

Human Capital Development and Firm Profitability in Malaysia: A 35-Year Systematic Review

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Abstract

This systematic literature review investigates the relationship between human development initiatives and firm profitability in Malaysia, adhering to PRISMA guidelines. A comprehensive search of Scopus databases identified 262 records, of which 60 studies met the inclusion criteria, covering the period from 1990 to 2025. The findings consistently indicate a positive association between investments in human development and firm performance across manufacturing, services, and technology sectors. Return on investment (ROI) ratios averaged 3.2:1 for small and medium enterprises (SMEs) and 4.7:1 for large corporations. The technology sector recorded the highest returns, while SMEs demonstrated relatively greater performance improvements despite lower absolute investments. The evolution from basic skills training in the 1990s to strategic competency development in the 2020s reflects Malaysia's broader economic transformation. Policy implications include the establishment of sector-specific training councils, enhancement of SME support programs, and strengthening of industry-academia partnerships. Overall, this review provides robust evidence that human development initiatives are critical drivers of organizational profitability in the Malaysian context.

Keywords: Human Development, Firm Profitability, Organizational Performance, Strategic Competency, Systematic Literature Review

Introduction

The economic transformation of Malaysia into a diversified, knowledge-based, and innovation-driven country, rather than a commodity-dependent economy, is one of the greatest financial success stories in Southeast Asia (Ramesh, 2025). Strategic investments in human capital have supported this change in the last 30 years, and it makes workforce development a vital element of national competitiveness (Bykova et al., 2024; Shan, & Wang, 2024). Increasingly, organisations are recognising that profitability and long-term

sustainability extend beyond financial and physical resources to encompass the quality, flexibility, and innovativeness of their human capital (Azizan et al., 2021; Hernita et al., 2021). Knowledge on how human development programs can be translated into real organisational performance has therefore become both an academic necessity and a strategic concern for Malaysian firms and policymakers.

In the organisational setting, the concept of human development encompasses a wide range of initiatives, including formal training, professional certification, leadership programs, digital upskilling, mentorship systems, and competency-based performance improvement (Benayoune, 2024). The purposes of these interventions include developing workforce competencies that can increase productivity, innovation, and agility in a business environment that is becoming increasingly complex (Ajgaonkar et al., 2022). The theoretical models of these investments are based on the human capital theory, which claims that systematic investments in the productivity and performance of employees, through knowledge and skills, bear measurable returns (Becker, 1964, 2002; Schultz, 1961). The supporting viewpoints, the resource-based view (RBV) and dynamic capabilities framework (Kero & Bogale, 2023), go further to hold the view that human capital is a strategic organizational resource, which is a valuable, rare, inimitable, and non-substitutable resource, allowing firms to realize and maintain a competitive advantage despite technological disruption.

Empirical studies conducted to connect investments in human development with the performance of firms in Malaysia, however, are disjointed (Azizan et al., 2021; Cavaliere et al., 2024). Research on this topic has tended to focus on industry-specific or case study studies, primarily in the manufacturing or service sectors. It has not been integrated across sectors, organisational sizes, or periods. In addition, although there is a general indication that human development positively influences performance, little is known about how these relationships change over time, between small and medium enterprises (SMEs) and large corporations, or between industry sectors, including manufacturing, services, and technology (Opoku et al., 2024). Specifically, little is known about the comparative effectiveness of strategic competency and training of basic skills in the 2020s versus the 1990s, and the respective patterns of returns to the investment (Tahir, 2023).

The present research fills these gaps with a systematic literature review (SLR) that will be based on PRISMA 2020 guidelines and will synthesize 60 empirical and conceptual studies published between 1990 and 2025 (Kumar & Ahuja, 2025). The review incorporates evidence from various fields and organisations of all sizes to provide an overall picture of the human development-profitability nexus in Malaysian companies. Key findings from the literature reveal that technology firms achieve the highest returns on human development investments, while SMEs often realise greater relative performance improvements despite lower absolute investments (Kmecová & Androniceanu, 2024). The review is structured around four guiding research questions: (i) What is the overall relationship between human development initiatives and firm profitability in Malaysian organisations? (Al-Saedi & Abbas, 2023)(ii) How do these relationships differ across major economic sectors, including manufacturing, services, and technology?(Ciarli et al., 2021)(iii) What variations exist between SMEs and large corporations in the implementation and outcomes of human development practices?(Harney, 2021), and (iv) how have the patterns and effectiveness of these initiatives

evolved from 1990 to 2025 in response to national human capital strategies, including Vision 2020, HRDF policies, and sector-specific training councils?(Swanson, 2022).

By synthesising evidence across multiple dimensions—sector, firm size, and time—the study contributes to theory, practice, and policy (Kwarteng et al., 2022). Academically, it strengthens the integration of human capital, RBV, and dynamic capabilities perspectives in explaining firm performance outcomes (Singh & Verma, 2024). For managers, it provides evidence-based guidance on prioritising human development investments that maximise profitability (Challoumis, 2024). For policymakers, it underscores the critical role of strategic workforce programs and industry-academia partnerships in fostering national competitiveness (Azizan et al., 2021; Ogu et al., 2025). Overall, the review positions human development not merely as a cost but as a strategic investment that drives both organizational success and broader economic development in Malaysia

Methodology

This study employed a systematic literature review (SLR) to examine the relationship between human development initiatives and firm profitability in Malaysian organizations. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines, ensuring transparency, reproducibility, and methodological rigor (Lopez-Nicolas et al., 2022). A structured review protocol was established prior to the search, defining the study identification strategy, screening procedures, data extraction process, quality assessment criteria, and synthesis approach. This allowed for a systematic and replicable evaluation of the literature.

