

## Conference Paper

# A Systematic Review on Human Capital: A View From Human Resource Development

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## Abstract.

With rising globalisation and the overcrowding of the employment market because of recent crises in numerous economies throughout the world, human capital is receiving more attention. Both developed and developing countries place a greater emphasis on human capital development to accelerate economic growth by dedicating the required time and effort. As a result, one of the most important means of accessing the global stage is to build human capital. Firms must devote the required resources to building human capital, which has a significant influence on performance. From several critical viewpoints, this research investigates the extent to which human capital has direct implications on corporate performance. This survey also intends to review 42 human capital related papers. Additionally, this paper provides a comprehensive study concerning the chronological review based on each publication, while also focusing on and reviewing the topic knowledge utilizing a systematic literature review. Finally, this paper develops a model that explains the relationship between human capital and firm performance.

**Keywords:** HRM practices, organization performance, human resource capital, human capital investment, employee engagement


## 1. Introduction

In today's global market, businesses, regardless of sector, were made up of competitors. In order to gain a competitive advantage, firms must use their employees as a competitive weapon. A primary focus has been on developing a plan for enhancing overall productivity in terms of generating corporate value (Abraham, 2012). Firms try to maximise their employees' potential through comprehensive capacity development programmes, not only to accomplish business goals, but also to secure their long-term survival and sustainability. In order to do this mission, businesses will need to dedicate resources to guarantee that employees have the knowledge, abilities, and competencies they need to function well in a rapidly changing and complex environment. As

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an outcome of these advancements, most firms have accepted the notion of human resource management.

Most firms have adopted the concept that intellectual capital is a core strategic resource that may help them reach higher levels of performance as a result of the adjustments. Human capital development is integrated into a bigger effort to achieve cost-effective and high-performance outcomes (Basssi & McMurrer, 2007; Chijindu, Ibeh & Emerole, 2016). As a result, in order to improve employee satisfaction and performance, firms must understand human capital. Despite the widespread notion that human property has a positive influence on business performance, the idea of human profit. In addition, it has yet to be properly verified. Therefore, the goal of this study is to look at the link between human resource and business success.

Different forms of assets add to a company's overall economic worth. Physical assets such as land and equipment, as well as cash, are included. Intangible assets are also included, which are quantifiable on an income statement but more difficult to define in practice. According to Muhammad & Naintara (2013), human capital is one of the most significant intangible assets that do not appear on the balance sheet. Human capital is defined as the economic worth that a person, or a group of individuals, gives to an organisation as a result of their education, skills, devotion, ambition, and well-being. These intangible attributes aid businesses in the production and sale of their goods and services. These factors are difficult to quantify, but it is assumed that if a firm invests in their employees' growth, health, and well-being, they are engaging in their human resources. Human capital is an important factor in a company's financial success. Organizations that invest in human capital see an increase in production and profits. Employees enhance their earning potential by investing in their education and training.

## 2. Human Capital Definition

Physical capital, such as assets, technology, and financial capital, are not included in the definition of human capital. The percentage of capital equipment in industrialised economies' gross domestic product has dropped dramatically during the last century, while the proportion of human capital has grown. The notion of the knowledge economy was born as the percentage of human capital in the gross domestic product increased. Different forms of property have been regarded inputs in the production of goods and services; however, human resource is not represented a simple input since it performs a more sophisticated function in the production of goods and services.

Human capital has an inherent skill that may modify or moderate it, as well as other inputs. This trait contributes to the economy's constant dynamism, Menzies (2003). Education, training, work competency, and psychological evaluations are all examples of human capital (Namasivayam & Denizci, 2006). The idea of human capital has its origins in economic theory (Namasivayam & Denizci, 2006). Human capital isn't the same as either physical or financial capital. This capital has been characterised as an individual's knowledge, talent, creativity, and health (Becker, 1996). Human capital, capital equipment, and financial capital, according to Becker, are three different types of capital; yet the distinction stems from the reality that an individual's talent, health, and values could be isolated from their resources and holdings.

As a result, human capital is the most permanent and disposable form of capital like formal education and training and are critical tools for enhancing productive capacity (Schultz, 1961). Furthermore, the human capital investment as a criterion for educational registration. There are many different definitions of human resources, each emphasising different aspects of human capital. Human capital is today defined as a combination of characteristics, such as life experience, knowledge, creativity, inventiveness, and energy that people put in their profession (Weatherly, 2003). The investment in human capital to boost their efficiency is known as human capital. The expenses of this development are set aside for future use. As a result, the learning company chooses to invest in persons since people are important human capital with a variety of characteristics (Burund & Tumolo, 2004). In general, organisational capital is a set of qualitative characteristics, such as intellectual, skilled, and cultural, that provide value to a company.

