manage the conditions and supply the tools to help employees incorporate new learning and change behaviour to support organisational requirements. It is important to have effective practices (at the micro level, ID models) and procedures (broader speaking, the knowledge development and learning systems) to contribute towards training and developing people toward desired organisational learning, and ultimately, organisation performance.

Changes in the demands on training and changes in training practices that focus largely on providing the workforce with the skills and knowledge that culminate in productive behaviour defined the need against which this research was conducted. In South Africa in particular, there is an ever-increasing demand and obligation for fast-tracking skills development to aid both organisations and the country to enable performance at incrementally increased levels. Therefore, modifying operating routines for training, or developing new and revised ID models to fast-track skills development is essential in the quest for SCA by organisations and the country.

In the past, short-term, quick-fix training was evidently the norm, but today the focus has shifted to long-term and ongoing training practices that visibly engender employee behaviour that is of visible and measurable value to organisations. There are increasing demands that training in organisations align to organisational strategy and formal qualifications (Gillingham, 2008:16). Training now should ensure the needs of the organisation regarding its capabilities and core competencies are considered (Anthony *et al.*, in Jinabhai, 2005:85) and incorporated into the development of training interventions.

Strategically, thus, training practices, or as in the instance of this research the ID model employed to implement the training, need to demonstrably affect behaviour of the workforce and outcomes for the organisation. In order to do so, the ID model was designed from a holistic, multi-disciplinary perspective incorporating both organisation decisions and strategy and ID model decisions and strategy as outlined below and reflected in Figure 2.

The strategic ID model

Figure 2 presents a diagrammatic view of the strategic ID model and reflects two parts, namely (a) organisation decisions and strategy and (b) ID model decisions and strategy. These parts are made up of various decisions that are to be made and strategies to be decided on - about organisation requirements and the processes and activities to be employed to develop, implement and evaluate the ID model. Although the ID model and its graphic seem to suggest a linear process, this is not so, since once foundational decisions have been made and strategy agreed on, simultaneous processes and activities occur throughout the development of the ID model. It is presented in a linear format only to represent an illustrative visual of the ID model put forward here. It is the contention of this article that ID models should be viewed as an entire process of decisions and strategy within organisational context, and not only the structure and contents of the ID models *per se*. It is argued that ID models are holistic entities consisting of both organisation and ID model-specific decisions and strategy.

