

RESEARCH ARTICLE**Open Access****THE EFFECT OF ACHIEVEMENT, EDUCATION AND TRAINING AND EXPERIENCE ON EMPLOYEE CAREER DEVELOPMENT IN J&T EXPRESS KEDIRI GOODS DELIVERY SERVICES**

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Abstract

Employee career development is a crucial element in building competent and competitive human resources, especially in the logistics and delivery service sector such as J&T Express Kediri. This study aims to examine the influence of performance, education and training, and work experience on employee career development. A quantitative approach was employed, with a population of 668 employees and a sample of 87 respondents selected using non-probability sampling, specifically convenience sampling. Data collection techniques included questionnaires, observation, and documentation, while data analysis involved instrument validity and reliability testing, classical assumption tests, multiple linear regression, and coefficient of determination (R^2). The findings indicate that: (1) performance has a significant effect on career development ($t = 2.918$), (2) education and training show no significant effect ($t = 0.583$), (3) experience has a significant effect ($t = 2.687$), and (4) simultaneously, the three variables have a significant effect on employee career development ($F = 53.841$, $R^2 = 0.659$). The implications of these findings suggest that 65.9% of career development variation can be explained by the independent variables. Sustainable strategies are proposed by strengthening an integrated performance appraisal system linked to career pathways, refining training programs to better match job requirements, and managing work experience through job rotation, mentoring, and involvement in cross-functional projects to foster long-term organizational learning. These findings contribute to managerial practices by guiding HR policies toward more targeted employee development and open future research on adaptive training models and longitudinal studies on experience-based learning outcomes.

1. Introduction

The success of an organization is inseparable from the development of its human resources. Superior and high-quality human resources must be consistently managed and emphasized by the organization to achieve expected performance. Therefore, improving the quality of human resources is essential so that employees have attitudes and behaviors that are capable of providing service and protection, as well as contributing to the physical and spiritual well-being of the community. Achieving goals based on human resource management will demonstrate how a company should acquire, develop, foster, evaluate, and ensure the welfare of employees in the right number (quantity) and type (quality). (Simamora, 2006) Human resource management is the "recognition" of the importance of human resources in achieving organizational goals, utilizing various employee functions and activities to ensure that they are developed effectively and wisely to benefit individuals, organizations, and even society at large. (Aryani et al., 2020) Each company has its own way of retaining its high-performing employees. (Narwadan, 2021). Likewise, one of the companies that has been established for a long time and has developed over time, namely J&T Express Kediri Goods Delivery Services. Researchers were moved to conduct research on J&T Express Kediri Goods Delivery Services, located at Jalan Mayjend Sungkono No. 32 Kediri. Over time, J&T Express Kediri Goods Delivery Services has now been able to demonstrate its creativity in developing the Indonesian postal sector by utilizing its network infrastructure which reaches around 24 thousand service points that reach 100 percent of cities/regencies, almost 100 percent of sub-districts and 42 percent of villages/sub-districts, and 940 remote transmigration locations in Indonesia. Along with the development of

information, communication and technology, and equipped with electronic mobile in several major cities. All points are a chain that is connected to each other in a solid and integrated manner.

Seeing this phenomenon, J&T Express Kediri's freight forwarding service continues to strive to improve the capabilities and skills of its employees to keep up with current developments. To that end, the company strives to provide the best for its employees by meeting their needs through various means, including education and training, as well as providing opportunities for career development.(Darmawan et al., 2021)Having a good career development system within the company will have a positive impact on the company itself.(Puspitawati et al., 2022)Employees will be motivated to continuously improve their abilities and qualities and strive to carry out their assigned tasks and responsibilities to the best of their ability.(Sadat et al., 2020)Employees who have good qualities and contribute fully to the company and are then given the opportunity to pursue career development will feel that their hard work is appreciated and employees will continue to improve their performance, which will have an impact on increasing quality and achieving company goals.(Daulay et al., 2019).

