Journal of Information Systems Engineering and Management
2025, 10(35s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Factors Affecting the Development of High-Quality Human Resources in Industrial Parks: A Survey in Hai Duong Province

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ARTICLE INFO

Received: 18 Dec 2024
Revised: 10 Feb 2025
Accepted: 28 Feb 2025

ABSTRACT

The purpose of this research is to propose several current high-quality human resource development policies with the international integration requirements of Hai Duong. Quality human resources play a pivotal role in driving the success of both organizations and nations. The development of high-quality human resources catalyzes economic growth by enhancing labor productivity, leading to increased incomes for workers. This rise in income, in turn, contributes to overall economic expansion. This study employs qualitative research methods and gathers secondary data to establish criteria for evaluating the development of high-quality human resources. This study employs qualitative research methods and gathers secondary data to establish criteria for evaluating the development of high-quality human resources. The focus is on meeting the demands of international integration by identifying specific elements related to the quantity, quality, and structure of high-quality human resources tailored to the international context. The research findings indicate a positive trend in the increase of high-quality human resources in Hai Duong from 2020 to 2024 , demonstrating improvements in their quality. However, the structure of these resources is evolving in a manner that does not align with the needs of economic restructuring within the context of international integration. The author puts forth several policy recommendations to enhance institutional frameworks for the ongoing development of high-quality human resources in Hai Duong. This study focuses on meeting the needs of international integration by identifying specific factors related to the quantity, quality, and structure of high-quality human resources suitable to the international context in Hai Duong, Vietnam.

Keywords: Human Resources; High quality; Hai Duong; Industrial parks; Vietnam.

1. INTRODUCTION

Hai Duong, located in the northern key economic region and serving as a vital link between the provinces of the Red River Delta, plays a central role as a directly under the Central Government. The XVI Congress of the Party Committee of Hai Duong emphasized the strategic importance of developing human resources, particularly high-quality ones, to align with the demands of the Fourth Industrial Revolution and international integration, recognizing it as one of the three critical breakthroughs for the economy. The underscores the significance of quality human resources solutions as the 'key' to achieve rapid, efficient, and sustainable growth, as outlined by the Hai Duong Party Committee in 2020. Hai Duong has actively investigated and scientifically implemented various to foster human resource development, specifically focusing on high-quality human resources. These efforts have yielded notable achievements, elevating Hai Duong's position. Notable achievements include an average annual growth rate of 14.02% in Gross Regional Domestic Product (GRDP) from 2017 to 2021, surpassing the national growth rate by 2.1 times. In 2021 alone, the GRDP is expected to reach VND 276,661 billion, marking a 2.1-fold increase compared to 2017. Employee average income in 2021 is projected to reach 254.99 million VND, 2.5 times higher than the national average. The proportion of trained workers is set to reach 85%, with a certification rate of 35%. Moreover, the percentage of workers with university and post-graduate degrees is expected to rise by 6.8% by 2021 (Hai Duong, 2022). These achievements highlight the positive impact of human resource development on economic growth,

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leading to a robust shift in the economic structure towards industrialization and modernization while enhancing Hai Duong's endogenous capa.

To accomplish the outlined growth objectives, this article provides a comprehensive exploration of the theoretical foundations and practical experiences related to the development of high-quality human resources to meet the demands of international integration. The research delves into the conceptual framework, content, roles, and the formulation of evaluation criteria and factors involving the development of high-quality human resources. Drawing from the experiences of prominent localities with similar contexts to Hai Duong, the article analyzes and evaluates Hai Duong 's progress in developing high-quality human resources from 2020 to 2024 , highlighting achieved results, identifying limitations, and elucidating underlying reasons. The article concludes by key policy implications aimed at fostering the development of high-quality human resources to meet the requirements of international integration for Hai Duong by 2025, with a vision extending to 2030.

2. THEORETICAL FRAMEWORK

High-quality human resources

In the nation's developmental trajectory, various resources contribute to social progress, yet the pivotal role of human resources in other factors cannot be overstated. Throughout the evolution of this relationship, certain scholars have introduced the concept of high-quality human resources. Author Pham Minh Hac (2004) defines high-quality human resources as individuals possessing advanced qualifications and capabilities, serving as a dynamic force adept at adapting to changes and transferring cutting-edge technology. They play a crucial role in effectively applying these advancements to the specific conditions of our country. Furthermore, they act as the nucleus within their respective fields during the process of industrialization and modernization, radiating outward like an "oil slick." This involves leading workers with lower qualifications and capa , fostering rapid upward progression within the given domain. (Pham Minh Hac, 2004).