### **The Features of Human Capital**

1. *Creativity and innovation*: An organization's ability to rebuild is critical to its existence. This rebuilding is performed by adjusting the objectives to the current situation and refining the strategies for achieving them. As a result, firms must support creativity and innovation, because non-creative organisations will eventually go out of business or change (Daft, 1998).
2. *Human knowledge and skills*: It is not news that humans are significant resources inside a company. According to Nerdrum & Erison (2001), the eminent economist William Petty evaluated the worth of labour using insurance agents in the early 16<sup>th</sup> century. Later in the 19<sup>th</sup> century, Adam Smith discussed the worth of workers' knowledge and competence, as well as their impact on the production system and the company's efficiency. In addition, Smith noted that education is a type of human investment that supports skilled and trained people. Employees will be

more motivated and less resistant to organisational changes if they are empowered and given the chance to make decisions (Thomas, Kapplman & Richards, 1996). Information management is a useful topic that is shaped by a variety of elements, including human resources, organisational growth, and management.

3. *Human resources*: It may assist the organisation in gaining a competitive edge, adding value, and implementing complete quality initiatives. Employees may make forecasts at all levels of the business, establish values, missions, and goals, devise strategic plans, and put those plans into action based on those values. Employee motivation and training can help to reinforce value added Armstrong (2008).
4. *Competitive advantage*: To get a competitive advantage, a firm must differentiate its goods from those of its competitors by hiring more talented and competent individuals than the competitors' personnel. Employees' abilities, such as high performance, adaptability, inventiveness, and the capacity to provide direct customer service, all contribute to the organization's competitive edge. Intellectual assets, that are intangible assets, are becoming increasingly valuable operators inside a business. These capitals are a valuable economic resource with a direct market competitive effect (Zeithmal, Berry & Parasuraman,1996).
5. *Increasing customer satisfaction with the company*: The customer's commitment to a services provider is heavily influenced by the workers that work with the client. Zeithmal, Berry & Parasuraman (1996) argued it has been suggested that improved service quality causes consumers to have good behavioural intentions and influences their commitment and loyalty to the firm, resulting in beneficial financial outcomes for the company. As a result, the workers' behaviour toward a client determines the consumer's commitment to a service organisation. In fact, service businesses should promote this type of activity. The customer's loyalty to the company will grow as the connection is developed, and they will become permanent clients. Customers' evaluations of services are influenced by the competency, temperament, experience, and ability of workers, therefore the conduct of employees who interact with customers has an impact on the future of the service connection (Gonzalez, & Garazo, 2006). The primary focus of this study is on the advantages of organisations investing in human capital. Employment & Selection, Learning & Development, Performance Evaluation, and Employee Performance are all aspects of Human Capital Management.

**Research Question:** What are the effects and outcome of human capital in an organization?

The extensive contribution of this entire research work is:

1. Section I: To give a close-packed summary regarding Human Capital Investment and the Development of Human Resource in an organization. The collected papers were in-between the year (2012-2022).
2. Section II: Discusses the summary of the collected research papers.
3. Section III: Conclusion of the systematic review.

### 3. Literature Review

#### 3.1. Effect of Human Capital on Employee Performance

According to Bapna et al., (2013) has examined that employee training is a focus of human capital accumulation in order to improve employee performance. They discovered a considerable favourable training and development on employee performance using a panel data approach. They also discovered that in the information technology industry, where skills deteriorate, employees benefit more from training. Employees may use more knowledge and improve their work performance as a result of training, they discovered. Their findings, however, revealed that the specialised training relevant to the focal company is not associated with performance.

In addition, Wei (2014) has investigated the link between the organizational citizenship behaviour and work performance. In addition, the effect of demonstrating a strong human capital in mitigating the aforesaid link was investigated. Data was gathered from 585 supervisor-subordinate R&D engineer dyads working in high-tech businesses. As a result of the findings, organisational citizenship conduct is found to be favourably associated to job performance. Furthermore, they discovered that having more experience with human capital reduces the favourable impact of organizational citizenship behavior on work performance. Finally, they discovered that people who engaged in corporate citizenship behaviour performed even better in their jobs if they had more intellectual human capital.

In addition, Jain and Ahuja (2019) has analysed the link between Human Capital Management techniques and their influence on employee work performance. They performed a poll based on their research to determine the impact of human capital management methods on employee performance in private educational establishments. They took samples from 150 people who worked in academic institutions. They analysed and conducted descriptive statistics on the data they obtained. They discovered

that the management of human capital has a considerable influence on employee performance as a result of the findings.

Moreover, Imran and Atiya (2020) have examined the link between the human resource capital and performance of jobs. They also looked at the role of human capital in a high-performance work environment as a mediator. They gathered the necessary information from service sector personnel. Their findings demonstrated that a high-performing work environment and human capital had a beneficial impact on job performance. Human capital may also play a mediating role in high-performance work systems and job performance relationships, according to their findings.