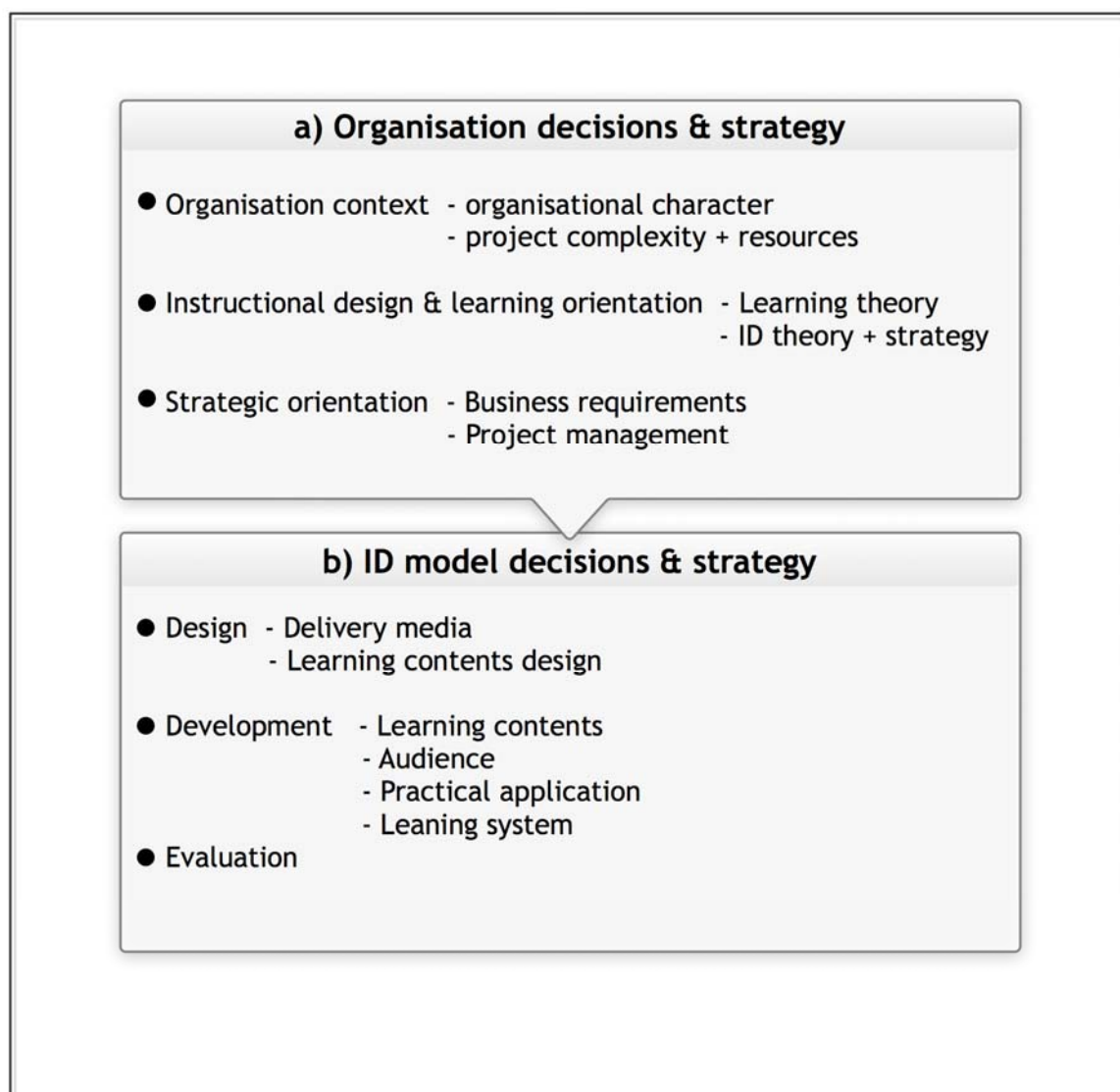


Figure 2: Diagrammatic view of the strategic ID model

a) Organisation decisions and strategy

It is requisite for the ID model to consider and incorporate organisational goals, needs and circumstances to be of strategic value. In essence, these goals, needs and circumstances may be summarised by considering the organisational context, instructional design and learning orientation and strategic orientation of the organisation.

- **Organisational context**

The organisational context refers to the organisational character and project complexity and resources. The organisational context is a qualitative assessment by the ID designer to get a preliminary insight into the scope, complexity and nature of the development of the ID model, given available resources. It anticipates the level of interaction required and the degree of work to be done given the realities of the organisation in and for which the ID model is developed and implemented and includes factors like levels of bureaucracy; decision-making and approval processes; organisational maturity in terms of the delegation of work, decisions and obtaining inputs; and the degree to which training interventions and ID models need to be structured and formalised. A qualitative assessment of organisational character helps to initiate working relationships and assist in formulating processes, procedures and activities to be implemented during the development and implementation of the ID model. Understanding the organisational character forms the basis for the ID designer to judge the project complexity.

Project complexity refers to a qualitative assessment by the ID designer on firstly, the number of meetings and degree of interaction anticipated in the project, for example, in highly bureaucratic and formal organisations project complexity increases. Secondly, it refers to a qualitative assessment regarding the amount of work required in developing new learning contents, or re-purposing existing learning contents. Thirdly, it refers to the anticipated degree and extent of work required from a technical perspective where the ID model contains an IT component, as is the case in this ID model. A qualitative assessment of project complexity helps to allocate estimates of project scope, time lines and resources required for the development of the ID model. Available resources need to be defined in terms of people, budget parameters, timelines and IT requirements. An awareness of available resources assists to determine shortcomings so that alternative solutions and options may be explored and co-opted if necessary.