Seeing the phenomenon of career development does not mean that an employee can immediately carry out career development.(Hamid et al., 2024)However, there are several factors that must be considered and taken into account by both the company and the employee in seeing to what extent an employee is worthy or not of career development.(Supihati, 2014)Some of these factors include work performance, education and training, and employee work experience.(Anggreni Made Ria & Suardhika I Made Sadha, 2018). There is something slightly different about the career development system implemented by J&T Express Kediri Shipping Services. J&T Express Kediri Shipping Services is a company engaged in the field of shipping services, where employees who work at the company are required to participate in several programs related to the service system. J&T Express Kediri Shipping Services implements several training and educational programs in the field of shipping services specifically designed for new employees before being placed in certain positions or positions. The career pattern in the company is a structural/functional position, namely a position that can be obtained by an employee with an educational background (Waruwu, 2021). Where the employees get a job group based on the grade they achieve and non-structural/functional positions, namely positions that an employee can get outside of education (Bappenas, 2024). This position interacts with customers, usually referred to as a frontliner. As of June 2023, the company had 668 organic employees and 23 non-organic (outsourced) employees. Seeing this, J&T Express Kediri Goods Delivery Services pays close attention to the comfort and condition of its human resources, thus opening up opportunities for its employees to pursue career development. The number of employees who experienced promotions at J&T Express Kediri Goods Delivery Services in the last three years, namely in the 2022-2023 period, tended to be stable at 12 employees per year. This indicates that the career development system is indeed well implemented by the company. To be able to develop a career at J&T Express Kediri Goods Delivery Services, one factor that needs to be considered is the employee's work performance. The more an employee excels at work, the greater the opportunity for continued development within the company.(Puspitawati et al., 2022)To measure the extent to which employees have achieved and are worthy of being promoted to the next position.(Waruwu, 2021)J&T Express Kediri Goods Delivery Service has a work performance appraisal system known as SMKI, which stands for Individual Performance Management System. SMKI is a work performance appraisal system within J&T Express Kediri Goods Delivery Service which is conducted quarterly or four times a year. An employee to be able to occupy a position within the company must have a minimum position group of supervisor one and must first take the SMKI performance appraisal. In addition to work performance, education and training are one of the most important factors in supporting one's career development. Likewise, in J&T Express Kediri Goods Delivery Service, in addition to the performance appraisal system, namely SMKI, the company also implements an education and training system for employees who want to get a promotion.(Comedy & Ferianto, 2023). The educational program has a relatively longer duration compared to training, namely between six months, one year to one and a half years and can only be carried out at the head office.(Lestari, 2018). While training only takes about a week and can be conducted at branch offices throughout the region. J&T Express Kediri Goods Delivery Service, the education and training programs implemented only partially support the career development process, while the most fundamental thing is achievement through the SKMI assessment system. Furthermore, the implementation of education and training programs is not carried out sequentially, because sometimes the program is not implemented for a certain period of time, making it less effective as a benchmark for career development. An employee's career development program can be influenced by their work experience.(Novari, 2020)Many organizations apply seniority as a prerequisite for determining whether or not someone is eligible for a career advancement, with the assumption that longer service means more work experience.(Rahmawati & Trisnawati, 2024).

Work experience is one of the requirements that must be considered by management to be able to fill a vacant position, because length of service is a special assessment to be able to be promoted to a higher position in the organization.(Resiana, 2020). Every agency or company must look at the work experience of prospective employees before the selection process is carried out. Looking at the requirements for recruiting prospective

employees, one of the requirements is that prospective applicants must have work experience in one work unit of an institution/company/organization/office. From these requirements, it is clear that an employee's work experience is very important when the recruitment and selection process is carried out. In the J&T Express Kediri Goods Delivery Service, priority is given to employees who have experience in their field, either through education or having worked in a previous field, because with this work experience it is easier for the company to immediately place employees in certain positions or positions, thereby reducing the burden and costs because employees do not have to be included in initial education and training programs. Achievements, education and training, and experience greatly influence the career development of employees at J&T Express Kediri. Good work performance increases the opportunity for promotion, while education and training improve the skills needed for higher positions. Extensive work experience strengthens employee competencies. Therefore, companies should focus on improving achievements, providing relevant education and training programs, and facilitating diverse work experiences to support employee careers.

