HUMAN CAPITAL INVESTMENT AND RETURNS AT FIRM LEVEL

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ABSTRACT

The intent of this paper is to derive a research framework which explicates the relationship between HR investment, human capital, and firm performance. In this framework, we explore the concept of investment portfolio and suggest relationship between different HR investment portfolios and their returns on human capital and firm performance. A systems view that measures a firm's overall human capital as a flow of input-based, throughput-based, and output-based human capital is offered to further distinguish the effect of different HR investment portfolios. The mediating effect of a firm's human capital between HR investment and firm performance is also discussed.

THE ROI OF HUMAN RESOURCE INVESTMENT

The term human resource investment (or investment in human resource) appeared frequently in HR-related literature. However, it is used very loosely as a generic term rather than a well-defined research concept. HR investment encompasses a wide range of commitment, such as time, money or support dedicated to HR. HR investment within organizations can be measured by a firm's HR budget or total spending on HR. It should include the cost from each HR function, such as recruiting, selection, training, compensation, and appraisal, as well as the cost of managing HR department, such as HR personnel cost.

Because of methodological difficulties (e.g., Miller & Wurzburg 1995; Wang, et al., 2002), currently there is no agreed upon method to the measurement of ROI from intangible investment. With the development of an applicable HR ROI theory still under way, it is very difficult for HR personnel to claim legitimacy in their budgeting. Before theoretical and methodological issues of measuring intangible ROI can be resolved, human resource managers will need an effective case to justify their claim for HR investment. An economic approach which examines HR investment as the cause of improvement in productivity and financial performance is probably the most useful for HR managers to prove their case. In real business settings, all decisions reflect on the firm's performance. The ultimate return of any business investment is thus the size of the contribution to a firm's bottom line. Therefore, we suggest measuring ROI at the highest level, using the firm's productivity and financial performance as the return of HR investment until a more sophisticated HR ROI theory can be empirically tested.

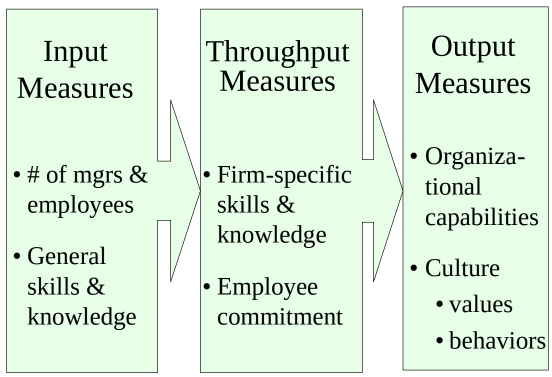
Researchers in the past decade have clearly established a positive link between HR and firm performance (Arthur, 1992, 1994; Delaney & Huselid, 1996; Delery and Doty, 1996; Ellinger et al., 2002; Huselid, 1995; MacDuffie, 1995; Welbourne & Andrews, 1996). For example, Huselid (1995) revealed a relationship between High Performance Work Systems and employee turnover, gross rate of return on assets, and Tobin's Q. This research has become a seminal study because it demonstrated that HR practices could have a significant impact on accounting and market based measures of performance. As HR practices takes considerable time and effort to plan, design, and execute, sufficient budget allocation is required to ensure success. Therefore, a firm with higher HR investment is more likely to establish effective HR practices that will help it sustain a competitive advantage to achieve financial goals.

> *Proposition 1: HR investment has an overall positive impact on a firm's productivity and financial performance.*

THE SYSTEMS VIEW OF HUMAN CAPITAL

As illustrated in figure 1, a company's human capital (HC), which was constantly referred to in aggregated terms, is composed of three sequential stages that mimic the inter-working of an input-throughput-output system. Input HC includes those workforce characteristics that are acquired at hiring. These are general characteristics that the employees brought with them to the company, and will only change through natural growth as time passes. Examples of input HC include number of employees and their general skills and knowledge level. Employee's age, education and industry experience are most often used as proxies for employees' general skills and knowledge.