- **Instructional design and learning orientation**

Instructional design and learning orientation comprise the philosophical and learning approach followed by the ID designer. It includes orientation to and decisions about which ID and learning theory or theories underpin the ID model and what means are to be used to achieve the objectives of learning within the strategic context of the organisation.

Instructional design is underpinned by ID and learning theory and refers to the view on the learning process; the means used to achieve the objectives of learning; the learning contents and how it is treated; and the delivery media and techniques used to optimise the learning. In this ID model an oversimplified view of the learning process is taken whereby learning is viewed as consisting of three stages, viz. the cognitive (build knowledge), associative (apply knowledge) and autonomous (reinforce knowledge) stages (Anderson, 1983).

In this ID model learning takes place in an authentic, real-world environment, namely the workplace at the organisation; learning contents and skills are relevant to learners in that they pertain to job-specific knowledge and productive behaviour for the organisation; learning contents and skills are formulated and positioned within the framework of learners' previous knowledge, in that they build on job-specific knowledge required to do the job properly. Also, learners are encouraged to become self-regulatory, self-mediated and self-aware in that learners work through learning contents in their own time, at their own pace and they do assessments as and when they are ready within a pre-defined timeframe.

- **Strategic orientation**

Strategic orientation refers to decisions regarding business requirements and project management decisions that need to be taken. This is necessary to ensure the business case for ID model is aligned to organisation strategy and to manage expectations regarding specifications and expectations of what the ID model sets out to achieve.

For this ID model, the learning requirements regarding job-specific knowledge and skills are defined to be the development of functional, cross-functional and soft skills knowledge. The required outcomes of the ID model are defined as being organisational strategic (i.e. provide and enhance job-specific knowledge and productive behaviour to improve the offering of the organisation to its customers); functional (i.e. increase defined job-specific knowledge and the application thereof); learner-related (i.e. extend the role of the manager, facilitate interaction, upskill learners in a broader sense than organisation-specific only and bring about an improvement in job-specific knowledge and productive behaviour of benefit to the organisation); and learning outcomes (i.e. organisation-specific and embodied in discrete module objectives in learning material).

Business case issues (in the specific organisation) pertain to reasons for the training intervention (i.e. to shift to an outcomes-based ID model to address shortcomings of previous training interventions); benefits (i.e. an enhanced retention and understanding of job-specific knowledge and the application thereof in practice); and ID model and organisation success criteria (i.e. defined through improvement in job-specific knowledge and productive behaviour).

Project management processes in the development of the ID model serve the function of coordinating and controlling all events, actions, processes and activities; and providing the quality assurance check-points that assure strategic alignment.

b) ID model decisions and strategy

ID model decisions and strategy pertain to design, development and evaluation of the ID model.

- Design

In the design of the ID model decisions are to be made about delivery media and the design of the learning contents. Delivery media are the vehicles used to facilitate the learning to be disseminated through the ID model. In this ID model, there is a direct delivery medium, i.e. the personal computers of learners through which the learning material is disseminated and that contains all contents in an easy-to-use system comprised of “factoids” – i.e. easy-to-understand chunks of information that describe the “what”, “why” and “how to” of the learning material. The “what” are the contents of, e.g. the job; the “why” is an explanation of where it fits into the broader organisation; and the “how to” is a description of how to do things, e.g. make a sales call. Delivery is also through an indirect delivery medium, i.e. the manager, who has the responsibility to coach, provide feedback and remedial input and to assess learning and achievement of learning goals for individuals.

- Development

Development of the ID model pertain to the actual putting together of the learning contents to ensure it aligns with organisation needs and goals; a consideration of the learner audience as adults, each with a specific preferred mode of learning; providing opportunity for the practical application of the learning contents; and the back-end (technical) learning system that houses, facilitates and administers the ID model.