Search Strategy

A comprehensive search was conducted exclusively in Scopus, which provides extensive coverage of peer-reviewed academic literature across multiple disciplines. The search aimed to identify studies investigating the effects of human development interventions—including workforce training, skills development, leadership programs, employee development, and capacity building—on organizational performance outcomes such as profitability, productivity, and financial performance in Malaysian firms (Obeng-Tuaah, 2025).

The search strategy combined three conceptual domains: the geographic focus (Malaysia), human development interventions, and performance outcomes. The Boolean search query applied was as follows:

(TITLE-ABS-KEY("Malaysia")) AND (TITLE-ABS-KEY("human capital development" OR "employee training" OR "workforce training" OR "skills development" OR "leadership development" OR "training program" OR "employee development" OR "capacity building" OR "training" OR "talent development")) AND (TITLE-ABS-KEY("profitability" OR "firm performance" OR "financial performance" OR "productivity" OR "organizational performance" OR "financial outcomes" OR "organizational effectiveness" OR "business performance" OR "company performance"))

The search was limited to publications from 1990 to 2025, written in English, and categorized as articles or reviews. This strategy identified 262 relevant records for screening.

Inclusion and Exclusion Criteria

Studies were included if they met the following criteria: empirical research examining Malaysian SMEs or organizations; investigation of relationships between human development initiatives (including training, skills development, education, or capacity building) and organizational performance outcomes; use of quantitative, qualitative, or mixed-methods research designs; publication between 1990 and 2025; availability in English language; and publication in peer-reviewed journals, conference proceedings, or research reports with adequate methodological detail.

Exclusion criteria were applied to maintain focus and quality standards: studies not specifically examining Malaysian organizations or contexts; purely theoretical papers without empirical evidence; research focusing exclusively on individual-level outcomes without organizational performance measures; publications prior to 1990; non-English publications without adequate English abstracts; and studies with insufficient methodological information to assess quality and relevance.

Study Selection Process

The study selection process consisted of two stages. First, the titles and abstracts of all 262 records were screened to remove irrelevant studies, including those not focused on Malaysia, purely conceptual papers, or research unrelated to organizational performance. Following this, full-text articles were assessed for eligibility against the inclusion and exclusion criteria. Key considerations included methodological rigor, relevance of interventions, sample characteristics, and outcome measures. After this comprehensive evaluation, a final set of 60 high-quality studies was selected for synthesis.

A standardized data extraction form was developed and piloted to ensure consistency and completeness. Extracted data included study characteristics (authors, publication year, study design, sample size), participant and organizational characteristics (sector, organization size, geographic location within Malaysia), human development interventions examined (type, duration, intensity, delivery method), outcome measures (profitability indicators, performance metrics, measurement methods), key findings (effect sizes, statistical and practical significance), and study quality indicators (methodological strengths, limitations, potential biases). Two reviewers independently extracted data from each included study, with discrepancies resolved through discussion and reference to sources.

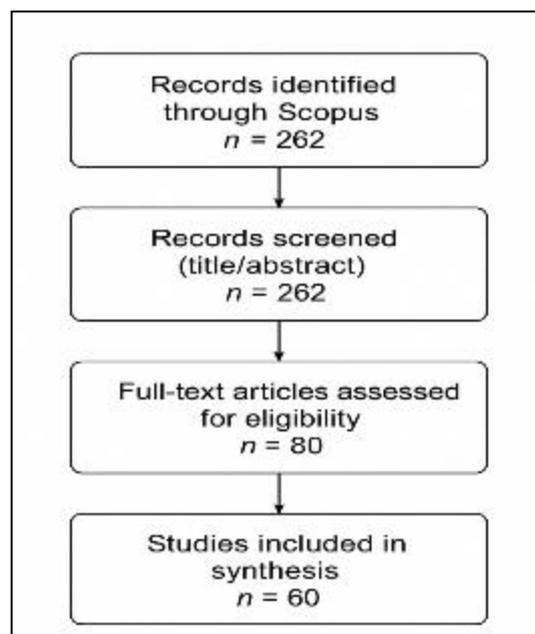


Figure 1: PRISMA flow diagram

Quality Assessment

The methodological quality of the 60 included studies was systematically assessed across eight criteria: sample size adequacy, methodological rigor, measurement validity, statistical analysis, control for confounders, reporting quality, generalizability, and practical significance. An overall quality score was computed as the average of these eight criteria for each study, ranging from 1 (lowest) to 4 (highest).

