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Human capital and performance: A literature review

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There is a large and growing body of evidence that demonstrates a positive linkage between the development of human capital and organisational performance. The emphasis on human capital in organisations reflects the view that market value depends less on tangible resources, but rather on intangible ones, particularly human resources. Recruiting and retaining the best employees, however, is only part of the equation. The organisation also has to leverage the skills and capabilities of its employees by encouraging individual and organisational learning and creating a supportive environment where knowledge can be created, shared and applied. In this review, we will assess the context in which human capital is being discussed and identify the key elements of the concept, and its linkage to other complementary forms of capital, notably intellectual, social, and organisational. We will then examine the case for human capital making an impact on performance, for which evidence is now growing, and explore mechanisms for measuring human capital.

Our belief is that, on the evidence of this review, the link between human capital and organisational performance is convincing. Empirical work has become more sophisticated, moving from single measures of HR to embrace combinations or bundles of HR practices and in this tradition, the findings are powerful (Fitz-Enz, 2002). Such results have led some scholars to support a 'best practices' approach, arguing that there is a set of the identifiable practices, which have a universal, positive effect on company performance. Other scholars contend that difficulties in specifying the constituents of a best-practices set, and the sheer number of contingencies that organisations experience, make the best practice approach problematic. A general and growing trend in this debate is to see these approaches as complementary rather than in opposition, with best practice viewed as an architectural dimension that has generalisable effects, but within each organisation, the bundles of practices will be aligned differently to reflect the context and contingencies faced by the firm. Though there appears to be a growing convergence on this issue, the measurement of human capital remains rather ad hoc, and more needs to be done to develop the robust methods of valuing human contribution.

Human capital in context: The resource-based view of the firm

The issue of what contributes to competitive advantage has seen, within the strategy literature, a shift in emphasis away from external positioning in the industry and the relative balance of competitive forces, towards an acknowledgement that internal resources be seen as crucial to sustained effectiveness (Wright *et al.*, 2001). The work of Penrose (1959) represents the beginning of the resource-based view of the firm (RBV), later articulated by Rumelt (1984), Barney (1991, 1995) and Dierickx & Cool (1989). The RBV establishes the importance for an organisation of building a valuable set of resources and bundling them together in unique and dynamic ways to develop firm success. Competitive advantage is dependent not, as traditionally assumed, on such bases as natural resources, technology, or economies of scale, since these are increasingly easy to imitate. Rather, competitive advantage is, according to the RBV, dependent on the valuable, rare, and hard-to-imitate resources that reside within an organisation. Human capital in a real sense is an 'invisible asset' (Itami, 1987). The importance of the human capital pool (the collection of employee capabilities), and how it is managed through HR processes, becomes apparent, then, to the strategic aims of the organisation. In terms of rarity:

'If the types and levels of skills are not equally distributed, such that some firms can acquire the talent they need and others cannot, then (*ceteris paribus*) that form of human capital can be a source of sustained competitive advantage' (Snell *et al.*, 1996: 65).

And in terms of inimitability, there are at least two reasons why human resources may be difficult to imitate: causal ambiguity and path dependency (Becker & Gerhart, 1996; Barney, 1991). 'First, it is difficult to grasp the precise mechanism by which the interplay of human resource practice and policies generates value…second, these HR systems are path dependent. They consist of policies that are developed over time and cannot be simply purchased in the market by competitors' (Becker & Gerhart, 1996: 782).

The interdependency between HR practices combined with the idiosyncratic context of particular companies creates high barriers to imitation. Essentially, the human resources must be valuable; they must, as Boxall says, be 'latent with productive possibilities' (1996: 67). Therefore, the human capital advantage depends on securing exceptional talent, or, in the familiar phrase, 'the best and the brightest.'

This emphasis on human capital also chimes with the emphasis in strategy research on 'core competencies,' where economic rents are attributed to 'people-embodied skills' (Hamel & Prahalad, 1994: 232). The increasing importance of the RBV has done much to promote human resource management in general and human capital management in particular, and to bring about a convergence between the fields of strategy and HRM (Wright *et al.*, 2001).

The resource-based view of the firm strengthens the often-repeated statement from the field of strategic human resource management that people are highly important assets to the success of the organisation. Although Michael Hammer suggests that 'people are our greatest asset' be 'the biggest lie in contemporary American business,' the rise of human resource management in terms of rhetoric at least, has been spectacular. This is sparked in the 1980s by the examination of the 'Japanese miracle,' an analysis that shows success built on a distinctive form of people management, and by the eagerly received recommendations from the excellence movement (Peters & Waterman, 1982; Collins & Porras, 1994), which urge the development and nurture of employees within a supportive strong culture. A more recent, and equally important strand has emerged under the title 'the knowledge-based view of the firm' (Grant, 1996), which emphasises the requirement of the organisations to develop and increase the knowledge and learning capabilities of the employees through knowledge acquisition and knowledge sharing and transfer, to achieve competitive advantage.

Human capital and complementary capitals

Human capital is 'generally understood to consist of the individual's capabilities, knowledge, skills and experience of the company'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).

From the aforementioned definition, it becomes clear that human capital is rather broader in scope than human resources. The emphasis on knowledge is important. Though the HR literature has many things to say about knowledge, the debate is traditionally rooted in an individual level perspective, chiefly concerning job-related knowledge. Whereas the human capital literature has moved beyond the individual to also embrace the idea that knowledge can be shared among groups and institutionalised within organisational processes and routines (Wright *et al.*, 2001).

‘The concept and perspective of human capital stem from the fact that there is no substitute for knowledge and learning, creativity and innovation, competencies and capabilities; and that they need to be relentlessly pursued and focused on the firm’s environmental context and competitive logic’ (Rastogi, 2000: 196).

Such a consideration leads to a crucial point: the accumulation of exceptionally talented individuals is not enough for the organisation. There must also be a desire on the part of individuals to invest their skills and expertise in the organisation and their position. In other words, individuals must commit or engage with the organisation if the effective utilisation of human capital is to happen. Additionally, regarding human capital, there must be social capital and organisational (or structural) capital surrounding the essential context. These three forms of capital contribute to the overall concept of intellectual capital (see Figure 1).

Intellectual capital

The OECD (1999) defines intellectual capital as `the economic value of two categories on intangible assets of a company’ – organisational and human capital. Wright *et al.* (2001) argue that intellectual capital is a factor that includes human capital, social capital and organisational capital. According to the research of Nahapiet & Ghoshal, intellectual capital refers to the ‘knowledge and knowing capability of a social collectively, such as an organisation, intellectual community, or professional practice’ (1998: 245). There is a lack of clarity surrounding these and related terms, with numerous definitions abounding. In one study, Gratton & Ghoshal (2003) argue that intellectual capital is part of human capital, that is, human capital subsumes intellectual capital, and also includes within it social capital and emotional capital. For most commentators (e.g., Kaplan & Norton, 1993; Harvey & Lusch, 1999; Stewart, 1997; Sveiby, 1997), intellectual capital has nevertheless a broad sweep and includes human capital as one of its key dimensions.

Central to these ideas is that intellectual capital is ‘embedded in both people and systems. The stock of human capital consists of human (the knowledge skills and abilities of people) social (the valuable relationships among people) and organisational (the processes and routines within the firm)’ (Wright *et al.*, 2001: 716).

Developing human capital therefore requires attention to these other complementarities. If competitive advantage is to be achieved, integration between human, social and organisational capital is required.

Social capital

According to the work of Nahapiet & Ghoshal (1998), 'the central proposition of social capital theory is that networks of relationships constitute a valuable resource for the conduct of social affairs…much of this capital is embedded within networks of mutual acquaintance' (1998: 243). Social capital, it is argued, increases the efficiency of action, and aids co-operative behaviour (Nahapiet & Ghoshal, 1998). Social relationships and the social capital therein, are an important influence on the development of both human and intellectual capital. At the individual level, individuals with better social capital - individuals with stronger contact networks - will 'earn higher rates of return on their human capital' (Garavan *et al.*, 2001: 52). Yet it is at the organisation level that social capital is highly important. As Nahapiet and Ghoshal argue: 'social capital facilitates the development of intellectual capital by affecting the conditions necessary for exchange and combination to occur' (1998: 250). Within a provisional concept of social capital, the authors argue for three major elements: a structural dimension (network ties, network configuration and appropriable organisation); a cognitive dimension (shared codes and languages, shared narratives), and a relational dimension (trust, norms, obligations and identification). All three influence the development of intellectual capital. This approach links well with the prevailing resource-based view, with its emphasis on bundles and combinations of resources. Social capital, with its stress on linkages between individuals, creates the conditions for connections, which are non-imitable, tacit, rare and durable. Gratton & Ghoshal contend that social capital is based on the twin concepts of sociability and trustworthiness: 'the depth and richness of these connections and potential points of leverage build substantial pools of knowledge and opportunities or value creation and arbitrage' (2003: 3).

Organisational capital

The principal role of organisational capital is to link the resources of the organisation together into process that create value for customers and sustainable competitive advantage for the firm (Dess & Picken, 1999: 11). This will include:

- organisational and reporting structures;
- operating systems, processes, procedures and task designs;
- information and communication infrastructures;
- resource acquisition, development and allocation systems;
- decision processes and information flows;
- incentives, controls and performance measurement systems;
- organisational culture, values and leadership.

