

Human Resource Competency Modelling in Consumer Protection Institutions in the Special Capital Region of Jakarta

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Abstract

This study aims to develop and test a model of human resource (HR) competence in Consumer Protection Institutions (LPK) in the Special Capital Region of Jakarta, with technology adoption as a mediating variable. This research is motivated by the low digital competence of LPK HR and the absence of a standardized competence model integrated with technology. The study employed an explanatory quantitative approach using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The study population consisted of 275 leaders and staff from the National Consumer Protection Agency (BPKN), the Consumer Dispute Settlement Agency (BPSK), and Community-Based Consumer Protection Institutions (LPKSM) in DKI Jakarta. The research sample comprised 125 respondents selected through purposive sampling. Data were collected through an online survey using a questionnaire that had been tested for validity and reliability. The results showed that: (1) Individual factors (work experience and motivation) have a positive and significant effect on technology adoption and HR competence; (2) Organizational factors (organizational structure and organizational culture) have a positive and significant effect on technology adoption and HR competence; (3) External factors (government policies and benchmarking institutions) have a positive and significant effect on technology adoption and HR competence; (4) Technology adoption has a positive and significant effect on HR competence; (5) Technology adoption significantly mediates the influence of individual, organizational, and external factors on HR competence. The resulting competence model has strong predictive power ($R^2 = 0.767$; $Q^2 = 0.879$) and a very good goodness-of-fit (GoF = 0.685). Government policy proved to be the factor with the strongest influence on HR competence (coefficient = 0.346; t-statistic = 9.169). This study recommends strengthening competence-based digital training programs, revitalizing HR management systems that value digital competence, fostering a collaborative organizational culture, and advocating for government policies that ensure adequate training budget allocation.

Keywords: HR Competence, Technology Adoption, Consumer Protection Institution, Special Capital Region of Jakarta.

1. Introduction

Over the past two decades, the world has undergone major transformations in various sectors of life as a result of advances in information and communication technology. In Indonesia, this

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phenomenon is evident across various aspects, including changes in consumer consumption patterns and interactions between consumers and businesses. The development of e-commerce, app-based services, digital banking, and even social media platforms used as marketing tools has driven the rapid and widespread digitalization of economic activity. While these changes offer various conveniences, they also pose new challenges for protecting consumer rights ([Rösner et al., 2020](#)).

In reality, consumers in Indonesia are often in a weaker position than businesses, particularly in terms of access to information, legal understanding, and bargaining power ([Mediana, 2023](#)). This has led to various consumer rights violations, including substandard products, misleading information, false advertising, and inadequate after-sales service. Furthermore, with the emergence of new practices such as digital sales schemes and the use of artificial intelligence to profile consumer behavior, consumer protection requires a more complex and sophisticated approach. This situation requires special attention from the Consumer Protection Agency (LPK).

Consumer Protection Agencies are tasked with educating the public, receiving and handling consumer complaints, mediating disputes, and promoting the strengthening of regulations and policies that favor consumers. In Indonesia, these agencies consist of the National Consumer Protection Agency (BPKN), the Non-Governmental Consumer Protection Agency (LPKSM), and regional government agencies with consumer complaint units. Consumer Protection Agencies were established pursuant to Law Number 8 of 1999 concerning Consumer Protection, followed by Government Regulation Number 04 of 2019 concerning the National Consumer Protection Agency. Although clear and binding legal instruments exist, their implementation in the field has been less than optimal ([Masturi et al., 2025](#)).

One reason for the relatively weak implementation of consumer protection in Indonesia is the competence of the human resources (HR) managing these agencies. Furthermore, Consumer Protection Agencies in the regions suffer from a shortage of experts, a lack of systematic training, and the absence of competency standards for recruiting, training, and assessing HR performance. These human resources also lack in-depth knowledge of consumer protection law, good public communication skills, and the digital skills necessary to effectively handle public complaints ([Jusriadi et al., 2020](#)).

Another significant issue in Consumer Protection Agency services is the lack of a nationally standardized HR competency model, either in the literature or in policy documents. This HR competency model describes the direct and indirect factors that determine HR competency in the context of digital technology. As a result, the quality of service to consumers is inconsistent and difficult to improve continuously. In modern HR management practices, competency modeling is used to define the attributes, skills, knowledge, and behaviors that individuals must possess to perform their jobs effectively, while accounting for digitalization ([Zervas & Triantari, 2025](#)).

Consumer Protection Agencies in Indonesia still face several challenges. First, the quality or competency of human resources tends to vary or be inadequate. According to data from the Ministry of Trade (2023), more than 65% of personnel at the Consumer Dispute Resolution Agency (BPSK) have not received formal training in digital-based dispute resolution. Second, the digital transformation of consumer protection services has not been maximized. Currently, online services through Online Dispute Resolution (ODR) are gaining popularity among Consumer Protection Institutions (LPK). However, human resource readiness and the

availability of legal instruments still need strengthening. Third, decentralization and regional disparities reflect LPK organizations' unpreparedness to respond quickly and appropriately to public complaints.

The phenomenon of human resource competency in Consumer Protection Institutions (PLAs) elaborated above demonstrates the need for an analysis of human resource competency models. Modeling human resource competency can reveal the determinants of excellent public service. Furthermore, this capitalization will facilitate performance measurement, career development, and the recruitment of relevant professionals. Furthermore, the results of this modeling are expected to serve as a reference for the formulation of public policies, the development of training curricula, and the development of human resource competency certification systems.