Some other scholars agree that high-quality human resources must have sufficient professional knowledge and skills; master modern equipment and technologies; use a foreign language in professional communication; have social skills, communication, behavior, cooperation, capa for creative activities; industrial working style, professional conscience and good health (Anh, 2019; Hang, 2017; Loan, 2022; Tung, 2022) . In today's era of international integration, high-quality human resources are the workforce that must have awareness and international integration capabilities, that is, the ability to understand the international market and work, negotiate, and cooperate in a multicultural environment without dissolving national identity.

Thus, it can be generalized: high-quality human resources are understood as a typical and core part of the workforce, capable of meeting the high requirements of reality in terms of physical strength, high education and technical expertise, good labor skills; have good professional ethics; capable of quickly adapting to changes, knowing how to creatively apply trained knowledge and skills to the production process, bringing high productivity, quality and efficiency, contributing to economic-society development.

Developing high-quality human resources

According to Smith (1988): Human resource development (HRD) includes programs and activities, direct and indirect, directed or personally implemented, that can affect the development, individual productivity, and well-being of the organization as a whole (Smith, 1988) .

McLagan (1989): HRD is the integrated use of training & development, career development, and organizational development to improve individual and organizational effectiveness (McLagan, 1989) .

Gilley (1989): HRD is organized learning activities organized within an enterprise to improve work performance and/or personal development; and/or organization (Gilley & Eggland, 1989) .

Chalofsky (1992): HRD is the study and practice of enhancing the learning capa of individuals, groups, collectives, and organizations through the development and application of learning interventions with the ultimate aim. optimize the development and effectiveness of people and organizations (Chalofsky, 1992) .

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Burgoyne & Reynolds (1997): HRD is the field of study and practice that fosters lifelong learning, and is relevant to the work of individuals, groups, and organizational levels. As such, it includes - but is not limited to - training, career development, and organizational development (Burgoyne & Reynolds, 1997) .

Stewart and McGoldrick (1996): HRD encompasses activities and processes, designed to have an impact on individual and organizational learning. It assumes that organizations can be formed by building learning units and learning processes by both organizations and individuals who can influence and direct through deliberate interventions. and have a plan (Stewart & McGoldrick, 1996)

McCracken and Wallace (2001): HRD is the creation of a culture of learning, which includes a range of training, development, and learning strategies that both respond to organizational strategy and help shape and influence it (Mcguire et al., 2001) .

Gourlay (2000): HRD focuses on theory and practice related to training, development, and learning in organizations and individuals in the context of shaping business strategy and organizational competitiveness (Amess & Gourlay, 2000).

McGuire et al (2001): HRD can be described as components of an organization's training activities that provide the knowledge and skills needed in the context of (changing) goals of the organization. organization (Mcguire et al., 2001).

Referring to the above points of view, the research team found that the two most mentioned and mentioned-upon contents are: firstly, the view of development does not stop at training and learning activities but also on development. must be viewed as an ongoing process and included in the totality of management interventions including professional and organizational development; Second, human resource development must aim at improving the working efficiency of individuals and organizations. Career development is an ongoing process of life, study, and employment management activities.

In summary, the research team believes that: “Developing high-quality human resources to meet the requirements of international integration is the process of creating a change in quantity, improving the quality of human resources by international practices on qualifications, knowledge, skills, professional consciousness, and strength to ensure the structure of industries, fields, and territories upon international economic integration”.

3. RESEARCH METHODS

Research on human resources development, the author uses 1 dependent variable: Developing high-quality human resources to meet integration requirements in Hai Duong (HH) measured by 4 observed variables (from HH1 to HH4); These variables are built from the evaluation criteria for developing high-quality human resources to meet the requirements of integration in Ho Chi Bright . Hai Duongcomprehensively based on the results of development in sufficient quantity, appropriate human resource structure, improve the quality and capa of employees according to Benjamin Bloom's ASK model has been studied through the DACUM method for job analysis and job analysis

Using a 5-level Likert scale, with a descriptive statistical results table using SPSS 25.0 software and the reliability test results of the quantitative scale; Structure; Physical knowledge; Skills; Mental strength; according to Cronbach's Alpha coefficient have been shown currently.