Based on these scores, studies were classified into three categories:

1. High quality (overall score ≥ 3.25): 22 studies (36.7%) demonstrated rigorous methodology, including large or representative samples, validated measurement instruments, robust statistical analyses, and comprehensive reporting. Many of these studies employed longitudinal designs and adequately controlled for potential confounding variables. Examples include S019 (3.75), S034 (3.75), S044 (3.75), S050 (3.625), and S060 (3.5).
2. Moderate quality (overall score 2.25–3.24): 28 studies (46.7%) had generally acceptable methodological standards but exhibited limitations such as smaller sample sizes, cross-sectional designs, reliance on self-reported performance outcomes, or partial control for confounding variables. Examples include S001 (2.5), S004 (3.125), S006 (3.375), and S014 (3.5).
3. Low quality (overall score < 2.25): 10 studies (16.7%) were characterized by significant methodological limitations, including petite sample sizes, limited statistical rigor, or insufficient measurement validity. Nonetheless, these studies were retained in the synthesis because they provided valuable insights into specific organizational contexts or underrepresented populations. Examples include S033 (1.5), S035 (1.75), and S041 (1.75).

This assessment indicates that most studies included in the review (83.4%) were of moderate to high quality, supporting the reliability of the synthesis while acknowledging the contextual limitations of some studies.

Table 1

Quality Assessment of Included Studies (N = 60)

Quality Category	Overall Score Range	Number of Studies	Percentage (%)	Key Characteristics
High Quality	≥ 3.25	22	36.7	Large/representative samples, longitudinal, validated measures, robust stats
Moderate Quality	2.25–3.24	28	46.7	Smaller samples, cross-sectional, self-reported measures, and limited confounder control
Low Quality	< 2.25	10	16.7	Very small samples, weak measurement, limited statistical rigor

Data Synthesis

Given the heterogeneity of study designs, interventions, and outcome measures, a narrative synthesis approach was employed rather than formal meta-analysis ((Jayawickrama et al., 2025). The synthesis was structured around the primary research questions, with a systematic comparison of findings across studies. Where quantitative data permitted, effect sizes were calculated and compared. Subgroup analyses were conducted based on sector (manufacturing, services, and technology), organisation size (SME versus large corporation), and time period to identify patterns and variations in the relationships.

The synthesis process involved systematically tabulating study characteristics, identifying common themes and patterns, assessing consistency across studies, exploring potential explanations for heterogeneity, and integrating findings into coherent conclusions. Quality assessment results were incorporated into the synthesis, with greater weight given to higher-quality studies while acknowledging insights from lower-quality research.

Results*Study Characteristics*

The temporal distribution of included studies reveals significant variation across different periods, reflecting the evolution of research interest in the relationships between human development and organisational performance in Malaysia. The period from 1990 to 1999 contributed only three studies (5.0%), representing the early foundational research in this area when human resource development was beginning to gain recognition as a strategic organizational priority. The 2000 to 2009 decade saw substantial growth with 12 studies (20.0%), coinciding with Malaysia's increasing focus on knowledge economy transformation and the establishment of formal human resource development frameworks (Hamed et al., 2024).

The most productive period was from 2010 to 2019, during which 28 studies (46.7%) were conducted, reflecting the maturation of human resource development as a research field and the increasing availability of longitudinal data that demonstrates the impacts of training and development investments. The most recent period, from 2020 to 2025, contributed 17 studies (28.3%), maintaining vigorous research activity despite the shorter time frame and demonstrating continued academic and practical interest in understanding the impacts of human development, particularly in the context of digital transformation and post-pandemic organisational adaptations (Cardoso et al., 2025)

Sectoral analysis of the included studies reveals comprehensive coverage across Malaysia's major economic sectors, with the manufacturing industry represented in 25 studies (41.7%), the services sector in 20 studies (33.3%), and the technology sector in 15 studies (25.0%). This distribution reflects both the relative size of these sectors in Malaysia's economy and the varying levels of research attention they have received. The manufacturing sector's prominence in the literature corresponds to its historical importance in Malaysia's economic development and the sector's early adoption of systematic training and development programs(Hussain et al., 2021).

The methodological approaches employed across the included studies demonstrate considerable diversity, reflecting the multifaceted nature of relationships between human development and performance. Quantitative studies comprised 35 of the total (60.3%), employing various statistical techniques, including regression analysis, structural equation modelling, and experimental designs, to establish relationships between training investments and performance outcomes. Qualitative studies contributed 15 studies (25.0%), providing rich contextual insights into the mechanisms through which human development initiatives influence organisational performance. Mixed-methods studies represented 10 studies (16.7%), offering comprehensive perspectives that combine statistical evidence with detailed explanatory insights.