This study identified gaps that underpin the need for this study: the Practical Gap. In practice, Consumer Protection Agencies (LPK) in Indonesia, particularly in the Special Region of Jakarta, the center of national policy, still face a lack of human resources (HR) preparedness for the rapid digital transformation. Data from the Ministry of Trade (2023) revealed that more than 65% of Consumer Dispute Resolution Agency (BPSK) personnel in various provinces, including the Special Region of Jakarta, have not received formal training in digital-based dispute resolution mechanisms such as Online Dispute Resolution (ODR). This situation is increasingly concerning given the high volume of online consumer complaints that require prompt and competent handling. The absence of a nationally standardized HR competency model for consumer protection agencies results in inconsistent service quality. Several studies over the past ten years have shown that LPKs at the regional level tend to develop training programs sporadically and not based on measurable competency needs. Research by [Wijayanti \(2017\)](#) found that LPK officers in Central Java experienced difficulties handling digital cases due to a lack of technical understanding and familiarity with cyber regulations. A study by [Fauzi and Nurdin \(2020\)](#) also found that, despite frequent training, its impact on competency improvement was insignificant because it was not designed with a clear competency mapping.

At the national level, [Gunawan and Putri \(2021\)](#) highlighted weak digital infrastructure and low technological literacy among human resources at the Public Service Institutions (LPK). They noted that the majority of LPKs still rely on manual systems for complaint data collection, hampering responsiveness and service accountability. Furthermore, [Mediana \(2023\)](#) reported in Kompas.id that Indonesia's consumer empowerment index remains in the "capable" category, but institutional capacity to serve consumers in the digital era is lagging. [Jusriadi et al. \(2020\)](#), in a study in Makassar, found that LPK human resource competencies are not limited to legal aspects but also include digital data management, information security, and virtual communication—areas that have been overlooked in training curricula. Thus, a significant practical gap is the lack of a standardized, systematic, and adaptive competency framework for technological development, resulting in low-quality, inconsistent consumer protection services in Indonesia, particularly in central regions such as the Special Region of Jakarta. This research seeks to address this need by designing a competency model integrated with technology adoption.

Based on prior studies, several factors influence the level of human resource competency in Consumer Protection Agencies. First, individual factors consist of education level, work experience, training attended, and personal motivation. Second, organizational factors include organizational structure, management support, organizational culture, performance appraisal systems, and human resource planning. Third, external factors consist of government policies,

technological developments, consumer expectations/demands, social and political conditions, and competing organizations. Furthermore, the conceptualization of these factors was used to develop a conceptual framework and research instrument.

Individual employee factors can drive human resource competency in the digital era. These individual factors are reflected in motivation and work experience. [Wibowo and Ahmadi \(2025\)](#) explored the development of literature on training and motivation for HR competency in the digital era. They noted several findings: training impacts HR competency, motivation drives HR competency, and digitalization contributes to HR competency. Furthermore, [Darmayanti et al. \(2024\)](#) found that work motivation, including personal experience, can improve HR competency among Civil Servants (ASN) in South Sumatra. The ultimate impact of this competency is improved HR performance. Therefore, motivation and work experience factors form the individual variables in this study.

Organizational factors contribute to improving HR competency. Simply put, improving organizational quality can improve HR competency. Two indicators of organizational quality are organizational structure and organizational culture. [Zervas and Triantari \(2025\)](#) focused on the phenomenon of digital transformation, which requires strengthening the quality of organizational structure and HR competency. They used the Resource-Based View (RBV) theory to uncover empirical evidence of this phenomenon. They found that HR competency in the digital era can be driven by two important factors within the organization: strategic partnerships and the role of business agents. Furthermore, [Zervas and Triantari \(2025\)](#) revealed that organizational culture contributes to HR competency in the digital era. An organizational culture supported by business digitalization practices can improve the quality of HR competency. Specifically, they used Partial Least Squares - Structural Equation Modeling (PLS-SEM) and Multi-Group Analysis (MGA) methods on 257 employees.

External company factors impact HR competency. These factors include government policies and competing companies. [Cedaryana et al. \(2025\)](#) focused more on digital training and competency certification policies for students and workers. Competency certification is a government policy related to worker competency standards that impacts not only skills but also worker competitiveness. They found that most respondents were familiar with the basics of digital skills and competency certification. However, respondents had not received adequate facilitation for both. Furthermore, [Herwinsyah \(2025\)](#) found that MSMEs' digitalization competency can be driven by competition among business actors in Ponorogo Regency. This condition means that competitor indicators and business competition can serve as supporting factors in improving HR competency quality. Furthermore, [Penpokai et al. \(2023\)](#) revealed that HR competency in Thailand is determined by digital adoption and HR analytics. Furthermore, technology adoption mediates the relationship between HR competency and HR analytics. In other words, HR competency that is responsive to developments in business digitalization is crucial. This condition aligns with the findings of [Supena and Sugito \(2025\)](#). They stated that digital-based HR competency (determined by digitalization) can drive company performance, productivity, and innovation.

2. Literature Review

Several theories can serve as references for human resource competency and consumer protection. First, the Competency Theory proposed by [Spencer and Spencer \(1993\)](#). Competency is a fundamental characteristic possessed by an individual that is directly related to effective or superior performance. Competency encompasses skills, knowledge, attitudes,

values, and other personal attributes. This theory serves as the foundation for developing role-based competency modeling and core competencies. Second, the Strategic Human Resource Management (SHRM) Theory emphasizes the importance of alignment between organizational strategy and human resource development. In the context of Consumer Protection Institutions, HR competency development aligns with external challenges such as digitalization, regulatory changes, and public expectations for excellent service.

The Public Service Motivation Theory explains that public service motivation is influenced by commitment to the public interest, social empathy, and a desire to help the community ([Perry & Wise, 1990](#)). This is crucial in examining the attitudinal and value dimensions of competency in Consumer Protection Institutions, which are oriented toward public service. Fourth, the Competency-Based Human Resource System Theory was proposed by [Dubois \(1998\)](#). The competency system approach is used throughout the HR management cycle, from selection and training to career development and performance evaluation. This serves as the basis for integrating competency modeling into institutional practices. Fifth, the New Public Service Theory was proposed by [Denhardt and Denhardt \(2000\)](#). This theory emphasizes that public services must prioritize public interests. Furthermore, HR requires competency in digital service, with a strong emphasis on technology adoption. HR competency and the use of information technology have a significant and positive relationship with employee performance at the Makassar City Regional Revenue Agency ([Heslina & Syahrini, 2021](#)). This situation points to the use of information technology and the quality of HR competency as elements that contribute to achieving optimal employee performance. The estimation model used in the Makassar study was a multiple regression model.