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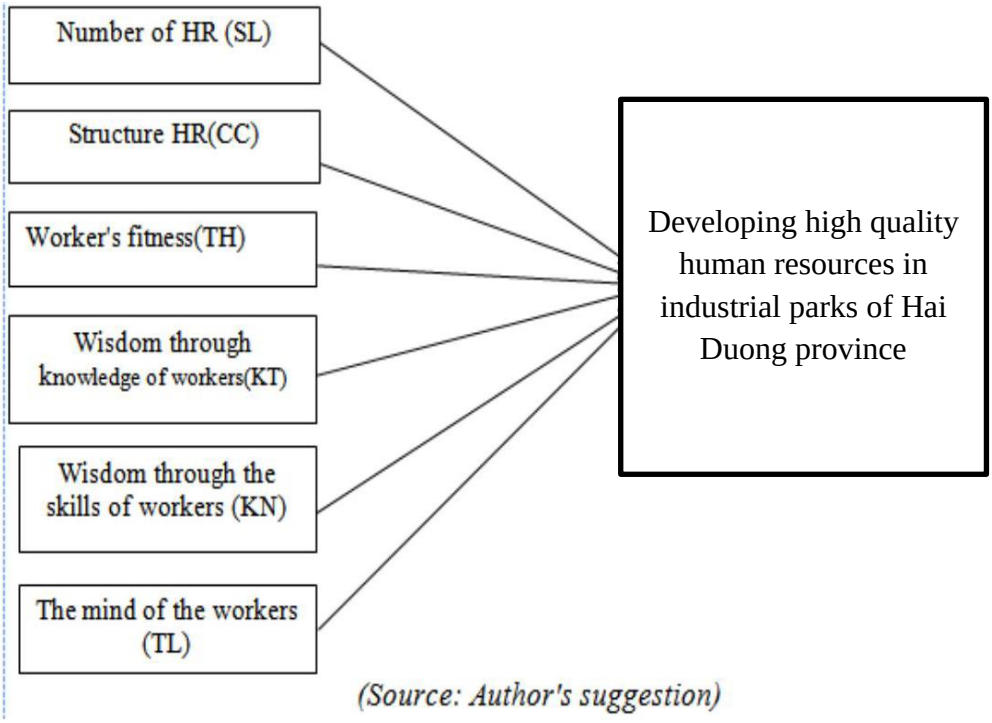

(Source: Author's suggestion)

The research model consists of 5 variables divided into 2 groups (independent variable and dependent variable):

Dependent variable: Developing high-quality human resources to meet integration requirements in Hai Duong (HH) . The group of independent variables reflecting factors contributes to the formation of high-quality human resources in Hai Duong, including:

SL: Number of human resources.

CC: Structure of human resources.

TH: Fitness of workers

KT: Wisdom through knowledge of employees.

KN: Intelligence through workers' skills.

TL : The mind of workers .

About the research sample With the goal of surveying subjects related to the development of high-quality human resources to meet the requirements of international integration in Hai Duong, ensure the criteria for selecting survey enterprises of the thesis. Due to the small and known population size, the study sample size was determined using the population given method. The sample size is determined based on: The population and the error.

$$n = \frac{N}{1 + N * e^2}$$

n: Number of research samples

N: Overall quantity

e: Error (using 95% accuracy, error e = 5%)

N = 590; e = 0.05 (95%)

Thus, the research needs a sample of 238 votes and the thesis has surveyed 280 votes, collecting 265 valid votes.

How to conduct a survey? Before conducting the official survey, the author conducted a trial survey to check the appropriateness of the questionnaire.

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With the scope of research of the topic is Hai Duong, where the author works, but in the past period, especially from the end of 2020 to the end of 2024, the situation of the Covid-19 epidemic in the . The situation in Hai Duong is complicated, so the author has used a combination of two different methods to collect survey information such as:

First, collect data through face-to-face interviews: a total of 40 questionnaires are for 4 groups of subjects as follows. 6 interviews with leaders at state management agencies;

10 survey questionnaires, data collection for leaders of 5 types of enterprises according to the Enterprise Law 2020; 11 survey forms, collect survey questionnaires for representative scientific researchers at 5 higher education institutions in Hai Duong and 6 agencies and performing organizations science and technology tasks according to Decision No. 247/QD-SKHCN, dated October 9, 2015 of the Director of Hai Duong Department of Science and Technology; 13 questionnaires to directly survey technical workers in 13 large industrial parks of Hai Duong.

Second, collect survey data by calling the contact first, then send the survey through with the Google form of the remaining 240 survey questionnaires. Using Cronbach's Alpha coefficient to test the reliability of the scale Verification should check the following conditions:

Firstly, the scale must have at least two measurement variables (Iterm); Second, the value of Cronbach's Alpha coefficient varies from 0 to 1. If the Cronbach's Alpha coefficient reaches a value of 0.6 or more, it can be accepted for reliability. If the value is from 0.7 to close to 0.8, the scale has good reliability and the value is from 0.8 to close to 1, the scale has very good reliability. However, when Cronbach's Alpha coefficient is too large ($\alpha > 0.95$), it shows that there are many variables in the scale that do not have any difference, this phenomenon is called overlap in scale.

