



REVISITING HUMAN CAPITAL AND FIRM PERFORMANCE: A SYSTEMATIC REVIEW

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Revisiting Human Capital and Firm Performance: A Systematic Review

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Abstract

The concept of human capital refers to the knowledge, skills, and abilities of a workforce. The relationship between human capital and corporate performance has garnered both attention and debate, particularly since the COVID-19 pandemic. The present work synthesizes findings from 21 studies on this topic. The objective of this paper is to identify the main theories of human capital, document the different variables that are at play, report the measurement and significance of the human capital–performance relationship. We find that human resource management (HRM) practices are a precursor to effectively building human capital in organizations with relevant impact on both operational and financial performance. Furthermore, we outline how human capital acts as a mediator, translating the impact of HRM practices into discernible corporate performance outcomes. This also reveals that the interrelation between human capital and performance is contingent upon specific organizational attributes and the strategy it is embedded in. Finally, we offer a roadmap for prospective research trajectories in this domain. Future researchers are encouraged to mobilize novel theoretical frameworks, adopt more sound measures in the context of research, and re-open the discussion on human capital valuation.

Keywords: strategic human resource management; human capital; firm performance

Introduction and Motivation

Human capital has been viewed as an important part of firm productivity for many decades. Yet, during the COVID-19 pandemic and its aftermath, concerns about workers and their social and economic well-being have taken centre stage again, moving into a “new age” of human capital concerns (Deloitte, 2024). Much of the discussion during the pandemic revolved around the idea that companies can only be resilient in crises if they can rely on an adaptive, loyal resourceful, and content workforce (Deng et al., 2021; Moss, 2023; World Bank, 2023). To keep their employees so, many companies toyed with the idea of introducing more flexibilities, such as remote work and home office (Choudhury, 2020). A trend that over the last four years has, however, decreased again (Mortensen, 2023). Much of the discussion since has instead been laid increasing focus on technological changes, and the question of how artificial intelligence and algorithms might change the “future of work” (Malone, 2019). This debate highlights that there may be a shift in the *kinds* of human capital companies will depend on, potentially elevating high-skilled labour and devaluing repetitive tasks that can easily be automated.

Since the conversation around human capital is closely linked to questions of economic efficiency, resilience, and future success, these questions are also central for many investors beyond the sustainable investment sphere (Schroders, 2023). Knowing full well that there is a “war of talent” raging in many sectors, investors increasingly pay attention to concerns around effective governance of diversity, inclusion, and equity (DEI), occupational health and safety (OHS), and processes of talent retention in firms. Also in shareholder engagement, these topics are increasingly addressed (Aguinis et al., 2012; Bell & Llewellyn, 2023). Yet, while many companies frame their employees as “their most valuable assets”, very few account for them as such. In traditional financial accounting, human capital is conventionally captured through items such as wages, wage benefits, stock-based compensation accounts, and pension provisions – all of which are classified expenditures or future liabilities, and none of which defines human capital as an “asset” to the firm. This accounting treatment often poses a problem of incentivization and thus a predicament of human capital management from a financial perspective: While today, there seems to be a broad acknowledgement of the value of human capital for the success of the firm as outlined above, it also seems to be one of the most utilized channels to cut cost in times of trouble.

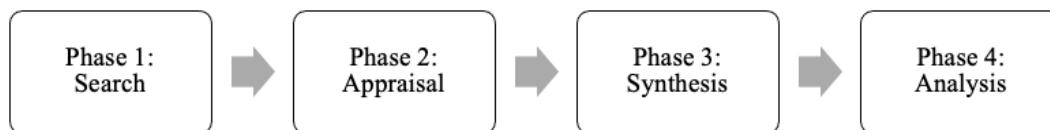
This contrast and puzzle led us to the purpose of this paper. If the accounting relationship between human capital and financial performance is sometimes counterintuitive, we assume that there must be other, less intuitive channels and measures than cost, which managers and investors use to appraise, protect, and build human capital. Our question, in other words, is: In this “new age” of human capital management, how do companies and investors value human capital beyond cost, and how is this linked to firm performance?

Considering that the relationship between human capital and firm performance is not exactly a “new” question, we chose to perform a structured literature review, to see whether previous literature could help us answer this question. We find that the literature uses many different, often firm-specific constructs to capture human capital, which is then evaluated against not only financial but also operational performance. We trace the different channels that are explored, to find that often strategic human capital management is used as a proxy, entering the assessment of good management overall and therefore becoming a part of fundamental analysis, rather than cost analysis at firms. However, we also show how this led to an under-exploration of human capital assessments in the finance and accounting literature. Since human capital is treated as a contextual, “fundamentals” piece, it often does not enter financial appraisals. We discuss why this may potentially be a problem and propose a future research agenda to address this.