In addition, Zeb et al., (2020) has analysed the link between human capital management techniques in Pakistan's telecom business, such as training and development, recruiting and selection, performance evaluation, and employee job performance. They performed a study and gathered information from workers working in government and private sector telecommunication businesses in Pakistan to determine the impact of HCM practises on employee job performance in the telecom industry of Pakistan. They used descriptive statistics, correlation, and regression analysis to analyse the data and discovered that human capital management methods have a significant and necessary influence in employee performance.

The research conducted in China, Huang (2020) has examined the job performance of hotel workers by means of human, social, and psychological capital. A total of 417 staff from seven five-star hotels in China were surveyed. They used the data to do exploratory and confirmatory factor analysis, as well as regression analysis. Psychological capital was shown to be the best predictor of self-reported work success among the three capitals studied, according to the findings. However, they discovered that in the human resources sector, only experience and education had an impact on supervisory performance.

### **3.2. Effect to Human Capital on Job Satisfaction**

According to Guo et al., (2010) has explored the association between human capital of knowledge employees. They discovered an instrument for assessing professional success and modified it further using an identity scale with good reliability and validity. Human capital has a positive link with career success, according to empirical data, and intellectual capital is a good predictor of professional success outside demographic characteristics.

Moreover, Lyons and Akroyd (2014) has explained the influence of human capital on faculties job satisfaction. They performed a poll and gathered information from the educational institution's personnel. They used descriptive and inferential statistics, correlations, and regression analysis to come up with their findings. According to the findings, college administrators praise faculty members for their job performance, and faculty members are happy with the feedback offered by the institutions.

The study in Nigeria by Yaya (2016) has investigated the effect of human capital development in the universities of Nigeria. The study used a review of the related research approach. The survey included 1,254 librarians from Nigerian public university libraries, of whom 923 were chosen utilizing simple random sampling. A self-created questionnaire was used as the study tool. The research found a link between librarians' human capital investment and satisfaction of work ( $r = 0.037$ ,  $N = 620$ ,  $P 0.05$ ) in Nigerian public university libraries. It was shown that, contrary to popular assumption, librarians in university libraries had high levels of work satisfaction and productivity.

Furthermore, Alola et al., (2018) has conducted research on 329 respondents' perception on human behaviours variables. The impact of a supervisor's rudeness on employee, turnover intention, emotional weariness, and work satisfaction was measured. The study analysed the expected correlations using data collected from 4 and 5 hotels located in Nigeria utilizing AMOS software. Self-efficacy appears to modulate the association between supervisor incivility, intention to quit, and work satisfaction, according to empirical data. Furthermore, their findings revealed that evidence of supervisory incivility had a detrimental impact on hotel employees.

The study in Indonesia by Cik et al., (2021) has analysed the influence of learning and training on employee aptitude. Employees from Indonesia's five major banks, all of which are based in South Jakarta, were studied. They chose 130 employees at random. The findings of their study, which used SEM and the AMOS software, demonstrated that learning and training have a favourable impact on employee competency. They also discovered that competency has an impact on work satisfaction. Furthermore, they discovered that a learning organisation had a favourable impact on employee performance.

### 3.3. Effect of Human Capital on Employee Engagement

Murray (2016) has looked at two elements linked to favourable employee attitudes. In addition, their study looked at how organisational investments like training and development help to build settings that lead to better levels of work satisfaction. They

performed a poll and gathered information from the organization's personnel. They carried out the research necessary to support their hypothesis. Their findings revealed that there is a favourable association between employee attitude and training and development.

Alola & Alafeshat (2021) has identified the impact of human resource procedures on employees. They created 277 questionnaires and received responses from six Jordanian private airline employees. They used Structural Equation Modelling to check the hypothesis's validity and dependability. Their studies revealed that appropriate hiring, training, and selection had a substantial impact on the business. They also discovered that employee involvement acts as a mediating factor for model variables.

The study in Nigeria by Osibanjo et al., (2020) has examined human capital management in Nigeria's health industry. To identify trends relating to their study's aims, they used a cross-sectional method and descriptive research design. In the south-west of Nigeria, a quantitative technique was used to purposely sample 408 chosen health workers using a customized survey questionnaire. Human capital management factors (are strong determinants of employee engagement, according to the findings.

Witasari and Gustomo (2020) has proved the link between human capital management methods, social empowerment, work engagement, and employee performance. They gathered primary data and used structural equation modelling to examine the results. Their findings revealed that there is a favourable correlation between management of human capital and employee engagement.