Third, the coefficient correlation of the total variable to perform the test of the satisfactory variables when the correlation coefficient of the total variable is greater than 0.3.

Therefore, the research in the thesis must have three or more measurement variables, will only keep those with Cronbach's Alpha coefficient of 0.6 or higher and the total correlation coefficient greater than 0.3.

4. RESEARCH RESULTS

4.1. Descriptive statistics

(1). Gender

Table 1: Statistics of human resources participating in the survey by gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	92	34.7	34.7	34.7
	Female	173	65.3	65.3	100.0
	Total	265	100.0	100.0	

(Source: Survey results and author's calculations, 2025)

The human resources participating in the survey are 92 men, accounting for 34.7%, of which the majority of workers are female, with 173 people, accounting for 67.2%. This proves that in the structure of high-quality human resources meeting the integration requirements of Hai Duong city, women ensure the purity and dexterity in the quality of workers.

(2). Age

Table 2: Statistics of human resources participating in the survey by age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	22-30	39	14.7	14.7	14.7
	31-35	134	50.6	50.6	65.3

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	35-40	48	18.1	18.1	83.4
	over 40	44	16.6	16.6	100.0
	Total	265	100.0	100.0	

(Source: Survey results and author's calculations, 2025)

The human resources participating in the survey are aged 22-30, 34 people, accounting for 14.7%, 35-40 years old, 48 people, accounting for 18.1%, in which the majority of workers are aged 31-35, 134 people, accounting for 50.6%. This age group is workers with certain experience, this age group has relatively good health, the golden age ensures the development of human resources to meet the requirements of international integration in Hai Duong City.

(3). Occupation

Table 3: Statistics of human resources participating in the survey by occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technical worker	132	49.8	49.8	49.8
	State management agency	24	9.1	9.1	58.9
	Business Leadership	55	20.8	20.8	79.6
	Scientific research	54	20.4	20.4	100.0
	Total	265	100.0	100.0	

(Source: Survey results and author's calculations, 2025)

The human resources participating in the survey are in state management agencies under the People's Committee of Hai Duong city, 24 people, accounting for 9.1%; leaders in enterprises in Hai Duongare 55 people, accounting for 20.8%; scientific research at schools, research centers, and scientific research institutes is 54 people, accounting for 20.4%; the remaining employees are mainly technical workers working in the enterprise area in Hai Duong city, 132 people, accounting for 49.8%. This is a part of the main production line in enterprises in industrial parks and export processing zones in Hai Duong city, making many contributions to the socio-economic development in general and human resource development to meet the requirements of international integration in Hai Duongin particular.

(4). Professional qualifications

Table 4: Statistics of human resources participating in the survey by professional level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College	165	62.3	62.3	62.3
	Bachelor	83	31.3	31.3	93.6
	Postgraduate	17	6.4	6.4	100.0
	Total	265	100.0	100.0	

(Source: Survey results and author's calculations, 2025)

The human resources participating in the survey have postgraduate qualifications, that is, a master's degree or higher, 17 people, accounting for 6.4%, a bachelor's degree of 83 people, accounting for 31.3%, the rest are mainly college-educated workers, 165 people, accounting for 62.3%, corresponding to the occupational group of technical workers and is also one of the factors that make up a high-quality human resource to ensure the development of human resources to meet the requirements of international integration in Hai Duong City.

(5). Level of political theory

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Table 5: Statistics of human resources participating in the survey by political level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High-class	12	4.5	4.5	4.5
	Are not	126	47.5	47.5	52.1
	Primary	83	31.3	31.3	83.4
	Intermediate	44	16.6	16.6	100.0
	Total	265	100.0	100.0	

(Source: Survey results and author's calculations, 2025)

The human resources participating in the survey have a high level of political theory, 12 people, accounting for 4.5%. The workers with a high level of political theory are those who have positions and titles in society, especially in the public sector. In which, the majority of cadres, civil servants, and workers have a level of elementary advanced theory, 83 people, accounting for 31.3%. The remaining 126 people do not have a certificate of political theory, corresponding to the labor force of technical workers. Political level is an evaluation criterion for the management and leadership team in public sector agencies and enterprises.