Methodology

To gain the insights we seek, we focus this study on developing a systematic and descriptive review of the literature. The main objective of a descriptive review is to assess whether an existing body of work on a specified research topic showcases any discernible patterns or trends, particularly concerning pre-existing theories, methodologies, propositions, or outcomes (Paré & Kitsiou, 2017). Descriptive reviews adhere to a rigorous set of procedures, thus, making them more systematic and transparent than other types of literature reviews (Paré & Kitsiou, 2017). Literature reviews that are systematic in nature are beneficial because researchers can examine a comprehensive collection of literature on a specific topic, synthesize what is known on a topic, and open up future discussions for academics and practitioners (Grant & Booth, 2009; Paré & Kitsiou, 2017). The current work mobilized the SALSA framework to effectively carry out the literature review in four phases: 1) Search, 2) Appraisal, 3) Synthesis, and 4) Analysis. We mobilized this framework to ensure a structured and systematic approach while carrying out the literature review (see Figure 1). These steps are described below.

Figure 1. The SALSA Framework.



Phase 1: Search

The first stage of the SALSA framework is to conduct a search of the literature. Before executing our search, we selected keywords that we believed would be most effective to carry out our search. For this, we developed a predictor outcome (PO) statement, which is a statement that contains concepts and keywords

that relate to the predictors of human capital (direct and indirect) and outcomes (see Table 1). After establishing our PO statement, we selected the Web of Science as a database and used Boolean operators to carry out our search (see search strategy in footnote).³ We additionally restricted our search to only include published academic works in peer-reviewed journals.

Table 1. PO Statement

Predictor	Outcome
• High performance work systems • Human capital	• Firm performance • Organizational performance

Phase 2: Appraisal

The second stage focussed on conducting an appraisal of the quality of the studies (Grant & Booth, 2009). In our research selection process, we wanted to ensure the inclusion of studies of only the highest quality. In addition to only focussing on peer-reviewed academic outlets, we thus further refined our selection through a preliminary quality assessment. In this initial evaluation, we focussed solely on articles sourced from journals rated as either A+ or A. These rankings were determined using the Financial Times 50 Journals (FT50), alongside the Journal Citation Reports (JCR) to determine whether the journals were recognized as Q1 in their respective fields. While we acknowledge that high-quality research is also published in lower-ranking journals, we chose this sampling primarily due to a) the rigorous peer-review processes that are maintained in A+ and A-ranked journals, and b) the visibility of these studies and their subsequent influence on the field. Consequently, this approach ensures that we focus on research articles that are generally accepted to be of superior quality and impact.

In a final step, we extracted only those studies that were of topical interest to us. For this, we included studies that examined the relationship between human capital (direct/indirect) and firm (out-)performance both from an operational and financial point of view. We excluded, on the other hand, studies that examined other dimensions of performance such as innovation, agility, resilience, and similar outcomes. We also excluded studies that did not examine performance at the organizational level but rather focussed on national or regional economic performance.

Phase 3 and 4: Synthesis and Analysis

The third step of our analysis focusses on synthesizing the data that is extracted from the literature review (Grant & Booth, 2009). To do so, we first charted our data in the Excel sheet to start extracting our findings.

³ Search terms with Boolean operators: (("human capital " OR "high performance work systems") AND "firm performance" OR "organizational performance")

Data charting refers to a “technique for synthesizing and interpreting qualitative data by sifting, charting and sorting material according to key issues and themes” (Arksey & O’Malley, 2005, p.26). In our case, data was charted based on the categories depicted in Table 2 below.

Table 2. Data Charting Form

Information	
(1) Title	(4) Measures of human capital (direct/indirect)
(2) Authors	(5) Measures of performance
(3) Year	(6) HC/HRMP performance link
	(7) Statistical significance

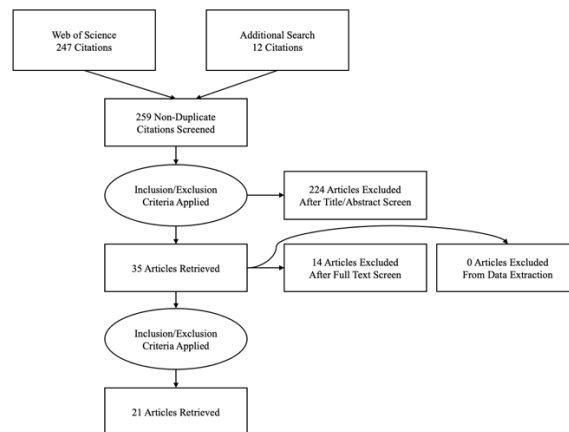
Note. HC/HRMP performance link refers to whether the articles presented a link between human resource management practices (HRMP) that build human capital (HC) or a direct link between human capital and performance.

To finally synthesise and analyse the data we used two techniques. First, we conducted a narrative synthesis, a technique that is helpful for combining information from research studies in a comprehensive manner (Barnett-Page & Thomas, 2009). Second, we used thematic analysis to identify patterns in the human capital and performance literature. Thematic analysis can be characterized as a technique employed in qualitative research that enables researchers to identify recurring patterns or themes within the data (Braun & Clarke, 2012; Lester et al., 2020).