The learning contents are the actual learning material contained in the ID model. This learning material consists of various courses, which contain information, visual representations (the visual learning language) of the information, learning objectives and summaries, all divided into various modules. A module contains a specific learning topic, for example marketing planning, or organisational vision, mission and strategic imperatives. The use of organisation iconography (i.e. a visual learning language) forms an integral part of the learning contents.

As adults, the learners bring with them idiosyncratic implications to be built into the ID model, i.e. adult learners need to understand why they are learning; are self-directed meaning they should be able to learn at their own pace, in their own time; they bring experience to the learning situation that is to be incorporated in design and contents; they are relevancy-oriented and should be able to do a self-diagnosis of their needs for learning. Also, individual

learning styles are assessed and incorporated into the design in that visual, audio, read/write and kinaesthetic learning preferences are catered for in how learning contents are presented.

To facilitate the practical application of the learning, authentic tasks relating to the learning contents are incorporated into the ID model. In these tasks the learner has to apply the job-specific knowledge and principles contained in the learning contents in a practical, in-field situation. These in-field tasks are designed to align with the learning outcomes stipulated by the organisation, and relate to those specific job functions that enable the organisation to perform better through improved service delivery and on-the-job performance of its employees.

A back-end technical system containing records, progress, assessment tools and scores, feedback and course completion evidence are contained in a learning system resident on the intranet of the organisation. This is a custom-made system specific to the ID model and all its constituent parts.

- Evaluation

The purpose of evaluation in the ID model is to assess the value and effectiveness of the ID model. This evaluation consists of two main aspects, namely the evaluation of the elements of ID model itself (e.g. the visual learning language, the process of completing assessments) and the evaluation of the impact of the ID model on job-specific knowledge and productive behaviour.

In this ID model, the evaluation model of Kirkpatrick (1994) is used for the evaluation of the ID model. This model consists of four levels of evaluation, three of which will be used in the evaluation, namely reaction (i.e. how well participants reacted to the ID model and what it does); evaluation of the impact on productive behaviour and job-specific knowledge; and application (i.e. an assessment of the learners' ability to perform learned skills and apply knowledge practically, on-the-job. In addition, organisation evaluation criteria for success are defined as being improved levels of understanding of job-specific knowledge, better interaction with customers, a greater degree of interaction between managers and their teams and better perceived and observable on-the-job performance results.

Summary

This article presented the theoretical background for the research, including the line of logic that links together the various constructs in the research; the demands on training and ID models in strategic context; and the strategic ID model and its constituent parts as developed and implemented in a case organisation, where the empirical assessment and evaluation of the ID model took place. The results of this evaluation form part of the second article in the series that will present the research methodology;

results, analysis and interpretation; and the conclusions and an assessment of the research.

In this article, the context for the research was defined as being situated in the volatile and changing external and internal environments that organisations operate in that demand pertinent and relevant job-specific knowledge and productive behaviour from the workforce that will contribute to superior organisational performance. One of the primary goals of business-level strategy is to create sources of SCA through organisation capabilities (the capacity for a bundle of resources to perform a task) and organisation core competencies (that which an organisation is good at doing). Resources, especially intangible resources vested in human capital are, when using the RBV as theoretical home, a key source to provide the organisation with valuable, rare and inimitable dynamic capabilities, which provide the input to organisational core and distinctive competencies.

One of the ways in which capabilities is developed, is through training tools, and specifically the development and implementation of ID models aimed at improving the job-specific knowledge and productive behaviour of the workforce. Tools of this nature (the ID model) provide the organisation with dynamic capabilities to reconfigure resources to its benefit in an environment of constant change. Shortcomings are found in many current training practices and ID models, which prompted the development of the ID model put forward in this research, since the literature provides compelling evidence of the positive link between the development of human capital, training and organisational performance. The focus of the ID model presented here is on the development of job-specific knowledge and productive behaviour as proxies for SCA, and developed through training, allowing the organisation to differentiate its position in the market.