[Piwowar-Sulej et al. \(2024\)](#) explored the impact of digitalization on employee competency in 1,209 companies in Slovakia, Poland, and the Czech Republic during 2019-2021 using Structural Equation Modeling (SEM). They found that employees' orientation to digital technology impacted the quality of their performance. Therefore, employees' mastery and use of information technology can be a key factor in improving their future performance. Therefore, a competency-based curriculum can be designed and implemented. Meanwhile, [Penpokai et al. \(2023\)](#) analyzed technology adoption and its contribution to HR competencies in Thailand using SEM. They found that technology adoption can stimulate HR competencies.

Various previous studies have examined human resource competencies in the public sector and consumer protection. For example, [Wijayanti \(2017\)](#) found a gap between job demands and officers' competencies, particularly in communication and legal understanding. [Fauzi and Nurdin \(2020\)](#) analyzed the effect of training on improving human resource capacity at the Public Works and Public Housing Agency (LPKSM). This study showed that training increases knowledge but does not guarantee behavioral change or professionalism because it is not based on a measurable competency model. [Hendriyaldi and Yanti \(2021\)](#) examined competency-based human resource development strategies in public institutions. Her main finding was the need for a systemic, integrative approach to human resource development, particularly in the non-profit sector, such as consumer protection institutions. [Gunawan and Putri \(2021\)](#) focused on the challenges of digitalization in public service institutions. They highlighted the urgency of basic digital competencies and adaptability for human resources in the face of the transformation of online services.

Theoretical studies on human resource (HR) competency are still dominated by traditional perspectives that focus on knowledge, skills, and attitudes within a static work environment.

Classical competency models, such as those proposed by [Spencer and Spencer \(1993\)](#) and [Becker's \(1964\)](#) human capital theory, have not comprehensively integrated the technology adoption dimension as a critical variable in competency development, particularly in the public sector, which is characterized by its bureaucratic and service-oriented nature. On the other hand, technology adoption theories such as the Technology Acceptance Model ([Davis, 1989](#)) and the Unified Theory of Acceptance and Use of Technology ([Venkatesh et al., 2003](#)) have been tested primarily in corporate and commercial contexts. Their application to non-profit organizations or public institutions, such as Consumer Protection Agencies (LPK), remains very limited. LPKs have their own unique dynamics influenced by strict regulations, budget constraints, and a non-profit service orientation. Therefore, factors such as perceived usefulness and perceived ease of use in the TAM may not be sufficient to explain technology adoption in these environments.

The integration of Competency Theory, Strategic Human Resource Management (SHRM), and Digital Transformation Theory within the context of LPKs is also very limited, both globally and in Indonesia. [Zervas and Triantari \(2025\)](#) research does begin to address the integration of competency within the context of artificial intelligence, but it remains general and not specific to the consumer protection sector. Meanwhile, studies in the Indonesian context over the past ten years—such as those by [Hendriyaldi and Yanti \(2021\)](#), who examined competency-based human resource development in public institutions, and [Heslina and Syahrani \(2021\)](#), who examined the relationship between human resource competency and information technology in the Regional Revenue Agency—remain sectoral and have not yet developed a holistic theoretical framework. Furthermore, [Ariyanti and Lestari \(2021\)](#), in their study of digital competency among civil servants in the legal sector, concluded that no theoretical model integrates the dimensions of regulation, public service, and technological readiness.

A systematic review of previous research on human resource (HR) competency in Consumer Protection Institutions (LPK) shows that most studies are purely descriptive or evaluative. Studies such as [Wijayanti \(2017\)](#), which analyzed competency gaps among LPK extension workers, and [Fauzi and Nurdin \(2020\)](#), which evaluated the impact of training on HR capacity, provide a picture of conditions on the ground but fail to test causal relationships among key variables. These studies generally stop at the problem identification stage, without developing predictive or explanatory models that can serve as a basis for more strategic policy-making. In Indonesia, very limited research uses a multivariate quantitative approach, such as Structural Equation Modeling (SEM), to examine the relationships among individual, organizational, and external factors and technology adoption and HR competency in the LPK sector. SEM methods, which can simultaneously test direct, indirect, and mediating effects, have not been widely utilized. However, studies in other countries, such as [Penpokai et al. \(2023\)](#) in Thailand and [Piwowar-Sulej et al. \(2024\)](#) in Central Europe used SEM to explore similar dynamics in the corporate sector. Adopting a more rigorous methodological approach in the Indonesian context remains a significant gap.

Analysis of the existing literature indicates that no comprehensive, integrated conceptual framework exists to analyze human resource (HR) competency in Consumer Protection Institutions (LPK) in the context of digital transformation. Existing frameworks tend to be partial, focusing on only one or two aspects, such as individual factors ([Wibowo & Ahmadi \(2025\)](#)) or organizational factors ([Zervas & Triantari, 2025](#)), without integrating these with external factors and technology adoption into a coherent model. Consequently, understanding the determinants of human resource competency in LPK remains fragmented and fails to

explain the complex interactions among these factors. At the national level, the concept of "digital competency" for LPK human resources remains vague and has not been explicitly operationalized into measurable, context-specific indicators. Several studies, such as [Ariyanti and Lestari \(2021\)](#) and [Gunawan and Putri \(2021\)](#), have identified the need for digital competency in the public sector. However, the proposed indicators remain general, such as "digital literacy" or "ability to use applications," and are not specifically linked to technical tasks and functions in LPK, such as online complaint handling, digital mediation, or consumer complaint data analysis. [Hendriyaldi and Yanti \(2021\)](#), in her competency-based human resource development framework, also fails to address the digital dimension as a core component of the competency construct.