FIGURE 1: A Systems View of Human Capital Measures



As an employee's tenure with a company increases, his/her company specific experience increases as well. Through intentional or casual acculturation processes the company gradually molds the employees into firm-specific assets. Employees at "throughput HC" stage possess a higher level of firm-specific knowledge, skills, expertise, abilities and a sense of commitment to the company. Output HC is the manifestation of the collective strength of a company's stock of individual human capital combined with the characteristics of the environment that hosts it. In this stage, employees' general and firm-specific KSAs intertwine with company strategies, processes, leadership and atmosphere to form a unique set of organizational culture and capabilities.

> *Proposition 2: A firm's human capital can be analyzed from a systems perspective as a sequence of interrelated input, throughout, and output human capitals each carrying a different degree of impact on firm performance.*
>
> *2a: A company's stock of output human capital has the most impact on firm performance as compared to the stock of its input and throughput human capitals.*
>
> *2b: A company's stock of input human capital has the least impact on firm performance as compared to the stock of its throughput and output human capitals.*

THE HR INVESTMENT PORTFOLIO

We introduce two possible and distinct HR investment portfolios - the talent attraction portfolio vs. the talent developmental portfolio. (See Table 1.) When companies take an attraction view of their human resources, they are likely to develop sophisticated recruiting mechanisms which include extensive selection testing, screening, and personal interviews. In addition, generous bonuses or perks may be offered to employees possessing the exact human capital they are looking for (Milgrom & Roberts, 1992; Pfeffer, 1998). However, because these firms engage in short-term, combat-like competitive advantages, little time or effort is put into training and developing employees. Turnover rate for these companies are likely high because their human capital is more expendable, causing the companies to spend more on recruiting. As an extreme opposite of the attraction view, companies which take the developmental view toward their human resources engage in a longer-term competitive situation where their sustained advantages lie not only on the quality of their human capital but also on how well their human capital possesses and executes the company-specific know-how's. Since these companies expect the employees are in for a long term, they may take a modest yet systematic approach on compensation. Less hiring is required once these companies are in operation resulting in a lower recruiting cost. A substantially higher percentage of time, money and effort are put into orientation, training, career development, team building and other high commitment-oriented activities (Arthur, 1992; Banker et al., 1996).

TABLE 1: Two HR Investment Portfolio Examples

		Core Competence Needs	
		Talent Attraction	*Talent Development*
HR Investment	Recruiting	High	Low
	Compensation	High	Medium
	Training & Development	Low	High

Proposition 3: Different HR investment portfolio will produce different stock of human capital.

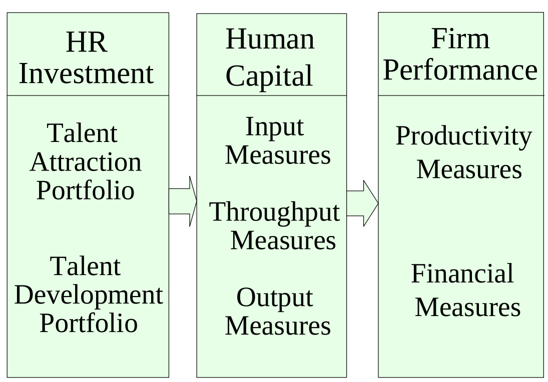
3a: Companies that adopt the talent attraction HR investment portfolio will produce a higher stock of input human capital.

3b: Companies that adopt the talent development HR investment portfolio will produce a higher stock of throughput and output human capital.

THE HR ROI MODEL—A PROPOSED FRAMEWORK

Figure 2 is offered as a schematic representation of a model of human resource ROI. Human resource investment, in the form of expenditures and personnel efforts, has a positive impact on a firm's human capital. This positive impact is demonstrated through an improved overall quality in its stock of human capital, which accumulates over time following a systematic (input-throughput-output) flow. Different composition of human resource investment, which we term HR investment portfolio, influences different areas of the flow. Increase in either input HC or throughput HC will ultimately promote the firm's output HC. The manifestation of output HC, measured as firm's competencies, has a direct impact on the firm's overall performance. In short, company investment in HR will produce results in firm performance only through the effect of the firm's human capital.

FIGURE 2: The ROI Model of Human Resource Investment



Proposition 4: HR investment has an overall positive impact on firm performance through the mediating effect of the firm's human capital.

(A complete version of this paper can be requested at cc.rosayeh@msa.hinet.net.)