

Human resource management and business performance measurement

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Abstract The purpose of this paper is to review the research into the relationship between human resource management (HRM) and business performance. The paper examines the change of the HR function into HRM taking on its current strategic role. Recent work on the links between HRM and business performance is reviewed highlighting the conclusion that while the links are not disputed by researchers using a variety of approaches, the ability to characterize definitive causal links has proved almost impossible. The techniques and resource-based approach of intellectual capital (IC) may provide the key to quantifying the links but again, work to date has proved that it may not be possible to clearly separate HRM from other management actions to quantify the effects of HRM. A solution based on the IC approach involving rigorous measurement is suggested.

Keywords Human resource management, Business performance, Intellectual capital, Measurement

Introduction

For as long as one person has been engaged in furthering the aims of another, the employer has been concerned with ways of motivating the employee to maximize the effectiveness of the enterprise. While this is true of all enterprises, it has been especially true of the military.

At the company level, the work of Fayol (1916) in France and Taylor (1911) in the USA represent the earliest attempts to put management on a more scientific standing and improve the efficiency of companies through better management of their resources and operations. Both Fayol and Taylor tended to concentrate on the activities and processes of companies but their recognition of the employee is visible.

Human resource management (HRM) has gone through a number of stages and towards the end of the last century, the shift away from being a cost center to a player in an internal market heralded a new phase in large company HR in which accountability to the company was of prime importance. Coinciding with this change was the rise of new ways of looking at the company, such as the resource-based view of the company as described by Barney (1991), and the more strategic view of the company championed by the intellectual capital (IC) movement. It was now not enough for the HR function of the company to just "pay its way" as an integral operational part of the company. From now on, its role was to be strategic and the concept of strategic human resource management (SHRM) was born.

The role of SHRM

There is no consensus definition of SHRM but in general SHRM is concerned with the decision grounds about human resource practices, the composition and behaviors of the human resources, and the effectiveness of these decisions given various business strategy and/or competitive situations where the link to strategic management is significant (Wright and McMahan, 1990). SHRM is seen as strategic and political whereas HRM has concentrated in the past on being technically correct.

Traditionally, the role of the human resource professional has been to serve as the systematizing, policing arm of executive management. In this role, the HR function served executive agendas well, but has been frequently viewed as a roadblock by much of the rest of the organization. While some need for this role occasionally remains, much of the HR role is transforming itself. To make the changed function effective and relevant requires considerable change since the trend in successful organizations is to become more adaptable, resilient, and customer-centered. Within this environment, the HR function is considered necessary by functional managers, is an employee sponsor or advocate but most importantly, is part of the strategic planning process.

Effective HRM is no longer concerned with simply executing a standard set of policies and procedures. Rather, it requires questioning and understanding the relationships between choices in managing people, the strategies and goals of the organization and the possibilities presented by the external environment. HRM requires searching for sets of policies and practices that have a reasonable chance of producing capabilities that are valuable to the company.

Organizations choosing policies characteristic of the high-performance workplace, must take a strategic view and be clear about the objectives of the organization, the costs of introducing the program, and the value of the new capabilities the program is expected to create (Hunter, 2002). HRM must assist in the connection of the external and internal environments of the company since competitive environment features rapid technological change and knowledge about the emerging environment is held, to an increasing extent, in the heads of people.

This path is not necessarily easy to follow but it is a prerequisite for organizations if they are to manage human resources effectively. The process may also be frustrating, for many answers will not be readily found or expressed, e.g. the costs and benefits of particular approaches cannot be known with certainty. The future of HRM does not lie in progressive initiatives unconnected to business goals or organizational and environmental realities, neither in the production of standardized sets of best practices. Rather, it lies in ensuring that the choices made in managing people are made sensibly with clear strategic purposes in mind.