4. 2. Results of reliability testing of observed variables

- Results of reliability testing of quantitative scales (SL)

Table 9: Reliability testing of quantitative scales

Reliability Statistics	
Cronbach's Alpha	N of Items
,673	2

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SL1	3.11	1,143	,509	,608
SL2	3.17	,962	,509	,633

(Source: Survey results and author's calculations, 2025)

The reliability of the Knowledge scales has a Cronbach's Alpha coefficient of 0.673 (greater than 0.6), so the reliability component scale meets the requirements; The total item correlation coefficients of the SL1 and SL2 variables are both greater than 0.3. Thus, the SL1 to SL2 variables have suitable scales.

- Results of reliability testing of structural scales (CC)

Table 7: Reliability testing of structural scales

Reliability Statistics	
Cronbach's Alpha	N of Items
,782	4

Item-Total Statistics

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e-ISSN: 2468-4376
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	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CC1	8.99	6,375	,623	,711
CC2	8.98	6,386	,564	,742
CC3	8.96	6,578	,554	,746
CC4	8.98	6,401	,611	,717

(Source: Survey results and author's calculations, 2025)

The reliability of the scales of the structure has a Cronbach's Alpha coefficient of 0.782 (>0.6), so the component scales of the structure (CC) are reliable and meet the requirements; The total item correlation coefficients of variables CC1 to CC4 are all greater than 0.3. Thus, variables CC1 to CC4 have suitable scales.

- Results of reliability testing of physical fitness scales (TH)

Table 8: Reliability testing of physical fitness scales

Reliability Statistics	
Cronbach's Alpha	N of Items
,699	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TH1	5.93	3,124	,536	,581
TH2	5.93	3,132	,514	,608
TH3	5.94	3,201	,494	,633

(Source: Survey results and author's calculations, 2025)

The reliability of the scales of the structure has a Cronbach's Alpha coefficient of 0.782 (>0.6), so the component scale of physical strength (TH) is reliable and meets the requirements; The total correlation coefficients of variables TH1 to TH3 are all greater than 0.3. Thus, variables TH1 to TH3 have suitable scales.

- Results of reliability testing of Knowledge (KT) scales

Table 9: Reliability testing of knowledge scales

Reliability Statistics	
Cronbach's Alpha	N of Items
,875	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KT1	21.12	26,622	,641	,859
KT2	21.20	27,191	,626	,860
KT3	21.13	26,312	,660	,857

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KT4	21.12	26,935	,609	,862
KT5	21.10	26,074	,694	,853
KT6	21.12	27,329	,591	,864
KT7	21.17	26,942	,625	,860
KT8	21.04	27,415	,623	,861

(Source: Survey results and author's calculations, 2025)

The reliability of the scales of Skills has a Cronbach's Alpha coefficient of 0.875 (greater than 0.6), so the component scales of (KT) meet the requirements for reliability; The total item correlation coefficients of variables KT1 to KT8 are all greater than 0.3. Thus, variables KT1 to KT8 have appropriate scales.

- Results of reliability testing of Skill scales

Table 10: Reliability testing of skill scales

Reliability Statistics	
Cronbach's Alpha	N of Items
,867	8

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KN1	21.40	27,295	,559	,858
KN2	21.32	26,175	,655	,847
KN3	21.49	26,107	,667	,846
KN4	21.37	26,787	,581	,856
KN5	21.31	26,883	,603	,853
KN6	21.34	26,363	,660	,847
KN7	21.46	27,030	,619	,851
KN8	21.41	26,251	,612	,852

(Source: Survey results and author's calculations, 2025)

The reliability of the scales of Skills has a Cronbach's Alpha coefficient of 0.867 (greater than 0.6), so the component scales of Skills (KN) are reliable and meet the requirements; The total correlation coefficients of variables KN1 to KN8 are all greater than 0.3. Thus, variables KN1 to KN8 have suitable scales.

- Results of reliability testing of the scales of Mind Power (TL)

Table 11: Reliability testing of scales on mental strength

Reliability Statistics	
Cronbach's Alpha	N of Items
,829	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TL1	15.07	13,836	,615	,799
TL2	14.97	14,522	,542	,814
TL3	14.97	14,336	,600	,802
TL4	15.06	14,004	,635	,794
TL5	15.06	14,095	,627	,796
TL6	15.06	14,432	,577	,806

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(Source: Survey results and author's calculations, 2025)

The reliability of the scales of Tam Luc has a Cronbach's Alpha coefficient of 0.829 (greater than 0.6), so the reliability component scale of Tam Luc (TL) meets the requirements; The total correlation coefficients of the variables TL1 to TL6 are all greater than 0.3. Thus, the variables TL1 to TL6 have suitable scales that have been studied through the DACUM method to analyze occupations and jobs.