Final Selection of Sources for Review

After duplicates and unretrievable citations were removed, 247 citations were identified from the search in the Web of Science. We also did an additional search in accounting and finance journals. We found an additional 12 citations to include for review. Based on the title and abstract, 224 citations were excluded, with 35 full-text articles to be retrieved and assessed. After reading the full texts of these 35 articles, 14 were excluded because they did not meet the criteria outlined above. The remaining 21 studies were considered eligible for the current review. This process is depicted in Figure 2.

Figure 2. Flow Diagram of Literature Review



Results

We structure the findings of our literature analysis into four sections. First, we discuss the main theories of human capital that emerged. Second, we dive into the possible directionalities of relationships between human capital and firm performance. Third, we document the nature and quality of measures that have been used to assess human capital and firm performance. Finally, we review the statistical significance of the links that previous studies have drawn between human capital and firm performance.

Theories of Human Capital

According to the literature we reviewed, there are two major theories that specifically look at human capital and firm performance. The most popular theory is Barney's (1991) resource-based view (RBV) of the firm to either explain how human resource management (HRM) practices and/or how human capital can lead to firm performance (Carmeli & Schaubroeck, 2005; Chowhan, 2016; Crook et al., 2011; Fu et al., 2019; Hitt et al., 2001; Kaur & Kaur, 2021; Y. Kim & Ployhart, 2014; Kor & Leblebici, 2005; Messersmith & Guthrie, 2010; Ngo et al., 2014; Oh & Kim, 2021; Stern et al., 2021; Youndt et al., 1996). The resource-based view of the firm explains that the unique contribution of human capital can generate a sustained competitive advantage for organizations (i.e., outperform other organizations within the same industry) (Barney, 1991). This theory assumes that organizations can do so if they help their workforce develop core competencies that are non-transferable, valuable, rare, and non-substitutable. Hence, organizations with such idiosyncrasies in their workforce would be able to firmly maintain an upper hand in terms of performance (Barney, 1991).

The second most popular theory is the so-called human capital theory (HCT) (Jiang et al., 2012; Kaur & Kaur, 2021; Youndt et al., 1996). HCT was initially developed by Becker (1962) and explains that people

have a certain level of human capital which can be enhanced through education and training. In relation to this, HCT theorists also assume that a well-educated and trained workforce is likely to be a productive one, which can have positive impacts on performance (Becker, 1962).

The main difference in the application of these two theories is the unit of analysis. While the RBV focusses on the firm and the resources it has at hand, the HCT focusses more on the individual, their development, and the contribution they can make. It is thus unsurprising that resource-based studies can often be found in more general management, accounting and finance journals – focussing on the study of how managers and investors can react to these organizational dependencies –, whereas HCT is the most common literature in journals directly linked to the management of human resources – focussing more on the development potentials and limits of individuals and their interaction with their contextual, organizational environment.

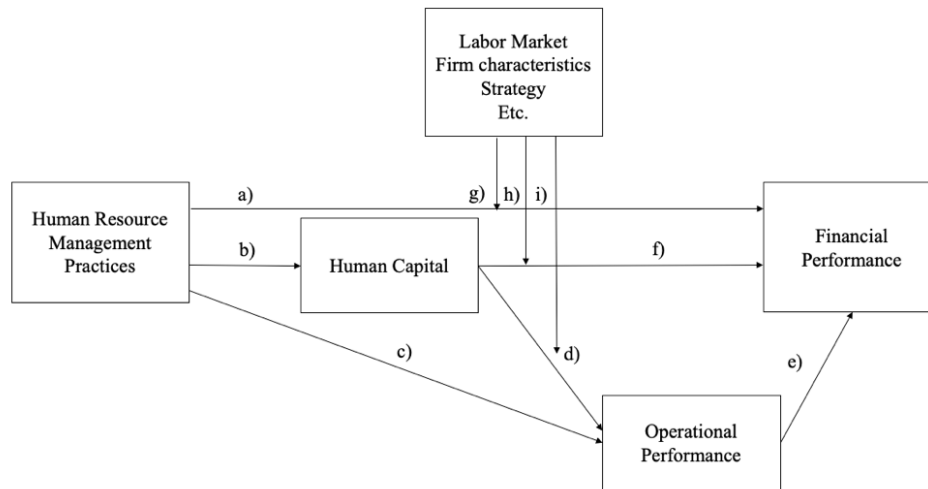
The Directionalities of Relationships Between Human Capital and Performance