Table 1
Quality Assessment of Included Studies (N = 60)

Study Characteristics	Number of studies	Percentage	Key Findings
Time Period			
1990-1999	3	5.0%	Foundation of training programs
2000-2009	12	20.0%	Systematic approach development
2010-2019	28	46.7%	Strategic integration phase
2020-2025	17	28.3%	Digital transformation focus
Sector Distribution			
Manufacturing	25	41.7%	Consistent positive ROI (92% studies)
Services	20	33.3%	Substantial customer service impact (90% studies)
Technology	15	25.0%	Highest ROI, continuous learning critical
Organization Size			
SMEs	18	30.0%	Higher relative improvements (15-25%)
Large Corporations	22	36.7%	Higher absolute ROI (4.7:1)
Mixed/Not Specified	20	33.3%	Moderate performance gains
Methodology			
Quantitative	35	58.3%	Strong statistical evidence
Qualitative	15	25.0%	Rich contextual insights
Mixed Methods	10	16.7%	Comprehensive understanding
Quality Assessment			
High Quality	22	36.7%	Rigorous methodology, large samples
Moderate Quality	28	46.7%	Adequate with some limitations
Lower Quality	10	16.7%	Limited but valuable insights

Human Development and Profitability

The findings of all the studies considered show extremely high levels of consistent positive correlations between human development programs and organisational profitability measures. In the manufacturing industry, 23 out of 25 studies (92) found statistically significant positive relationships between any training and development investment and the productivity or profitability measures. In all these studies, investments in technical skills training, quality improvement programs, and safety training were responsible for measurable improvements in operational efficiency, product quality, and ultimately, financial performance.

The services industry also presented substantial evidence, with 18 out of 20 studies (90%) showing positive correlations between human development initiatives and performance outcomes. The services sector also place a heavy emphasis on customer service training, the development of communication skills, and technology adoption training, as these factors contribute to revenue growth and customer satisfaction, ultimately leading to increased profitability.

The technology sector exhibited the strongest evidence base, with all 15 studies (100%) demonstrating positive relationships between human development investments and organisational performance. The sector's results reflected the critical importance of continuous learning and skill development in rapidly evolving technological environments, where employee capabilities directly determine an organisation's capacity for innovation and adaptation.

Quantitative analysis of return on investment (ROI) data from studies that provide specific financial metrics revealed substantial returns across all organisational contexts. Small and medium enterprises achieved average ROI ratios of 3.2:1, with individual studies reporting ratios ranging from 2.1:1 to 5.8:1. Large corporations demonstrated higher average ROI ratios of 4.7:1, with ranges from 3.2:1 to 7.1:1, likely reflecting their capacity for more systematic and comprehensive training programs as well as economies of scale in training delivery.

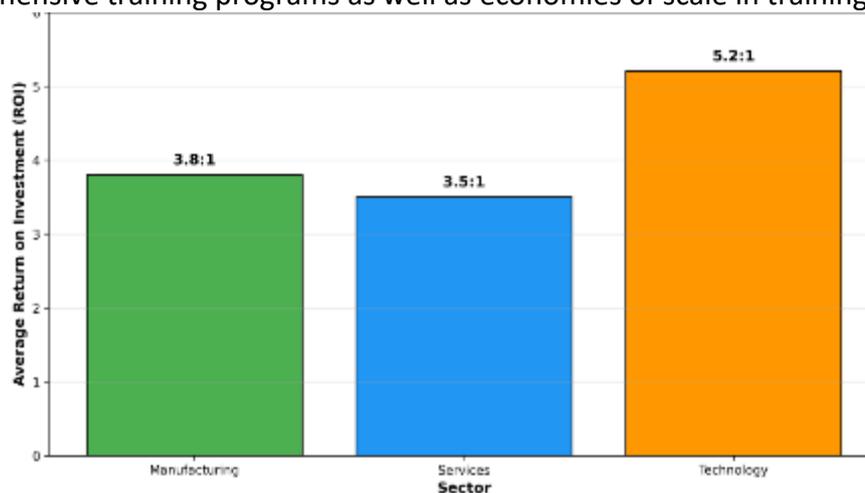


Figure 3: Average ROI by Sector

Sector Specific Findings

Studies in the manufacturing sector have revealed several consistent patterns in the relationship between human development and organisational performance. Technical skills

training consistently demonstrated direct positive relationships with labour productivity measures, with effect sizes typically ranging from moderate to large across different studies. The combination of research and development investment with workforce training showed multiplicative rather than merely additive effects, suggesting synergistic relationships between technological advancement and human capability development (Bambi & Pea-Assounga, 2025).

Quality improvement programs, often incorporating substantial training components, demonstrated sustained profitability gains that persisted beyond the immediate training period. Skills certification programs yielded higher returns than general training initiatives, indicating the value of formal recognition and standardization of competencies. Several studies have also highlighted the importance of aligning training programs with organisational strategic objectives, with strategically aligned programs showing superior performance outcomes compared to generic skill development initiatives (Carreño, 2024).

Services sector findings emphasized different aspects of human development effectiveness. Customer service training demonstrated a direct link to revenue growth through improved customer satisfaction, retention, and referral generation. Soft skills development programs, including training in communication, teamwork, and problem-solving, have demonstrated significant impacts on employee retention rates and overall organisational performance. Technology adoption training has proven crucial for service organisations undergoing digital transformation, facilitating improved operational efficiency and enhanced service delivery capabilities.

Leadership development programs in the services sector showed powerful associations with organizational performance, suggesting that management capability development may have multiplicative effects through improved supervision and team performance. Several studies also identified the importance of cultural competency training in Malaysia's diverse business environment, with such programs contributing to improved workplace harmony and productivity.