This study aims to analyze the influence of performance, education and training, and work experience on the career development of J&T Express Kediri employees, both partially and simultaneously, and to formulate a sustainability strategy based on empirical findings. Theoretically, this study enriches the human resource development literature by simultaneously examining the role of three main factors, namely performance, training, and experience, in supporting employee careers, while strengthening the understanding that career development is not only determined by formal education, but also by work achievements and direct experience in the field. From a practical perspective, the results of this study provide policy directions that can be implemented by the management of delivery service companies, especially J&T Express Kediri, in developing effective and sustainable career development strategies, with an emphasis on performance coaching, job rotation programs, mentoring, and active involvement in real projects as priorities for human resource investment.

2. Research methodology

2.1. Design

This research is an ex-post facto research because this research was conducted to examine events that had occurred and then traced back to find out the factors that could have caused the incident to occur.(Tanjung et al., 2021)This research uses the same basic logic as experimental research, namely, if x then y, but in this study there is no direct manipulation of the independent variable. This research is classified as causal associative research, which is research that seeks a causal relationship or influence, namely the influence of the independent variable (X) on the dependent variable (Y). The approach used in analyzing the data in this research uses a quantitative data approach. The quantitative approach is used to measure the independent and dependent variables using numbers processed through statistical analysis.(Laely & Lidiawan, 2022)This study was conducted to reveal the influence of independent variables including achievement, education and training and experience on the dependent variable, namely employee career development.

2.2. Population and Sample

According to(Sugiyono, 2013), population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn. The purpose of having a population is to be able to determine the size of the sample members taken from the sample members and limit the validity of the generalization area. The population in this study was taken based on the scope of the study, namely employees at the J&T Express Kediri Goods Delivery Service, totaling 668 people. According to Sugiyono(Sugiyono, 2018)A sample is a portion of the population and its characteristics. A sample is a portion or representative of the population being studied. The sample in this study was comprised of employees at J&T Express Kediri's Delivery Service. The sampling technique used was non-probability sampling, namely convenience sampling, where subjects were selected based on their accessibility and proximity to the researcher.

2.3. Operational Research Variables

The operational variables in this study are as follows.

Table1. Operational Definition of Variables

Variables	Indicator	Sub Indicators	Measurement Scale
Achievement (X1)	Work result	Quantity	Likert
		Quality	
	Job knowledge	Job-related knowledge	
		Initiative during work	

Mental ability	Ability to receive work instructions	
	Ability to adapt to work methods and work situations	
	Level of work enthusiasm	
	Positive attitude	
	Positive attitude in carrying out work	
	Time and attendance discipline	
	Punctuality	
	Presence	
	The subject matter taught can support work	
	Education and training can improve skills	
The material taught	Educational and training materials according to job needs	
	Methods according to the subject being taught	
	Methods used	
	The method used is easy to understand	
	The method used is according to the learning style	
	Supporting facilities/infra structure	
	Conducive classroom conditions	
	Adequate equipment is available	
	Controlled classroom	
	Instructor skills	
education and training (X2)	The instructor always motivates students to be able to practice the subjects that have been taught.	
	The instructor knows the goals to be achieved	
	Employees actively participate in training programs	
	Employees master the material quickly	
	Can complete work quickly after attending training	
	Length of service	
	Understanding the tasks of a job	
	Do the job well	
	Level of knowledge and skills possessed	
	Knowledge	
Experience (X3)	Skills	
	Mastery of work and equipment	
	Mastery of work	
	Mastery of the equipment used	
	Work performance	
	Work performance determines career advancement	
	Exposure	
	Get career goal opportunities	
	Organization loyalty	
	The work done determines career advancement	
Employee career development (Y)	Opportunity to grow	
	Improve skills through training programs, courses or degrees	

Source: (Asawawibul et al., 2025; Ciccarelli et al., 2022; Komari, 2017; Marín et al., 2024)

2.4. Observations and Interviews

The observation method is a data collection method that involves observing the research object. In this study, observations were conducted by observing the achievements, education and training, experience, and career development of employees at J&T Express Kediri Goods Delivery Services. A questionnaire is a data collection technique carried out by providing a set of written questions or statements to respondents to answer. This study used a closed questionnaire, namely a questionnaire whose answers were already provided by the researcher so that respondents only need to choose. The questionnaire was used to obtain data regarding achievements, education and training, and experience regarding employee career development at J&T Express Kediri Goods Delivery Services.