The interactions between these dimensions are important if employees are to have the motivation to develop and use their skills and knowledge. Beginning with the last issue first, the culture of the organisation has a large impact on both recruitment and retention as well as in the area of generating commitment. In McKinsey's War for Talent survey (1999), 58% of employees, by far the highest response, say that what they value the most in organisations is strong vales and culture. A supportive culture with strong corporate purpose and compelling values has been seen as the underlining reason for major corporate success (Peters & Waterman, 1982; Collins & Porras, 1994). A second major influence on human capital is the incentive structure and how performance is measured and managed in general. We have mentioned earlier that the studies have shown differentiated reward systems, and clear positive appraisal linked to incentives can link directly to firm performance. In terms of the organisational structure, 'the degree that skilled and motivated employees are directly involved in determining what work is performed and how this work gets accomplished is crucial' (Delaney & Huselid, 1996: 950). To this end, employee participation (Wagner, 1994), internal career ladders (Osterman, 1987) and team based working (Levine, 1995) have all been shown to positively link to organisational performance (Delaney & Huselid, 1996).

Moreover, Rumelt (1984) points out that the routines and processes, which act as the glue for organisations, can either enhance or disable co-operative working and the development of knowledge. This is ultimately the simple point that the organisational structures and processes must support the purpose of the organisation and so have requisite variety without creating boundaries between individuals and groups.

Knowledge

The connections between human capital, social capital and organisational capital will produce intellectual capital. This, in turn, will affect the management of knowledge within the organisation. Knowledge has long been recognised as a valuable resource by economists and has been a focus of significant attention in the human capital literature, in particular the issues of knowledge generation, leverage, transfer and integration (Wright *et al.*, 2001; Nonaka 1994; Sveiby, 1997; Szulanski, 1996). Knowledge has been conceptualised and characterised in a number of ways in the literature (Maruping, 2002) but a major point of commonality has been the distinction between tacit knowledge (or know-how) characterised by its incommunicability, and explicit knowledge, which is capable of codification (Nonaka, 1994; Polanyi, 1962, 1967). Given the importance of knowledge in the organisation (indeed, Grant (1996) posits a knowledge-based theory of the firm), it becomes crucial that the employees as the source of knowledge are managed well. This requires that firms 'define knowledge, identify existing knowledge bases, and provide mechanisms to promote the creation, protection and transfer of knowledge' (Wright *et al.*, 2001: 713). The fundamental issue with tacit knowledge is its intangibility, whereas Pfeffer & Sutton (1999) argue that the knowledge-doing gap (translating knowledge into action) is at least as important as accumulating knowledge in the first place. In other words, attending to the conditions under which people are prepared to share and act upon their knowledge is a major component of human capital management. As Wright *et al.* (2001) point out, traditionally in the HR literature, there has been a focus on developing individual knowledge through training and providing incentives to apply knowledge. But the human capital literature is as much concerned with the organisational sharing of knowledge, making it accessible and transferable.

Leonard-Barton (1995) has identified four processes for supporting organisational leaning and innovation as follows:

1. owning/solving problems (egalitarianism)
2. integrating internal knowledge (shared knowledge)
3. continuous experimentation
4. integrating external knowledge (openness to outside)

The greater the sense of social community within the firm (social capital), the more likely it is that knowledge will be created and transferred (Coleman, 1988). Similarly, if a combination of the organisational processes and boundaries are in place, this may hinder efforts to turn knowledge into action.

Human capital and performance

The link between human capital and performance is based on two theoretical strands. The first, as we have discussed, is the resource-based view of the firm. The second is the expectancy theory of motivation which is composed of three elements: the valence or value attached to rewards, the instrumentality, or the belief that the employee will receive the reward upon reaching a certain level of performance, and the expectancy, the belief that the employee can actually achieve the performance level required. HRM practices that encourage high skills and abilities - e.g. careful selection and high investment in training - can be specified to make the link between human capital management and performance.

Initial writing on human capital flowed from economists of education such as Becker (1964, 1976); Mincer (1974), Schultz (1971), and (the Nobel Laureates for their work in this subject) focusing on the economic benefits from investments in both general and firm-specific training. This work, based on detailed empirical analysis, redresses the prevailing assumption that the growth of physical capital is paramount in economic success. In reality, physical capital 'explains only a relatively small part of the growth of income in most countries' (Becker, 1964: 1). The relationship between education and economic growth (Hanuschek & Kimko, 2000; Psacharopoulos, 1973), productivity (Denison, 1967, 1962) and earnings growth (Becker, 1964; Schultz, 1971) all have strong empirical support (Hewlett, 2002).

Human capital has been central in explaining individual earnings differences (Nerdrum & Erikson, 2001). Employees who invest in education and training will raise their skill level and be more productive than those less skilled, and so can justify higher earnings as a result of their investment in human capital.

The development of human resource accounting as a field demonstrates the high interest in attempting to value the contribution of employees (Cascio, 1991). Nevertheless, there are no generally accepted accounting procedures for human resources and the progress of human resource accounting has been, at best, mixed, with two major reviews concluding:

‘As tempting as it is to try to establish a balance sheet value for a firm’s human assets, such attempts are probably doomed; at this point it is not possible to calculate a figure that is both objective and meaningful’ (Ferguson & Berger, 1985: 29).

‘At the theoretical level, HRA is an interesting concept. If human resource value could be measured, the knowledge of that value could be used for internal management and external investor's decision making. However, until HRA advocates demonstrate a valid and generalisable means for measuring human resource value in monetary terms, we are compelled to recommend that researchers abandon further consideration of possible benefits from HRA’ (Scarpello & Theeke, 1989: 275).

Bundles of human resources

A number of studies have attempted to show the link between human resources and performance (see Table 1), some of which rely on the single measures of HR practices. Bartel (1994) establishes a link between the adoption of training programs and productivity growth. The adoption of training programmes has also been linked to financial performance (Russell *et al.*, 1985), and Gerhart & Milkovich (1990) and Weitzman & Kruse (1990) identify the links between incentive compensation schemes and productivity. Terpstra & Rozell (1993) examine the extensiveness of recruiting, selection test validation and the use of formal selection procedures and find the positive connectivity between organisational profits and selectivity in staffing, thereby leading to a greater extent of organisational performance (Becker & Huselid, 1992; Schmidt *et al.*, 1979). Performance evaluation on the linkage to compensation schemes has also contributed to an increase in the firm’s profitability.

However, such reliance on single HR practices may not reveal an accurate picture. The dominant view of human resource efficacy is that individual human resource practices ‘have the limited ability to generate competitive advantage in isolation’ but ‘in combination…they can enable a firm to realise its full competitive advantage’ (Barney, 1995: 56). In other words, relying on the single HR practices with which to predict performance is unlikely to be revealing.

Contingency or 'fit' approaches

A central tenet of strategic human resource management is that there should be vertical linkage between HR practices and processes and the organisational strategy of the firm. The strategic posture of the organisation tends to influence the style and approach of human resource activity (Wright & McMahan, 1992). Strategies vary, and a number of researchers have investigated how HR practices vary with differences in a strategic approach. Most work in this area employs a set of traditional strategy typologies, such as cost, flexibility and quality strategies (e.g., Youndt *et al.*, 1996) or Miles & Snow's (1978) framework of prospector, analyser and defender (Delery & Doty, 1996). The emphasis here is on alignment, or fit, between the external environment, the strategy of the organisation, and HR. The notion of the fit approach has been articulated by several HR scholars, such as Venkatraman (1989), and the benefits of tight coupling to ensure efficiency and effectiveness in achieving organisational aims have been well attested. But some authors (e.g., Orton & Weick, 1990; Perrow, 1984) have argued that such tight links may represent a barrier to adaptability and flexibility.

In the work of Huselid (1995), it reveals that many successful organisations tie the HRM practices with the strategy, as witnessed from the higher performance outcomes. Delery & Doty (1996), in a sample of 1,050 banks, find the modest support for a fit with the Miles & Snow (1978)'s typology. Youndt *et al.* (1996) give support for this type of fit in a sample of 97 manufacturing plants. MacDuffie (1995), in contrast, explicitly rejects this hypothesis, claiming that, in his study of car manufacturing plants, there is no evidence in relation to a 'fit' of the appropriate HRM practices in mass production as apposed to that in flexible production.

Universal or 'best practice' approaches

A second perspective on human resources and performance linkages is the idea of 'best practices', or 'high performance work practices.' This view emphasises the need for strong consistency among HR practices (internal fit) in order to achieve effective performance. It receives a high degree of empirical support (see Huselid, 1995; Delaney & Huselid, 1996; Arthur, 1994; Ichniowski *et al.*, 1994; MacDuffie, 1995). Pioneered by the prominent researcher Pfeffer (1994), there are 15 HR practices (see Table 2) that have primarily been subsumed. Later in his work (1998), a set of 7 HR practices is revealed: employment security; selective hiring, self-managed teams, high compensation contingent on performance, training, reduction of status differentials, and sharing information.