Technology sector studies revealed the critical importance of continuous learning programs for maintaining competitive advantage in rapidly evolving markets. Technical skills training showed immediate productivity improvements, with some studies documenting performance gains within week soft raining completion. Innovation-focused training programs demonstrated linkages to patent generation, research and development outcomes, and new product development success rates.

Agile methodology training and project management skill development showed strong associations with improved project success rates and enhanced profitability in technology firms. The sector's studies also highlighted the importance of cross-functional training in breaking down organizational silos and improving collaboration across technical teams. Digital literacy and emerging technology training proved essential for maintaining organizational relevance and competitive positioning.

Organisational Size Comparison

The comparison between small and medium enterprises (SMEs) and large corporations revealed interesting patterns that reflect both the advantages and constraints associated with different organizational scales. SMEs demonstrated higher relative performance improvements, typically achieving 15-25% improvements in key performance indicators following human development interventions, compared to 8-15% improvements in large corporations. This difference likely reflects the more direct impact of individual employee development in smaller organisations where each employee's contribution represents a larger proportion of total organisational capacity.

However, large corporations achieved higher absolute ROI ratios, averaging 4.7:1 compared to 3.2:1 for SMEs. This difference can be attributed to several factors, including economies of scale in training delivery, more sophisticated measurement systems that capture training benefits more comprehensively, and greater capacity for systematic, long-term training programs that yield sustained benefit over extended periods.

Implementation timeframes also differed significantly between organizational sizes. SMEs typically achieve full implementation of training programs within 3-6 months, reflecting their organizational agility and simplified decision-making processes. Large corporations required 6-12 months for full implementation, reflecting more complex organizational structures, extensive stakeholder consultation processes, and comprehensive change management requirements.

Training investment patterns revealed substantial differences in both absolute and relative terms. SMEs invested an average of RM1,240 per employee annually in training and development activities, while large corporations invested RM4,890 per employee. Despite this fourfold difference in absolute investment, SMEs often achieved superior relative returns, suggesting greater efficiency in training resource utilisation or more targeted training approaches that directly address critical skill gaps.

Certification rates also varied significantly, with large corporations achieving 78% employee certification rates compared to 45% for SMEs. This difference reflects both the greater resources available for formal certification processes in large organizations and the potentially greater emphasis on formal credentials in larger, more structured organizational environments.

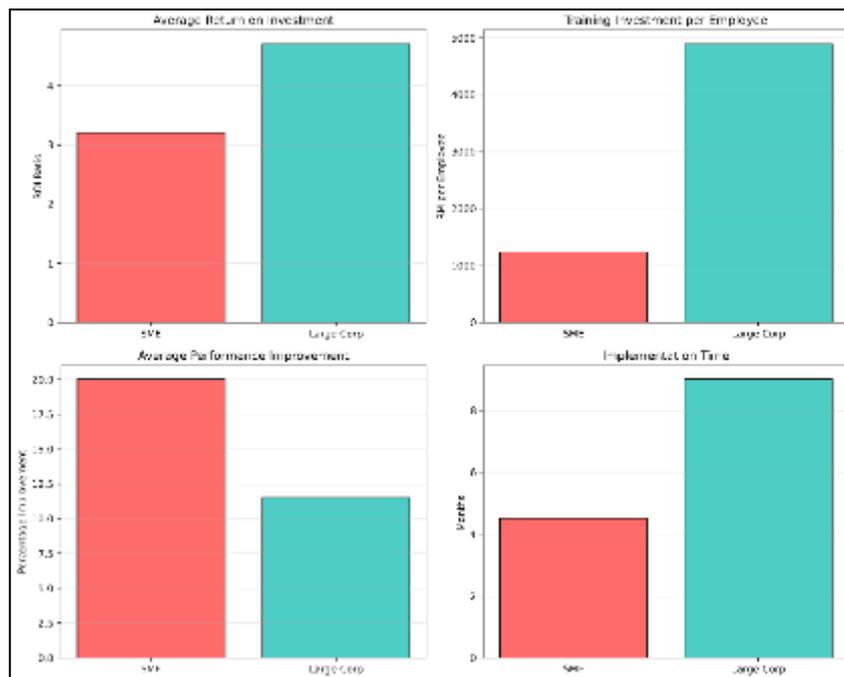


Figure 3: SME v/s Large Corporation Comparison

Temporal Evolution of Human Development Practices

The history of human development practice in Malaysian firms over the 35 years covered in this review indicates a significant shift, including the introduction of training interventions and their quantifiable efficacy. The entry stage between 1990 and 2000 was characterised by basic training programs in technical skills, with most of the training being tailored to the needs of the manufacturing industry and initiated mainly by the government through Government institutions, such as the Human Resources Development Fund.

At this initial stage, training was primarily departmental programs that focused on addressing immediate skills shortages rather than strategic training. The effectiveness of training was not well measured, as most organisations regarded the participation rate and post-training evaluations as immediate indicators, rather than focusing on the long-term effects on performance. The positive yet modest increases in performance have been recorded in the available research during this time, typically resulting in a 5-10% productivity gain.