The ID model is comprised of two parts, namely organisation decisions and strategy – whereby decisions are made and strategies developed that appertain to the organisational context (e.g. organisational character, project complexity and resources); and ID model decisions and strategy – whereby decisions are made and strategies developed that appertain to the design (e.g. delivery media used, learning contents); development (e.g. learner audience and learning style preferences, practical application of learning and the learning system); and the evaluation of the ID model. These two parts form an inextricable unit to be viewed as a holistic solution. The ID model thus consists of both the structure and contents of the ID model and the organisational decisions and strategy (context) where it is developed and implemented.

Particularly in South Africa as a developing country, the need for skills development is defined as being critical for economic growth and improving South Africa's international competitiveness. To do this, training and the methods it employs needs to demonstrate its contribution to job-specific knowledge and productive behaviour aimed at improving on-the-job performance. The contribution of this research is in the development and evaluation of an ID model aimed at addressing previous shortcomings of job-

specific knowledge improvement and the application thereof as productive behaviour, the proxies for organisational performance and SCA.

In the second article the ID model will be subjected to empirical investigation and evaluated through the application thereof in a case organisation and a grounded conclusion provided.

References

- Amit, R. & Shoemaker, P.J. 1993. 'Strategic assets and organizational rent', *Strategic Management Journal*, **14**(January):33-46.
- Anderson, J.R. 1983. *The architecture of cognition*. Cambridge, MA: Harvard University Press.
- Barney, J.B. 1991. 'Firm resources and sustained competitive advantage', *Journal of Management*, **17**(1):99-120.
- Becker, B. & Gerhart, B. 1996. 'The impact of human resource management on organizational performance: Progress and prospects', *Academy of Management Journal*, **39**:779-801.
- Becker, B.E., Huselid, M.A. & Ulrich, D. 2001. *The HR scorecard. Linking people, strategy and performance*. Boston, Massachusetts: Harvard Business School Press.
- Beckett, R.C. 2000. 'A characterisation of corporate memory as a knowledge system', *Journal of Knowledge Management*, **4**(4):311-319.
- Boxall, P. 1996. 'The strategic HRM debate and the resource-based view of the firm', *Human Resource Management Journal*, **6**(3):59-75.
- Brown, S.J. & Seidner, C.J. 1998. *Evaluating corporate training: Models and issues*. Norwell Massachusetts: Kluwer Academic Publishers.
- Collis, D.J. & Montgomery, C.A. 1998. *Corporate strategy: A resource-based approach*. New York: Irwin/McGrawHill.
- Conner, K.R. & Prahalad, C.K. 1996. 'A resource-based theory of the firm: Knowledge versus opportunism', *Organisation Science*, **7**(5):477-501.
- D'Netto, B. & Sohal, A.S. 1999. 'Human resource practices and workforce diversity: An empirical assessment', *International Journal of Manpower*, **20**(8):530-547.
- Dearden, L., Reed, H. & Van Reenen, J. 2000. *Who gains when workers train? Training and corporate productivity in a panel of British industries*. IFS Working Paper No WP 00104, Institute for Fiscal Studies, U.K.
- DeNisi, A.S., Hitt, M.A. & Jackson, S.E. nd. 'The knowledge-based approach to sustainable competitive advantage'. [online] URL:

http://media.wiley.com/product_data/excerpt/78/07879571/0787957178.pdf. Accessed on 8 December 2004.

Dess, G.D. & Picken, J.C. 2000. *Beyond productivity. How leading companies achieve superior performance by leveraging their human capital*. New York: American Management Association.

Eisenhardt, K.M. & Martin, J.A. 2000. 'Dynamic capabilities: What are they?', *Strategic Management Journal*, **21**:1105-1121.

Fahy, J. & Smithee, A. 1999. 'Strategic marketing and the resource-based view of the firm', *Strategic Management Journal*, **2**(3):203-215.

Gillingham, A. 2008. 'Skills development: In for the long haul'. *Sunday Times, Business Times*, 17 February:16.