Arthur (1992, 1994) reports that the HR practices focusing on enhancing employee commitment (e.g. decentralised decision-making, comprehensive training, salaried compensation, employee participation) are related to higher performance. Conversely, he finds that the HR practices focusing on control, efficiency and the reduction of employee skills and discretion are associated with increased turnover and poorer manufacturing performance. Similarly, in a study of the high performance work practices, Huselid (1995) point to the fact that investments in HR activities, such as incentive compensation, selective staffing techniques and employee participation, result in lower turnover, greater productivity and increased organisational performance through their impact on employee skill development and motivation.

In sum, the more the high performance HRM practices are used, the better the performance as indicated by productivity, turnover and financial soundness is yielded. Although different types of the fit approaches are compared, the bottom line of the results seems to be invariable with the strongest research support.

Despite the existence of the research support on the ‘fit’ approaches, there are notable differences across studies as to what constitutes a ‘best’ practice. Several themes emerge across the studies. At their heart, most of the studies focus on enhancing the skill base of employees through HR activities, such as selective staffing, comprehensive training and broad developmental efforts like job rotation and cross utilisation. Furthermore, the studies tend to promote empowerment, participative problem solving and teamwork with job redesign, and group based incentives.

Configurations

A third strand of research has emphasised the patterns or configurations of HR practices that predict superior performance when used in association with each other, or the correct strategy, or both. In order to be effective, an organisation should develop an HR system that achieves both horizontal and vertical fit. As MacDuffie argues: ‘Implicit in the notion of a ‘bundle’ (of human resources) is the idea that practices within it are interrelated and internally consistent, and that 'more is better' with respect to the impact on performance, because of the overlapping and mutually reinforcing effect of multiple practices' (1995: 201).

With the configurational approach, 'the distinction between best practice and contingency models begins to blur' (Becker & Gerhart, 1996: 788). The configurational idea is that there will be an effective combination of HR practices suited to different organisational strategies. Huselid & Becker (1995) and Delery & Doty (1996) literally give support for the configurational approach in their respective studies.

In summary, while some authors argue for the idea of external and internal fit, others stand for an identifiable set of best practices for managing employees that have universal additive positive effects on organisational performance. Some (e.g., Youndt *et al.*, 1996) maintain that the two approaches are in fact complementary. The argument that these approaches are on the same spectrum has also been made by Becker & Gerhart (1996) and Guest *et al.* (2000). As Becker & Gerhart (1996) state that the best practices of HR have an architectural nature, that is, for example, the idea of incentives for high performance has a generalisable quality. But within a particular firm, HR practices and their mix will be different, depending on the context and strategy and so forth. 'Two companies with dramatically different HR practices arguably have quite similar HR architectures (Lepak & Snell, 1999). For example, although the specific design and implementation of their pay and selection policies are different, the similarity is that both link pay to desired behaviours and performance outcomes and both effectively select and retain people who fit their cultures' (1996: 786). Or, as Guest *et al.* put it: 'the idea of 'best practices' might be more appropriate for identifying the principles underlying the choice of practices, as opposed to the practices themselves' (2000: 3).

HR practices for developing human capital and performance

The high performance management, or high performance work practices, has become an important field. A number of the scholars have studied the depth and breadth of the HR practices, particularly in association with performance (see Table 2). High commitment management aims to go beyond high performance management to include an ideological component - the identification of the employee with the goals and values of the firm, so inducing commitment (Walton, 1985). The work of Wood & Albanese (1995) and of Wood (1996) have identified a number of common features of high commitment management:

- the development of career ladders and emphasis on trainability and commitment;
- a high level of functional flexibility with the abandonment of potentially rigid job descriptions;
- the reduction of hierarchies and the ending of status differentials;
- a heavy reliance on team structure for structuring work and problem solving;
- exemplary job design to promote intrinsic satisfaction;
- a policy of no compulsory lay-offs or redundancies;
- new forms of assessment and payment systems; and
- a high involvement of employees in the management of quality.

In the Guest's work for the Institute of Personnel and Development, surveying 835 organisations in the UK, endorses that there is a strong link between HRM and performance, but that this link is indirect, through the apparent impact on employee commitment, quality and flexibility.

Patterson *et al.* (1997) identify a positive relationship between employee attitudes, organisational culture, HRM and company performance, and conclude that employee commitment and a satisfied workforce are essential to improving performance. Two highly significant areas of HR practices are seen as: the acquisition and development of employee skills (recruitment, selection, induction and performance appraisals), and job design (skill flexibility, job responsibility, team-working).

Difficulties with the link between human capital and performance

There are a number of problems with asserting a linkage between human capital and human resource initiatives and organisational performance. Drawing on the work of Becker & Gerhart (1996) and Guest (1997), we can identify the following:

1. Reverse causation - Do human capital processes lead to increased performance, or is the alternative explanation equally as likely: that higher performing firms will have more resources to invest in better human capital management? If the casual link is to be established, there is a need to specify the intervening variables between human capital management and performance. ‘The fact that profit sharing is associated with higher profits can be interpreted in at least two ways: profit sharing causes higher profits, or

firms with higher profits are more likely to implement profit sharing. However, if it can be demonstrated that employees in firms with profit sharing have different attitudes and behaviours than those in firms without profit sharing. And that these differences also translate into different levels of customer satisfaction, productivity, speed to market and so forth. As such, researchers can begin to have more confidence in the causal model' (Becker & Gerhart, 1996: 793).

2. A good deal of work has emphasised the alignment of human resources to organisational strategies (e.g. a cost leadership strategy and a differentiation strategy). But the firm-specific contexts and contingencies surrounding the organisation will make HR alignment much more complex and idiosyncratic, and render generalisations about HR and human capital problematic.

3. If human capital is, in a real sense, 'best practice,' why is it that some organisations lack human capital processes and yet are successful in their businesses? Or, in other words, why doesn't everyone adopt human capital principles? These are some empirical questions to be investigated. A simple answer would be that such firms may be successful now, but the possibility of sustaining their success is perhaps reduced by the degree of their failure to implement the human capital concepts. In general, we agree with Becker & Gerhart (1996) who state that 'more effort should be devoted to finding out what managers are thinking when they make the decisions they do. This suggests a need for deeper qualitative research to complement the large scale, multiple firm studies that are available' (1996: 786).

Measuring human capital

From the foregoing discussion, Delaney & Huselid (1996) state that there is compelling evidence for a linkage between strong people management and performance. But how is human capital to be measured? Measurement is obviously important to gauge the impact of human capital interventions and address areas for improvement, but in this field, measurement is a problematic issue.

The process identified by some academics (e.g., Guest *et al.*, 2000; Patterson *et al.*, 1997) as well as a number of the consulting firms, is to specify the key human capital dimensions and assess their characteristics. It is then essential to measure these practices in terms of outcomes. These outcomes differ along a number of, by now, familiar categories: either (i) financial measures; (ii) measures of output or goods and services - units produced, customers served, number of errors, customer satisfaction) or (iii) measures of time - lateness, absence etc. (Locke & Latham, 1997; Guest *et al.*,2000).

Guest *et al.*'s preference is to adopt a stakeholder perspective, which 'would give some emphasis to performance outcomes of concern to the range of stakeholders' (2000: 4). These outcomes, Guest argues, 'should reflect employee attitudes and behaviour, internal performance, such as productivity and quality of goods and services; and external indicators, such as sales and financial performance. In other words, if the research is to guide policy and practice, we need to collect a number of the potentially related outcomes that extend beyond a narrow definition of business performance based on just financial indicators' (2000: 4).

In the literature, research has tended to focus, in terms of outputs, on employee turnover, productivity, and financial performance (Delaney & Huselid, 1996). The danger in simply relying on just firm performance is that, apart from ignoring other important measures, it may be that within organisations, business units have different objectives. Some may be focused on market share, while others on profit, for example, and the HR practices may not be the same in both. If research takes place at an organisational level, rather than at a business unit level, such differences may reflect in a poor linkage between human capital and unit performance (Becker & Gerhart, 1996). Guest *et al.*, (2000) also point to the problems in variations of accounting practices between countries, which may render comparisons in financial performance problematic.

The adoption of a stakeholder perspective reflects the concern to have multiple measures of the performance outcomes. This perspective is supported by the popularity of the 'balanced scorecard' concept (Kaplan & Norton, 1993), which is intended to weigh the interests of various stakeholders. According to Kaplan & Norton (1993), attention should be given not only to traditional financial measures, but also to people, processes and customers.

The results of a Conference Board (2002) survey into human capital measurement show that many HR professionals are developing human capital metrics (see Table 3) but this activity is often conducted in isolation, with organisations choosing not to collaborate with other firms or consultancies, or with their own organisation's finance or strategy colleagues. HR professionals do use external benchmarks, some of which they are internally inappropriate for valid analysis. More importantly, they do not tie up the metrics to the business goals.

Reporting human capital measures

Most companies have a wealth of human capital data, but, as the Conference Board concludes: 'most are reluctant to report it publicly. Although the primary motivation is to contribute to the bottom line, many companies do not wish to communicate the results of HC measurement to investors' (2002: 7). Nevertheless, the report asserts that the measures, which are most frequently reported, are as follows:

- the percent of employees in stock plans;
- revenue per employee;
- average pay;
- training expenditures; and
- compensation.