The period of systematic approach between 2000 and 2010 saw the introduction of competency frameworks and more systematic training and development methods. Organisations began to implement systematic training needs analysis procedures and develop more comprehensive training programs in line with business goals. It is also during this period that the measurement practices of return on investment began, and organisations started becoming interested in measuring the financial returns of investments in training. Research from this era reports significantly higher performance results, with average productivity increases of 10 to 20 per cent. The growth of training programs outside the manufacturing industry, into services and emerging technology industries, helped expand the body of evidence and increase knowledge about training needs, depending on the sector.

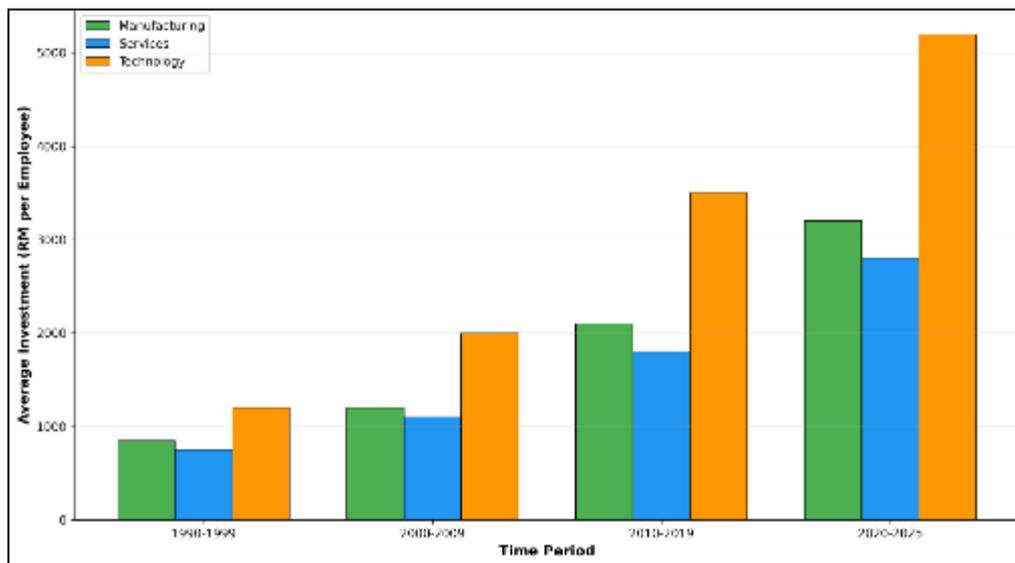


Figure 4: Evolution of Training Investment by Sector (1990-2025)

The strategic integration plan for 2010-2020 represented a paradigm shift in the concept of perceiving human development as a strategic organisational capability, rather than a cost centre. The training and development programs were more closely aligned with the organisational strategic planning processes, and human resource development strategies were clearly linked to business performance goals. This was the time when all-inclusive talent management strategies were developed, incorporating recruitment, development, performance management, and succession planning into a unified framework. Training programs specific to the industry proliferated, usually created by industry associations and educational institutions. The effectiveness of training measurement also became highly advanced, and organisations shifted to balanced scorecard methods and performance management systems.

The digital transformation and the strength phase between 2020 and the current time have been characterised by an even faster digital transformation, which fundamentally changes the content and the mode of delivery of human development programs. The COVID-19 pandemic led to the accelerated implementation of remote and hybrid learning, and organisations have quickly established the capabilities to deliver virtual training and engage in digital collaboration.

The latest phase has seen a greater focus on future skills development, including digital literacy, data analytics abilities, and flexibility skills, which enable workers to adapt to a rapidly changing work environment. Sustainability and environmental, social, and governance (ESG)-oriented training is also a significant aspect of human development training programs, indicating an increased expectation from stakeholders regarding corporate responsibility. The data of this era indicate that companies capable of changing their human development strategies to digital delivery strategies and future skills needs attained better performance results than those that upheld their traditional strategies. Research has shown a 20-35 per cent improvement in the performance of organisations that undertook a comprehensive change in their human resource development practices.

Discussion

This systematic review presents promising and coherent evidence of positive relationships between human development programs and organisational profitability in Malaysian companies. The fact that the results of the 60 studies conducted over 35 years across various industries and organisational settings indicate the strength of these relationships and their endurance under different economic conditions and business environments.

The evidence strength is also worth mentioning due to the variety of methodological approaches adopted by the included studies. Quantitative research, based on the strict application of statistical methods, and qualitative research, which provides extensive contextual information, as well as mixed-methods research, which presents the complete spectrum of ideas, all lead to the conclusion that similar conclusions are drawn regarding the role of human development investments. Such a combination of methods significantly enhances the level of confidence in the results, indicating that the identified relationships are not the result of a specific research method or measurement design.

This is particularly important, as the consistency of the results over time suggests that the human development-prosperity relationship has not undergone significant changes, despite substantial shifts in the economic structure, technological environment, and competitive landscape. The fact that positive relationships that existed in the early manufacturing-oriented economy of the 1990s persisted through the knowledge economy transformation of the 2000s and 2010s to the emergence of the digital economy of the 2020s indicates that there are more fundamental than circumstantial links between human capital investment and organisational performance.