2.5. Research Tools

The success or failure of a study depends on the accuracy of the data, as data represents the variables being studied and serves as a means of proving hypotheses. This validity test is useful for measuring the validity of a questionnaire as a basis for research. According to (Yusup, 2018) There are two ways to measure validity: external validity and internal validity. In this study, the researcher will use internal validity to measure the validity of a questionnaire. Internal validity is measured using the product-moment correlation formula. This validity measurement is carried out using the factor analysis method by correlating the scores obtained from the questionnaire statements. Validity testing is used to assess the level of validity of the instrument for each variable. An instrument is said to be valid if it is able to measure what is desired and can accurately reveal data from the variables studied. In this study, the level of validity of an instrument was measured using the SPSS Statistics 22 for Mac program. If r_{count} is greater than or equal to r_{table} at a significance level of 0.05, then the statement item is valid. However, if r_{count} is less than r_{table} , then the statement item is invalid. This reliability test is conducted to determine whether the results of the existing questionnaire can be trusted to be processed into research results. One characteristic of a reliable questionnaire is that the results of the data are consistent over time (Prasetya Irawan, 2020). Reliability measurements are external reliability measurements, internal reliability measurements and determination of the rough reliability index (Prasetya Irawa, 2020).

The reliability test method used in this study is a measurement method using the Cronbach's Alpha technique, which is used to calculate the average intercorrelation between the questions in the questionnaire. If the alpha value in the questionnaire is greater than 0.600, then the questionnaire is considered reliable for use. (Sugiyono, 2012). Reliable means that the data obtained from the questionnaire yields consistent results when used in other studies. Question items that have been declared valid in the validity test will be determined for reliability. The reliability value is compared with a table of critical numbers with a significance level of $\alpha = 0.05$ and $df = n - 2$.

- 1) If r_{alpha} is positive or $> r_{table}$ then the statement is reliable.
- 2) If r_{alpha} is negative or $< r_{table}$ then the statement is not reliable.

A questionnaire is considered reliable if a person's answers to the questions are consistent or stable over time. Reliability refers to the notion that an instrument is sufficiently trustworthy to be used as a data collection tool because the instrument is good. An instrument is considered reliable if the reliability coefficient level is > 0.600 . Reliability testing is conducted using the Cronbach Alpha formula with the help of the SPSS Statistics 22 for Mac program. Reliability testing is a testing method used to determine whether an instrument, in this case a questionnaire, can be used more than once, at least by the same respondent, and will produce consistent data. In other words, instrument reliability characterizes the level of consistency. Reliability testing is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and remains consistent if the measurement is repeated. Reliability testing for more than two answer alternatives uses the Cronbach's alpha test, whose value will be compared with the minimum acceptable reliability coefficient value. Reliability less than 0.6 is poor, while 0.7 is acceptable, and more than 0.8 is good. If the Cronbach's alpha value is > 0.6 , then the research instrument is reliable. If the Cronbach's alpha value is < 0.6 , then the research instrument is unreliable. Validity and reliability tests were conducted by distributing questionnaires to 87 respondents. Where respondents in this study were employees at the J&T Express Kediri Goods Delivery Service. The questionnaire consisted of 35 questions that must be answered by respondents. Then the data will be processed using Statistical Product and Service Solution (SPSS) 22.0 for Windows Software.