The three factors that explain why companies do not report more on human capital are (i) the fear of competitors – anxiety over whether human capital information is competitively sensitive; (ii) the fear of unions or employees, that is, concern that providing too much information may restrict the organisation's flexibility (and worries over legal issues arising); and (iii) a concern for practical difficulties of collecting human capital information to present for reporting, and whether investors will understand it.

Conclusions

A growing number of studies have attempted to show the link between human resources and performance. Although the case is not watertight, due to a number of methodological reasons, the weight of evidence is beginning to look compelling. An important finding of this research is that both contingency and best practice models can complement each other to create the conditions for effective human capital management. Meaning that the adoption of such high performance practices as incentive-based pay or selective staffing, is part of building an HR architecture. The details of how these practices become effective within the organisation raises a matter of aligning these broad principles to the strategy and the context of the company. There is a growing body of work (e.g., Becker & Gerhart, 1996; Guest *et al.*, 2000; Youndt *et al.*, 1996) that argues for a convergence between the two views. We believe that a greater understanding as to how these two approaches come together will enhance our knowledge of how human capital management, thereby leading to improved competitiveness. There are several lists for high performance work practices, or 'best HR practices,' each of which is varied with the specific contents and different ways of operationalising the individual HR activities. Yet, at their heart, most studies emphasise enhancing the skill base of employees through selective staffing, comprehensive training and broad developmental activity, as well as encouraging employees through empowerment, participative problem solving and teamwork and group based incentives.

The measurement of human capital remains an area where little commonality can be found. Perhaps, this reflects the sheer number of contingencies facing organisations and the idiosyncrasies inherent in specific firm contexts. There is agreement, however, on the point that just relying on financial measures of performance is likely to result in a highly partial evaluation. A stakeholder view or balanced scorecard approach is seen as most appropriate to capture the complexity of human capital activities.

Ulrich (1998) argues that human resources, both as labour and as a business function, have traditionally been viewed as a cost to be minimised. At best, human resources are viewed as contributing to the efficiency of the organisation, but not explicitly as a source of value creation. The rise of human capital management, alongside its relatives the resource-based view and strategic human resource management, has seen this view change dramatically. Nonetheless, the evidence, at least from the US, reveals that the organisations are reluctant to report on their human capital activities. If human capital really is at the centre of competitive advantage, investors may wish to see rather more disclosure in the future.

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Table 1. Selected studies on HR and organisational performance linkage

Study	Human resource practice	Effectiveness measure
Katz *et al.* (1985)	Transformational labour relations	Productivity, product quality
Cutcher-Gershenfeld (1991)	Transformational labour relations	Productivity, product quality
Sheridan (1992)	Organisational culture	Productivity
Bartel (1994)	Training	Productivity
Gerhart & Milkovich (1990)	Incentive compensation	Productivity
Weitzman & Kruse (1990)	Incentive compensation	Productivity
Terpstra & Rozell (1993)	Recruitment and selection	Profitability
Arthur (1992)	Range of HR practices	Reduced turnover, higher productivity
Ichniowski *et al.* (1994)	Range of HR practices	Productivity
MacDuffie (1995)	Range of HR practices	Productivity
Huselid & Becker (1995)	Range of HR practices	Reduced turnover, higher productivity
Youndt *et al.* (1996)	Range of HR practices	Productivity, enhanced quality
Patterson *et al.* (1997)	Range of HR practices	Indirect, via commitment
Guest *et al.* (2000)	Range of HR practices	Indirect, via commitment

Table 2. Best practices in Human Resources

Epstein & Freund (1984)	Arthur (1992)	Pfeffer (1994)	Huselid (1995)	MacDuffie (1995)
• Job enlargement • Job rotation • Job design • Formal training • Personalised work hours • Suggestion systems • Quality circles • Salary for blue collar workers • Attitude surveys • Production teams • Labour/management committees • Group productivity incentives • Profit sharing • Stock purchase plan	• Broadly defined jobs • Employee participation • Formal dispute resolution • Information sharing • Highly skilled workers • Self-managed teams • Extensive skills training • Extensive benefits • High wages • Salaried workers • Stock ownership	• Employment security • Selective recruiting • High wages • Incentive compensation • Employee ownership • Information sharing • Participation • Empowerment • Job redesign/teams • Training and skill development • Cross-utilisation • Cross-training • Symbolic egalitarianism • Wage compression • Promotion from within	• Personnel selection • Performance appraisal • Incentive compensation • Job design • Grievance procedures • Information sharing • Attitude assessment • Labour/management participation • Recruiting intensity • Training intensity • Training hours • Promotion criteria (seniority vs merit)	• Work teams • Problem – solving groups • Employee suggestions • Job rotation • Decentralisation • Recruitment and hiring • Contingent compensation • Status differentiation • Training of new employees • Training of experienced employees

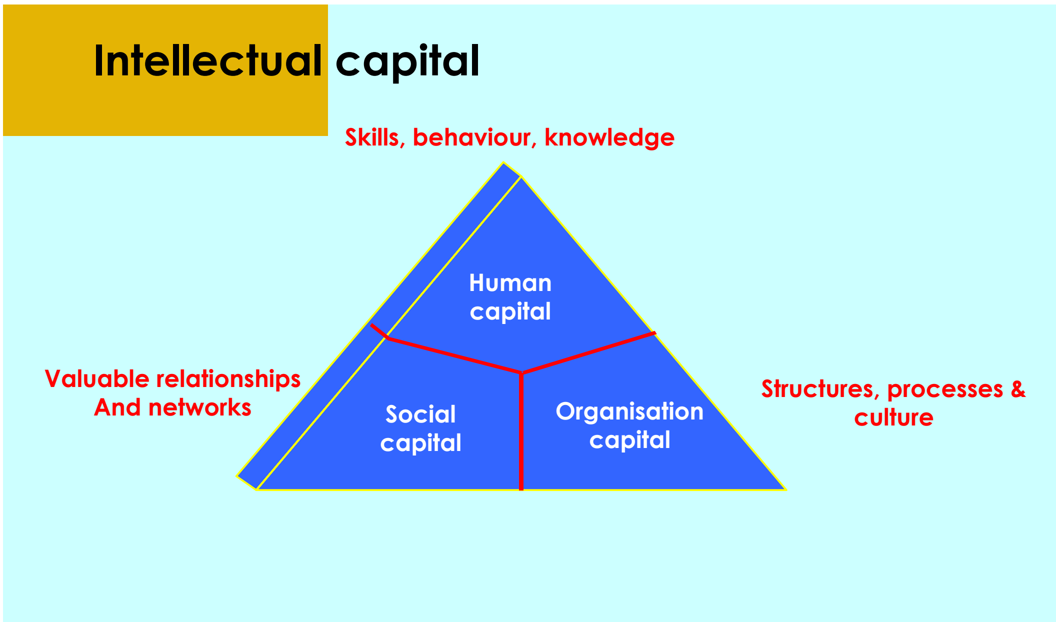
Source: Youndt *et al.*, 1996

Table 3. Human capital measures

Human capital activities	Possible measurements
Recruitment	Time, cost, quantity, quality, meeting strategic criteria
Retention/turnover	Reasons why employees leave.
Employee attitude/engagement	Attitude, engagement and commitment surveys
Compensation	Pay level, and differentials, and equity assessment, customer satisfaction, employee satisfaction, diversity
Competencies/training	Measuring competency levels, skills inventory, tracking competencies and training investments
Workforce profile	Age, diversity, promotion rate, participation in knowledge management activities
Productivity measures	Revenue per employee, operating cost per employee, real added value per employee

(Adapted from Conference Board 2002)

Figure 1. Intellectual capital



Annotated Bibliography

Human Capital Management – A Frame of Reference

Bontis, N. & Fitz-enz, J. (2002). Intellectual capital ROI: a causal map of human capital antecedents and consequents. ***Journal of Intellectual Capital*****, 3 (3), pp. 223-247.**

The authors report the results of a research study that examine the antecedents and consequents of effective human capital management through the integration of the quantitative and qualitative measures. The research sample consisted of 76 senior executives from 25 companies in the financial services industry. A holistic causal map is yielded on the ground of the integrated constructs from the fields of intellectual capital, knowledge management, human resources, organizational behavior, information technology and accounting. Participating organizations and researchers can reap the benefits of the study through visually comprehending the driving factors that determine the effectiveness of an organization's human capital capabilities. Practitioners and researchers will have a better understanding in allocating resources with regard to human capital management more efficiently. The potential outcomes of the study are limitless, since a program of consistent re-evaluation can lead to the establishment of causal relationships between human capital management and economic and business results.

Brown, M. G. (1999). Human capital's measure for measure. ***Journal for Quality & Participation*****, 22 (5) September/October, pp. 28-31.**

The author points out some problems of the HR metrics on the value and performance of the human asset. The crude measure factors include turnover, education level, training attended, and development plan objectives. He therefore suggests 4 sub-metrics for creating a human capital index, namely number of years in business/field, level in the company (by job grade or organizational chart level), performance rating, and number and variety of positions/assignments held. Nevertheless, it seems to raise the issue of subjectivity in determining the weights/scores to be marked on each category, leading to a relative imbalance of the human capital index used to justify the human asset in a particular firm and industry.