Furthermore, there is no conceptual consensus on how external factors—such as government policies ([Cedaryana et al., 2025](#)) and institutional competitive pressures ([Herwinsyah, 2025](#))—interact with internal organizational and individual factors to shape adaptive technology competencies. Concepts adopted from the corporate sector are often not fully relevant because they ignore the non-profit, bureaucratic, and public service characteristics of consumer protection institutions (LPK). This lack of a unified conceptual framework creates ambiguity in the design of human resource development interventions. Training and recruitment programs at LPKs are often not based on a clear, comprehensive competency map. Therefore, this study seeks to fill this conceptual gap by developing an integrative conceptual model that not only integrates individual, organizational, external, and technology adoption factors but also defines and operationalizes "digital competency of LPK HR" in specific, measurable indicators relevant to the context of consumer protection work in Indonesia.

A methodological review of previous research on human resource competency in Consumer Protection Institutions (LPK) revealed the dominance of qualitative and descriptive approaches. Studies such as [Wijayanti \(2017\)](#) and [Fauzi and Nurdin \(2020\)](#) used in-depth interviews and case studies, yielding contextual findings but with limitations for generalization and testing relationships between variables. Meanwhile, existing quantitative research—such as [Heslina and Syahrani \(2021\)](#)—remains simplistic and unable to capture the complexity of relationships among latent variables and potential mediation effects. In the Indonesian context, the use of sophisticated multivariate quantitative methods such as Structural Equation Modeling (SEM) to examine HR competencies in the LPK sector remains very rare. SEM, however, allows researchers to test causal relationships between latent variables that cannot be directly measured, while simultaneously evaluating measurement and structural models. Studies in other countries, such as [Penpokai et al. \(2023\)](#) in Thailand and [Piwowar-Sulej et al. \(2024\)](#) in Central Europe, have demonstrated the advantages of SEM in exploring the relationship between technology adoption and HR competencies in the corporate sector.

Therefore, this study seeks to fill this methodological gap by: (1) Using an explanatory quantitative approach based on SEM-PLS (Partial Least Squares), which is suitable for exploratory research with medium sample sizes and model complexity. (2) Developing a standardized measurement instrument through a rigorous process of content validation (expert judgment), construct validity testing (Confirmatory Factor Analysis), and reliability testing (Composite Reliability). (3) Adopting and adapting a proven measurement scale from international literature, but contextualizing it to the conditions of Consumer Protection Institutions (LPK) in Indonesia, so that it can serve as a methodological foundation for similar research in the future.

The research gaps underlying this study can be explained in several ways. First, the HR Competency Model, which is influenced by technology adoption in Consumer Protection Institutions (LPK), has not been the focus of previous research. This institution contributes significantly to law-based public services, public complaints (both offline and online), mediation, and education. Second, research on HR competencies is descriptive or evaluative. Few studies on HR competencies in Consumer Protection Institutions (LPK) use Structural Equation Modeling (SEM) methods to guide HR management and policy in developing countries such as Indonesia. By identifying theory and research gaps as described in the section above, this research makes significant contributions in several ways. First, it develops an HR competency model that considers technology adoption in Consumer Protection Institutions in Indonesia. Second, it uses a multidimensional competency perspective (knowledge, skills, attitudes, and values) as a reference for managerial policy. Third, strengthening consumer protection institutions by building human resource competency, supported by technology adoption within Consumer Protection Agencies. Fourth, this research can serve as a reference for policymakers at Consumer Protection Agencies in strengthening human resource competency based on technology adoption.

3. Research Method

The object of this study is the human resource (HR) competency of Consumer Protection Institutions. These institutions consist of the National Consumer Protection Agency (BPKN), the Consumer Dispute Resolution Agency (BPSK), and the Non-Governmental Consumer Protection Institution (LPKSM). All of these institutions are located in the Special Region of Jakarta Province. This study uses a quantitative approach. The data used are primary data on individual characteristics, perceptions of HR competency, and competency determinants. These factors include individual, organizational, and environmental factors. Meanwhile, the mediating variable is technology adoption. The data collection process was conducted through an online survey, with questionnaires sent to the chairpersons, vice chairpersons, and division heads at each Consumer Protection Institution in Indonesia. The variables used are technology adoption (Z), HR competency (Y), work experience (X1), work motivation (X2), organizational structure (X3), organizational culture (X4), government policy (X5), and comparison institutions (competing companies) (X6). The indicators of technology adoption are technology infrastructure, management support, user capabilities, system utilization, and technology impact. The indicators of human resource competency are legal knowledge, mediation skills, access to training, analytical skills, and communication competencies. The indicators of work experience are duration of experience, case variety, mentoring, learning documentation, and collaboration experience. The indicators of work motivation are compensation, recognition, job meaning, work environment, and career development. The indicators of organizational structure are job clarity, span of control, process efficiency, decision speed, and internal coordination. The indicators of organizational culture are value implementation, team collaboration, innovation support, service ethics, and a sense of belonging. The indicators of government policy are regional regulations, development budgets, cross-agency coordination, capacity programs, and regulatory responsiveness. The indicators for comparison institutions (competitor companies) include the influence of community expectations, innovation motivation, quality comparisons, adoption of best practices, and service differentiation. The population of this study comprised all leaders and staff at Consumer Protection Institutions in Indonesia, totaling 275, with a sample of 200 selected using purposive sampling. Data analysis used Structural Equation Modeling (SEM).