A significant issue in HR strategy is that of integration with overall business strategy, which in practice is difficult to achieve. A way of handling this problem is for human resource practitioners to achieve an understanding of how business strategies are formed. This involves understanding corporate intentions for growth or retrenchment and methods of increasing competitiveness. They should also gain insight into the perceived need for a more positive, performance-oriented culture and other cultural consequences of an organization's mission such as commitment, mutuality, communications, involvement, devolution and team working.

Impact of HRM on company performance

While the literature available on HRM practices is very extensive indeed, it is largely conceptual and concludes that HRM practices can help to create sustained competitive advantage, especially when they are aligned with a firm's competitive strategy. There is thus, surprisingly little that actually connects HRM practices with the performance of the business overall. Work that has been carried out in the area has tended to attempt connecting the use of modern HR practices with shareholder return, turnover or some other financial measure by means of techniques like factor analysis.

One of the best analyses of the company gains from high performance work practices is that of Huselid (1995). He sought to evaluate the links between systems of these practices and company performance. The assumption is that more effective systems of HRM practices, which simultaneously exploit the potential for complementarities or synergies and help to implement a firm's competitive strategy, are sources of sustained competitive advantage. Huselid's study contributed significantly in three ways:

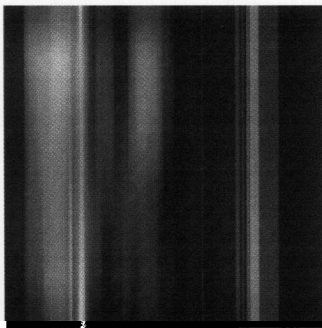
1. The level of analysis used to estimate the firm-level impact of HRM practices is the system, and the perspective is strategic rather than functional.
2. The analytical focus is comprehensive. The dependent variables include both intermediate employment outcomes and company-level measures of financial performance, and the results are based on a national sample of companies from different industries.
3. The study provides a test of the prediction that the impact of high performance work practices on firm performance is contingent on both the degree of internal fit, among these practices and the degree of external fit between a company's system of such practices and its competitive strategy.

Interest in the belief that individual employee performance affects company outcomes has intensified as scholars have begun to argue that a company's employees also provide a unique source of competitive advantage that is difficult for its competitors to replicate. For example, Wright and McMahan (1992), drawing on Barney's (1991) resource-based theory of the firm, contended that human resources can provide a source of sustained competitive advantage when four basic requirements are met. First, they must add value to the company's production processes, and second, the skills that the firm seeks must be rare. Since human performance is normally distributed, all human resources meet both of these criteria. The third criterion is that the combined human capital investments a company's employees cannot be easily imitated. Finally, a company's human resources must not be subject to replacement by technological advances or other substitutes if they are to provide a source of sustainable competitive advantage.

Wright and McMahan's work points to the importance of human resources in the creation of company-specific competitive advantage. The issue is then whether companies can take advantage of this potential source of profitability. Bailey (1993) contended that human resources are frequently "under-utilized" because employees often perform below their maximum potential and that organizational efforts to elicit discretionary effort from employees are likely to provide returns in excess of any relevant costs. Bailey argued that HRM practices can affect such discretionary effort through their influence over employee skills and motivation and through organizational structures that provide employees with the ability to control how their roles are performed. Cross-functional teams, job rotation, and quality circles are examples of such structures.

HRM practices influence the development of a company's human capital. Recruiting procedures and reliable selection processes will have a substantial influence over the quality and type of skills new employees possess and training further influences development. However, the effectiveness of even highly skilled employees will be limited if they are not motivated to perform and HRM practices can affect employee motivation by encouraging them to work both harder and smarter. Examples of ways to direct and motivate employee behavior include the use of modern performance appraisals that assess individual or work group performance, linking these appraisals tightly with incentive compensation systems and the use of internal promotion systems that focus on employee merit.

Given the link between employee behavior, HRM and company performance, a company's HRM practices should be related to at least two dimensions of its performance. First, superior HRM practices should directly affect intermediate outcomes, such as turnover and productivity since employees have direct control over them. Second, if the returns from HRM investments practices exceed their costs, then lower employee turnover and greater productivity should in turn enhance corporate financial performance. Huselid's study provides



broad evidence that there is considerable support for the hypothesis that investments in such practices are associated with lower employee turnover and greater productivity and corporate financial performance.