Sufyani et al., (2021) has investigated the effect of human resource management techniques on engagement of employees in Taiz's private banks. Their study is based on a descriptive technique that employs a questionnaire with 47 items and five Likert ratings. The information was gathered and provided by 114 employees of private banks. According to their findings, the actuality of implementing human resource management methods in private banks in Taiz is high, as is the degree of employee involvement. Furthermore, their findings revealed that human resource management methods had a statistically significant influence on employee engagement.

### **3.4. Effect of Human Capital on Employee Retention**

Bibi et al., (2018), has explored the effect of learning and enhancement as well as supervisor assistance on employee retention. Their research also looked at the role of the workplace environment in mediating the link among learning and enhancement, supervisor support, and employee retention. They conducted a poll of 250 lecturers



working at Pakistan's public institutions to gather data. To examine the data, they used PLS path modelling. Their findings demonstrated that training and development, as well as supervisor assistance, had a substantial impact on staff retention. Similarly, the work environment influenced the association between learning and enhancement, supervisor support, and employee retention.

Aleem and Bowra (2019) has investigated the influence of performance assessment in employee retention and organisational commitment in the Pakistani banking sector. The study's participants include eight prominent Pakistani banks, including private, state, international, and Islamic banks. They used a mixed-method technique to collect data, which included interviews and questionnaires. According to their results, performance appraisals have a significant influence in promoting employee retention and organisational engagement.

Gulzar et al., (2017) has measured the impacts of performance assessment, career development, work happiness, and incentive system empowered with assessment on employee retention. They gathered information from 39 of the largest private bank branches around the country. Multiple regression analysis was used to verify the overall model's reliability, validity, and normalcy. Performance assessment, career growth, work satisfaction empowerment, and feedback and incentive systems all have good effects on employee retention, according to the findings of their study.

Sakthivel and Dinakar (2022) has examined the human capital influence on retention of the employee in the automotive industry. They gathered data from personnel in Bangalore's car industry. They carried out the research necessary to support the idea. According to the findings, the major premise states that employees in various managerial perspectives of management of human capital have no substantial influence on employee retention.

### **3.5. Human Capital and Organization Performance**

Bhattacharya et al., (2014) has underlined the importance of human capital in addressing organisational risks. They ran a poll and gathered data from employees at US-based businesses. They conducted proper analysis using the gathered data in order to evaluate the hypothesis. Wage costs variability was shown to be favourably associated to stress in organization and firm size, but adversely connected to capital intensity, according to the findings. They also discovered that enterprises with more labour cost fluctuation performed better.

Odhon and Omolo (2015) has highlighted the impact of human capital investment on pharmaceutical company performance in Kenya. They looked at training, knowledge, developing skills, and organisational learning as human capital determinants. They performed a survey of Kenyan organisations and gathered the necessary data from them. They conducted an adequate study of the data acquired and discovered that human capital has a favourable influence on the organization's performance.

Nawaz (2019) has examined the impact of human resource investments and corporate governance elements on Islamic bank market performance. They gathered data from 47 banking institutions and analysed it. They discovered that there is a considerable association between human capital and company performance.

Subramony et al., (2018) has discussed the role of human capital in organisational success. They also discussed how social capital plays a moderating function in an organization's effectiveness. They conducted statistical research and discovered that human capital has an influence on organisational performance, and social capital has an impact on organisational performance as well.

Ma et al., (2018) has demonstrated the impact of human capital on company performance. They ran a poll and gathered data from the organization's numerous specialists and general managers. According to their findings, human capital factors have a beneficial influence on corporate performance.

Tran and Vo (2020) has shown the human capital efficiency and business performance across industries in a developing economy. For the years 2011 to 2018, they performed a survey in 12 areas of the Vietnamese economy. They firmly demonstrated that human capital adequacy contributes to company performance across industries in Vietnam based on the findings of their investigation.

### **3.6. Human Capital and Firm Value**

Vomberg et al., (2015) has investigated the influence of brand image and human resources on business value. They also looked at how the influence of these two resources differed across services and manufacturing. They performed a survey and obtained the necessary information from the firm's personnel. Information provided has been generated for the acquired data. The findings revealed that human capacity and brand equity have a mutually beneficial connection.

Özera and Çam (2016) has proved additive descriptive ability and market significance of human resources indicators on firm value on a sample of Borsa Istanbul publicly listed industrial enterprises from 2004 to 2014. They used panel econometric models

to examine the data they obtained. The findings revealed that human capitals make a firm's value effective.

Moreover, Özera and Çam (2017) have looked at the influence of innovation capital on company market value, as well as the mitigating effect of human capital. They gathered relevant information from current study publications and analysed it. As a result of the findings, market players might regard innovation capital to be value-relevant, and intellectual capital augments the function of innovation in reinforcing a firm's market value.

Weronika (2018) has investigated the role of human capital management in generating business value. They performed a poll and gathered data from employees of a company. They conducted the necessary research and discovered that human capital management has a favourable influence on the creation of value for businesses.