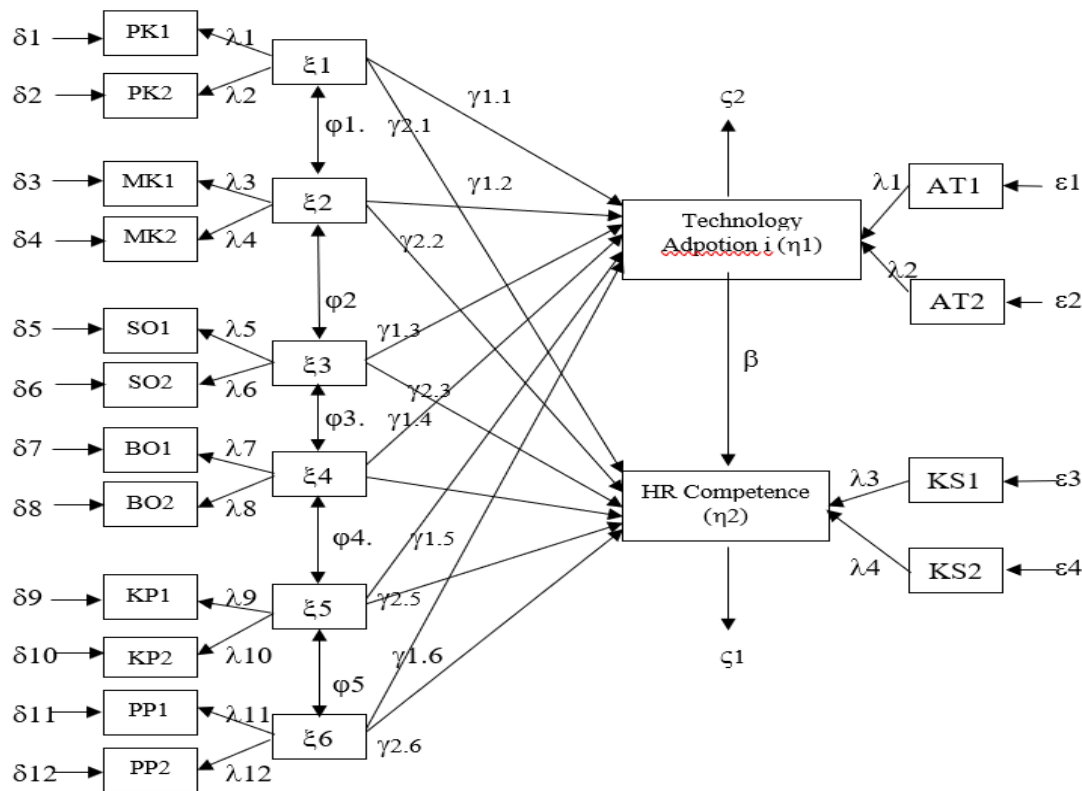


Figure 1. SEM

- ξ_1 = (ksi 1) ; exogenous latent variable of working experience
 ξ_2 = (ksi 2) ; exogenous latent variable of motivation
 ξ_3 = (ksi 3) ; exogenous latent variable of organizational structure
 ξ_4 = (ksi 4) ; exogenous latent variable of organizational culture
 ξ_5 = (ksi 5) ; exogenous latent variable of government policy
 ξ_6 = (ksi 6) ; exogenous latent variable of competitor
 η_1 = (eta 1) ; endogenous latent variable of technology adoption
 η_2 = (eta 2) ; endogenous latent variable of HC competence
 γ = (gamma) ; direct effect of exogenous variable on endogenous variable
 ζ = (zeta) ; error measurement.
 β = (beta) ; direct effect of endogenous on endogenous variable
 δ = (delta) ; measurement error of exogenous variable
 ϕ = (psi) ; covariance matrix amongs construct
 ϵ = (epsilon) ; measurement error of exogenous variable
 λ = (lambda) ; relationship of endogenous and exogenous variable with its indicators
 PK1, PK2 = exogenous variable indicators of working experience
 MK1, MK2 = exogenous variable indicators of motivation
 SO1, SO2 = exogenous variable indicators of organizational structure
 BO1, BO2 = exogenous variable indicators of organizational culture
 KP1, KP2 = exogenous variable indicators of government policy
 PP1, PP2 = exogenous variable indicators of competitors
 AT1, AT2 = endogenous variable indicators of technology adoption

KS1, KS2 = endogenous variable indicators of HR competence

4. Findings and Discussions

Confirmatory Factor Analysis (CFA). This analysis is conducted separately for each construct to test the measurement model by evaluating construct validity and reliability.