Guest and Peccei (2002) explored the operation of partnership systems at work conceptualized as systems of cooperative exchange between management and labor in organizations. They developed a model proposing that trust, exchange and cooperation are central mechanisms underlying the effective operation of partnership systems. This includes the idea that management and labor, by engaging in mutually beneficial forms of cooperative behavior in organizations, can contribute to the development of potentially self-reinforcing high trust-high performance partnership systems.

While recent research suggests that consistency among practices matters for company-level performance, the evidence is sparse, and in many cases limited to particular industries (Ichniowski *et al.*, 1997). Excepting the work of Ichniowski *et al.* (1997) and Laursen and Foss (2000) the effect of HRM practices has been examined on an individual work practice basis. However, if Edgeworth complementarities (i.e. doing more of one thing increases the returns of doing more of other things) obtain, the effectiveness of HRM practices will be greater, when applied in systems rather than alone. Laursen (2000) contended that theoretical analysis had focused almost exclusively on identifying complementarities between organizational practices invariant to the type of activity.

Another aspect of HRM is that new HRM practices can assist innovative activity, e.g. by decreasing centralization. This amounts to delegating rights so that they are co-located with the knowledge holders, much of which is inherently tacit. The increased use of teams – an important component in new HRM practices – also means that better use can be made of local knowledge, leading to improvements in products and processes. Generally, increased knowledge diffusion, for example, through job rotation and IT may also be expected to provide a positive contribution to innovation.

Scorecard approaches linked to business performance

In the 1980s and 1990s, a lot of work investigating business process architectures and models was carried out. Hammer and Champy (1993) devised the CIMOSA approach (computer integrated manufacturing open system architecture), a business process architecture that classifies business processes as management processes, operational processes and support processes. Within this architecture, HRM is classified as a support process together with finance and IT. Therefore there is a need to understand HRM as a business process in order to improve manufacturing performance. The other four models most commonly accepted from the literature include:

1. The Michigan model (Fombrun *et al.*, 1984), consisting of strategic management and environmental pressures, and the human resource cycle.
2. The Harvard model (Beer *et al.*, 1984) consisting of the two parts "Human resource system" and "A map of the HRM territory".
3. Guest model (Guest, 1987) involving four policies to achieve four main HR outcomes these outcomes will lead to desirable organizational outcomes and is similar to the Harvard model.
4. The Warwick model (Hendry and Pettigrew, 1992) consisting of inner and outer context with emphasis on strategy and is based on the Harvard model.

These models work well as HRM process guides but are weak on their influence on company performance. In the preceding section, the connection between the use of sets of HRM practices and improved business performance is also demonstrated but the connection to the processes is weak. Thus it can be concluded that there are useful HRM models and their use improves business performance but it is not known *how* in detail. In this section, scorecard-based models of HRM will be briefly discussed.

The strategic labor allocation process (SLAP) (Bax, 1999), is a resource-based model with value creation in the market as its ultimate aim. In the SLAP-model, distinctive competencies are the

crucial elements of the organization's (for profit or non-for-profit equally) business idea and can be directly linked to the labor allocation process. From a methodological point of view, the SLAP model represents an intermediate step between the more traditional models described above and possibilities of an IC approach. Both the SLAP model and IC are resource-based approaches and both are founded on the work of Barney (1991).

IC is a holistic approach to business management and includes HRM, integrating it in the value creation map of the company. Despite this holistic viewpoint, a large number of attempts to measure human capital in isolation have been made. Because of the narrowness of their viewpoint, they will be unable to account for the true role human capital and HRM plays in improving business performance since they cannot explain all the salient links without going outside their area. The result of this is that most of the attempts to measure human capital in isolation have no defensible mechanism to underpin them and consequently rely on scorecards, often backed up by benchmarking, to assess the state of human capital management and HRM in companies.