Combs, J. G. & Skill, M. S. (2003). Managerialist and human capital explanations for key executive pay premiums: a contingency perspective. ***Academy of Management Journal*****, 46 (1), pp. 63-73.**

This study examines a contingency perspective in which the source of pay premiums depends on executives' power and firms' governance strength. Two main theories, which are managerialism and human capital, are drawn to investigate the executive-specific attributes (power and skill) so as to explain variation beyond what firm- and job-specific variables are predicted. Results suggest pay premiums are a consequence of human capital (compensation for unique and valuable managerial competencies) in some firms and managerial entrenchment (executives using their power to maximize salary) in others.

Crutchfiled, E. B. (2000). ***Developing human capital in American manufacturing: a case study of barriers to training and development*****. New York: Garland Publishing.**

This book reflects a practical research of a case study approach on the development of human capital through the firm's training programs. An exhaustive stream of literature review examines a broad range of themes and theories on the dynamically competitive environment facing the American workforce at the expense of attempting to maintain a competitive edge. Also, the concepts of human resource development and organization development present the theoretical 'best practices' for how organizations should be working to develop their human asset and become a high performing organization. With regard to the research design, the justification for a single case study, site and sample selection, data collection, trustworthiness of the data, data analysis, and data management are discussed. The results of the study feature three themes as to why the training and development may not be able to have a positive impact on organizational performance; the unsystematic implementation of the training needs assessment, the perception of a lack of clearly defined and operationalized business goals, and the inability of the leaders to look at human performance in relation to all aspects of the organization – barriers to apply comprehensive solutions to performance problems.

Doyle, D. P. (1994). Developing human capital: the role of the private sector. *Theory into Practice*, 33 (4) Autumn, pp. 218-226.

A review of the private sector role in human capital investment is explored on two main streams. One is 'conventional' private sector investment in human capital: firms underwriting the cost of employee education and training. The other is private individuals investing in their own human capital. Most large, modern firms in the developed world tend to increasingly invest their money and energy in education and training programs insofar as it generates profitability. The author concludes that an investment in human capital will be treated as precisely as that in marketing, advertising and research and development where a competitive advantage is attainable.

Farmer, M. C. & Kingsley, G. (2001). Locating critical components of regional human capital. *Policy Studies Journal*, 29 (1), pp. 165-179.

Based upon the economic context in a regional setting, the paper offers a rationale and an outline for developing a human capital approach to assess strategic resources needs for competitive success of different regions. The achievable process is referred to a creation of strategic human capital where there is the right mix of people and skills inside a given network that induces an extra-competitive advantage. The authors also claim that when economic development is aligned with ecological potentials, the technologies driving the necessary economic activities will be mobilized by higher-skilled, human capital-intensive companies. In a holistic view, regional competitiveness appears in the human capital theories as innovations that allow an area to differentiate their final product from some other source: offer better quality or unique features, thereby leading to a sustained advantage and a realization of true economic profits over the competitors.

Garavan, T. N., Morley, M., Gunnigle, P. & Collins, E. (2001). Human capital accumulation: the role of human resource development. *Journal of European Industrial Training*, 25 (2-4), pp. 48-68.

The authors discuss the issues of the conceptualization of human resource development surrounding the firm strategy through the lens of both individual and organizational perspectives. Based upon these two strands, four attributes of human resource as capital are investigated; flexibility and adaptability, enhancement of individual competencies, development of organizational competencies, and individual employability. Considering human capital from individual perspectives, the notions of employability, performance and career development are of most concerns to increase employees' capabilities. With regard to the organizational context on human capital accumulation, the core competencies and the tacit knowledge or social community perspective are developed in people over time via education and experience. Also, a discussion on the implications for human resource development in both spectrums gives rise to the potentiality to leverage the human capital formation within the organization.

Giannini, M. (2000). Multiple regimes in human capital accumulation. *International Journal of Manpower*, 21 (3/4), pp. 246-263.

The research attempts at providing an overall theoretical framework investigating the accumulation of human capital by a dynamic interplay, or complementalities, between the individual behavior and human capital distribution. In the light of the macroeconomic context, the author postulates that the individual decision about investment in education depends on unemployment among unskilled workers; the higher this is, the lower the return to work as a unskilled worker and the higher the incentive to invest in education.

Gratton, L. & Ghoshal, S. (2003). Managing personal human capital: new ethos for the 'volunteer' employee. *European Management Journal*, 21 (1) February, pp. 1-10.

Due to the notion of democratization in the organization, a combination of individual autonomy in the work life and task variety leads to a greater personal responsibility for both developing and deploying their personal human capital. The authors define human capital as the composite of an individual's intellectual, social and emotional capitals by which it is suggested that 'volunteer' employees need to align their personal values with work to reflect the most satisfying passions on a human aspiration, thereby continuously improving on one's own knowledge, relationship and sense of self-efficacy.

Huang, G. Z., Roy, M. H. & Ahmed, Z. U. (2002). Benchmarking the human capital strategies of MNCs in Singapore. *Benchmarking An International Journal*, 9 (4), pp. 357-373.

This study aims to explore the role of human capital strategies in the survival and growth of promising local enterprises (PLEs) and existing multinational corporations (MNCs) in Singapore. The focus of the research aims to benchmark the human capital practices in the MNCs to the extent of whether PLEs are learning from the HR strategies of MNCs. The analysis draws on empirical data surveys from 218 PLEs and 261 MNCs through an extensive discussion on the issues of value of human capital, recruitment and selection, training and development, career management, corporate culture and government role. The results show substantial contrasts in the philosophical and practical applications of human resource strategies. More specifically, the conclusion of the study entails the fact that PLEs could learn from benchmarking the human capital strategies of the MNCs in the following arenas: modify philosophical understanding with regard to the importance of human capital in creating a competitive advantage; develop different approaches to enhance the value of human capital, broaden the focus of selection and training methods to include critical thinking, teamwork and leadership; and expanding a reward scheme, apart from extrinsic incentives, to help align organizational culture with new values of teamwork leadership and learning.

Kannan, G. & Akhilesh, K. B. (2002). Human capital knowledge value added: a case study in infotech. *Journal of Intellectual Capital*, 3 (2), pp. 167-179.

The paper addresses an essential need for managers to develop a behavioral tool to comprehend the factors that influence human capital knowledge value add so as to increase the organization value add. The proposed tool helps understand the knowledge professional's perceptions of the organization's culture toward intellectual enterprise, knowledge management support systems and processes, and individual value add, the perceived performance, innovation and consequences of quitting. The firm can move individuals to a more value-added position by giving them greater opportunities for knowledge sharing and capture, rewarding initiative, sharing and innovation as well as learning. Also, top management visibility and support, including increased leader involvement and guidance, can elevate feelings of belonging and importance to improve performance and the human capital knowledge value added.

LeBlanc, P. V., Mulvey, P. W. & Rich, J. T. (2000). Improving the return on human capital: new metrics. *Compensation & Benefits Review*, 32 (1) January/February, pp. 13-20.

The article supports the use of the human capital approach to indicate the improvement of the return on human capital. By adopting such an approach, it means that the firms have to view their employees as an investment to be optimized rather than a cost to be minimized. Human capital is optimized when there is significant 'knowledge,' 'motivation' and 'opportunity' to perform. A six-step process of the human capital approach is introduced to help managers to make a better decision on the investment of the human capital. They are in a sequential order:

1) Identify needed business improvements
2) Locate people leverage points and sort by investment type
3) Discover measures of key people leverage points
4) Find relevant internal/external benchmarks and asset gaps
5) Calculate human capital investment cost/return and break-even timeframe
6) Make human capital investment decision

Lepak, D. P. & Snell, S. A. (1999). The human resource architecture: toward a theory of human capital allocation and development. ***Academy of Management Review*****, 24 (1), pp. 31-48.**

The authors draw on the resource-based view of the firm, human capital theory, and transaction cost economics to develop a human resource architecture of four employment modes: internal development, acquisition, contracting, and alliance. The architecture is built on the two characteristics of human capital: uniqueness and value-creating potential. The relationships among employment modes, employment relationships, and human resource configurations, can be examined along this HR architecture. It also provides a structural perspective for both academics and practitioners to understand which forms of human capital have the potential to be a source of competitive advantage at present and in the future. Moreover, this study encourages researchers to examine how firms integrate flexibility in to the HR architecture to adapt to dynamic changes while maintaining congruence among the individual components to meet the existing needs.

Maruping, L. M. (2002). Human capital and firm performance: understanding the impact of employee turnover on competitive advantage. In: ***Academy of Management Meetings*****, August, Denver, CO, pp. 1-27.**

Organizational performance outcomes due to the impact of turnover depend upon the network centrality, prominence, range and brokerage of the departing knowledge actors in the knowledge network as well as the structure of the organizational social network. The author points out that in the competitive environment voluntary turnover is a mechanism for the knowledge community to refresh and expand the existing network through the mobility of new talent with a new set of professional social webs. In addition, understanding how turnover among knowledge workers impacts firm performance through a social network perspective and the pursuit of competitive advantage will provide some insights into how human resource systems can play a major role in organizational strategy.

Mayo, A. (2001). ***The human value of the enterprise*****. London: Nicholas Brealey.**

The book provides a coherent model of measures relating to human capital, offering a standalone means of recognizing the vital contribution of people to value creation. Acquiring new human assets, retain human assets, and growing human assets are the key processes in managing the human capital. Since people bring their personal human capital, in all its diversity, to the organization, individual motivation and commitment should be developed and nurtured through a firm's innovative/creative culture.