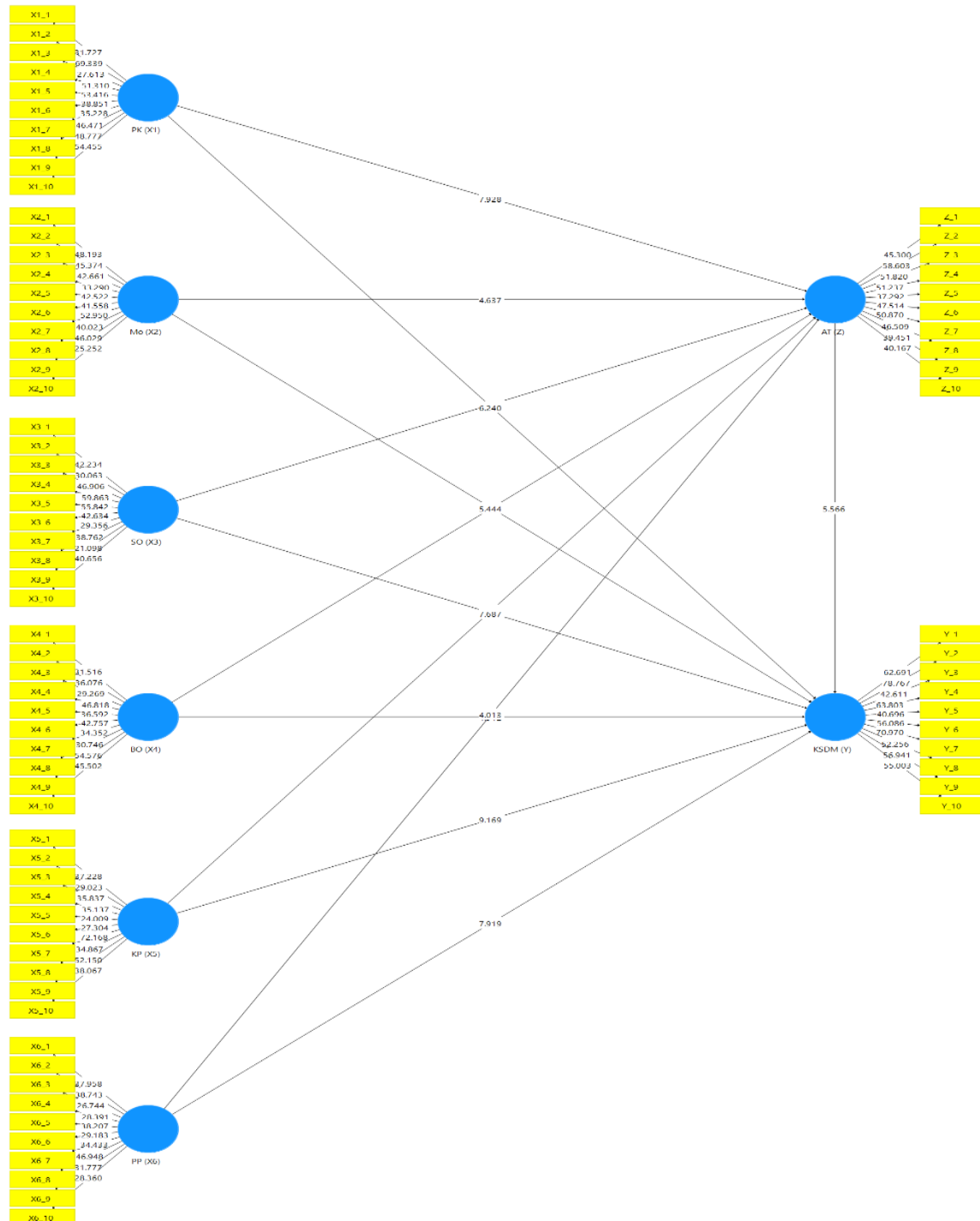


Figure 2. Confirmatory Factor Analysis

The R^2 value for the Technology Adoption (AT/Z) variable is 0.480. This figure indicates that 48.0% of the variance of the Technology Adoption construct can be explained by the six exogenous variables that influence it, namely Work Experience (PK/X1), Motivation (Mo/X2), Organizational Structure (SO/X3), Organizational Culture (BO/X4), Government Policy (KP/X5), and Competitor Companies (PP/X6). Other variables outside the studied model explain the remaining 52.0%. According to the classification of [Hair et al. \(2019\)](#), the R^2 value of 0.480 falls within the moderate category, indicating that the exogenous variables in this study have sufficient predictive ability for Technology Adoption. Meanwhile, the adjusted R^2 value of 0.464 provides a more conservative estimate considering the number of predictor variables in the model.

Based on the Goodness of Fit appendix, the Goodness of Fit (GoF) value was 0.685. Referring to the criteria proposed by Tenenhaus et al. (2005) and Wetzels et al. (2009), GoF values are categorized into three levels: low GoF (0.10), medium GoF (0.25), and high GoF (0.36). With a value of 0.685, which far exceeds the 0.36 threshold, this research model falls into the high or very good GoF category. A GoF value of 0.685 indicates that the model has a very high fit to the empirical data. This means that the constructed model, which includes the variables Work Experience (PK/X1), Motivation (Mo/X2), Organizational Structure (SO/X3), Organizational Culture (BO/X4), Government Policy (KP/X5), Competitor Companies (PP/X6), Technology Adoption (AT/Z), and Human Resource Competence (KSDM/Y), can adequately represent the phenomenon under study. The average Average Variance Extracted (AVE) value of 0.753 confirms that all constructs have good convergent validity (meeting the $AVE > 0.50$ criterion). Meanwhile, the average R-Square of 0.6235 (with R^2 Technology Adoption = 0.480 in the moderate category and R^2 HR Competence = 0.767 in the strong category) confirms that the structural model has strong predictive ability. Structural Model. Next, we will test the structural model by assessing the significance of the influence.

The Influence of Work Experience on Technology Adoption. The results of the first hypothesis (H1) test indicate that work experience has a positive and significant effect on technology adoption at the Consumer Protection Agency in the Special Region of Jakarta. The path coefficient is 0.376 with a t-statistic of 7.928 ($p < 0.001$). This figure indicates that the greater an employee's accumulated work experience, the greater their tendency to accept and integrate technology into their daily work processes. In other words, a one-standard-deviation increase in work experience will be followed by a 0.376-unit increase in technology adoption, assuming other variables remain constant. This finding supports [Kolb's \(2014\)](#) Experiential Learning Theory. This theory emphasizes that concrete experiences are the starting point of a continuous learning cycle, in which individuals reflect on their experiences, form abstract concepts, and then test them in new situations. In the context of consumer protection, employees with extensive experience in dispute resolution will develop a richer mental schema regarding consumer issues, enabling them to more quickly recognize their relevance and apply them more easily when confronted with new technology. This aligns with research by [Wibowo and Ahmadi \(2025\)](#), who found that work experience is a key foundation for digital adaptation in the public sector, and [Darmayanti et al. \(2024\)](#), who confirmed that accumulated experience strengthens an individual's capacity to respond to technological change.

The Influence of Work Experience on Human Resource Competence. The results of the second hypothesis test (H2) indicate that work experience has a positive and significant effect on human resource competence at the Consumer Protection Agency in the Special Region of Jakarta. The path coefficient is 0.275 with a t-statistic of 6.240 ($p < 0.001$). This figure shows

that the more work experience an employee has, the higher their competence level. Substantively, a one-standard-deviation increase in work experience will be followed by a 0.275-unit increase in human resource competence, all other things being equal. This finding supports [Spencer and Spencer \(1993\)](#) theory of competence, which holds that competence is not innate but develops through the accumulation of knowledge and skills gained from direct workplace experience. In the context of consumer protection, experience handling various types of complaints, dealing with emotional consumers, and negotiating with business actors provides tacit learning that cannot be obtained from formal training alone. T

The Influence of Motivation on Technology Adoption. The results of testing the third hypothesis (H3) indicate that motivation has a positive and significant effect on technology adoption. The path coefficient is 0.234 with a t-statistic of 4.637 ($p < 0.001$). This value indicates that the higher an employee's motivation level, the greater their tendency to adopt technology in carrying out their tasks. For every one standard deviation increase in motivation, technology adoption increases by 0.234 units. This finding aligns with the Self-Determination Theory developed by [Deci & Ryan \(2000, 2017\)](#). This theory states that individuals will be intrinsically motivated to adopt new behaviors—including the use of technology—if those behaviors fulfill three basic psychological needs: autonomy (a sense of control), competence (a sense of ability), and relatedness (a sense of belonging to a group). In the context of consumer protection agencies, employees who are highly motivated to defend consumer rights will view digital technologies (e.g., online complaint systems or remote mediation platforms) as tools that facilitate achieving that mission. This aligns with research by [Venkatesh et al. \(2016\)](#), which consistently found that motivation is a key predictor of technology adoption intentions and behavior.