- Results of reliability testing of scales for high-quality human resource development to meet integration requirements of Hai Duong(HH)

Table 12: Testing the reliability of scales on developing high-quality human resources to meet the integration requirements of Hai Duong City

Reliability Statistics	
Cronbach's Alpha	N of Items
,761	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HH1	9.15	5,386	,572	,698
HH2	9.11	5,458	,532	,721
HH3	9.12	5,407	,570	,700
HH4	9.12	5,450	,565	,702

(Source: Survey results and author's calculations, 2025)

The reliability of the scales of the dependent variable human resource development (HH) has a Cronbach's Alpha coefficient of 0.761 (greater than 0.6), so the reliability component scale meets the requirements; The total item correlation coefficients of variables HH1 to HH4 are all greater than 0.3. Thus, variables HH1 to HH4 have suitable scales.

Table 3.22: Summary of scales and observed variables

Scale	Observation variable	Cronbach's Alpha coefficient	Conclude
SL	Are not	0.673	Obtain
CC	Are not	0.782	Quality
TH	Are not	0.699	Obtain
KT	Are not	0.875	Good quality
KN	Are not	0.867	Good quality
TL	Are not	0.829	Good quality
HH	Are not	0.761	Quality

(Source: Survey results and author's calculations, 2025)

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4.3 . Exploratory factor analysis EFA

a, Results of the first KMO and Bartlett test

Table 13: Results of KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,919
Bartlett's Test of Spheri	Approx. Chi-Square	3245,207
	df	465
	Sig.	,000

KMO = 0.919 satisfies the condition 0.5 ≤ KMO ≤ 1, so exploratory factor analysis is suitable for practice.

Bartlett's test has Sig. = 0.000 ≤ 0.05, so the observed variables have linear correlation in each factor.

b. Results of the first exploratory factor analysis

Table 14: Results of exploratory factor analysis Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9,471	30,551	30,551	9,471	30,551	30,551	4,413	14,237	14,237
2	2,383	7,687	38,238	2,383	7,687	38,238	4,250	13,709	27,946
3	2,080	6,709	44,947	2,080	6,709	44,947	3,372	10,878	38,823
4	1,650	5,323	50,270	1,650	5,323	50,270	2,498	8,060	46,883
5	1,268	4,091	54,361	1,268	4,091	54,361	1,863	6,009	52,892
6	1,084	3,496	57,857	1,084	3,496	57,857	1,539	4,965	57,857
7	,876	2,827	60,684						
8	,820	2,644	63,328						
9	,759	2,447	65,775						
10	,693	2,235	68,011						
11	,663	2,140	70,151						
12	,655	2,113	72,264						
13	,641	2,068	74,331						
14	,624	2,013	76,345						
15	,597	1,926	78,271						
16	,592	1,908	80,180						
17	,549	1,770	81,950						
18	,525	1,695	83,645						
19	,498	1,606	85,251						
20	,489	1,576	86,827						
21	,472	1,522	88,349						
22	,451	1,454	89,803						
23	,424	1,369	91,172						
24	,424	1,368	92,539						
25	,385	1,244	93,783						
26	,370	1,193	94,976						
27	,360	1,162	96,137						
28	,339	1,094	97,232						

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29	,318	1,024	98,256						
30	,289	,932	99,188						
31	,252	,812	100,000						
Extraction Method: Principal Component Analysis.									

Variance test extracted = 57.857%

Initial Eigenvalues = 1,084 >1

Thus, about 57.86% of the variation of each factor is explained by the observed variables in the model.

c. Results of exploratory factor analysis

Table 15: Results of exploratory factor analysis Rotated Component Matrixa

Rotated Component Matrix [a]

	Component					
	1	2	3	4	5	6
KT3	,718					
KT1	,707					
KT4	,706					
KT5	,698					
KT2	,668					
KT7	,661					
KT6	,650					
KT8	,631					
KN3		,736				
KN6		,716				
KN8		,689				
KN4		,669				
KN2		,661				
KN7		,655				
KN1		,631				
KN5		,617				
TL5			,739			
TL4			,719			
TL3			,713			
TL1			,690			
TL6			,679			
TL2			,580			
CC4				,775		
CC1				,725		
CC2				,673		
CC3				,673		
TH3					,771	
TH1					,707	
TH2					,623	
SL1						,747

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SL2						,746
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 6 iterations.						