Goh, S. 2002. 'Managing effective knowledge transfer: An integrative framework and some practice implications', *Journal of Knowledge Management*, **6**(1):23-30.

Grant, R.M. 1991. 'The resource-based theory of competitive advantage: Implications for strategy formulation', *California Management Review*, **33**(Spring):114-135.

Grant, R.M. 1996. 'Towards a knowledge-based theory of the firm', *Strategic Management Journal*, **17**(Winter Special Issue):108-122.

Halawi, L., Aronson, J. & McCarthy, R. 2005. Resource-based view of knowledge management for competitive advantage', *The Electronic Journal of Knowledge Management* **3**(2):75-86. [online] URL:www.ejkm.com. Accessed 9 March 2006.

Hamel, G. & Prahalad, C.K. 1994. *Competing for the future*. Boston: Harvard Business School Press.

Hood, C. 1991. 'A public management for all seasons'. *Public Administration*, **69**(Spring):3-19.

Jarvis, P. 1995. *Adult and continuing education. Theory and practice*. 2nd Edition. London and New York: Routledge.

Jinabhai, D.C. 2005. 'New challenges for South African development and training - linkages to empirical research', *Public Personnel Management*, **34**(1):85-101.

Kirkpatrick, D. 1994. *Evaluation training programs*. San Francisco, CA: Berrett-Koehler Publishers Inc.

Knowles, M., Holton III, E.F. & Swanson, R.A. 2005. *The adult learner: The definitive classic in adult education and human resource development*. 6th Edition. Burlington MA: Elsevier.

Lado, A.A. & Wilson, M.C. 1994. 'Human resource systems and sustained competitive advantage: A competency-based perspective', *Academy of Management Review*, **19**(4):699-727.

Madlana, MMS. 2007. 'Foreword by the Minister of Labour'. *IN SAQA Annual Report*. [online] URL: <http://www.saqa.org.za/docs/reports/annual07.pdf>. Accessed 29 September 2007.

Maurer, P. 2001. 'Evolution and revolution in management: From organizational learning to e-learning'. New Developments in Management Semester Paper, Tampere Polytechnic, Finland.

Mayer, M.J. & Altman, M. 2005. 'South Africa's economic development trajectory: Implications for skills development', *Journal of Education and Work*, **18**(1):33-56.

'Media toolbox report on SA training'. 2004. [online] URL: <http://www.mediatoolbox.co.za>. Accessed 4 May 2004.

Melody, W.H. 2002. 'The triumph and tragedy of human capital: Foundation for building network knowledge economies'. [Online] URL: <http://link.wits.ac.za/papers/wm20020918.htm>. Accessed on 29 March 2006.

Merriam, S.B. (Ed.). 1993. 'An update on adult learning theory', *New Directions for Adult and Continuing Education*, **57**(Spring). San Francisco.

Nordhaug, O. 1993. *Human capital in organisations*. Oslo: Scandinavian University Press.

O'Riordan, C. 2006. 'Using the VRIO framework in practising firms taking the resource-based view (RBV)', *Accountancy Ireland*, **38**(3):42-43.

Oliver, J.R. & Fleming, R.K. 1997. 'Applying within-subject methodology to transfer of training research', *International Journal of Training Development*, **1**(3):173-180.

Porter, M. 1985. *Competitive advantage: Getting and sustaining superior performance*. New York: The Free Press.

Porter, M.E. 1990. *The competitive advantage of nations*. New York: The Free Press.

Prahalad, C.K. & Hamel, G. 1990. 'The core competence of the corporation', *Harvard Business Review*, **68**(3):79-91.

Protogerou, A., Caloghirou, Y. & Lioukas, S. 2005. 'Inside the 'black box' of dynamic capabilities: Defining and analysing their linkages to functional competencies and firm performance'. Paper presented at the DRUID Tenth Anniversary Summer Conference. [online] URL:<http://druid.dt.as/viewpaper.php?id=545&cf=3T>. Accessed 20 September 2005.