Human capital scholars explain that bundles of HRM practices (i.e., high performance work systems or HPWS) can directly impact an organization's financial performance (Chen et al., 2020; Chowhan, 2016; Fu et al., 2017, 2019; Heffernan et al., 2016; Jiang et al., 2012; Kaur & Kaur, 2021; K. Kim et al., 2021; Messersmith & Guthrie, 2010; Ngo et al., 2014; Oh & Kim, 2021; Youndt et al., 1996). These practices seem to do so because they effectively build, maintain and activate a firm's human capital (see Jiang et al., 2012; Kaur & Kaur, 2021). Additionally to this direct impact of HRM on financial firm performance (Carmeli & Schaubroeck, 2005; Chen et al., 2021; Crook et al., 2011; Fedyk & Hodson, 2022; Hitt et al., 2001; Jiang et al., 2012; Kaur & Kaur, 2021; Kor & Leblebici, 2005; McDowell et al., 2018; Stern et al., 2021), it is likely that human capital – that is, the individual's pre-existing level of knowledge and experience – also mediates the relationship between the two (see Jiang et al., 2012; Kaur & Kaur, 2021). Furthermore, the human capital literature suggests that firms are able to achieve higher financial performance through better operational performance that is generated by the bundles of HRM practices (Jiang et al., 2012; Messersmith & Guthrie, 2010; Ngo et al., 2014) and/or human capital itself (Crook et al., 2011; Fedyk & Hodson, 2022; Jiang et al., 2012).

Moreover, the literature suggests that the relationships between HRM practices/human capital and firm performance (both operational and financial performance) are likely to be moderated by 1) the type of labour market that employees are active in (Fedyk & Hodson, 2022), 2) an organization's characteristics (e.g., budget, culture, firm type and firm size) (Fedyk & Hodson, 2022; Fu et al., 2019; Oh & Kim, 2021; Rabl et al., 2014), 3) strategy (e.g., manufacturing, cost, and diversification strategies) (Chowhan, 2016; Crook et al., 2011; Heffernan et al., 2016; Youndt et al., 1996) and, 4) workforce attitudes and perceptions

(e.g., employee perceptions of HRM effectiveness, employee turnover, employee-firm relationship, and HC capital value) (Carmeli & Schaubroeck, 2005; Choi & Lee, 2013; Y. Kim & Ployhart, 2014; Stern et al., 2021). Figure 3 seeks to summarize these relationships in a visual map.

Figure 3. The Directionalities of Relationships Between Human Capital and Performance.



Note. We outline all the relationships and studies that support these relationships per letter in this note: a) Chen et al., (2021); Chowhan, (2016); Fu et al., (2017, 2019); Heffernan et al., (2016); Jiang et al., (2012); Kaur & Kaur, (2021); Kim et al., (2021); Messersmith & Guthrie, (2010); Ngo et al., (2014); Oh & Kim, (2021); Youndt et al., (1996); b) Jiang et al., (2012); Kaur & Kaur, (2021), c) Jiang et al., (2012); Messersmith & Guthrie, (2010); Ngo et al., (2014), d) Fedyk & Hodson, (2022); McDowell et al., (2018); Jiang et al., (2012); Crook et al., (2011); Carmeli & Schaubroeck (2005) e) Jiang et al., (2012); Crook et al., (2011)* f) Carmeli & Schaubroeck, (2005); Chen et al., (2021); Crook et al., (2011); Fedyk & Hodson, (2022); Hitt et al., (2001); Jiang et al., (2012); Kaur & Kaur, (2021); Kor & Leblebici, (2005); McDowell et al., (2018); Stern et al., (2021), g) Kim et al., (2021); Oh & Kim (2022); h) Stern et al., (2021) Chowhan (2016); Choi & Lee, (2013); Carmeli, & Schaubroeck, (2005); Kor & Leblebici, (2005) i) Carmeli & Schaubroeck (2005); Youndt et al., (1996).*

Measures of Human Resource Management Practices, Human Capital, and Performance

In the context of understanding the relationships between human capital and firm performance, we found that there were multiple measures for the following key constructs: 1) HRM practices, 2) human capital and 3) operational and financial firm performance.

First, HRM practices tended to be measured as bundles of practices that were part of high performance work systems, including tasks such as recruitment, staff selection, training and development, career planning, performance appraisal, compensation, flexible job design, and more (Choi & Lee, 2013; Chowhan, 2016; Fu et al., 2019, 2017; Heffernan et al., 2016; Jiang et al., 2012; Kaur & Kaur, 2021; Messersmith & Guthrie, 2010; Ngo et al., 2014; Youndt et al., 1996).

Second, on the construct of human capital, two types of measures were most frequently deployed. On the one hand, there were direct measures of human capital, that is measures directly relating to employees' skills, knowledge, abilities and other assets (Crook et al., 2011; Fu et al., 2017; Jiang et al., 2012; Kaur & Kaur, 2021; McDowell et al., 2018; Oh & Kim, 2021). On the other hand, studies also used proxies of human capital or constructs that indirectly assess employees' skills, knowledge abilities and other assets such as the level of education, years of experience, number of training, instances of strategic human capital departure and so on (Carmeli & Schaubroeck, 2005; Crook et al., 2011; Hitt et al., 2001; Kor & Leblebici, 2005; Stern et al., 2021). In fact, also HRM practices could be seen as an indirect measure of human capital, considering that these practices build human capital in organizations a higher investment or better structure of HRM may serve as a proxy for the level of human capital itself.