Thus, after the exploratory factor analysis, there are still 6 observed variables (independent variables) as initially proposed by the author, no item is eliminated from the total number of initially constructed observed variables.

4. 4. Regression equation

Regression equation on developing high quality human resources to meet international integration requirements in Hai Duong city

Overall regression model:

$HH = \beta_1 + \beta_2 SL + \beta_3 CC + \beta_4 TH + \beta_5 KT + \beta_6 KN + \beta_7 TL + Ui$

(Ui is a random factor)

Dependent variable: Developing high-quality human resources to meet integration requirements in Hai Duong(HH)

Independent variables: reflect factors contributing to the formation of high-quality human resources in Hai Duong City, including:

SL: Number of human resources.

CC: Human resource structure.

TH: Physical strength of workers

KT: Intelligence through knowledge of workers.

KN: Intelligence through worker skills.

TL: The mind of the worker.

Run the equation using E-view software and use the ordinary least squares method (OLS) to determine the regression coefficient β_i. Based on the results, we will write the equation of the factors affecting the high-quality human resource development to meet the international integration requirements of Hai Duong city. Then, test the suitability of the equation, which means testing $\beta_i$to see if the independent variable can explain the dependent variable (using the Hausman test). Evaluate the suitability of the equation through the coefficient of determination R2（R Square) to determine the explanatory ability of the equation in practice.

In addition to using Excel software, specialized software for processing statistical data SPSS.25, Anova variance analysis, E-view software, Hausman test..., the study also uses a system of diagrams, drawings and statistical tables to specifically illustrate the results of analysis, synthesis, statistics and comparison in the thesis topic.

Among the independent variables, the physical strength variable has Sig. = 0.077 > 0.05, which is not closely correlated and statistically insignificant with the dependent variable. Therefore, physical strength has an impact on the development of high-quality human resources to meet the integration requirements of Hai Duongat the present stage.

The other independent variables all have Sig. ≤ 0.05, so the variables SL, CC, KT, KN, TL are all correlated and statistically significant with the variable HH with a significance level and confidence level > 95%.

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Table 16. Testing the regression coefficients

Coefficients [a]											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,617	,213		2,894	,004					
	SL	,109	,054	,124	2,032	,043	,408	,125	,102	,683	1,463
	CC	,184	,057	,194	3,199	,002	,444	,195	,161	,688	1,453
	TH	,100	,056	,107	1,775	,077	,391	,110	,089	,693	1,443
	KT	,113	,067	,108	1,685	,043	,426	,104	,085	,618	1,618
	KN	,158	,066	,153	2,405	,017	,438	,148	,121	,627	1,596
	TL	,138	,064	,133	2,173	,031	,414	,134	,109	,681	1,469
a. Dependent Variable: HH											

Table 17. Model Explanation Level

Model Summary [b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	, [846a]	,716	,503	,44976	,346	22,792	6	258	,000	2,033
a. Predictors: (Constant), TL, SL, TH, CC, KN, KT										
b. Dependent Variable: HH										

Model Explanation Level:

Based on the results of Table 2.11 above, Adjusted R^{Square} = 0.503 (F test, Sig. ≤ 0.05). Thus, 50.3% of the change in the development of high-quality human resources to meet integration requirements is explained by independent variables that ensure significance at a level of over 99%.

Model fit through ANOVA test [a] :

Table 18. ANOVA test results [a]

ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57,736	6	9,623	22,792	,000 [b]
	Residual	108,924	258	,422		
	Total	166,660	264			
a. Dependent Variable: HH						
b. Predictors: (Constant) TL, SL, TH, CC, KN, KT						

In the Regression model , Sig. = 0.000 ≤ 0.05. Thus, in general, the independent variables are linearly correlated with the dependent variable, so the linear regression model fits the actual data.

Multicollinearity test: VIF < 10. The regression model does not have multicollinearity.

Autocorrelation test: Durbin-Watson value (d) = 2.033, 1≤ d ≤ 3, ensuring no residual autocorrelation.

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4.5 . Discussion of regression results

$$HH = 0.213 + 0.124\,SL + 0.194\,CC + 0.108\,KT + 0.153\,KN + 0.133\,TL + Ui$$

Testing the significance level of the regression coefficients (βi) with i = 1, 2, 4, 5, 6, we see that the coefficients β_1, β_2, β_4, β_5, β_6 are statistically significant with Sig. < 5%. In other words, the Sig. reliability results of the coefficients are all less than 5%, meaning the reliability level is above 95%.