The Influence of Motivation on Human Resource Competence. The results of the fourth hypothesis (H4) test indicate that motivation has a positive and significant effect on human resource competence. The path coefficient is 0.242 with a t-statistic of 5.444 ($p < 0.001$). This figure indicates that a proportional increase in employee competence will follow increased motivation. In other words, employees with higher motivation tend to be more diligent in developing knowledge, honing skills, and improving work attitudes. This finding supports the Goal-Setting theory proposed by [Locke & Latham \(2002\)](#). This theory asserts that high motivation is positively correlated with greater effort toward achieving goals, including mastering new skills. In the context of consumer protection, intrinsically motivated employees (for example, out of a sense of social responsibility or fairness) will voluntarily learn fintech regulations, online mediation skills, or digital evidence analysis techniques, even without specific instructions or incentives.

The Influence of Organizational Structure on Technology Adoption. The results of testing the fifth hypothesis (H5) indicate that organizational structure has a positive and significant effect on technology adoption. The path coefficient is 0.338 with a t-statistic of 6.495 ($p < 0.001$). This finding indicates that the clearer and more adaptive the organizational structure, the higher the rate of technology adoption. A good structure provides clear roles, efficient communication flows, and an ideal span of control, allowing technology initiatives to be implemented quickly and effectively. Theoretically, this finding aligns with the views of [Daft \(2021\)](#) a, who stated that organizations with a less hierarchical (flat) structure and a clear division of tasks are more likely to adopt innovations. In the context of public institutions such as consumer protection agencies, bureaucratic and complex structures are often a major barrier to technology implementation. Conversely, a structure that provides greater autonomy to technical

implementation units will accelerate adoption.

The Influence of Organizational Structure on Human Resource Competence. The results of testing the sixth hypothesis (H6) indicate that organizational structure has a positive and significant effect on human resource competency. The path coefficient is 0.294 with a t-statistic of 7.687 ($p < 0.001$). This value indicates that organizational structure directly contributes to improving employee competency. This means that when the structure is clear, the division of tasks is logical, and career paths are open, employees have greater room to develop their abilities. Theoretically, this finding is consistent with [Burns & Stalker's \(1966\)](#) argument that organizational structure determines the "room for maneuver" for competency growth. Centralized and rigid structures tend to limit employees to narrow, routine tasks, while more organic and decentralized structures provide opportunities for cross-functional learning. In the context of consumer protection agencies, employees who are allowed to change roles or are involved in various projects will have more diverse competencies. A study by [Zervas and Triantari \(2025\)](#) also confirmed that business digitalization practices supported by an agile organizational structure can improve the quality of human resource competency.

The Influence of Organizational Culture on Technology Adoption. The results of testing the seventh hypothesis (H7) indicate that organizational culture has a positive and significant effect on technology adoption. The path coefficient is 0.193 with a t-statistic of 3.688 ($p < 0.001$). This value is relatively smaller compared to the influence of other variables, but remains statistically significant. This means that organizational culture does indeed encourage technology adoption, but its impact is not as significant as that of individual factors or organizational structure. This is understandable because culture is abstract and its impact tends to be long-term, rather than immediate, as with policies or work experience. Theoretically, this finding aligns with the view of [Schein & Schein \(2017\)](#), who stated that organizational culture is the "fertile soil" where technological seeds can grow or die. A culture that punishes failure, discourages collaboration, and glorifies old ways will kill new technology initiatives. Conversely, an inclusive, learning-oriented, and adventurous culture will be highly conducive to adoption. In the context of a consumer protection agency, a culture that supports innovation will make employees fearless in experimenting with new digital systems.

The Influence of Organizational Culture on HR Competence. The results of testing the eighth hypothesis (H8) indicate that organizational culture has a positive and significant effect on HR competency. The path coefficient is 0.180 with a t-statistic of 4.912 ($p < 0.001$). This is the smallest coefficient among all the exogenous variables influencing HR competency. Nevertheless, the effect remains statistically significant. This indicates that organizational culture does contribute to competency, but its contribution is not as significant as government policy or organizational structure. This could mean that competency is shaped more by concrete factors such as training, experience, and policies, while culture acts as a supporting factor that strengthens or weakens this process. Theoretically, this finding reinforces the concept of the learning organization proposed by [Senge \(1990\)](#). Senge stated that a learning organization has five key disciplines: personal mastery, mental models, shared vision, team learning, and systems thinking. A culture that encourages team learning and knowledge sharing will directly foster individual competency. In the context of consumer protection, a culture that emphasizes the value of "consumer first" will encourage employees to proactively develop whatever competencies are needed to better serve the public, including digital competencies.

The Influence of Government Policy on Technology Adoption. The results of testing the ninth

hypothesis (H9) indicate that government policy has a positive and significant effect on technology adoption. The path coefficient is 0.328 with a t-statistic of 5.966 ($p < 0.001$). This value is among the highest for the exogenous variables influencing technology adoption. This means that government policies, whether in the form of regulations, incentives, or mentoring programs, play a very strong role in encouraging consumer protection institutions to adopt technology. Theoretically, this finding aligns with the public policy theory proposed by [Howlett et al. \(2020\)](#). Government policy can be a major driver or a major blocker of organizational innovation. Policies that provide clear mandates, such as Minister of Trade Regulation No. 31 of 2023 concerning the implementation of electronic consumer protection systems, create institutional pressure that compels subordinate institutions to allocate resources to technology adoption. Without strong policies, digital transformation is often delayed due to budgetary constraints or competing priorities.