It is important to note that the measurement of HRM practices and human capital mostly relied on self-reported information (see Chen et al., 2021; Fu et al., 2017, 2019; Heffernan et al., 2016; Hitt et al., 2001; Jiang et al., 2012; Kaur & Kaur, 2021; McDowell et al., 2018; Messersmith & Guthrie, 2010; Ngo et al., 2014; Youndt et al., 1996). In other words, researchers sent out questionnaires to managers and asked them to rate the extent to which they have a HPWS in place, whether they have skilled human capital, and whether their firm was performative either financially or operationally. Other studies used secondary data sources whereby government agencies surveyed organizations and asked them to report on these same concepts. We interpret this being higher quality data or “hard data” as the firms had some legal or fiduciary obligation to respond accurately (Carmeli & Schaubroeck, 2005; Choi & Lee, 2013; Y. Kim & Ployhart, 2014; Kor & Leblebici, 2005; Oh & Kim, 2021; Stern et al., 2021). It is also worth pointing out, that some studies used a mix of data sources (Oh & Kim, 2021) and that for others, the operationalization of human capital-related variables was not completely clear (Crook et al., 2011).

Third and final, on the constructs of performance, the literature discusses two different types of performance. The most prominent one is financial performance which includes conventional accounting measures such as profitability, profit per employee, return on assets, return on investments, return on sales, sales growth, Tobin's Q, value added per employee and dozens of other financial performance constructs (Carmeli & Schaubroeck, 2005; Chen et al., 2020; Choi & Lee, 2013; Chowhan, 2016; Crook et al., 2011; Fu et al., 2017, 2019; Heffernan et al., 2016; Hitt et al., 2001; Jiang et al., 2012; Kaur & Kaur, 2021; K. Kim et al., 2021; Y. Kim & Ployhart, 2014; Kor & Leblebici, 2005; Messersmith & Guthrie, 2010; Ngo et al., 2014; Oh & Kim, 2021; Stern et al., 2021). It was noteworthy to see, however, that also operational performance plays a significant role in this literature, often deployed alongside financial performance to capture an additional dimension of corporate success (Carmeli & Schaubroeck, 2005; Choi & Lee, 2013; Crook et al.,

2011; Jiang et al., 2012; Y. Kim & Ployhart, 2014; McDowell et al., 2018; Messersmith & Guthrie, 2010; Ngo et al., 2014; Oh & Kim, 2021; Youndt et al., 1996). For the measurement of operational performance, items such as labour productivity, product quality, service quality and more were collected (Table 3 for more details). This performance element is often meant to capture more indirect benefits of human capital or HRM practices, which might only bleed into financial performance over the long term or derive other benefits such as increased resilience through crises.

Table 3. Human Capital and Performance Measures

Authors	Year	Journal	Measures of HRMP/HC	Measures of Performance (FP-Financial; OP-Operational)
Fedyk & Hodson	2022	Review of Finance	HC: Employees' technical skills	OP: Profitability and positive earnings surprises FP: Stock returns, Tobin's Q
Kaur & Kaur	2022	Personnel Review	HRMP: Recruitment and selection; Training and development Career planning; Performance appraisal; Compensation; Participation HC: Employee competencies (technical and behavioural)	FP: ROA, ROE, Tobin's Q
Oh & Kim	2022	Employee Relations	HRMP: Ability-enhancing practices; Motivation-enhancing practices; Opportunities-enhancing practices HC: KSAO's	FP: Firm profitability OP: Labour productivity
Chen et al.,	2021	Personnel Review	HRMP: Developmental HRD practices; Collaborative HRD practices	FP: ROA
Kim et al.,	2021	Human Resource Management	HRM policies; Selection; Training and development Performance appraisal; Pay-for-performance; Employee participation; Flexible job design.	FP: Operating profit p. employee.
Stern et al.,	2021	Strategic Management Journal	HC: Strategic HC departure	FP: ROA
Fu et al.,	2019	Journal of Business Research	HRMP: Recruitment; Continuous training and development; Developmental performance management; Competitive compensation; Employee participation	FP: Growth of marketing sales, profitability, Market share. (N.B. self-reported).
McDowell et al.	2018	Journal of Business Research	HC: Skills; Creativity Knowledge; Expertise	FP: Sales growth, cash flow, market share growth, ROI, ROA, profit growth. OP: Overall satisfaction (N.B. self-reported).
Fu et al.,	2017	Human Resource Management	HRMP: Skill-enhancing bundle, Motivation-enhancing bundle, Opportunity-enhancing bundle HC: Skills; Creativity; Knowledge; Expertise	FP: Comparative organizational performance (development of new services and ability to attract essential employees) and revenue growth
Chowhan	2016	Human Resource Management Journal	HRMP: Skill-enhancing bundle, Motivation-enhancing bundle, Opportunity-enhancing bundle	FP: Gross profit per employee