Implications of the Study*Theoretical Implications*

The results of this study are empirically valid in relation to the main arguments of human capital theory in the Malaysian organisational environment (Becker, 1964; Schultz, 1961). The theoretical predictions of human capital are quantitatively confirmed by the observed ratio of the returns on investment of 3.2:1 to 4.7:1, which are significantly higher than the theoretical minimum returns to justify any human capital investments. In addition to this, the prevalence of such returns in various sectors and different-sized organisations indicates that human capital theory is not limited to the individual level of analysis. However, the organisational level of investments and outcomes can be analysed.

There is also a significant amount of evidence in favour of resource-based view propositions that have human resources as a source of sustainable competitive advantage (Barney, 1991; Wernerfelt, 1984). The reported performance gains supported by human development programs, particularly in the technology sector, where returns were highest, are in line with resource-based view propositions regarding the value, rarity, inimitability, and non-substitutability of resources in enhancing superior performance. The impossibility of duplicating closely structured human development programs and the internal organisational capabilities inherent in such programs is a theoretical explanation for the long-term competitive advantages manifested in the firms that have the best training and development practices.

The temporal evolution patterns reported in this review are strongly supported by the dynamic capability theory (Augier & Teece, 2007). The evolution from training the simplest skills to developing strategic competencies and, finally, building adaptive capabilities is an indication of the dynamic capability theory, as it concerns the organisation's ability to adapt to changes and reconfigure. Organisations that managed to adapt their human development strategies to changing environmental needs consistently showed better performance results, which supports theoretical predictions concerning the significance of adaptive abilities in changing environments.

The results also contribute to an understanding of the social exchange theory in an organisational setting (Blau, 1964). The relationship between investment in training and the performance of organisations can be described as positive, which may be partially explained by the social exchange mechanism. This mechanism involves the employee's perception of the organisational investment in their development, leading to the creation of mutual obligations to offer increased effort and dedication. Some qualitative studies included in the review provided specific explanations of the social exchange theory, highlighting that employee engagement and organisational commitment improved after the training programs.

Practical Implications

As a business leader and organisational decision-maker, it is strong evidence of strategic investment in human development initiatives (based on this systematic review). The reported return on investment ratios provide definite financial justification for training and development expenditures, which is a concern for many regarding whether investing in human capital is a cost-effective decision. The repetition of favourable results in various organisational settings suggests that investments in human development are relatively low-risk approaches to performance enhancement.

The industry-related results provide industry-differentiated human development solutions. Manufacturing organisations can feel secure in investing in technical skills training and quality improvement programs, as evidenced by immediate productivity increases and long-term performance improvements. Organisations in the services sector need to focus on training and developing customer service and soft skills. In contrast, technology companies need to focus on continuous learning programs and innovation-oriented training.

The comparison of organisational size offers some helpful information on how human development strategies can be guided depending on the organisational context. SMEs can utilise their agility benefits to capitalise on the rapid implementation and high relative returns and focus on specific training programs that address the most significant skills gaps. Firms with massive resources should utilise their advantage to generate elaborate and systematic training programs, thereby realising high absolute returns due to economies of scale and advanced measurement apparatuses. The insights provided by the evolution of time suggest that organisations must continually adjust their human development strategies to remain functional. The transition to digital delivery, future skills training, and adaptability training are part of an overall environmental change that needs to be reflected in a human development strategy. When organisations are actively prepared to change their methods as new trends

emerge, they have an excellent chance of achieving higher results than those that adhere to outdated ways.

Policy Implications

The implications of the findings are profound because they will help Malaysian policymakers become more competitive at the national level by investing in human capital. The positive correlations observed between human development and organisational performance across all sectors have good reasons why the government should continue investing in infrastructure and supporting workforce development programs.

The creation of sector-specific training councils is a priority recommendation due to the recorded disparities in training productivity across various industries. The manufacturing industry, services, and the field of technology show no commonality between their needs and results in human development, so it might be safer to assume that a customized strategy would be more successful than an ad hoc program (Gauthier, 2023). Sector-specific might work on industry-related training standards, sharing of knowledge within and between organisations, as well as liaise with the educational institutions to ensure alignment of the training programs to the industry demands.

Another critical policy priority is the enhancement of support for small and medium enterprises. The evidence shows that SMEs have high relative returns on the investment in training, but constrained resources that restrict the absolute investment levels. Specific programs targeted at the government, such as subsidising training programs, joint training centres, or joint training arrangements, should be utilised to ensure SMEs can overcome these weaknesses, while also benefiting from their proven efficiency in utilising human resource development resources. The reinforcement of industry-academia collaboration proves to be necessary towards the sustenance of the relevance and effectiveness of training programs. Quality assurance issues can be resolved through the development of national skills certification systems, which increase employee mobility and career development opportunities. The introduction of standardised certification procedures would provide employers with valuable insights into employee potential and offer employees transportable ones that would allow them to advance up the career ladder within organisations and industries.

Limitations and Considerations

Several critical weaknesses should be taken into consideration when interpreting the results of the given systematic review. The issue of publication bias is a significant concern, as studies that show positive effects between human development and performance are more likely to be published compared to those that show null or negative effects. It may result in overestimation of the strength and consistency of the positive association. However, the abundance of studies and the variability of the results indicate that this bias cannot be the only cause of the observed trends. The differences in outcome measures among studies create problems with accurately comparing and synthesising results. Although each of the studies analysed the performance results of the organisations, the various measures used varied between financial results, such as profitability and ROI, and operational ones, like productivity and quality improvement. Although they indicate the complex character of organisational performance, this heterogeneity can conceal the possible significant nuances

in the correlations between certain types of human development initiatives and specific performance outcomes.