The Influence of Government Policy on Human Resource Competence. The results of the tenth hypothesis (H10) test indicate that government policy has a positive and significant effect on human resource competency. The path coefficient is 0.346 with a t-statistic of 9.169 ($p < 0.001$). This is the highest coefficient among all exogenous variables influencing human resource competency. This confirms that government intervention—whether through training programs, certification, or competency standardization—has the greatest impact on the quality of human resources in consumer protection institutions. Policy capacity is measured not only by the content of regulations but also by the government's ability to implement competency development programs. In the context of civil servants (ASN), Government Regulation No. 11 of 2017 concerning Civil Servant Management and the ASN competency development roadmap from the Ministry of Education, Culture, Research, and Technology (2020) provide a national framework for regional governments to follow. Policies that encourage competency-based meritocracy—for example, promotions based on competency test results rather than seniority—will significantly influence employees' motivation to continue learning.

The Influence of Competitive Companies on Technology Adoption. The results of testing the eleventh hypothesis (H11) show that competing companies (similar institutions or comparison organizations) have a positive and significant effect on technology adoption. The path coefficient obtained is 0.218 with a t-statistic of 4.013 ($p < 0.001$). Even though this coefficient is relatively smaller compared to other factors, its influence is still significant. This means that pressure from other institutions—such as the Ombudsman, BPKN, LPKSM, or even e-commerce platforms that have fast complaint mechanisms—encourages consumer protection institutions not to be left behind in technology adoption. Theoretically, this finding aligns with the institutional isomorphism theory proposed by [DiMaggio & Powell \(1983\)](#). This theory explains that organizations tend to imitate the practices of other organizations that are considered more legitimate or successful, especially when the environment is uncertain. In the context of consumer protection, when people begin to compare the speed of digital Ombudsman services with those of manual institutions, mimicry pressure arises, forcing institutions to adopt similar technology.

The Influence of Competitor Companies on HR Competence. The results of testing the twelfth hypothesis (H12) indicate that competitor companies have a positive and significant influence on HR competency. The path coefficient is 0.286 with a t-statistic of 7.919 ($p < 0.001$). This value is higher than the direct influence of competitors on technology adoption (0.218), indicating that competitive pressures are a stronger driver of direct HR competency improvement than technology adoption. This makes sense because when employees recognize

that other institutions offer better services, they tend to feel challenged to improve their personal abilities, for example, by studying harder, participating in training, or seeking certification. Theoretically, this finding can be explained by [Porter's \(2008\)](#) theory of competitive pressures. Intense competition drives organizations to improve human resources as a source of competitive advantage. In public services, even though there is no profit motive, legitimacy and public trust are highly valuable "currencies." The public will trust institutions with competent human resources, while incompetent ones will be abandoned. This creates a strong incentive for human resource development.

The Effect of Technology Adoption on HR Competence. The results of testing the thirteenth hypothesis (H13) indicate that technology adoption has a positive and significant effect on HR competency. The path coefficient is 0.280 with a t-statistic of 5.566 ($p < 0.001$). This finding is the core of the mediation model developed in this study. This means that the deeper and more extensive the technology adoption, the higher the employee competency. In other words, technology functions not only as a work tool but also as a catalyst for learning and human capacity development. Theoretically, this finding supports the symbiotic relationship between technology and competency. In Thailand, [Penpokai et al. \(2023\)](#) found that digital adoption and HR analytics determine HR competency levels. [Supena and Sugito \(2025\)](#) also stated that digital-based HR competency (determined by digitalization) can drive company performance, productivity, and innovation. The mechanism at work is this: when digital systems are implemented, employees are forced to learn new skills (e.g., using complaint applications, analyzing data, or conducting remote mediation). This learning process increases their competency. Conversely, greater competency enables employees to use technology features more effectively, thereby creating a positive cycle.

5. Conclusion

It can be concluded that: 1. Influence of Individual Factors: Individual factors, including work experience and motivation, have been shown to have a positive and significant influence on technology adoption. This indicates that employees with greater work experience and higher motivation are better prepared and more likely to adopt new technologies. Furthermore, work experience and motivation have a positive, significant direct influence on HR competency. 2. Influence of Organizational Factors: Organizational factors, including organizational structure and organizational culture, have a positive and significant influence on technology adoption. A clear structure and a culture that supports innovation create a conducive environment for technology implementation. These two variables also directly contribute significantly to improving HR competency. 3. Influence of External Factors: External factors, including government policies and the influence of peer institutions (competitors), have a positive and significant influence on technology adoption. Supportive policies and competitive pressure from other institutions encourage organizations to adapt technologically. Interestingly, government policies have been shown to have the strongest direct influence on HR competency, underscoring the crucial role of government intervention in developing civil service capacity. 4. The Central Role of Technology Adoption: Technology adoption has been shown to have a positive and significant impact on HR Competence. The technology adoption process not only improves operational efficiency but also inherently enhances employee capabilities, skills, and knowledge. In other words, technology acts as a catalyst in the development of HR competencies. 5. The Mediating Role of Technology Adoption: Technology adoption significantly mediates the influence of all factors (individual, organizational, and external) on HR Competence. This finding confirms that technology adoption is not merely an intervening

variable but rather a key mechanism that translates the potential of driving factors into tangible competency improvements. Without an effective adoption process, the positive influences of experience, motivation, structure, culture, policies, and competition will not be optimally manifested in employee competencies. 6. The Developed HR Competence Model: The model produced in this study confirms that HR competency at the Jakarta Special Region Consumer Protection Agency is a multidimensional construct directly influenced by individual, organizational, and external factors, as well as technology adoption. More importantly, this model demonstrates a significant indirect pathway, with technology adoption serving as a key mediator. Thus, efforts to improve HR competency must be designed holistically, placing technology adoption at the core of development strategies, linking and optimizing the influence of all driving factors. This model has strong predictive relevance ($Q^2 = 0.852$) and excellent goodness-of-fit ($GoF = 0.662$), making it a worthy reference.

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