Heffernan et al.	2016	Employee Relations	HRMP: Employee resourcing; Training and development; Performance management and remuneration; Communication and involvement; Family friendly/work-life balance.	FP: Profitability, growth in sales, market share, quality of products and services, percentage of sales spent on R&D
Kim & Ployhart	2014	Journal of Applied Psychology	HRMP: Selective staffing; Internal training	FP: Firm profit OP: Labour productivity
Ngo et al.,	2014	Personnel Review	HRMP: Recruitment and selection; Training; Compensation; Performance Appraisal; Team and employee participation; Career development; Job analysis and planning	FP: Profitability, sales growth, competitive position in the industry. OP: Employee morale (N.B self-reported)
Choi & Lee	2013	Personnel Review	HRMP: Off-the-job training; On-the-job training; Mentoring; Flexible job assignment; Career development plans; Quality circles; Project teams; Suggestion systems.	FP: ROI. OP: Job satisfaction
Jiang et al.,	2012	Academy of Management Journal	HRMP: Skill-enhancing HR practices, Motivation-enhancing HR practices, Opportunity-enhancing HR practices. HC: Skills; Creativity; Knowledge; Expertise	FP: ROA, ROE, market return, sales growth, overall financial performance OP: Productivity, quality, service, overall operational performance
Crook et al.,	2011	Journal of Applied Psychology	HC: *Full list of constructs in appendix	FP: *Full list in Table 4 in appendix OP: *Full list in Table 4 in appendix
Messersmith & Guthrie	2010	Human Resource Management	HRMP: Training; Selection; Compensation; Careers; Performance management; Participation	FP: Sales growth; turnover OP: Innovation
Carmeli & Schaubroeck	2005	Human Resource Management	HC: Education; Training; Work experience; Skills of the entire employee membership of the organization.	FP: Overall financial performance, ROE OP: Quality of the organization's products/services, customer satisfaction.
Kor & Leblebici	2005	Strategic Management Journal	HC: Partner human capital leveraging	FP: Annual profit dollars per partner.
Hitt et al.,	2001	Academy of Management Journal	HC: Law school quality; Experience; Total experience as partners	FP: Ratio of net income to total firm revenue OP: Product quality, morale, on-time delivery, inventory management, employee pro equipment utilization, production lead time, scrap minimization
Youndt et al.,	1996	Academy of Management Journal	HRMP: Staffing; Training; Performance Appraisal; Compensation	

Note. HRD = Human resource development; HRMP = Human resource management practices; HC = Human capital; FP = Financial performance and OP = Operational performance

HC/HRMP and Firm Performance Relationship

In the context of examining the specific relationship between human capital and firm performance, we found that 18 out of 21 revealed a positive and statistically significant link between human capital and firm performance (see Table 5). Since only two studies indicated a non-significant relationship between human capital and performance, our sample confirms a strong base of evidence for this relationship.

Table 5. The HC/HRMP performance link

Authors	Year	Journal	HC/HRMP Performance Link	Sign.
Fedyk & Hodson	2022	Review of Finance	+	*
Kaur, S; Kaur, G	2022	Personnel Review	+	*
Oh, J; Kim, M	2022	Employee Relations	+	*
Chen, MYC; Lam, LW; Zhu, JNY	2021	Personnel Review	+	*
Kim, K; et al.	2021	Human Resource Management	+	*
Stern, I; et al.	2021	Strategic Management Journal	+	*
Fu, N; Bosak, J; Flood, PC; Ma, QH	2019	Journal of Business Research	+	*
McDowell, WC; et al.	2018	Journal of Business Research	+	*
Fu, N; et al.	2017	Human Resource Management	+	*
Chowhan, J	2016	Human Resource Management	+	n.s.
Heffernan, M; et al	2016	Employee Relations	+	*
Kim, Y; Ployhart, RE	2014	Journal of Applied Psychology	+	*
Ngo, HY; Jiang, CY; Loi, R	2014	Personnel Review	+	n.s.
Choi, JH; Lee, KP	2013	Personnel Review	+	*
Jiang, KF; et al.	2012	Academy of Man. Journal	+	*
Crook, TR; et al.	2011	Journal of Applied Psychology	+	*
Messersmith, JG; Guthrie, JP	2010	Human Resource Management	+	*
Carmeli, A; Schaubroeck, J	2005	Human Resource Management	+	*
Kor, YY; Leblebici, H	2005	Strategic Management Journal	+	*
Hitt, MA; et al.	2001	Academy of Man. Journal	+	*
Youndt, MA; et al.	1996	Academy of Man. Journal	+	*