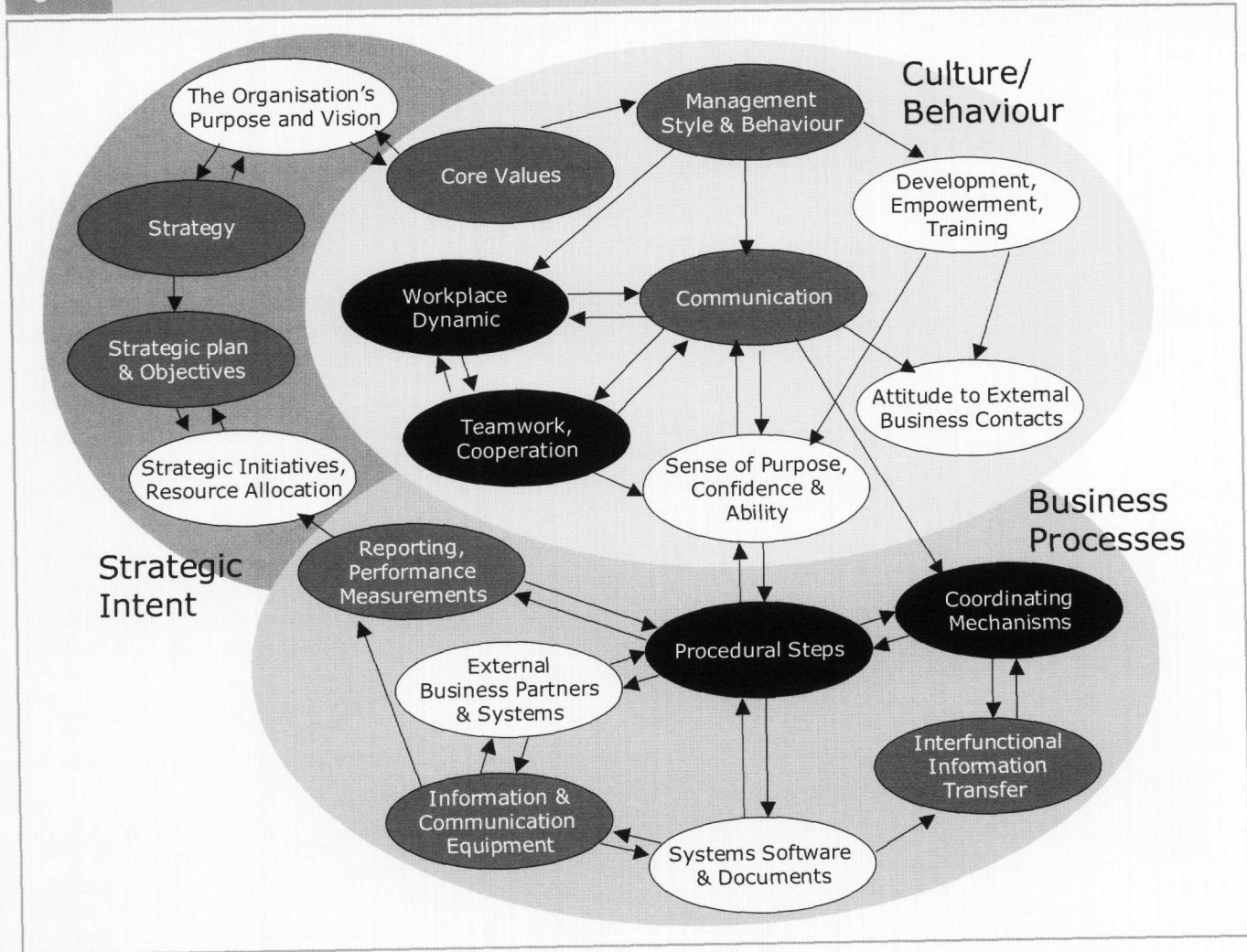
Arguably, the most important of these approaches is that of Fitz-Enz (2001), laying a foundation of a methodology for measuring the return on investment (ROI) of human capital by suggesting the ways in which such capital interacts with other aspects of IC to optimize the effectiveness of an enterprise. To estimate the ROI of human capital, Fitz-Enz relies primarily on quantitative metrics but also incorporates some perceptual measures into a scorecard model. This provides guidance on the design of objective and perceptual metrics at the enterprise level. Fitz-Enz claims that changes revealed by these metrics are a function of five indicators: cost, time, volume, errors, and human reactions. Fitz-Enz compares these indices with metrics for functional unit service, quality, and productivity to discover links between them. Based on this, Fitz-Enz proposes a comprehensive system of human capital valuation reporting. This system makes transparent the linkages among people, enterprise goals, and processes or functions and the effects of one on another. To this system, Fitz-Enz adds "futures" scorecards to predict what might be on the horizon and introduces the human capital financial index as another way to monitor changes in human capital revenue, cost, and profit. He then demonstrates how to find economic value in the workings of each of the most common human capital initiatives: restructuring of the HR unit, outsourcing, contingent workforce management, mergers and acquisitions, and benchmarking.