McNamara, C. P. (1999). Making human capital productive. ***Business & Economic Review*****, 46 (1) October-December, pp. 10-13.**

The article features the application of the principles of human capital investment employed by some internationally leading firms, such as Coca-Cola, Microsoft, Southwest Airlines, in order to maximize the human asset within the firms. A 10-step action plan that encompasses the best practices of these very successful companies is: 1) adopt the Truman and Lincoln philosophies; 2) communicate commitment to human investment; 3) establish new expectations; 4) reorganize around teams; 5) maximize employee involvement; 6) focus on people initiatives; 7) establish a world-class human resources organization; 8) develop and implement motivational systems; 9) conduct annual executive review; 10) take the leap (seen the process of making the human capital more productive as a journey, not a destination).

Molina-Morales, F. X. (2001). Human capital in the industrial districts. *Human Systems Management*, 20 (4), pp. 319-331.

A focus on the creation of human capital in the industrial districts (regional clusters) may reflect a differentiation of the firm strategy perspectives from one to another, especially within the same industry. The industrial districts are identified by both high density of firms in a territorially bounded area and a community of people sharing values and beliefs (e.g. Silicon Valley). In this research, the author aims to develop a conceptualized framework to suggest the firms to take on a more active role in exploiting local identifiable human resources. Also, the firms should interact with the local environment in order to shape and leverage on the endowment and potential of local knowledge resources.

Nerdrum, L. & Erikson, T. (2001). Intellectual capital: a human capital perspective. *Journal of Intellectual Capital*, 2 (2), pp. 127-135.

In this article, intellectual capital is seen as complementary capacities of competence and commitment. Based on theoretically and empirically robust human capital theory, the authors define intellectual capital as individuals' complementary capacity to generate added value and thus create wealth. Resources are then perceived to be both tangible and intangible. This view is an extension of human capital theory to include the intangible capacities of people. Implications for further research are discussed.

Nordhaug, O. (1993). *Human capital in organizations: competence, training and learning*. Norway: Scandinavian University Press.

The purpose of the book is to outline and discuss important conceptual, theoretical, and empirical aspects of human capital in organizations. The author claims that it is necessary to develop a groundwork for the study of individual competences, competence bases, and competence networks in firms. With regard to the individual context, the employee competences (defined as the knowledge, skills and aptitudes that are relevant for work), which influence the actual performance, are categorized into six typologies: Meta-competences, industry competences, intraorganizational competences, standard technical competences, technical trade skills, and unique competences. Drawing on insights from the organization theory, the corporate context of the competences is established (e.g. task specificity, unit specificity, internal relation specificity, durability, diversity, internal exclusiveness, and transferability). In terms of competence networks, competence configuration and competence flow are discussed to mark the analytical perspective of the firms' competence systems. Moreover, the empirical research shows that training and development contributes to human capital provision in organizations.

Oxman, J. A. (2002). The hidden leverage of human capital. *MIT Sloan Management Review*, 43 (4) Summer, pp. 79-83.

Amid the economic downturn and the mediocre job market, the author suggests that the real value of human assets be more appreciated in the process of reengineering and core competency invigoration. Along that line, four broad critical areas of the leadership model to help augment the business success are presented: strengthening key relationships across customers, employees and shareholders; leveraging downtime by capitalizing on underutilized staff for innovation initiatives; refocusing staff on what's important at the company by prioritizing strategic roles and clarifying individual goals; and building return on compensation by forging stronger links between the pay people get and the results they achieve. The author also claims that in either good or bad times of the economy the firms should pursue the fair play to the key stakeholders, including employees. By failing to realize the full potential of the human capital along the fluctuating business wave, they may not be ready for the new challenge of change when the economy starts to recover.

Rappleye, W. C. Jr. (1999). Human capital management: the next competitive advantage. *Across the Board*, 36 (8) September, pp. 39-47.

There is a growing realization that investment in human capital has the potential to become the next great tidal movement in work and life, just as the information-technology revolution supplants the industrial revolution. The article reflects a diverse view of human capital management in creating a competitive advantage through the sight of professionals of HR consulting firms and HR directors of leading international companies. The avenue to achieve that notion takes a multifaceted effort of all managers at all levels to bring together the essential enablers of human capital in business. They are people's competence, corporate culture, internal development, employee engagement, communication, and creative learning.

Rastogi, P. N. (2000). Sustaining enterprise competitiveness – is human capital the answer? *Human Systems Management*, 19 (3), pp. 193-203.

The author puts an emphasis on the human capital as the ultimate resource for sustaining the competitive performance of an organization over time. Such a dynamic resource needs to be continuously developed and sharply honed in the light of a firm's changing business environment and the logic of creating customer-valued outcomes. A human capital organization is characterized as a storehouse of business expertise; a growing pool of cutting edge competencies, skills, best practices, techniques, and tools; a collaborative collectivity of autonomous and peak performing employees; an exemplar of speed and brain power in all domains of its activity; an agile player responding rapidly to market shifts; and a bearer of a culture of constant innovation and value creation.

Weisberg, J. (1996). Differential teamwork performance: the impact of general and specific human capital levels. *International Journal of Manpower*, 17 (8), pp. 18-29.

The focus of the study is twofold: first, to determine if, from an organizational perspective an incentive scheme augments the utility to the firm; and, second, based upon the notion of general human capital (indicated by the average number of years of schooling of the team members) and firm-specific human capital (indicated by the average worker's experience or tenure with the company, if workers embodying higher human capital levels represent higher productivity, compared with those of lower human capital levels. The statistical methods are performed to test the hypotheses and find the correlation between related variables. The result shows that the positive impact of the level of education on the level of performance may be explained by the anticipated higher returns for higher levels of education. Meaning that motivated, committed workers with higher education tend to stay with the firm longer (high tenure) and produce higher productivity. The research also suggests that the relative utility of designing incentive scheme plans in organizations can provide a greater extent of understanding in the development of human capital and personal characteristics.

HRM and Organizational Performance – Overview

Becker, B. & Gerhart, B. (1996). The impact of human resource management on organizational performance: progress and prospects. *Academy of Management Journal*, 39 (4), pp. 779-801.

The research attempts to advance debates on a nascent link between the human resource systems and the strategic impact of human resource management (HRM) decisions on performance outcomes. The implications of 'best practice' for HR system structure and effects are extensively discussed to literally build the ground of the organizational value creation. Nonetheless, researchers need to give careful thought to the meaning of HR measure at the corporate level because HR practices usually different across business units and facilities within a corporation, particularly as diversification and size increase.

Hiltrop, J. (1996). The impact of human resource management on organizational performance: theory and research. *European Management Journal*, 14 (6), pp. 628-637.

The author argues that there is little empirical evidence that HRM policies and practices are improving organizational performance though the theoretical literature on the link between an organization's HRM and performance is prevalent. And although it will take time before the longitudinal data exists to fully test the theories and models, the evidence is consistent with the view that the HRM policies and practices of an organization have a powerful influence in motivating employees to exhibit the kinds of attitudes and behavior that are needed to support and implement the competitive strategy of an organization. This research raises a number of questions about the nature of these practices- including what would be widely recognized as 'best' practices.

Huselid, M. (1995). The impact of human resource management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal*, 38 (3), pp. 635-672.

The research reveals that the use of 'high performance work practices' (including comprehensive employee recruitment and selection procedures, incentive compensation and extensive employee involvement and training) have a statistically significant impact on both intermediate employee outcomes (turnover and productivity) and short- and long-term measures of corporate financial performance.

Orlando, R. C. & Johnson, N. B. (2001). Understanding the impact of human resource diversity practices on firm performance. *Journal of Managerial Issues*, 13 (2), pp. 177-196.

The authors aim to develop a model that illustrates the complexities of diversity initiatives which may not be appreciated for all organizations. A diversity orientation requires procedural justice for all employees so that a problem of discrimination is not on the highlight. If firms must deal with a diverse workforce, a diversity orientation may yield positive performance effects through the genuine integration and acceptance of diverse employee perspectives which leads to a reduction in turnover and absenteeism.

Roberts, K. (1995). The proof of HR is in the profits. *People Management*, February, pp. 42-43.

The author studies how HR strategy affects profits in 3000 businesses throughout the world. The study suggests that businesses can increase their profitability by up to 15 percent by ensuring that managers are satisfied with their level of participation in decision-making, sharing information and involvement with developing ideas for the business. The research also shows that a well0run, professional appraisal system can significantly improve the performance of individuals, and therefore the profitability of the business.

Truss, C. (2001). Complexities and controversies in linking HRM with organizational outcomes. *Journal of Management Studies*, 38 (8), pp. 1121-1149.

The paper contributes to the debate by analyzing in detail the human resource policies and practices of one case-study organization over a two-year time period, using a variety of methodologies and drawing on a broad range of informants across the organization. Instead of devising a list of 'best practice' HRM from the literature and testing its impact on performance, the author invert the question and take a firm that is financially successful and ask what HR policies and practices it uses. This methodology shows that even successful organizations do not always implement 'best practice' HRM, and that there is frequently a discrepancy between intention and practice. Outcomes at the individual and organizational levels are complex and often contradictory; the author questions the extent to which is it at the level of the formal system, and organizational performance, without taking into consideration the role played by the informal organization in the process and implementation of HR policies.