Sisodia et al., (2021) has explored the influence of human resource on the value of a company. They performed a poll and gathered data from employees of a company. They carried out the necessary research for the presented theory. The researchers discovered a link between human assets and corporate value.

### 3.7. Human Capital and Firm Innovation

Mar et al., (2021) has investigated the link between human resources management and firm innovation. They used a sample of 150 creative Spanish enterprises to test their predictions and found that, while intellectual capital favours innovation, employment connections are not directly connected with creativity unless they consider human capital.

Mar et al., (2017) has looked at how relationships with employment, human resources, and social capital interact to influence creativity in a group of Spanish companies. They proposed a potentially turn model in which social and human capital moderate the relationship between employment relationship and creativity. They looked at a group of 160 creative Spanish companies and found that ERs aren't directly linked to innovation. Nonetheless, they discovered that the investment employment model had an indirect influence on creativity via human and social capital. Finally, they discovered that social capital had a favourable impact on human capital.

Nieves and Quintana (2018) have determined the correlation among human resource practices and innovation success. They used data from a study of 109 companies in Spain that operate hotels to show that some human resource methods have an impact on innovation in the hotel sector through influencing human capital.

Liu et al., (2017) has investigated the impact of human capital, including top managers and staff, on the connection between export and business innovation. Regression analyses were used to investigate the study issues using Chinese A-share listed companies from 2006 to 2015. The study is discovered that export boosts business innovation considerably, and that different forms of human capital have varied moderating and mediating impacts.

Capozza and Divella (2019) has explored the link between human capital and corporate innovation in emerging nations. They performed a survey and used a questionnaire to obtain the necessary data. They used the data they gathered to conduct descriptive statistics and discovered that there is a positive association between corporate innovation and human resources.

### **3.8. Human Capital and Organizational Productivity**

Backman (2013) has examined the value of human capital for corporate productivity and made a clear difference between human capital's role inside and outside the organisation. They did a survey and analysed the information they gathered. They discovered that a firm's unique human capital, as measured by degree, expertise, and cognitive skills, as well as the firm's total access to human capital, had a favourable influence on productivity.

Hussen (2020) has investigated the influence of human capital on African enterprise productivity. They examined a cross-sectional data collection of firm-level data from 13 African nations. They analysed the data and discovered that human capital has a large and favourable influence on the productivity of businesses.

Anosa and Chukwunonso (2021) has investigated the growth of human capital and organisational productivity in a sample of industrial enterprises in Nigeria's south-east. They ran a poll and gathered information from company employees. Learning and development has a substantial positive impact on organisational productive output, work engagement has a significant positive impact on organisational productivity, expertise accessibility has a significant positive impact on organisational productivity, and teaching has no significant negative impact on organisational productivity, according to their findings. As a result, their research found that investing in human capital had a considerable beneficial impact on organisational productivity.

TABLE 1: Context Definition.

Context	Definition
Employee Performance	Human capital practices can have an indirect impact on organisational performance through influencing employee skills, attitudes, and behaviours. The organization's success is determined by the collective interplay of personnel abilities, attitudes, and behaviours.
Job Satisfaction	Focusing on the development of human capital leads to higher employee satisfaction, which has a direct influence on workers' dedication to their jobs. Investing in staff training also demonstrates to the worker that the company values his or her work and wants to continue to engage in their professional development. A more positive corporate culture reflects better employee satisfaction. Employees who are happy build a cohesive and developing work environment in which they efficiently strive to achieve corporate goals.
Employee Engagement	Work engagement is a notion in human resources (HR) that characterises a worker's level of passion and commitment to their job. Employees that are engaged care about their job and the company's performance, and they believe that their efforts matter.
Employee Retention	Staff morale or retention of employees is the objective of a business to maintain skilled individuals and reduce turnover by building a great work environment, demonstrating gratitude for employees, and offering competitive compensation and benefits as well as a healthy work-life balance.
Organization performance	Human capital is described as an individual's skills, skill sets, and traits, all of which contribute to the organization's economic worth. Over the last century, most businesses have learned that investment in human capital is critical to their success.
Firm Value	Human capital, which is described as people and groups' skills, abilities, and competences, is not considered as a legal thing that corporations own. As a result, it may also contribute to the skills that workers gain with them and when they leave the company.
Firm Innovation	Human capital improves a company's ability to absorb and create new information, making it an important component of both frontiers and catch-up development.
Organization productivity	Employees' combined pool of skills, traits, knowledge, and expertise is referred to as human capital, and it plays an important role in enhancing the organization's productivity. Every company spends money and energy on training new staff.