2.6. Research Procedure

This study uses multiple linear regression analysis techniques, starting with validity tests ($r_{count} > 0.30$) and reliability (Cronbach's Alpha > 0.70) to ensure that the research instrument is suitable. (Abusalma et al., 2024; Mohamed et al., 2023; Mulatsih et al., 2024). The classical assumption test was conducted including: normality test (Kolmogorov-Smirnov Sig. > 0.05), multicollinearity test (VIF < 10 and Tolerance > 0.10), and heteroscedasticity test (Glejser Sig. > 0.05). After all assumptions were met, multiple linear regression analysis was conducted to determine the simultaneous and partial effects. The parameters analyzed included the coefficient of determination (Adjusted R²), calculated F value and Sig. F (for simultaneous test, Sig. < 0.05), and calculated t value and Sig. t (for partial test, Sig. < 0.05) (Oah et al., 2018). The analysis process was conducted using the latest version of SPSS to support accurate and objective interpretation of the results.

2.7. Framework of thinking

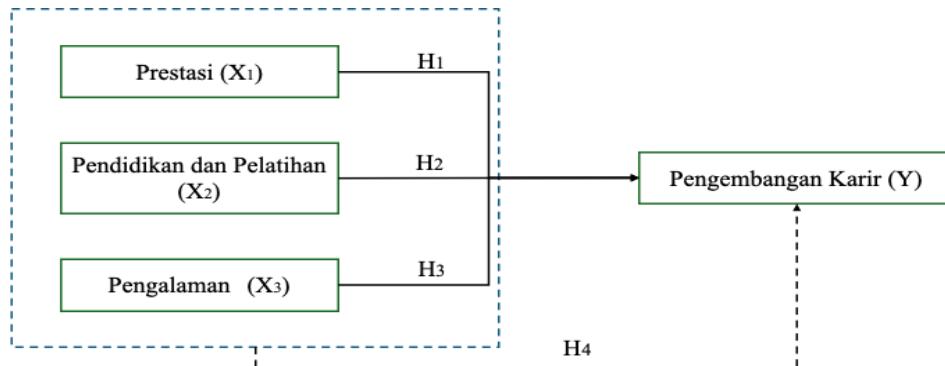


Figure1. Framework of thinking

Source:(Djunaedi & Muh. Akil Rahman, 2023; Khalid Khan et al., 2022; Laely, Lidiawan, et al., 2024; Muhammad et al., 2021; Putri, 2016)

Table2Path Hypothesis

Path Hypothesis	Hypothesis Code
Achievement (X1) → Career Development (Y)	H1
Education and Training (X2) → Career Development (Y)	H2
Experience (X3) → Career Development (Y)	H3
Achievement (X1), Education and Training (X2), Experience (X3) → Career Development (Y)	H4

Source:(Djunaedi & Muh. Akil Rahman, 2023; Khalid Khan et al., 2022; Laely, Lidiawan, et al., 2024; Muhammad et al., 2021; Putri, 2016).

3. Results and Discussion

3.1. Result

Validity tests in this study showed that all indicators in the achievement, education and training, experience, and career development variables had correlation values above the r table of 0.210, indicating that all items in the questionnaire instrument were declared valid. The correlation values for the achievement variable ranged from 0.402 to 0.721; education and training ranged from 0.438 to 0.768; experience between 0.502 to 0.776; and career development between 0.533 to 0.673. All of these values indicate that the questionnaire items were able to accurately represent the variables being measured. Reliability tests using Cronbach's Alpha values also showed excellent results, with the achievement variable obtaining a value of 0.871, education and training 0.917, experience 0.867, and career development 0.783. The normality test in this study was conducted to ensure that the relationship between the independent and dependent variables in the regression model had a normal distribution, as suggested by Ghazali (2022). The analysis results show that the Normal Probability Plot graph displays points that are spread around the diagonal line and follow its direction, visually indicating that the assumption of normality is met. Furthermore, the Kolmogorov-Smirnov test results also show a significance value greater than 0.05, confirming the finding that the data is statistically normally distributed.