Tyson, S. (1997). Human resource strategy: a process for managing the contribution of HRM to organizational performance. *International Journal of Human Resource Management*, 8 (3), pp. 277-290.

This paper describes human resource strategy as a management process, as part of emergent strategy formation. A framework is proposed to explain the different levels of analysis, societal, organizational and individual, which managers seek to integrate so that the meanings organization members bring to their work are managed. The consequences of taking this approach as opposed to the rational view of HR strategy are outlined and the benefits of a processual, intepretationist perspective to the study of strategy for example by studying symbols and the processes of meaning construction are discussed.

Social Capital – A Glue to Human Capital

Adler, P. S. & Kwon, Seok-Woo. (2002). Social capital: prospects for a new concept. *Academy of Management Review*, 27 (1), pp. 17-40.

In this article, the authors attempt to synthesize the theoretical research on social capital undertaken in various disciplines and to develop a common conceptual framework that identifies the sources, benefits, risks, and contingencies of social capital. The first of their objects – integrating across disciplinary domains – proves to be plausible, since across these domains there is broad consistency and complementarity of concerns and concepts. Social capital falls within the broad and heterogeneous family of resources commonly called 'capital.' The second objective – integrating across theoretical perspectives – proves more difficult. There does not, as yet, seem to be anything resembling a rigorous theory and meta theory that can incorporate the strengths of the existing, competing theories and transcend their respective limitations. Their proposed conceptual framework does allow other researchers to map the various streams of ongoing research on social capital and identify some of the key issue under debate.

Gant, J., Ichniowski, C. & Shaw, K. (2002). Social capital and organizational change in high-involvement and traditional work organizations. *Journal of Economics & Management Strategy*, 11 (2) Summer, pp. 289-328.

The paper presents new evidence indicating that changing from a traditional human resource management (HRM) environment to an innovative one entails a change not only in formal work practices, but also in the informal networks and patterns of interaction among employees. The authors focus on differences in the social capital of these workplaces and measure differences in the structure of interactions and information transfer among employees across a sample of manufacturing lines with a common production technology and different HRM systems. The result includes the implications of these differences and shows that the change from one form of workplace practices to the other is thus not just a matter of paying for the direct costs of a new set of HRM practices. Rather, it would involve a disruptive overhaul in the entire network of interactions among all workers in the organization.

Leana, C. R. & Van Buren H. J. III (1999). Organizational social capital and employment practices. *Academy of Management Review*, 24 (3), pp. 538-555.

The authors describe the construct of organizational social capital and develop a model of its components and consequences. Organizational social capital is defined as a resource reflecting the character of social relations within the organization. It is realized through members' levels of collective goal orientation and shared rust, which create value by facilitating successful collective action. Also, it provides a basis to analyze and to critique employment practices by asking a set of questions that relate to the reasons that organization exist and the value (norms, trust, and relationship) that individuals place in their membership, leading to their contributions to the organization.

McElroy, M. W. (2002). Social innovation capital. *Journal of Intellectual Capital*, 3 (1), pp. 30-39.

The author introduces the notion of 'social innovation capital' (SIC), the capacity of a firm to innovate, as the most valuable form of intellectual capital because it underlies a firm's fundamental capacity to learn, innovate, adapt and enhance the performance. The modified intellectual capital map with social capital thread added and customer capital repositioned has been proposed on the ground of the argument against Skandia's model developed by Edvinsson. The SIC model engages the whole firm in the learning and innovation process, not simply stop at the borders of the R&D function, or wit the ranks of senior management. Its implication surrounds the idea of building the innovation climate within the firm where management policies of innovation (e.g. learning, knowledge processing, connected ness, and ethodiversity) are put in place.

Nahapiet, J. & Ghoshal, S. (1997). Social capital, intellectual capital and the creation of value in firms. *Academy of Management Proceedings*, pp. 35-39.

The authors make theoretical propositions in identifying the creation of the value in firms through the existence of social capital, and the amount , forms and configuration of this capital available to the firm, which underpin its potential for developing the intellectual capital.

Nahapiet, J. & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23 (2), pp. 242-266.

The focus of the paper is to link between social and intellectual capital in order to enhance the organizational advantage. The authors develop three main arguments: (1) social capital facilitates the creation of new intellectual capital; (2) organizations, as institutional settings, are conducive to the development of high levels of social capital; and (3) it is because of their more dense social capital that firms, within certain limits, have an advantage over markets in creating and sharing intellectual capital.

Intellectual Capital – A Competence of Human Capital

Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management Decision*, 36 (2), pp. 63-76.

The research aims to explore the ideas and concepts of various conceptual measures/models with regard to intellectual capital and its impact on business performance. The result supports the author's postulation that the link between dimensions of intellectual capital (i.e. structural, human, and customer capital) and business performance is positive and substantive. The author asserts that examining the processes underlying intellectual capital development may be of more importance than ever finding out what is all worth in monetary terms. Also, all business managers should understand the power of knowledge management on business performance and how intellectual capital can contribute to the firm's success. This requires people in the organization to rethink their attitudes toward intangible assets and to start recognizing that measuring and strategically managing knowledge may make the difference between mediocrity and excellence.

Bontis, N. (2001). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3 (1) March, pp. 41-60.

This paper reviews the literature pertaining to the assessment of knowledge assets. It summarizes the current models being utilized in intellectual capital assessment circles. Also, their conceptualizations as well as their strengths/weaknesses are presented along with the practical value of applications to organizations. The reviewed models include Skandia navigator, IC-Index, Technology Broker, Intangible Asset Monitor, Economic Value Added and Market Value Added, and Citation-weighted Patents. Some of them attempt to measure intangible assets by treating employees as balance-sheet items and measured in dollars, and using financial variables. However, these efforts fail to consider the full range of knowledge management as a comprehensive process to enhance the competitive advantage.

Harrison, S. & Sullivan, P. H. Sr. (2000). Profiting from intellectual capital: learning from leading companies. *Industrial and Commercial Training*, 32 (4), pp. 139-148.

The paper provides information on the current state of best practices in the management of intellectual capital. The dimensions and concepts underpinning successful implementation of value extraction for companies managing their intellectual implementation are depicted. It sheds some light to the definition of intellectual capital, the benefits contributed to the firms, the different roles a portfolio of intellectual capital assets can play, the essential steps to enable the firms to effectively organize and extract value from those portfolios, and the risks of failure to manage the intellectual property portfolio.

Knight, D. J. (1999). Performance measures for increasing intellectual capital. *Strategy & Leadership*, 27 (2) March/April, pp. 22-27.

In the new economy that has been created by interlocking and fast-moving forces of globalization, technology, and shifting demographics, a knowledge-based organization is emerging. This new organization recognizes intellectual capital as the dominant wealth creator. A new framework of the balanced performance measurement system is introduced to strategically measure and leverage an organization's intellectual capital through the four essential factors (i.e. financial performance, external, structural and human capital) involved in the business. It provides a foundation for building a knowledge-based organization that will improve performance and gain competitive advantage.

Mayo, A. (2000). The role of employee development in the growth of intellectual capital. *Personnel Review*, 29 (4), pp. 521-533.

The author asserts that the human capital can be logically argued to be the ultimate driver of all value growth. The contribution of human capital to current and future value for stakeholders is examined. The key conditions for such growth are suggested as individual capability, individual motivation, leadership, the organizational climate, and workgroup effectiveness. Also, basically, strategically focused employee and team development can be in the direct line of value creation and, hence, the strategic goals of the firm.

Ordóñez de Pablos, P. (2002). Evidence of intellectual capital measurement from Asia, Europe and the Middle East. *Journal of Intellectual Capital*, 3 (3), pp. 287-302.

This exploratory study attempts to empirically investigate the current state of best practices in the field of intellectual capital management and measurement pioneer firms across Asia, Europe and the Middle East. The in-depth case analysis of leading firms with the trans-disciplinary focus shows that the intellectual capital issue becomes a *prima facie* agenda evident from both managers' perspectives and a disclosure of the intellectual capital in the annual report or in the intellectual capital report.

Rastogi, P. N. (2000). Knowledge management and intellectual capital – the new virtuous reality of competitiveness. *Human Systems Management*, 19 (1), pp. 39-48.

Amid a volatile business environment, a critical competitive resource is knowledge management and intellectual capital based on individual capabilities and mobilized by a social fabric of 'virtuous reality.' The virtuous reality refers to the attributes of trust and co-operation, sincerity and goodwill, commitment and responsibility, shared values and vision. Without these virtues, a new paradigm of competitiveness, which rests on the individual and collective creativity and innovation, learning and knowledge, skills and capabilities of the organization's members, cannot be effectively realized.

Robinson, G. & Kleiner, B. H. (1996). How to measure an organization's intellectual capital. *Managerial Auditing Journal*, 11 (8), pp. 36-39.

The authors propose some measurement valuation techniques of intellectual capital, which are the generic framework of value chain and the financial cash-flow valuation. The value of intellectual capital needs to be measured and appreciated to help determine the corporate objectives and strategies. As such, the individual know-how, skills and information systems are the key components in propelling the analysis of the intellectual capital creation.