## 4. Findings and Limitations of Existing Literature

### 4.1. Findings

The impacts of human capital and in human capital on corporate performance are the subject of an increasing number of articles. Because human capital (investments) is neither owned or managed by companies, this topic was formerly largely isolated from company-based impact studies. This has drastically altered, and research linking

company performance to human capital challenges has gradually increased over the previous 20 years. In order to properly know what drives profitability and growth, additional research is necessary to clarify how learning, training, and abilities affect organisations. The following are the key conclusions of a review of the literature on the relationship between education, employment, and abilities.

1. When it comes to the sort of training that companies give to their workers, the actual data suggests that it is more likely an issue of what is required to remain ahead of rivals than whether the education is generic or specialised. An increasing amount of evidence demonstrates that businesses are funding all sorts of education.
2. Recent study also suggests that investing in training pays off handsomely for businesses, regardless of whether the training is valuable to other businesses. Employers earn from training investments in a variety of nations, including India, Nigeria, the Middle East, Africa, and the United States. In most of the research they reasonably concluded that training causes performance effects, not other way around, in most of this research.
3. The impacts of skills and education on productivity and creativity, for example, are typically favourable and substantial in the examined research. It's a little more surprising that we're starting to see research that links education and skills to profitability. The capacity of enterprises to benefit from earlier education, for example, is of course linked to their ability to reap profits from training investments.
4. Supporting staff development strategies, including education policies and methodologies for analysing training requirements, appear to be critical components in explaining training provision and outcomes. Similarly, in most cases, creative (complete) human resource management methods are linked to company performance.
5. Innovation and information systems are not only leading businesses to spend more in training, but they also appear to be heavily reliant on education, skills, and training to generate returns from these expenditures, according to this analysis. Other findings suggest that comprehensive human resource management practices, in combination with training, are closely related to firms' innovative capacity. However, there are few studies linking small and medium enterprises, job market characteristics, and social partners to company performance measures like productivity or profitability, making any conclusions difficult. The latter is, of course, a powerful motivator to do further research on these topics in the future.

To summarise, research into the influence of education and training on company performance is gaining traction and going forward at a rapid rate. As a result, we are certain that much more study on this topic will be published soon.

## 4.2. Limitations

Researchers are further hampered by a paucity of data on training investments, which must be obtained from a variety of sources. Depending on how training is defined, predictions of how much of one's working time is spent on it vary significantly.

One of the most critical challenges in the study on ongoing vocational training is the lack of a common standard of training being used and reported by businesses. The problem of differing training measures is unlikely to be addressed by defining what constitutes training in various training surveys. It's impossible to picture companies rearranging their data collection procedures for each new survey as part of their training. Thus, regardless of what is designated as training in the survey, it is probable that what organisations report as training is everything they have data on. Researchers and businesses appear to need some simple rules or universal consensus on what constitutes training.

The defining problem is less important in research relying on panel data since we are primarily interested in change in the parameters in this sort of inquiry. When we track the same firm over many time intervals, we balance out consistent influences that may skew the results. Differences in how firms measure training are less important as long as the sampling unit does not alter its definition over time. The fact that we can derive more firm findings from panel data research also helps to reduce the problem of ambiguous terminology.

In general, the flaws in the data and methodologies employed in the evaluated research are not inflating the results, but rather acting against discovering any benefits from human capital expenditures. The findings in various studies that inadequacies in methods or insufficient data render true relationships insignificant in the majority of cases are important findings because they reinforce the idea that less thorough studies are not overestimating the effects of human capital and human investments on the economy.

## 5. Conclusion

According to studies, while human capital is a relatively new subject in human capital, it is important and has gained in importance in enterprises. In conclusion, human capital is crucial for people's development, enhancing their quality of life and income, creation of knowledge, ability, and product capacity, economic growth, and poverty reduction. Human forces have never been more crucial than now, as the globe faces fresh upheavals in the battle against capitalism. According to recent revolutions, future human capital research will focus on two goals: identifying human capital gaps and determining how human capital leads to increased efficiency and income, learning opportunities, and promotion. These accomplishments enable families and communities to devote a significant portion of their resources to human resource development and education. It's worth noting that a country's economic approach toward human capital (training and education personnel) is crucial to its efficiency and economic success.

## References

- [1] Alola UV, Alafeshat R. The impact of human resource practices on employee engagement in the airline industry. *Journal of Public Affairs*. 2021;21(1):2135.
- [2] Abraham S. Development of employee engagement programme based on employee Satisfaction Survey. *Journal of Economic Development, Management, IT, Finance and Marketing*. 2012;4(1):27–37.
- [3] Aleem M, Bowra ZA. Role of performance appraisal on employee retention and organizational commitment in banking sector of Pakistan. *Journal of the Punjab University Historical Society*. 2019;32(1):15–27.
- [4] Alola UV, Avci T, Ozturen A. Organization sustainability through human resource capital: the impacts of supervisor incivility and self-efficacy. *Sustainability (Basel)*. 2018;10(8):2610.
- [5] Al-Sufyani AM, Ameri AQ, Al-Yousfy S. Impact of human resource management practices on employee engagement. *Al-Saeed Journal of Humanities and Applied Sciences*. 2021;9(1):134.
- [6] Anosa CI. Human Capital Development and Organizational Productivity in Selected Manufacturing Firms South-East. *International Journal Business & Law Research*. 2021;9(1):39–51.
- [7] Armstrong M. *Strategic human resource management*. 4th ed. London, UK: Kogan Pag. 2008.