Note. * = statistically significant, n.s. = non-statistically significant

Discussion

The present study surveyed the literature on human capital and firm performance. The findings underscore the importance of HRM practices and how they can effectively cultivate, nurture, and preserve an organization's human capital. This in turn, significantly contributes to a firm's operational and financial performance. The association between human capital and firm performance is influenced by a multitude of conditioning (moderating) factors including labour market conditions, firm characteristics, firm strategy and workforce attitudes and perceptions. The current review found almost unanimous support for the statistically significant and positive correlation between human capital and organizational performance, both from a financial and operational standpoint. This finding suggests that human capital indeed has a significant influence both on non-financial and financial outcomes. We however also note that it is notable how little of this information has been treated in accounting and finance journals. Consequently, we advocate that human capital management should be integrated better into the study of organizational success in accounting and finance.

Despite human capital being essential to fostering performance, our findings indicate that there are certain conceptual and measurement complexities that warrant further discussion. First, our data supports the assumption that human capital leads to firm performance. However, there may be a reciprocal relationship between these two constructs (i.e., reverse causation) (Shin & Konrad, 2017). To be more precise, robust operational and financial performance can foster the development of human capital. For instance, more successful firms are more likely to have greater resources to invest in their HR departments and improve their workforce's human capital (Shin & Konrad, 2017). Second, the vast majority of the studies in our sample used self-reported data to measure human capital and firm performance. While self-report data to measure these constructs certainly has value (Singh et al., 2016), we believe that more systematic/accounting/finance measures of human capital and firm performance would be more helpful to get at the heart of the human capital – firm performance relationship. One potential approach to obtain such data would be through public disclosure of human resources / human capital data by firms. Unfortunately, such disclosures are infrequent and often left up to firms to voluntarily disclose such information. Upcoming changes in accounting standards from, for example, the International Sustainability Standards Board (ISSB) or the European Corporate Sustainability Disclosure Regulation (CSRD) are likely to push firms more to publicly disclose information about their human resources/human capital, which could be useful for “hard” data collection (SASB Standards, 2023).

Nonetheless, the current scarcity of such data presents a significant challenge in substantiating the business case for the relationship between human capital and performance. Notably, while we do know that such

data can reduce costs for capital, increase sources of financing and firm value (Salvi et al., 2021), we have little information about whether such data would actually influence investment decisions. Considering the increasing social consciousness among investors, with a heightened focus on environmental, societal, and governance (ESG) factors (Steblianskaia et al., 2023), we believe that it is highly plausible that such data could indeed impact investment and strategic decision-making – we just do not know how. As such, we encourage future researchers to examine how data obtained in the context of human capital reporting can influence investors' and firm leaders' decisions on capital allocation and/or divestments.

Building off this point, and as mentioned above, our sample revealed an underrepresentation of literature from the fields of accounting and accounting. These disciplines often discuss human capital in the context of risk management, contracting, and capital structuring. While these themes are important, we believe that the accounting and finance disciplines can contribute more to the understanding and valuation of human capital in relation to firm performance. This could be achieved by studying it within the framework of sustainability-related reporting standards (i.e., ISSB and CSRD). This would require firms to examine both their internal practices (such as HR policies) and external relationships (like value chains) to assess their treatment of people and the outcomes of these practices. A common misconception is that prioritizing people will negatively impact firm profits, or conversely, that profits are gained at the expense of people's physical and mental health (Peccei & van de Voorde, 2019). While this may be the prevailing myth in several organizations, we propose that in this novel era of sustainability standards, a mutual gains approach is possible and necessary for organizations moving forward. To be more precise, we promote a mutual gains approach whereby both companies and employees benefit from performance but not at the expense of workers' well-being (Peccei & van de Voorde, 2019; Tay et al., 2023). From this perspective, we believe that reporting standards can improve HR/HC practices and work conditions through increased transparency that comes with disclosures. For instance, if firms report their HR practices alongside data on health and safety issues or burnout rates, investors may be discouraged from investing in companies with poor HR practices and negative employee outcomes. This could incentivize investors to prioritize firms that effectively take care of their employees and that are successful in the market. Currently, there is some evidence that firms that are leading in HRM and HCM can generate better investment returns relative to the S&P 500 (Harbor Capital, 2024) and this may be due to the sustained competitive advantage that such firms generate (Barney, 1991). Nonetheless, we believe that future researchers how the literature in accounting, finance and human resource management and the mutual gains approach can come together to make a strong business case for nurturing employee performance and well-being to create a sustainable workforce (Tay et al., 2023).