A more process-orientated approach is that devised by Human Capital Dynamics (now called Human Capital Capability Inc.) and Cognitive Technologies Group. The end result of this is a scorecard but underpinning the scorecard structure is a three-tier model which has at its base human capital enablers (learning, governance, job design and time), resources (investment, staff, technology and content) and operations (process feedback, staffing, competency development and retention). These produce intermediate outcomes (workforce proficiency, workforce engagement, employee satisfaction, manager proficiency, customer satisfaction, turnover, time to competence and revenue from new products). At the top of the model is company financial performance which comprises income, sales growth, market share and stock performance.

Whereas such a structure undoubtedly sets it apart from other scorecard approaches in that it has the ability to predict the effects of HRM actions, its inputs are incomplete with respect to the breadth of managerial actions available to the management team. It can be argued that company performance improvements could be obtained through changes in resource deployment other than human resources. Only the holistic structural models found in an IC system can do this.

Becker *et al.* (2001) offer a scorecard methodology which has been operationalized by "HRScorecard.com". It is designed to give managers specific information on the three key areas of organizational effectiveness: strategic intent, business processes and culture/behavior executed by means of an on-line questionnaire. The methodology has an underpinning structure to separate it from other scorecard approaches and to allow some useful predictive and analytical work to be undertaken. Interlinked key attributes are spread amongst the three areas and are connected as shown in Figure 1.

Figure 1 Key areas of organizational effectiveness. Source: Becker et al., 2001



The final scorecard-based approach of note is the consulting firm Watson Wyatt's human capital index. Watson Wyatt have carried out extensive research into human resource practices among North-American listed companies. To investigate the relationship between human capital practices and value creation, a series of multiple regression analyses were conducted, identifying a clear relationship between the effectiveness of a company's human capital practices and shareholder value creation. A total of 30 key HR practices were associated with a 30 percent increase in market value. The Watson Wyatt study enabled companies to be ranked and compared against each other. The results showed a clear connection between HRM practices, the index developed and the shareholder consequences. In this case, as the underlying structure is relatively simple, predictive and analytical work cannot be conducted.

IC

The approach that offers the best prospect of linking HRM practices and business performance is IC, because it is:

- ⌘ holistic with respect to the company and hence will not mis-attribute effects to causes and thereby make false claims about the effects of HRM;
- ⌘ is a resource-based methodology and is automatically in tune with the nature of the entity that is to be managed;

- ◀ able to show which resources and their employment are most influential in the creation of value; and
- ※ made rigorous by connecting it to rigorous measurement systems and systems dynamics modeling techniques underpinned by a systems engineering philosophy.

IC can be subdivided into three “generations” with the first generation growing from the balanced scorecard philosophy of the early to mid-1990s (Kaplan and Norton, 1996). Table I gives the characteristics of the three generations of IC thinking and methodologies.