- [8] Backman M. Human capital in firms and regions: impact on firm productivity. *Papers in Regional Science*. Wiley Online. 2014;93(3):557–75.
- [9] Bapna R, Langer N, Mehra A, Gopal R, Gupta A. Human capital investments and employee performance: An analysis of IT services industry. *Management Science*. 2013;59(3):641–58.
- [10] Bassi L, McMurrer D. Human capital and organizational productivity: Next Generation Metrics as a Catalyst for Change. USA: Whitepaper, McBassi & Company.Inc. 2007.
- [11] Becker GS. The economic way of looking at behavior: The noble lecture. Stanford University. California: Hoover Institution Press. 1996.
- [12] Becker GS. The age of human capital. *Education in the Twenty-First Century*. 2002:3–8.
- [13] Bhattacharya M, Harold Doty D, Garavan T. The organizational context and performance implications of human capital investment variability. *Human Resource Development Quarterly*. 2014;25(1):87–113.
- [14] Bibi P, Ahmad A, Majid AH. The impact of training and development and supervisor support on employee's retention in academic institutions: The moderating role of work environment. *Gadjah Mada International Journal of Business*. 2018;20(1):113–31.
- [15] Burund S, Tumolo S. Leveraging the new human capital: Adaptive strategies, results achieved, and stories of transformation. Boston, USA: Nicolas Brealey America. 2004.
- [16] Capozza C, Divella M. Human capital and firms' innovation: Evidence from emerging economies. *Economics of Innovation and New Technology*. 2019;28(7):741–57.
- [17] Chijindu JS, Ibeh GO, Emerole GA. Effect of human capital development programmes in optimizing employee's productivity: A study of Abia State House of Assembly, Nigeria. *Singaporean Journal of Business Economics, and Management Studies*. 2016;5(4):1–12.
- [18] Cik A, Asdar M, Anwar AI, Efendi S. Impact of training and learning organization on employee competence and its implication on job satisfaction and employee performance of bank in Indonesia. *Psychology*. 2021;58(1):140–56.
- [19] Daft RL. *Essentials of organization theory and design*. South-Western College Publishing. 1998.
- [20] Gonzalez JV, Garazo TG. Structural relationships between organizational service orientation, contact employee job satisfaction, and citizenship behavior. *International Journal of Service Industry Management*. 2006;17(1):23–50.

- [21] Gulzar S, Advani A, Jalees T. Impact of performance appraisal on employee retention: A study on banking sector of Pakistan. *Journal of Independent Studies & Research: Management & Social Sciences & Economics*. 2017;15(1):85–101.
- [22] Guo W, Xiao H, Yang X. An empirical research on the correlation between human capital and career success of knowledge workers in enterprise. *Physics Procedia*. 2012;25:715–25.
- [23] Huang SS, Yu Z, Shao Y, Yu M, Li Z. Relative effects of human capital, social capital and psychological capital on hotel employees' job performance. *International Journal of Contemporary Hospitality Management*. 2020;33(2):448–66.
- [24] Hussen MS. Exploring the impact of various typologies of human capital on firms' productivity. *World Journal of Entrepreneurship, Management and Sustainable Development*. 2020;16(3):231–47.
- [25] Imran R, Atiya TM. The role of high-performance work system and human capital in enhancing job performance. *World Journal of Entrepreneurship, Management and Sustainable Development*. 2020;16(3):195–206.
- [26] Jain S, Ahuja SK. Impact of human capital management practices on employee job performance. *Proceedings of 10th International Conference on Digital Strategies for Organizational Success*. 2019. <https://doi.org/10.2139/ssrn.3307706>
- [27] Liu G, Pang L, Kong D. Effects of human capital on the relationship between export and firm innovation. *Chinese Management Studies*. 2017;11(2).
- [28] Lyons FW, Akroyd D. The impact of human capital and selected job rewards on community college faculty job satisfaction. *Community College Journal of Research and Practice*. 2014;38(2-3):194–207.
- [29] Ma C, Jiang Y, Jiang Y. The effect of specific human capital on firm performance improvement. *2nd International Conference on Education, Economics and Management Research (ICEEMR 2018)*. Atlantis Press. 2018:608-612.
- [30] Mar BB, De la Rosa Navarro D, López-Cabrales A, Valle-Cabrera R. Employment relationships and firm innovation: the double role of human capital. *British Journal of Management*. 2012;23(2):223–40.
- [31] Mar BB, López-Cabrales A, Valle-Cabrera R. How do employment relationships enhance firm innovation? The role of human and social capital. *International Journal of Human Resource Management*. 2017;28(9):1363–91.
- [32] Menzies M. Human capital development in research, science and technology. 2003. Available from: <http://citeseerx.ist.psu.edu/viewdoc/download>