β_1 = 0.124 regression coefficient β_1 has positive sign (+), the quantity (SL) of human resources of the organization has a positive impact on the development of high-quality human resources to meet the integration requirements of Hai Duong (HH). When the quantity of human resources increases by 1 point, high-quality human resource development in Hai Duong increases by 0.124 points.

β_2 = 0.194 regression coefficient β_2 has positive sign (+), the structure (CC) of human resources of the organization is the factor that has the greatest impact on the development of high-quality human resources to meet the integration requirements of Hai Duong (HH). When the structure of human resources is reasonable and increases by 1 point, high-quality human resource development in Hai Duong increases by 0.194 points.

β_4 = 0.108 regression coefficient β_4 has positive sign (+), intelligence through knowledge (KT) of human resources has a positive impact on the development of high-quality human resources to meet the integration requirements of Hai Duong(HH). Intelligence through knowledge of human resources has the lowest level of influence among the influencing factors that have statistical significance, and when human resource knowledge increases by 1 point, high-quality human resource development to meet the integration requirements in Hai Duong increases by 0.108 points.

β_5 = 0.153 regression coefficient β_5 has positive sign (+), intelligence through skills (KN) of human resources of the organization has the same impact and has the second largest influence (after human resource structure factor) on the development of high-quality human resources to meet the integration requirements of Hai Duong (HH). When human resource skills increase by 1 point, high-quality human resource development in Hai Duong increases by 0.153 points.

β_6 = 0.133 regression coefficient β_6 has positive sign (+), the center of gravity (TL) of the organization's human resources impacts in the same direction and has a fairly large influence on the development of high-quality human resources to meet the integration requirements of Hai Duong (HH). When the center of gravity of human resources increases by 1 point, high-quality human resource development in Hai Duong increases by 0.133 points.

Table 19. The level of influence of independent variables on dependent variables

TT	Factor/variable affect	βi value	Level affect
1	Quantity	0.124	4
2	Structure	0.194	1
3	Knowledge	0.108	5
4	Skill	0.153	2
5	Mind power	0.133	3

The synthesis of the level of influence of factors affecting human resource development to meet the requirements of international integration in Hai Duong is arranged in order from strongest to weakest: (CC) Human resource structure; (KN) Intelligence through human resource skills; (TL) Human resource mentality; (SL) Number of human resources; (KT) Knowledge of human resources.

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e-ISSN: 2468-4376
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5. POLICY IMPLICATIONS

To ensure the development of high-quality human resources to ensure international integration in Hai Duong, state management agencies, managers and policy makers focus on the following key issues:

Firstly, ensure sufficient quantity to meet job requirements, in which organizations and enterprises in particular need to ensure the structure of human resources by gender, age, and seniority; structure of human resources by title and qualifications; structure of human resources by job position to ensure rationality and high efficiency.

Second, ensure that employees have the necessary skills according to their job position such as: Skills to apply general knowledge to work; Independent working skills; Teamwork skills; Professional activity planning skills; Business negotiation skills; Communication and foreign language skills; Skills to work in a multicultural environment; soft skills in English, information technology, skills necessary for international integration such as human resource skills in a multicultural context, skills necessary for digital transformation and job requirements.

Third, raise awareness of discipline and administrative discipline; absolutely comply with regulations and working procedures. Improve personal qualities and professional ethics; Build a receptive, proactive, and flexible attitude in work; Professional working style; High spirit and responsibility in work.

6. CONCLUSION

Developing high-quality human resources to meet the requirements of international integration is the process of creating an increase in quantity, and improving the quality of human resources by international practices in terms of qualifications, knowledge, skills, professional consciousness, and strength to ensure the structure of industries and fields when integrating into the international economy.

Hai Duong has made great efforts in developing high-quality human resources to meet the requirements of international integration, but limitations that need to be overcome are still such as the quality of human resources is not high, the employees are not able to meet the requirements of international integration. low professional skills, lack of practical experience, limited ability to compete in the working environment, part of high-quality human resources is not ready for international integration, vulnerable to regional fluctuations and international.

Research results show that high-quality human resources in Hai Duong tend to increase in the period 2020-2024; The quality of Hai Duong's high-quality human resources is increasingly being improved, and the structure of high-quality human resources is shifting, but it is not suitable for the requirements of economic restructuring in the context of international integration. Based on the sociometric development goals of Hai Duong, and the demand for forecasting high-quality human resources to meet the requirements of international integration in the coming period of the , the research team proposes four policy implications to develop high-quality human resources to meet the requirements of international integration by 2030.

7. CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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