Sanchez, R. 2004. 'Understanding competence-based management: Identifying and managing five modes of competence', *Journal of Business Research*, **57**:518-532.

Segal-Horn, S. (Ed). 2002. *The strategy reader*. The Open University: Blackwell Publishers Inc.

- Shipton, H., Dawson, J., West, M. & Patterson, M. 2002. 'Learning in manufacturing organisations: What factors predict effectiveness?', *Human Resource Development International*, **5**(1):55-72.
- Soliman, F. & Spooner, K. 2000. 'Strategies for implementing knowledge management: Role of human resources management', *Journal of Knowledge Management*, **4**(4):337-345.
- Stiles, P. & Kulvisaechna, S. 2004. 'Human capital and performance: A literature review'. [online] URL: www.accountingforpeople.gov.uk/downloads/judge_literature_review.pdf. Accessed 25 November 2004.
- Sumner, T., Domingue, J., Zrahal, Z., Hatala, M., Millican, A., Murray, J., Hinkelman, K., Bernardi, A., Wess, S. & Traphöner, R. 1998. 'Enriching representations of work to support organisational learning. 1st Interdisciplinary Workshop on Building, Maintaining and Using Organizational Memories'. [online] URL: <http://kmi.open.ac.uk/projects/enrich/enrich-oms98-paper.pdf>. Accessed 23 September 2004.
- Tamkin, P. 2005. *The contribution of skills to business performance*. Brighton, U.K: Institute for Employment Studies.
- Teece, D.J., Pisano, G. & Shuen, A. 1997. 'Dynamic capabilities and strategic management', *Strategic Management Journal*, **18**(8):509-533.
- Terpstra, D.E. & Rozell, E.J. 1993. 'The relationship of staffing practices to organisational level measures of performance', *Personnel Psychology*, **46**:27-48.
- Thompson Jr., A.A., Strickland III, A.J. & Gamble, J.E. 2005. *Crafting and executing strategy. The quest for competitive advantage. Concepts and cases*. New York: McGrawHill Irwin.
- Tikly, L., Lowe, J., Crossley, M., Dachi, H., Garrett, R. & Mukabaranga, B. 2003. 'Globalisation and skills for development in Rwanda and Tanzania', *DFID Education Paper*, No.51, April.
- Ulrich, D. & Lake, D. 1991. 'Organisational capability: Creating competitive advantage', *Academy of Management Executive*, **5**(1):77-92.
- Ulrich, D. & Smallwood, N. 2004. Capitalizing on capabilities. *Harvard Business Review*, **June**. [online] URL: <http://harvardbusinessonline.hbsp.harvard.edu/hbsa/en/issue/0406.pdf>. Accessed 8 July 2005.
- Van Adelsberg, D. & Trolley, E.A. 1999. *Running training like a business. Delivering unmistakable value*. San Francisco, California: Berrett-Koehler Publishers Inc.
- Van Dyk, P.S., Nel, P.S. & Loedolff, P.v.Z. 1992. *Training management. A multi-disciplinary approach to human resources development in Southern Africa*. Halfway House: Southern Book Publishers.
- World Economic Forum. 2006. *World Competitiveness Report 2006-7*, Part I, The Competitiveness Indexes, Chapter 1.1, The Global Competitiveness Index: Identifying the Key Elements of Sustainable Growth. Geneva: WEF.
- World Economic Forum. 2007. *World Competitiveness Report 2007-8*, Part I, The Competitiveness Indexes, Chapter 1.1, The Global Competitiveness Index: Measuring the Productive Potential of Nations. Geneva: WEF.
- Wright, P.M., Dunford, B.B. & Snell, S.A. 2001. 'Human resources and the resource-based view of the firm', *Journal of Management*, **27**:701-721.
- Zollo, M. & Winter, S.G. 2002. 'Deliberate learning and the evolution of dynamic capabilities', *Organization Science*, **13**(3):339-351.