- [33] Muhammad AS, Naintara S. The impact of human capital on company productivity and the mediating effect of employee's satisfaction. *IOSR Journal of Business Management*. 2013;8(2):278–487.
- [34] Murray R. *Human capital and employee attitudes: An investigation of the antecedents of job satisfaction through organizational support and person-organization fit theory*. Fullerton: California State University. 2016.
- [35] Namasivayam K, Denizci B. Human capital in service organizations: Identifying value drivers. *Journal of Intellectual Capital*. 2006;7(3):381–93.
- [36] Nawaz T. Exploring the nexus between human capital, corporate governance and performance: evidence from Islamic banks. *Journal of Business Ethics*. 2019;157(2):567–87.
- [37] Nerdrum L, Erikson T. Intellectual capital: A human capital perspective. *Journal of Intellectual Capital*. 2001;2(2):127–35.
- [38] Nieves J, Quintana A. Human resource practices and innovation in the hotel industry: The mediating role of human capital. *Tourism and Hospitality Research*. 2018;18(1):72–83.
- [39] Odhon'g EA, Omolo J. Effect of human capital investment on organizational performance of pharmaceutical companies in Kenya. *Global Journal of Human Resource Management*. 2015;3(6):1–29.
- [40] Osibanjo A, Adeniji A, Salau O, Atolagbe T, Osoko A, Edewor O, et al. Bolstering human capital management and engagement in the health sectors. *Cogent Business & Management*. 2020;7(1):46–76.
- [41] Özer G, Çam İ. The role of human capital in firm valuation: an application on BIST. *Procedia Social and Behavioral Science*. 2016;23(5):168–77.
- [42] Özer G, Çam İ. The moderating effect of human capital on innovation capital and firm market value relationship: an application on BIST. *International Journal of Management Economics & Business*. 2017;13(5):512–22.
- [43] Sakthivel M, Dinakaran GD. Impact of Human Capital Management on Employee Retention in Automobile Industry with special reference to Selected Companies in Bengaluru. *Journal of Positive School Psychology*. 2022;6(2):643–69.
- [44] Schultz TW. Investment in human capital. *American Economic Review*. 1961;51(1):1–17.
- [45] Sisodia G, Jادیappa N, Joseph A. The relationship between human capital and firm value: Evidence from Indian firms. *Cogent Economics & Finance*. 2021;9(1):1954317.
- [46] Subramony M, Segers J, Chadwick C, Shyamsunder A. Leadership development practice bundles and organizational performance: The mediating role of human capital and social capital. *Journal of Business Research*. 2018;83:120–9.

- [47] Thomas D, Kapplman A, Richards C. Training empowerment & creating a culture for change, empowerment in organization. 1996;4(3):26-29.
- [48] Tran NP, Vo DH. Human capital efficiency and firm performance across sectors in an emerging market. *Cogent Business & Management*. 2020;7(1):1738832.
- [49] Vomberg A, Homburg C, Bornemann T. Talented people and strong brands: The contribution of human capital and brand equity to firm value. *Strategic Management Journal*. 2015;36(13):2122–31.
- [50] Weatherly LA. Human capital the elusive asset measuring and managing human capital: A strategic imperative for HR. *Research Quarterly*. 2003.
- [51] Wei YC. The benefits of organizational citizenship behavior for job performance and the moderating role of human capital. *International Journal of Business Management*. 2014;9(7):87.
- [52] Weronika TC. Creating value of organization through human capital management. *Economics and Law*. 2018;17(4):443-457.
- [53] Witasari J, Gustomo A. Understanding the effect of human capital management practices, psychological capital, and employee engagement to employee performances. *The Asian Journal of Technology Management*. 2020;13(1):1–15.
- [54] Yaya JA. The effect of human capital development on job satisfaction of librarians in public universities in Nigeria. *American Journal of Business and Society*. 2016;1(3):98–117.
- [55] Zeb A, Abdullah NH, Javaid M. Impact of human capital management practices on employees' job performance. *Journal of Physics: Conference Series*. IOP Publishing. 2018;1049(1):12-20.
- [56] Zeithmal VA, Berry LL, Parasuraman BA. The behavioural consequences of service quality. *Journal of Marketing Research*. 1996;60(2):31–46.