Although holistic, IC thinking can be applied to discrete management areas within the company such as HRM. For instance, Pike and Roos (2001) have applied it to the measurement of knowledge management practices in companies. For the purposes of measuring the impact of HRM on company performance, only second or third generation IC methodologies are adequate with first generation methodologies offering little advantage over simple scorecard approaches and no advantage over the sophisticated scorecard approaches described in the last section.

Bontis and Fitz-Enz (2002) have carried out a study on the causal links within the HR function from an IC perspective. They constructed a causal map that integrated constructs from the fields of IC, knowledge management, human resources, organizational behavior, IT and accounting. The resulting structural equation model shows the effectiveness of an organization’s human capital capabilities. Their key findings were summarized in these five research implications:

1. The development of senior management’s leadership capabilities is the key starting ingredient for the reduction of turnover rates and the retention of key employees. Effective leadership acts as a spark for organizational knowledge sharing and alignment of values throughout the organization.
2. The effective management of IC assets yields higher financial results per employee.
3. Employee sentiment as defined by satisfaction, motivation and commitment has far-reaching positive impacts on business performance.
4. Knowledge management initiatives can decrease turnover rates and support business performance if they are coupled with HR policies.
5. Business performance is positively influenced by the commitment of its organizational members and their ability to generate new knowledge. This favorable performance level subsequently acts as a deterrent to turnover which in turn positively effects human capital management.

Table I The three generations of IC

Main criteria	Test	1st generation IC and BBS	2nd generation IC, e.g. IC index	3rd generation IC, HVA
Auditable and reliable	Data meets a standard	No	Partial	Yes
	Data addresses looks at the right time frame	Yes	Yes	Yes
Overhead and ease of use	Low measurement overhead	Moderate	Moderate	Moderate
	Easy to initiate and use	Yes	Moderate	Moderate
Strategic management	Allows multi-level management	Does not allow trade-off decisions	Yes	Yes
	Measures stock, flow and influence	Stock	Stock and influence	Stock, flow and influence
Shareholder information	Provides data at all levels in the company	Yes	Yes	Yes
	Engages all the value attributes of all stakeholders	No	Partial	Yes