Stewart, T. A. (1999). *Intellectual capital: the new wealth of organizations*. London: Nicholas Brealey.

The book provides a groundbreaking visionary evolution of intellectual capital, ranging from its origin to its powerful impact to the organizations. The principal contribution embarks on the practicality of the intellectual capital in leveraging the value of the firm and the wealth of the economy as a whole. The author starts off with describing the importance of intellectual capital and identifying where it is embedded. Then he moves on to the realization that human capital is a key driver to enabling the intellectual capital to be capitalized and delivered, thereby yielding innovation and growth. Another key driver is structural capital. It comprises the elements of strategy and culture, structures and systems, organizational routines and procedures. It essentially provides an infrastructure to facilitate the power of intellectual capital or the stocks of knowledge within the firm. The last construct discussed in the book is customer capital, which refers to the relationship between employees of the firms and customers. All in all, human, structural, and customer capital have to work hand-in-hand to ensure the rigor of the intellectual capital.

Ulrich, D. (1998). Intellectual capital = competence x commitment. *MIT Sloan Management Review*, 39 (2) Winter, pp. 15-26.

The article highlights the missing focus of intellectual capital, which is a relationship founded on the commitment and competence of employees. Both must exist together for intellectual capital to grow. Tools for increasing competence and fostering commitment are presented to provide some practical implications to the managers. The authors conclude that leaders interested in investing, leveraging, and expanding intellectual capital should raise standards, set high expectations, and demand more of employees. They must also provide resources to help employees meet high demands. Employees will become engaged and flourish, and the organization's intellectual capital will turn into its defining asset.

Williams, R. L. & Bukowitz, W. R. (2001). The yin and yang of intellectual capital management: the impact of ownership on realizing value from intellectual capital. *Journal of Intellectual Capital*, 2 (2), pp. 96-108.

By exploring the nascent trend of business methods patenting in both the US and Europe, the authors make an emphasis on how awareness of the legal protection of the intangible asset has paved its way to the discussion of general business principles and to examine arguments for and against business methods patenting from both a public policy and a business perspective. A set of considerations for the firms to concern in pursuit of business methods patenting is provided to maximize the value of innovation and intellectual capital.

Emotional Capital – A Sensitivity of Human Capital

Bagshaw, M. (2000). Emotional intelligence – training people to be affective so they can be effective. *Industrial and Commercial Training*, 32 (2), pp. 61-65.

A failure to understand emotional intelligence in the workplace may outweigh the costs with which a firm can bear. Low morale, negative conflicts and stress all bar business from the goal of corporate effectiveness. If it is well-managed, positive outcomes, such as improving teamworking, enhancing diversity, and customer service, are anticipated. As such, in order to ensure the constructive results of managing the emotional intelligence, the authors propose that appropriate training and coaching be a tool to leverage emotional intelligence competencies and continuous reinforcement be made to emphasize the people-oriented values and vision.

Dearborn, K. (2002). Studies in emotional intelligence redefine our approach to leadership development. *Public Personnel Management*, 31 (4), pp. 523-530.

The emotional intelligence premise is overviewed and linked to the discussion of demonstrating a return o investment in the organizations deploying some training programs to impact performance. The author contends that the traditional deployment of leadership development/communication skills training fails to produce sustainable change in behaviors and supports Goldman's initiatives to invest in the emotional intelligences of leaders with individualized plans too impact the climate and performance of an organization.

Dulewicz, V. & Higgs, M. (1999). Can emotional intelligence be measured and developed. *Leadership & Organization Development Journal*, 20 (5), pp. 242-252.

This article describes the design of a new tailored instrument to measure emotional intelligence, which was piloted on 201 managers. Data are presented showing its high reliability and validity. In particular, construct validity is demonstrated using the 16PF, Belbin team roles, Myers-Briggs type inventory and Type A behavior. Sever sub-scales make up the total questionnaire – self-awareness; influence; decisive; interpersonal sensitivity; motivation; integrity' and resilience. These are defined in detail, and guidance is given on administration, and reporting which is done through an expert system. It is expected that the validity and reliability of the emotional intelligence measurement can be understood by the participants (employees) in a sense that they have a positive attitude to personal growth and a greater clarity about how to manage that growth for maximum performance.

Fatt, J. P. T. (2002). Emotional intelligence: for human resource managers. *Management Research News*, 25 (11), pp. 57-74.

Based upon a large interest in emotional intelligence, the study aims to explore if there is a potential determinant of the achievement in working life within that context. The results show that education background has a positive impact in influencing emotional intelligence scores. Regarding managerial implications, emotional intelligence has been shown to be an important criterion in selecting job candidates. Emotional competencies such as initiative and leadership have a high correlation with the retention rate of employment.

Gabriel, Y. & Griffiths, D. S. (2002). Emotion, learning and organizing. *The Learning Organization*, 9 (5), pp. 214-221.

Increasingly, management has sought to harness emotion to improve work motivation, enhance customer service and work performance and the 'emotional intelligence' advocates have sought to develop a toolkit for the smarter deployment of emotions in organizations. Using social constructionist and psychoanalytical concepts, the authors argue that the management of emotions is problematic and precarious. Some emotions may be contained or re-directed, but many arise from deeper unconscious sources and are impervious to learning. Two specific emotions, anxiety and love, are discussed.

Graetz, F. (2002). Strategic thinking versus strategic planning: towards understanding the complementarities. *Management Decision*, 40 (5), pp. 456-462.

The case findings reveal that while strategic thinking capabilities can be nurtured and diffused through an organization, it will need business leaders with a high degree of emotional intelligence to lead the way. Key characteristics of emotional intelligence and superior leadership include strong interpersonal skills; an ease with ambiguity and openness to change; the ability to draw others to a vision and take decisive action; "contagious" enthusiasm, and commitment; belief in and sensitivity to followers; expertise in building and leading teams; expertise in managing relationships, building networks and creating rapport; high levels of energy, passion, motivation and commitment; and a deep understanding of the business and its operation.

Jordan, P. J., Ashkanasy, N. M. & Hartel, C.E. J. (2002). Emotional intelligence as a moderator of emotional and behavioral reactions to job insecurity. *Academy of Management Review*, 27 (3), pp. 361-372.

The authors present four propositions stating that emotional intelligence – a relatively developed individual-difference variable – moderates the links between perceptions of job insecurity and affective reactions, as well as the links between affective reactions and behavior. They argue that perceptions of job insecurity lead to emotional reactions, including lowered affective commitment and increased job-related tension. These reactions, in turn, result in negative coping behaviors that can affect individual performance. In their model emotional intelligence moderates the effects of perceptions of job insecurity on emotional reactions, and it also moderates the effects of emotional reactions on behavioral strategies.

Langley, A. (2000). Emotional intelligence – a new evaluation for management development? *Career Development International*, 5 (3), pp. 177-183.

This research provides a strong case for emotional intelligence to be put on the management development agenda as it has the capability to enhance the promotion potential of employees. If personal attributes and social abilities that reflect high emotional intelligence can be understood and assessed, then not only do we gain a new perspective on management but steps can be taken to develop these activities to improve people's potential.

Palmer, B., Walls, M., Burgess, Z. & Stough, C. (2000). Emotional intelligence and effective leadership. *Leadership & Organization Development Journal*, 22 (1), pp. 5-10.

The aim of the paper is to explore the relationship between emotional intelligence and effective leadership. Emotional intelligence is assessed by a modified of the Trait Meta Mood Scale in 43 participants employed in management roles. It correlates with several components of transformational leadership suggesting that it may be an important element of effective leadership. In particular emotional intelligence may account for how effective leaders monitor and respond to subordinates and make them feel at work.

Rahim, M. A. & Minors, P. (2003). Effects of emotional intelligence on concern for quality and problem solving. *Managerial Auditing Journal*, 18 (2), pp. 150-155.

The study tests the relationships of the three dimensions of emotional intelligence (self-awareness, self-regulation, and empathy) to managers' concern for the quality of products and services and problem-solving behavior of subordinates during conflict. Through regression analysis, the result shows that self-awareness and self-regulation are positively associated with problem solving, and self-regulation is positively related with concern for quality. Empathy however has a less significant correlation to quality. The implication of the study is that supervisors, who are deficient in emotional intelligence, may be provided appropriate training in order to improve their concern for quality and problem solving.

Thomson, K. (2000). ***Emotional capital: maximizing the intangible assets at the heart of brand and business and success*****. Oxford: Capstone.**

The new challenge of a real-world business in this decade is the harnessing of hearts and minds, so-called emotional and intellectual capital, respectively, to deliver superior service and better performance. The difference between intellectual capital (what people feel, believe, and value) and emotional capital (what we think and know) is highlighted. Though, literally, it conveys different meanings, their collaborative value points to the same direction – creating as well as sustaining the dynamic value of the firm. Such a value may be related to the brand (business) characteristics perceived by external customers. Positive perceptions are likely to result in the positive impact of the business performance (e.g. higher sales, repetitive purchases). Moreover, it is imperative for managers to understand their pivotal roles in managing corporate personalities, which reflect how their emotions and intellectual capacities affect the firm as a whole.