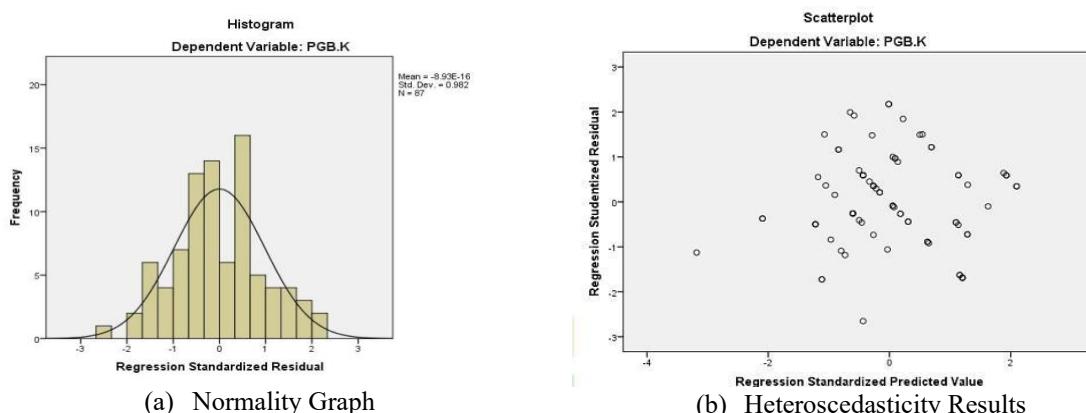


Figure 1. Data Test Evaluation Graph
Source: 2023 data processing

The results of the regression test show that work performance (X_1) has a significant influence on career development with a significance value of $0.003 < 0.05$ and a regression coefficient of 0.437. Work experience (X_2) also has a significant influence with a significance value of 0.025 and a coefficient of 0.325. On the other hand, education and training (X_3) do not have a significant influence because the significance value is $0.117 > 0.05$. Simultaneously, the three independent variables have a significant influence on career development with an F count value of $6.720 > F$ table 2.73 and a significance value of $0.001 < 0.05$. The coefficient of determination (R^2) of 0.382 indicates that 38.2% of the variation in career development can be explained by these three variables. The strength of this study lies in the use of simultaneous and partial tests that provide an in-depth understanding of the influence of each variable, as well as highlighting the importance of achievement and experience as the main factors in employee career development.

Table 3 Hypothesis Testing

Hypothesis	Independent Variables	Dependent Variable	t Count	t Table (df=83)	Sig.	Decision	Conclusion
H1	Performance	Career Development	2,918	1,989	0.005	Ho rejected, Ha accepted	There is a significant partial influence
H2	education and training	Career Development	0.583	1,989	0.561	Ho accepted, Ha rejected	There is no significant partial influence
H3	Experience	Career Development	2,687	1,989	0.009	Ho rejected, Ha accepted	There is a significant partial influence
H4	Achievements, Education & Training, Experience	Career Development	12,657	2.71	0	Ho rejected, Ha accepted	There is a significant simultaneous influence on career development

Source: 2023 data processing

3.2. Discussion

The results of the partial regression analysis indicate that employee achievement has a significant influence on career development at J&T Express Kediri, indicated by a significance value of 0.005 and a calculated t of $2.918 > t$ table of 1.989. This means that the higher the achievement, the greater the opportunity for an employee to obtain career development. This condition reflects the importance of individual performance in the company's career assessment process, where achievement is the main indicator of success. Going forward, the company needs to build a transparent performance assessment system based on key performance indicators (KPIs), to encourage continuous employee motivation. In contrast to achievement, education and training variables did not show a significant influence on career development, with a significance value of 0.561 and a calculated t of $0.583 < t$ table. This phenomenon indicates that the available training programs are not optimal or not integrated with the career development system. Mitigation that can be applied is to evaluate the effectiveness of training, develop programs based on job needs (competency-based training), and improve schedule management and training implementation so that it can be accessed equally by all employees. The sustainability of human resource development through training needs to be emphasized so that it does not become merely an administrative formality. Meanwhile, the experience variable showed a significant influence on career development, with a significance value of 0.009 and a calculated t-value of $2.687 > t$ -table. This finding confirms that work experience creates practical competencies that are recognized in career promotion decisions. Experience enables employees to face operational challenges with efficiency and accuracy. To maintain the continuity of experience's contribution to careers, management needs to design a mentoring or job rotation system so that knowledge is not centralized in certain individuals, while accelerating the distribution of experience among employees. Simultaneously, the three variables of achievement, education and training, and experience were proven to have a significant influence on employee career development, with a significance value of 0.000 and a calculated F-value of $53.841 > F$ -table 2.71. This means that career development is the result of a multidimensional interaction between individual and institutional factors. However, the largest contributions come from achievement and experience, while education and training still require implementation improvements. To maintain sustainability, companies need to implement a holistic talent management strategy, which combines performance evaluation, integrated training programs, and work experience mapping, to create a clear and performance-oriented career path.(Laely, Lidiawawan, et al., 2024).