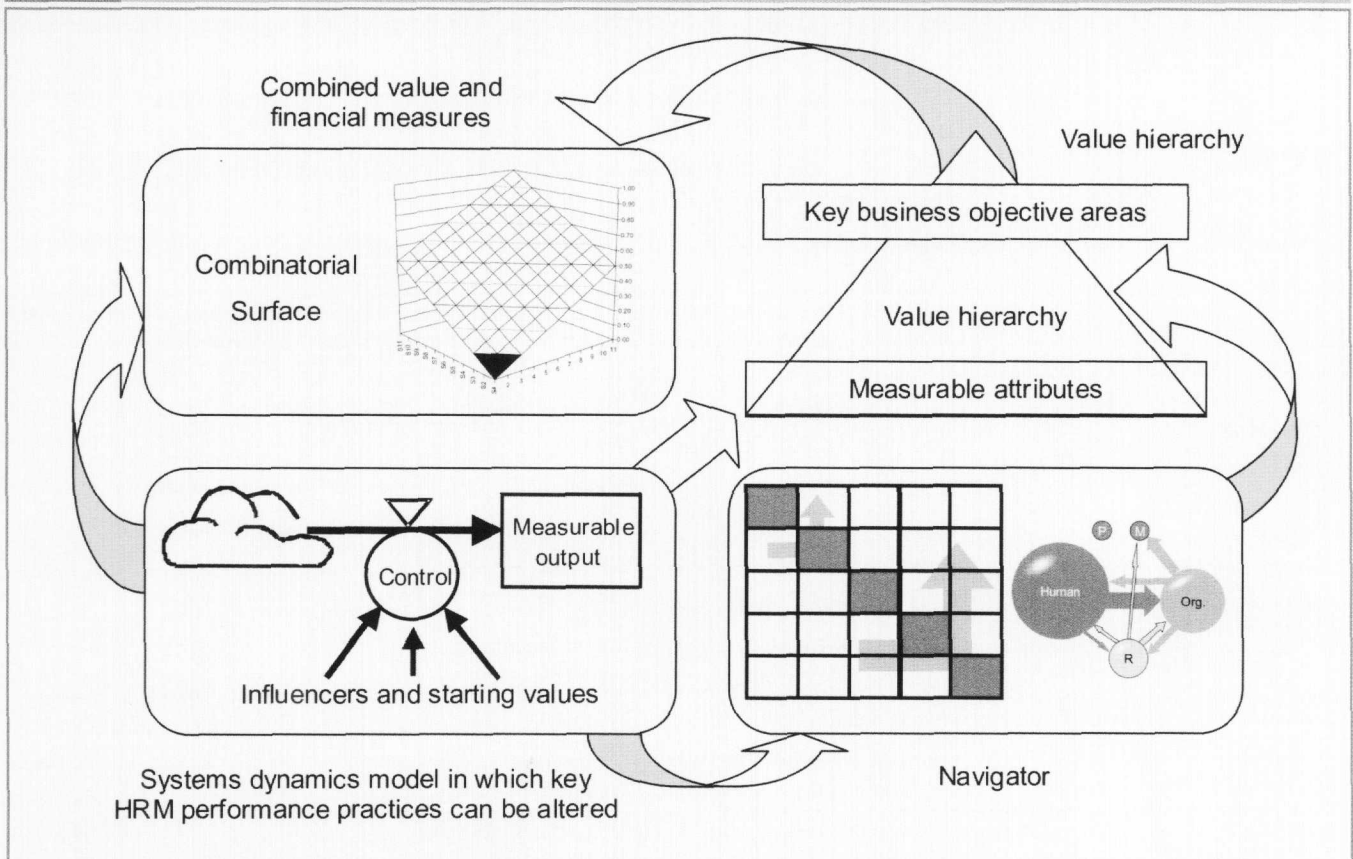
In contrast, Eskildsen *et al.* (2000) used similar statistical techniques and structural equations to investigate the simplification of the EFQM (European Foundation for Quality Management). One of the interesting findings of their work was that “leadership” and “policy and strategy” were effectively synonymous. While this may look insignificant, in IC terms, it is significant since leadership is a human resource while policy and strategy are organizational resources.

The lesson that must be drawn from comparisons such as these is that studies into the means of improving business performance must be holistic. To be confident in defining causal links between management actions in any part of the company and the business result, one has to involve all the company’s actions since the complexity of the modern company means that it is difficult or perhaps impossible to isolate a function like HR from the rest.

The seminal second generation IC work is that of Roos *et al.* (1997). Second generation IC allows the first three of the four bullet-point claims for IC to be met since it is holistic. However, to achieve the fourth requires proper measurement. If a hard and auditable link between HRM practices and business performance is needed, then third generation IC is required. This was devised by Pike *et al.* (2002) and is described in Figure 2.

The model is constructed as a single unit with the systems dynamics model describing the operation of the company including all its key processes, such as the HRM processes and practices. At the same time, a mirror of this model is built with a resource-based emphasis using the techniques of second-generation IC. This gives rise to an IC “navigator”, a conceptual map of the company. Together, the systems dynamics model and the navigator describe the functioning of the company. The value hierarchy is a rigorous measurement system based on multi-attribute value theory and measurement theory which correctly combines the effects on the company of changes made by HRM action to the variables in the systems dynamics model.

Figure 2 The holistic value approach (HVA). Source: Pike *et al.*, 2002



The financial consequence of changes to the company is expressed in simple financial terms from the systems dynamics model and in value terms from the measurement hierarchy. These can then be combined in "back projection" to give a figure for value for money, if required. This methodology was developed by McPherson, Pike and Roos and demonstrated by McPherson and Pike (2001).

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