Finally, we propose that accounting, finance and HRM researchers should pay greater attention to the concept of corporate purpose. This concept refers to “a concrete goal or objective for the firm that reaches beyond profit maximization” (Henderson & Van den Steen, 2015, p. 327). More specifically, corporate purpose requires that firms ensure that their profit-generating activities do no harm to people or the planet (Mayer, 2021). While corporate purpose can serve as a guide for the firm strategy, it can also yield positive outcomes for HRM/HCM. Recent studies demonstrate that companies that have a strong sense of corporate purpose are more positively perceived by employees. More specifically, data show that employees feel more motivated to work diligently, and of course, this motivation can eventually lead to positive performance outcomes (Jasinenko & Steuber, 2023). We believe that organizations with a clear purpose are more likely to put HRM/HCM systems into place that effectively foster employee performance, but also their well-being. By studying and promoting corporate purpose, researchers can identify business/HRM/HCM practices and strategies that can essentially aid firms in meeting the triple bottom line and promoting optimal functioning (Tay et al., 2023). We believe that more research examining such themes will be impactful for future research and help us make a strong connection between corporate purpose, HRM/HCM, optimal functioning and creating a sustainable workforce. This could be done qualitatively through case studies (that build theory) and quantitatively through survey research (to measure the importance of these connections).

Limitations

Keeping all of the previous points in mind, it is important to note that the current review has two main limitations. First, our review did not include articles that were not written in the English language. Even though this was helpful in finding the most relevant findings, this may have introduced publication bias in the current study (Meline, 2006). It is possible that HRM/HCM perspectives on firm performance are different than those in non-English speaking countries or in non-western cultures where performance may be viewed differently. We encourage future research on HRM/HCM – performance to be more considerate of other languages and cultures.

Second, the current study had a “restrictive” or “reductionist” perspective on performance. We specifically confined our scope to studies that used more “conventional” measures of performance. For instance, our studies used some form of operational and financial performance metrics that are directly or indirectly linked to profitability or valuation. However, it’s worth noting that there are alternative performance metrics that could have been taken into account. For example, we did not include metrics such as innovation, agility, resilience etc. which can be significant contributors to performance or at least factors that influence it. The reason for this omission was our perception that these metrics were less concrete, and their correlations

with operational and financial performance were not as straightforward. Despite this, we strongly recommend that future researchers incorporate these elements and explore performance from a more comprehensive and nuanced perspective about how HRM/HCM management can encourage other dimensions of performance and lead to firm success.

Conclusion

In conclusion, this study examined the relationship between human capital and performance. We found that HRM practices are necessary to build HC within organizations. We noted that HC mediates the relationship between HRM practices and firm performance. We also found that the correlation between human capital and performance depends on several moderating factors such as labour market characteristics, organizational characteristics, strategy and employee attitudes/perceptions. Our study is not only an understanding of the relationship between human capital and performance but also a guide for future research directions in this field.

Appendix

Table 4. Human Capital and Performance Constructs from Crook et al.'s (2011) Meta-analysis.

Human Capital Constructs	Performance Constructs
Academic knowledge	Accounting return
Attitudes	Average growth in employees
Broad-based experience	Average growth in revenues
Business knowledge	Change in return on sales
CEO international assignment experience	Customer service performance
Client-specific capabilities	Defect density
Cognitive ability	Development and growth index
Collaborative skills	Employment growth
Collective human capital	Development time
Core business experience	Expert evaluation
Discrete knowledge-based resources	Financial performance
Discrete property-based resources	Field sales unit performance
Disengagement incentive	Gross rate of returns on assets
Education and entrepreneurial experience	Growth
Education level	Income growth
Employee skill	Income/profit
Entrepreneurial experience	Internet performance
Finance experience	Interviewer evaluation
Generic human capital	IT performance
Human capital	Labor productivity
human resource relatedness	Log of employment growth
Human resources	Log of Tobin's Q
Industry experience	Market to book
Information evaluation style	Market valuation of the firm
Information-gathering style	Net cash flow
Internal capabilities	New venture performance
Internal resources	Number new products/services
International experience	Occupancy and customer satisfaction index
IT knowledge	Overall performance
IT training	Performance construct labels
Knowledge stock	Portion gone public
Knowledge synergy	Post-acquisition performance
Leadership capabilities	Profit per partner
Level of downsizing; reallocation strategy; disengagement incentive	Profitability
Level of scanning	Profits
Location	Receipts vs. flow through
Locus of control	Relative establishment performance
Management capabilities	Return on investment

Management HRM values	Return on sales without theaters
Managerial experience	Return on sales with theaters
Managerial talent	ROI (Return on Investment)
Managers' firm tenure	ROB (Return on Business)
Marketing management	Sales growth
Motivation	Sales per labor hour
Organizational commitment to employees	Speed to market
Organizational learning	Tourism and business strength index
Organizational tenure	Value added per employee
Owner resources	Venture performance
Percentage of expatriate parent country nationals in the workforce	Wins
Project management human capital	
Reallocation strategy	
Resource strength	
Self-patent citations	
Selling skills and collaborative skills	
Shared team experience	
Start-up experience	
Strategic human capital	
Technical management	
Technological relatedness	
Therapeutic area experience, Phase experience	
Top management firm-specific experience	
Top management team education	
Top management team experience	
Unit service orientation	

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