Table4Sustainable Mitigation Strategy

No	Risk	Impact	Possibility	Risk Level	Mitigation Strategy
1	Delivery delays due to extreme weather conditions	Tall	Currently	Tall	Provides alternative routes, real-time tracking systems, and automatic weather information.
2	Loss or damage to goods during shipping	Tall	Currently	Tall	Implementation of SOP handling, employee training, and barcode tracking system
3	Cyber attacks on customer information systems and databases	Tall	Low	Currently	Implementation of firewalls, data encryption, and regular IT security audits
4	Lack of manpower during peak season (e.g. end of year/promotion)	Currently	Tall	Tall	Temporary recruitment, flexible shift systems, and overtime incentives
5	Reliance on third-party logistics (3PL) partners	Currently	Currently	Currently	Diversification of logistics partners and SLA (Service Level Agreement) agreements
6	Operational system disruption due to power outages or IT disruptions	Tall	Low	Currently	Use of UPS, generators, and cloud-based system backup
7	Customer complaints due to non-real-time delivery information	Currently	Currently	Currently	Strengthening the application-based automatic tracking and notification system
8	Employee training is uneven and impacts customer service	Currently	Tall	Tall	Regular training programs and KPI-based performance evaluations

Source: data processing, 2023

Based on the results of risk analysis in operational delivery services such as J&T Express, several potential main risks identified include delivery delays due to extreme weather, loss or damage to goods, cyber attacks on information systems, and labor shortages during peak seasons.(Zhao, 2024)Risks with a high impact and moderate to high probability such as these are categorized as high-priority risks that require active mitigation strategies. For example, weather risks can be minimized by developing alternative routes and integrating weather information systems into the planning process.(Chaiklieng et al., 2024)The risk of lost goods is mitigated by implementing strict standard operating procedures (SOPs), regular employee training, and the use of barcodes and app-based tracking systems. Cyber threats are mitigated by strengthening digital security systems, such as the use of firewalls, data encryption, and regular security audits.

4. Conclusions and Recommendations

This study shows that HR competency has a significant influence on risk management effectiveness, with a coefficient value of 0.472 and a significance of $p < 0.01$, indicating that improving the quality of human resources directly strengthens the organization's ability to anticipate and respond to risks. Other findings indicate that operational vulnerability negatively affects organizational performance ($\beta = -0.361$, $p < 0.05$), indicating the need to optimize work procedures and internal controls to minimize the risk of operational disruptions. In addition, organizational readiness is proven to be a moderating variable that strengthens the relationship between external risks and service effectiveness ($\Delta R^2 = 0.128$), confirming that flexibility and adaptability are crucial factors in facing environmental uncertainty.

The managerial implications are that organizations need to invest in risk management-based human resource training, develop real-time operational monitoring systems, and build adaptive and resilient organizational structures. Going forward, further research is recommended to explore the integration of machine learning-based predictive models in detecting potential risks, as well as expanding the scope of variables such as organizational culture and digital technology as key buffers in data-driven risk mitigation.

Declaration of Competing Interest

None

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Credit authorship contribution statement

Moh. Burhanudin Harun Al Rasyid was responsible for the conceptualization, data collection, data analysis, and writing of the original draft. IGG Heru Marwanto contributed to the supervision, validation of the methodology, literature review, and substantive editing. **Djunaedi** handled the statistical testing, interpretation of results, and technical as well as academic revisions. **Sasi Utami** supported the development of research instruments, field documentation, layout arrangement, and manuscript finalization.

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