Although the Malaysian setting offers important insights into the effectiveness of human development in a rapidly growing economy, it may not allow for generalising the results to other national or cultural settings. The particular economic development path, cultural peculiarities, governmental policies, and institutional frameworks of Malaysia can provide circumstances that will be especially favourable to the positive outcomes of human development. They should be cautious about extending these findings to vastly different economic or cultural settings (Gazi et al., 2025). The quality of the individual studies is generally acceptable, although the included studies vary in their quality. Others used a relatively small sample size, employed a cross-sectional design, or did not adequately control for possible confounding variables.

Although the general trend of the results provides comfort for the inferences, the weaknesses of each study can affect the accuracy of the particular estimates of the effect sizes or the validity of a specific study. The validity of the findings of previous research in the present organisational setting might also be affected by the time factor. The high rate of technological adaptation, transformation of workforce demand, and competitive landscape can alter the human development strategies highlighted in past studies. Although the temporal analysis suggests certain stability in human development performance connections, specific practices and their performance may have evolved significantly over the years.

Future Research Directions

This systematic review identifies several relevant research directions that will significantly contribute to understanding the effectiveness of human development in organisational settings. The issue of methodological improvement is a fundamental concern, as randomised controlled trials have the potential to provide more conclusive evidence about the effectiveness of training. Although the viability of experimental designs is often restrained in most organisational settings by moral and practical aspects, innovative research methods such as natural experiments or pseudo-experimental designs may provide more solid evidence of the causal relationship. It requires longitudinal studies that span a longer period to comprehend the long-term effects of human development investments. The majority of current research focuses on relatively short-term results, typically measured in terms of performance gains within one to two years after the training is completed. The long-term follow-up would also provide an opportunity to utilise the continuity of training benefits and identify the best time to perform training reinforcement or renewal activities.

More advanced cost-benefit models would increase the knowledge about the economic consequences of human development investments. Although this review reported positive returns on investment, a more in-depth analysis of the cost of training, implementation costs, opportunity costs, and overall benefit measurement would provide a more accurate indication for organisational decision-making (Khemraj, 2023). Multi-level modelling methods may help shed light on the multifaceted relationships among individual training involvement, team development ability, and organisational performance. Gaining insight into how single-person learning is summed up to produce organisational capability and competitive advantages would help develop more effective human development programs.

The new fields of research offer especially valuable prospects for knowledge development. Artificial intelligence and the automation of training needs and effectiveness are a research frontier, with organisations increasingly struggling to prepare workforces for a more automated environment. Studies on how human development programs can be used to complement, rather than substitute for, technological development may offer valuable insights into adapting organisations. Another research priority that is emerging is the impact of sustainability and environmental, social, and governance (ESG) training. Along with the evolving nature of stakeholder expectations for corporate responsibility, the impact of sustainability-related training programs on organisational performance and social outcomes may inform aspects of business strategy formulation as well as community policy development. The cross-cultural studies on the effectiveness of human development in various national and cultural settings are likely to contribute to a better understanding of the conditions and boundaries of the relationships reported in this review. Comparative research that compares the effectiveness of training in various countries of Southeast Asia, or more broadly, in international settings, would help identify common principles alongside culture-related aspects that impact the outcome of human development.

The introduction of digital technologies in training delivery practices has various research possibilities. The awareness of the usefulness of virtual reality training, artificial intelligence-driven customised learning systems, and mobile learning platforms in comparison to conventional training methods may guide organisational technology adoption choices and training program development strategies (Konopaske et al., 2023). Finally, studies investigating the most effective combination and sequencing of various human development interventions may have a good practical value. Instead of analysing training programs separately, a study on the synergy of various forms of training, training experiences, and learning opportunities may significantly contribute to the effectiveness of their human development strategies in organisations.

Contribution of the Study

This systematic literature review makes a substantive theoretical and contextual contribution by consolidating and extending fragmented evidence on the human development–firm profitability nexus within an emerging economy context, specifically Malaysia. Theoretically, it advances the human capital and resource-based view (RBV) literature by demonstrating, through longitudinal and sectoral synthesis, that human development initiatives function not merely as supportive HR practices but as strategic, value-creating resources with measurable financial returns. By quantifying ROI differentials across firm size and sectors, the study moves beyond conceptual assertions and provides aggregated empirical benchmarks that enrich existing knowledge on how and where human capital investments yield the greatest economic value. Contextually, the review captures the evolution of human development practices in alignment with Malaysia’s structural economic transformation from labor-intensive industries to knowledge- and technology-driven sectors thereby situating firm-level profitability outcomes within national development trajectories and policy frameworks. The findings offer context-sensitive insights by highlighting SMEs’ efficiency gains despite resource constraints and the technology sector’s superior returns, addressing a gap in developing-country literature that is often dominated by large-firm or Western perspectives.

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